Central Coast Blue

Draft Addendum to the Central Coast Blue EIR (SCH #2019120560)

prepared by

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prepared with the assistance of

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June 2023

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Environmental Scientists | Planners | Engineers
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1 Introduction

This document is an Addendum to the Central Coast Blue Project Final Environmental Impact Report (EIR) (State Clearinghouse [SCH] # 2019120560), which was certified in February 2021 (herein referred to as "certified EIR") for the original Central Coast Blue Project (Original Project).

In accordance with Section 15164 of the California Environmental Quality Act (CEQA) Guidelines, a lead agency shall prepare an Addendum to an EIR if some changes or additions are necessary that will not have significant new impacts or substantially increase previously identified significant impacts. Specifically, the CEQA Guidelines state:

- The lead agency or responsible agency shall prepare an addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in Section 15162 calling for preparation of a subsequent EIR have occurred (Section 15164[a]);
- An addendum need not be circulated for public review but can be included in or attached to the certified EIR or adopted negative declaration (Section 15164[c]);
- The decision-making body shall consider the addendum with the certified EIR or adopted negative declaration prior to making a decision on the project (Section 15164[d]); and
- A brief explanation of the decision not to prepare a subsequent EIR pursuant to Section 15162 should be included in an addendum to an EIR, the lead agency's findings on the project, or elsewhere in the record. The explanation must be supported by substantial evidence (Section 15164[e]).

This Addendum has been prepared in accordance with relevant provisions of CEQA (as amended) and the CEQA Guidelines.

According to CEQA Guidelines Section 15164, an addendum to a previously certified EIR or adopted negative declaration is the appropriate environmental document in instances when "only minor technical changes or additions are necessary" and when changes to the project, changes to circumstances, and/or new information do not involve new significant environmental effects or a substantial increase in the severity of previously identified significant effects beyond those identified in the previous EIR.

This Addendum describes the details of several modifications to the layout of project facilities that have occurred during evolution of the design process, which have resulted in new project impact areas beyond those identified and evaluated in the certified EIR. This modified layout is referred to herein as the Modified Project. The analysis compares impacts to those identified in the certified EIR for the Original Project and demonstrates the environmental impacts of the Modified Project are within the scope of the impacts identified in the certified EIR and that no new significant environmental effects or a substantial increase in the severity of previously identified significant effects would result from the Modified Project.

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2 Background and Project Description

The Final EIR for the Original Project was certified in February 2021 (SCH #2019120560) and consists of the responses to public and agency comments received on the Draft EIR and the text of the Final EIR as revised in response to public and agency comments. The certified EIR is accompanied by a Mitigation Monitoring and Reporting Program (MMRP), which provides guidance for implementation of the mitigation measures developed for the Original Project. Information and technical analyses from the certified EIR are utilized and/or referenced throughout this Addendum, as necessary.

This section provides an overview of the Original Project and the Modified Project to provide context for the evaluation of potential changes to environmental impacts disclosed in the certified EIR that may result from the Modified Project.

2.1 Original Central Coast Blue Project

Original Project Location

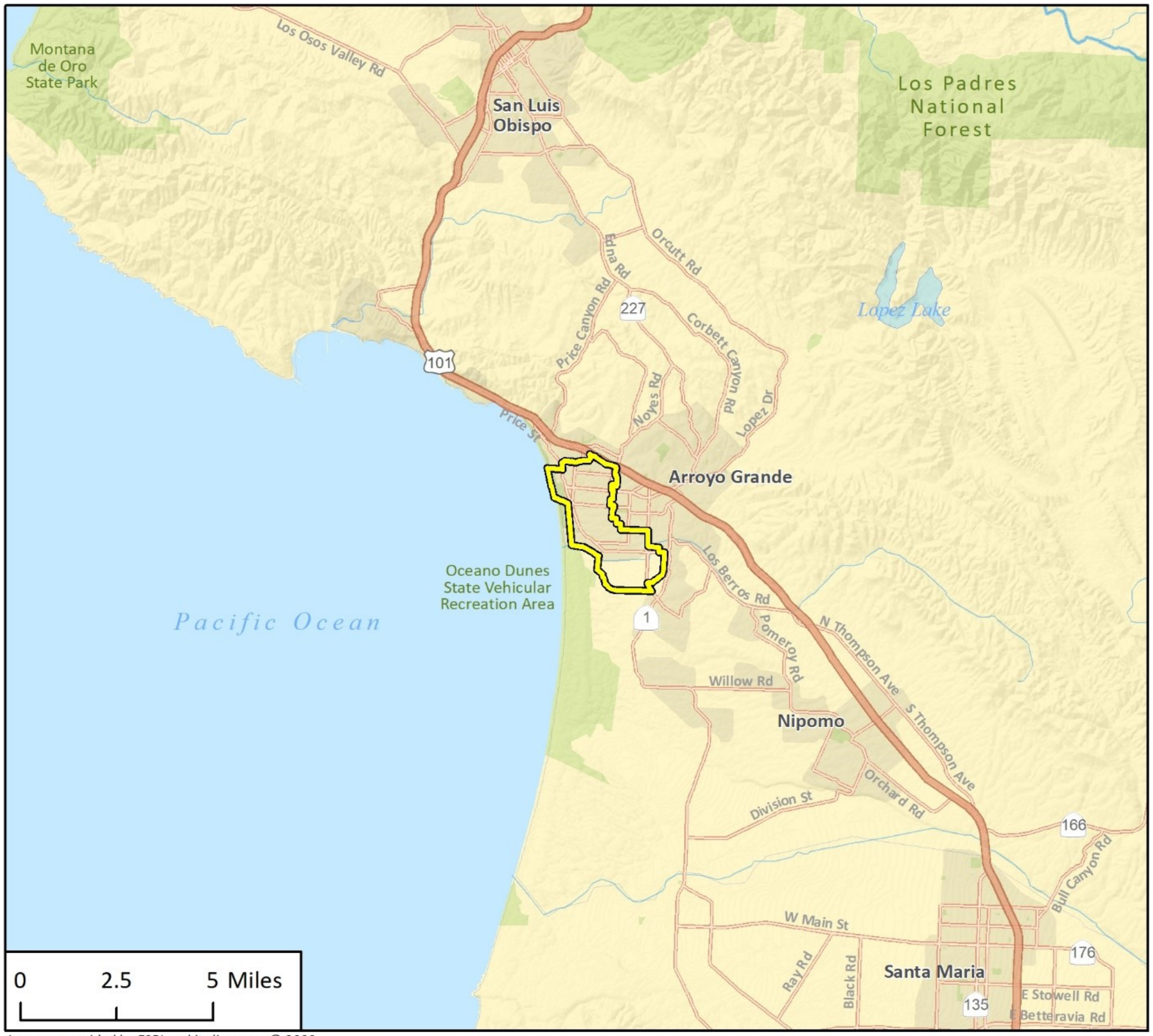
The project area for the Original Project is in the city of Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. Figure 1 shows the regional location of the project area, which is approximately 8.5 miles south of the city of San Luis Obispo. The location of Original Project components with known locations are shown in Figure 2 with a magnified view shown in Figure 3. At the time of certification of the certified EIR, the locations of some project components, including the new production well and potential agricultural irrigation pipelines, were not known and are therefore not depicted on Figure 2 and Figure 3 but were assumed to be located within the project area shown on Figure 1.

Description of Original Project

The Original Project is a regional indirect potable reuse project intended to enhance supply reliability by reducing the Santa Maria Groundwater Basin's (SMGB) vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the Cities of Pismo Beach, Grover Beach, and Arroyo Grande and the South San Luis Obispo County Sanitation District (SSLOCSD).[1] The project would involve injection of advanced purified water into the SMGB via a series of injection wells, installed at various locations in the SMGB, to develop a seawater intrusion barrier and augment groundwater supplies. Water for the Original Project would be sourced from two of the region's wastewater treatment facilities - the Pismo Beach Wastewater Treatment Plant (WWTP) and the SSLOCSD WWTP. Prior to injection to the SMGB, water would undergo full advanced treatment at a proposed advanced treatment facility (ATF) complex.

[1] As the water supply beneficiaries, the three cities have formed a joint powers authority – the Central Coast Blue Regional Recycled Water Authority – to facilitate implementation of the project. SSLOCSD has been and will continue to be part of the planning, design, construction, and operation phases of the project.

Figure 1 Regional Location of Original Project



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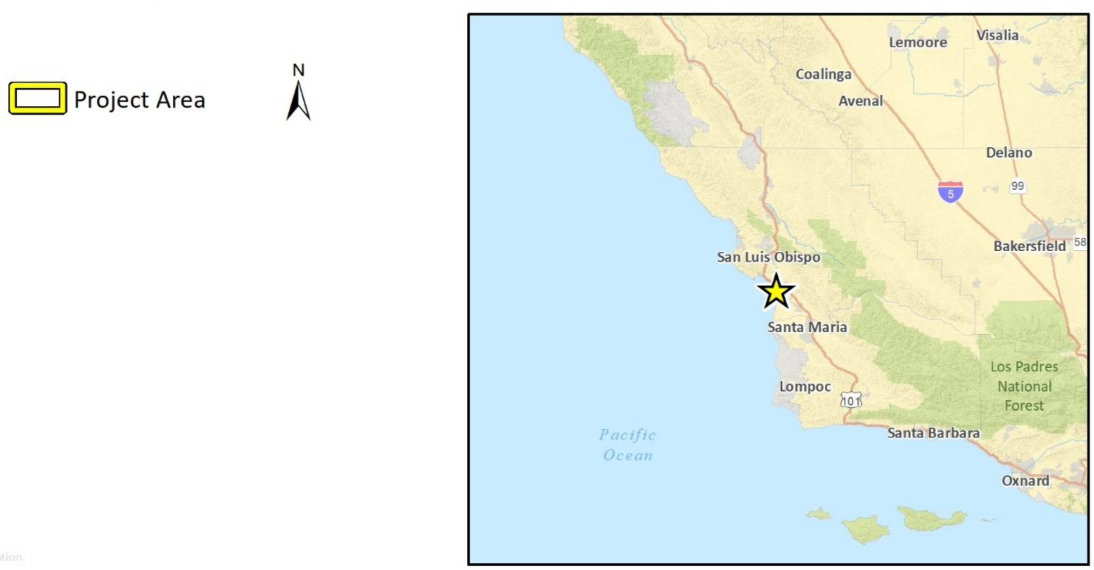

Fig 2-1 Regional Location

Figure 2 Original Project Components with Known Locations – Full Extent

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Figure 3 Original Project Components with Known Locations – Focused Extent

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Under the Original Project, the ATF complex would include an ATF building with treatment equipment and staff support facilities, an aboveground equalization basin, an advanced purified water storage tank, and a pump station, which would all be constructed on the same property. The ATF would treat a combination of flows from the Pismo Beach WWTP and the SSLOCSD WWTP for injection in the SMGB and potentially for agricultural irrigation. The ATF would be designed with an initial influent and treatment capacity of up to 1.3 million gallons per day (mgd) and a final influent and treatment capacity of 5.4 mgd. During Phase I, the ATF would receive and treat secondary treated effluent flows from the Pismo Beach WWTP, and during Phase II, the ATF would receive and treat secondary treated effluent flows from both the Pismo Beach and SSLOCSD WWTPs. The ATF could initially produce up to 1.0 mgd of advanced purified water with a final production capacity of up to 3.9 mgd.[2] The advanced treatment process at the ATF would consist of microfiltration (MF), reverse osmosis (RO), and ultraviolet (UV) disinfection with advanced oxidation.

The Original Project would also include a series of pipelines to accomplish the following: 1) convey secondary treated effluent from the Pismo Beach WWTP from the existing Pismo Beach outfall pipeline to the proposed ATF; 2) convey secondary treated effluent from the SSLOCSD WWTP to the proposed ATF; 3) convey advanced purified water from the proposed ATF to the injection wells; and 4) convey concentrate from the proposed ATF to the existing Pismo Beach outfall pipeline.[3]

Under the Original Project, seven injection wells would be installed at five locations, each requiring approximately 3,000 square feet of land and each with an injection capacity of approximately 800 acre-feet per year (AFY). The injection well network would be accompanied by a network of nested monitoring wells at ten locations throughout the project area, each requiring approximately 25 square feet. Under Phase I, a total of approximately 900 AFY of advanced purified water would be injected into the SMGB, and under Phase II, a total of approximately 3,500 AFY of advanced purified water would be injected into the SMGB. In addition, one new production well owned and operated by the City of Pismo Beach would be installed. At the time of certification of the Final EIR for the Original Project, the location of this new production well had not yet been determined but was likely to be sited in Grover Beach.

As part of the Original Project, several existing production wells would be utilized to extract the injected advanced purified water. Under Phase I, groundwater pumping by the Northern Cities Management Area (NCMA) agencies would potentially increase up to approximately 2,500 AFY.[4] Under Phase II of the proposed project, the NCMA agencies would potentially increase groundwater pumping up to their full entitlement for urban uses of 4,330 AFY. Groundwater pumping would continue to be subject to the existing SMGB Adjudication Agreement and the NCMA agencies' ongoing adaptive management program, and no changes to the existing groundwater entitlements established in the SMGB Adjudication Agreement would occur.

Under the Original Project, a portion of water from the ATF complex may be used for agricultural irrigation of lands in Grover Beach and generally south of Oceano. In this scenario, additional distribution pipelines would be constructed to carry recycled water from the ATF complex to the irrigated lands.

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

[3] The Pismo Beach outfall pipeline was previously referred to as "WWTP discharge pipeline" in the certified EIR.

[4] The Cities of Pismo Beach, Grover Beach, and Arroyo Grande and Oceano Community Services District (OCSD) are collectively referred to as the NCMA agencies. The agencies manage groundwater extraction in their portion of the SMGB to protect long-term sustainable use and to prevent seawater intrusion.

The certified EIR for the Original Project analyzed the majority of project components, including the injection wells, monitoring wells, pipelines, and ATF complex at a more detailed, project-specific level because they would be constructed in the near-term and the construction details, locations, and component specifications were generally well-known at the time. However, because the location, engineering, and/or construction details were not known for some project components at the time, the analysis also evaluated the environmental impacts of some components, including the new production well and the agricultural irrigation pipelines, at a programmatic level.

Construction Activities

Construction of the Original Project would occur in two main phases. Phase I would include construction of five injection wells (IW-1, IW-2A, IW-3, IW-4, and IW-5A), pipelines, and the ATF complex with its initial production capacity designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining two injection wells (IW-2B and IW-5B), installation of additional pipelines to connect these injection wells to the pipelines constructed under Phase I, construction of the agricultural irrigation pipelines, and expansion upgrades to the ATF complex to achieve its final production capacity. At the time of certification of the Final EIR for the Original Project, it was unknown whether the new production well would be constructed under Phase I or II.

Construction of the Original Project was anticipated to last approximately 24 months and require a three-week period of 24-hour well drilling activities for each new well. Groundwater produced during well development would be disposed of via connections to the existing Pismo Beach WWTP discharge pipeline that runs below State Route (SR) 1. Construction methods for the proposed pipelines would predominantly involve open trenching, with augur boring or horizontal directional drilling methods used as needed. Trenches would be excavated to approximately six feet in depth and would be backfilled after pipeline installation. To accommodate the ATF complex, the location of the ATF complex would likely need to be graded to provide site access, appropriate stormwater drainage, and a level base for the ATF and appurtenant structures. Excavation depth for the ATF complex was not anticipated to exceed 20 feet.

Operation and Maintenance

Operation and maintenance of the Original Project would require approximately 15 employees. Maintenance activities would primarily consist of weekly visits to the injection, monitoring, and production wells; semi-annual inspections of pipeline and exercising valves; and semi-weekly chemical deliveries to the ATF complex.

2.2 Modified Central Coast Blue Project

The Modified Central Coast Blue Project involves changes to the locations of components of the Original Project, which have shifted during evolution of the siting and design process. The overall purpose, objectives, and nature of the Original Project would remain the same under the Modified Project. Similar to the Original Project, the Modified Project would consist of an ATF complex, pipelines, injection wells, monitoring wells, one new production well, a pump station, and potential agricultural irrigation pipelines. The following subsections provide additional details on the locations and characteristics of components of the Modified Project and indicate the ways in which the Modified Project differs from the Original Project.

Modified Project Location

As shown in Figure 4, the Modified Project area would remain largely the same as the Original Project area with the exception of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area, which would be added as a potential monitoring well location for MW-NCMA South A/B/C. The Modified Project area would continue to be located in Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano. Table 1 describes the approximate locations of Modified Project components. Figure 5 presents a map of Modified Project components as well as the existing Pismo Beach and SSLOCSD WWTPs. Figure 6 presents a magnified view of project components. Due to ongoing siting and design efforts, several alternative pipeline alignments and well locations are included in the Modified Project to provide flexibility in ultimate siting. In addition, these figures also include an outline of the Study Area for the Modified Project, which is inclusive of the anticipated areas that would be required for equipment staging, materials laydown, and trenchless pipeline installation during construction activities. These areas were not previously defined at the time of certification of the Final EIR for the Original Project.

Table 1 Modified Project Components

Project Component	Address/Description	Existing Use	Different Location from Original Project?
ATF Complex, PB-23 and MW-3C/3D	980 Huber Street (between Huber Street and Barca Street approximately 120 feet north of Calvin Court), Grover Beach	An approximately 1.5-acre parcel that contains several unpaved storage yards. A portion of the parcel is currently utilized by Kautz Towing.	Partially – the location of the ATF complex remains the same. The location of PB-23 has been defined, and MW-3C/3D (labeled as MW-3D/3E in the certified EIR) has shifted.
	Property immediately south of 980 Huber Street along Calvin Court, Grover Beach (Assessor's Parcel Number 060-543-007; no street address)	Eucalyptus grove	Yes
Concentrate Pipelines	955 South 4th Street, Grover Beach	Unpaved storage yard and paved roadway	Yes – modified location
	Property immediately south of 980 Huber Street along Calvin Court, Grover Beach (Assessor's Parcel Number 060-543-007; no street address)	Eucalyptus grove	Yes – modified location
	South 4th Street and Calvin Court	Paved roadway	Yes – modified location
	East of SR 1 and Coolidge Drive intersection, Oceano	Coastal Dunes RV Park and Campground and Union Pacific Railroad track	Yes – modified location

Project Component	Address/Description	Existing Use	Different Location from Original Project?
IW-1	City of Grover Beach parking lot east of railroad tracks at western terminus of Rockaway Avenue	Parking lot	Yes – modified location
IW-2A, IW-2B	550 Farroll Road, Grover Beach	Undeveloped land	Yes – modified location
IW-2A/IW-2B Alternate	Farroll Road right-of-way between South 6th Street and South 7th Street, Grover Beach	Paved roadway	Yes – new component
IW-3	Monroe Drive right-of-way between Norswing Drive and SR 1, Oceano	Undeveloped land	Yes – modified location
IW-4 Alternate	Norswing Drive right-of-way between Mendel Drive and Pershing Drive, Oceano	Grass parkway	Yes – new component
IW-5A, IW-5B, MW-5A/5B/5C	1600 Aloha Place, Oceano	SSLOCSD WWTP	No
MW-1A/1B	South 3rd Street right-of-way north of Longbranch Avenue, Grover Beach	Paved roadway	Yes – modified location
MW-1A/1B Alternate	South 3rd Street right-of-way between West Grand Avenue and Rockaway Avenue, Grover Beach	Paved roadway	Yes – modified location
MW-1C/1D	South 6th Street right-of-way between Rockaway Avenue and Longbranch Avenue, Grover Beach	Undeveloped land	No
MW-1C/1D Alternate	South 7th Street right-of-way between West Grand Avenue and Rockaway Avenue, Grover Beach	Paved roadway	Yes – modified location
MW-2A/2B/2C	Barca Street right-of-way south of Farroll Road, Grover Beach	Paved roadway	Yes – modified location
MW-2A/2B/2C Alternate	Farroll Road right-of-way between South 6th Street and South 7th Street, Grover Beach	Paved roadway	Yes – modified location
MW-2D/2E/2F	Barca Street right-of-way north of ATF site, Grover Beach	Paved roadway	Yes – modified location
MW-3A/3B	East of the eastern terminus of Pier Avenue, Oceano	Coastal Dunes RV Park and Campground	No – previously evaluated as MW-4A/4B in the certified EIR
MW-4A/4B	Dewey Drive right-of-way between Pershing Drive and Mendel Drive, Oceano	Grass parkway	Yes – new component
MW-4C/4D	West of the western terminus of The Pike, Grover Beach	Stormwater detention basin	No
MW-5D/5E/5F	1650 Front Street, Oceano	Oceano Depot	No
MW-NCMA North A/B/C	Produce Place and 26th Street right-of-way, Oceano	Unpaved roadway	Yes – new component
MW-NCMA South A/B/C	35.0834, -120.6066, Oceano	Unpaved roadway	Yes – new component

Project Component	Address/Description	Existing Use	Different Location from Original Project?
Secondary Effluent Pipelines	Rights-of-way of SR 1, Coolidge Drive, Norswing Drive, Mendel Drive, Lakeside Avenue, Calvin Court, South 4th Street, Aloha Place, Railroad Street, Ocean Street, and Delta Lane in Oceano and Grover Beach	Paved roadways	Partially – some alignments are modified
	Property immediately south of 980 Huber Street along Calvin Court, Grover Beach (Assessor's Parcel Number 060-543-007; no street address)	Eucalyptus grove	Yes – new location
	955 South 4th Street, Grover Beach	Unpaved storage yard	Yes – modified location
	East of SR 1 and Coolidge Drive intersection, Oceano	Coastal Dunes RV Park and Campground and Union Pacific Railroad track	Yes – modified location
	494 Air Park Drive, Oceano	Oceano Campground	Yes – modified location
	561 Air Park Drive, Oceano	Oceano County Airport	Yes – modified location
	1600 Aloha Place, Oceano	SSLOCSD WWTP	Yes – modified location
Purified Water Distribution Pipelines	Rights-of-way of Barca Street, South 4th Street, Calvin Court, Farroll Road, South 5th Street, Rockaway Avenue, SR 1, Coolidge Drive, Norswing Drive, Monroe Drive, Truman Drive, Mendel Drive, Lakeside Avenue, Aloha Place, Railroad Street, Ocean Street, and Delta Lane in Oceano and Grover Beach	Paved roadways	Partially - some alignments are modified
	Property immediately south of 980 Huber Street along Calvin Court, Grover Beach (Assessor's Parcel Number 060-543-007; no street address)	Eucalyptus grove	Yes – new location
	955 South 4th Street, Grover Beach	Unpaved storage yard	Yes – modified location
	East of intersection of SR 1 and Coolidge Drive, Oceano	Coastal Dunes RV Park and Campground and Union Pacific Railroad track	Yes – modified location
	494 Air Park Drive, Oceano	Oceano Campground	Yes – modified location
	561 Air Park Drive, Oceano	Oceano County Airport	Yes – modified location
	1600 Aloha Place, Oceano	SSLOCSD WWTP	Yes – modified location

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

Figure 4 Regional Location of Modified Project

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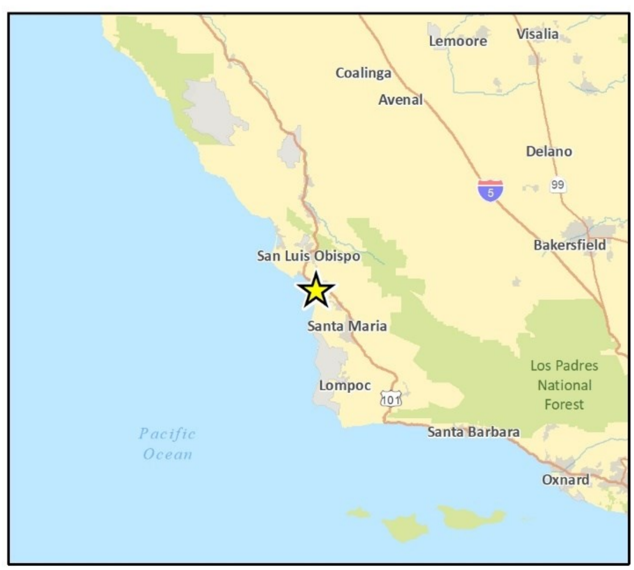

Fig 1 Regional Location

Figure 5 Modified Project Components – Full Extent

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Fig 5 Modified Project Components

Figure 6 Modified Project Components – Focused Extent

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Fig 6 Modified Project Components Focused Extent

Description of Modified Project

The Modified Project consists of the following: an ATF complex; purified water distribution, secondary effluent, brine, and sewer pipelines; injection and monitoring wells; a pump station; and a new production well. As with the Original Project, the water produced by the Modified Project would be injected into the groundwater basin and extracted via existing production wells for the Cities of Pismo Beach, Grover Beach, and Arroyo Grande, resulting in increased groundwater pumping from existing production wells without changing the existing urban use entitlement of the existing SMGB Adjudication Agreement (i.e., the Superior Court of California's 2005 Stipulation and 2008 final order). Nothing in this Addendum is intended to limit the ability of the NCMA agencies from accessing their full groundwater entitlements as established in the SMGB Adjudication Agreement. Each of these components of the Modified Project is described below.

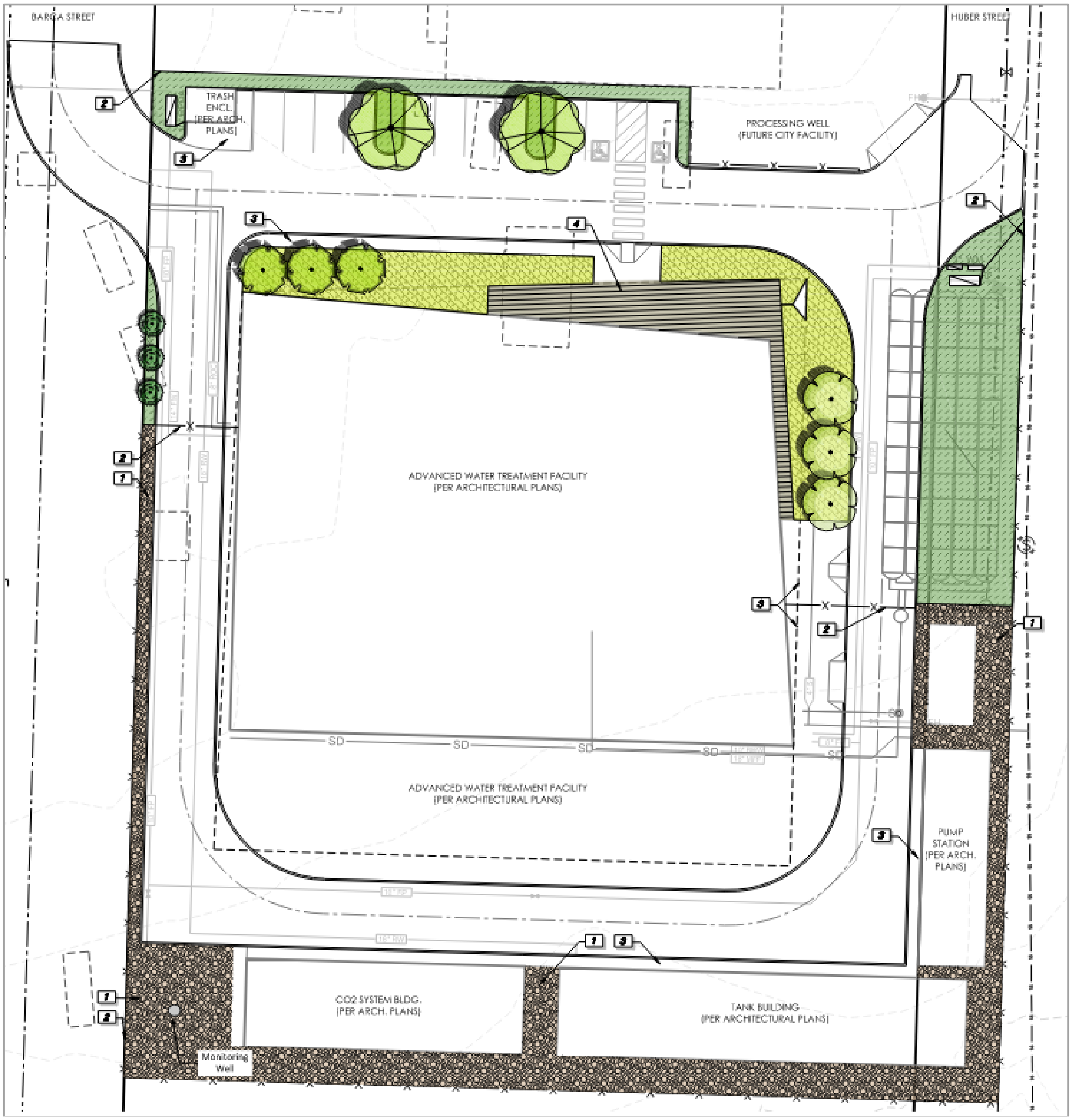
Advanced Water Treatment Facility Complex

Similar to the Original Project, the ATF complex would include an ATF building with treatment equipment and staff support facilities, an equalization tank, and outdoor chemical storage consisting of bulk tanks with secondary containment. Under the Modified Project, the ATF complex would also include a new production well (PB-23) and a monitoring well (MW-3C/3D). A conceptual site layout for the ATF is shown in Figure 7. The influent, treatment, and production capacities of the ATF as well as the three-step treatment process and discharge of the RO concentrate waste stream remain the same under the Modified Project as compared to the Original Project with the exception that some of the waste stream from the ATF complex may be discharged to the sanitary sewer under the Modified Project in addition to the Pismo Beach outfall pipeline. The Modified Project would similarly receive and treat secondary treated effluent flows from the Pismo Beach WWTP during Phase I and from the SSLOCSD WWTP during Phase II. The initial and final production capacities of the ATF would be generally similar to those of the Original Project, but the initial and final production capacities of the Modified Project would each be increased by approximately 0.1 mgd as compared to the Original Project. The ATF complex would also include pumps to convey the secondary treated effluent through the advanced treatment processes and to convey advanced purified water to the injection wells. At the time of certification of the Final EIR, the location of these pumps within the ATF complex was not known. Under the Modified Project, the pumps to move water from the secondary treated effluent equalization tank through the MF filters would be housed in a stand-alone building next to the equalization basin in a rectangular, cast-in-place concrete building to limit noise and corrosion due to weather. The pumps to convey advanced purified water to the injection wells would be located within the ATF building.

Pipeline Network

Similar to the Original Project, a series of pipelines would be required under the Modified Project to accomplish largely the same purposes of conveying secondary treated effluent to the ATF, conveying advanced purified water from the ATF to the injection wells, and conveying concentrate from the ATF to the existing Pismo Beach outfall pipeline. In addition, under the Modified Project, pipelines would be installed to convey backwash water from certain injection wells to the sanitary sewer system and the Pismo Beach outfall pipeline as well as sanitary sewer waste streams from the ATF complex to the sanitary sewer system. Potential locations for the pipelines under the Modified Project are shown in Figure 6.

Figure 7 ATF Conceptual Site Layout



Pump Station

The Original Project anticipated construction of a pump station at the ATF complex. Under the Modified Project, the new pump station would instead be constructed at the SSLOCSD WWTP to pump secondary treated effluent to the ATF as part of Phase II. The pump station would be constructed at the SSLOCSD WWTP because it is not feasible to access secondary effluent flows from this WWTP at the ATF complex.

Groundwater Injection and Monitoring Wells

Similar to the Original Project, seven injection wells would be installed at five locations under the Modified Project. Potential locations for the injection wells are shown in Figure 5 and Figure 6 and are based on preliminary groundwater modeling of hydrogeologic conditions. The injection wells would each require up to approximately 4,000 square feet of land, which would be larger than the 3,000-square-foot impact area originally anticipated for injection wells under the Original Project. Under the Modified Project, equipment associated with injection wells would have a mix of aboveground and belowground facilities, the location of which would depend on the site, space constraints, and surrounding land uses. These injection wells would be similar in injection capacity and materials to those evaluated for the Original Project and would require similar appurtenant facilities (e.g., electrical panels, water storage tanks). However, the diameters of the injection wells would be approximately 20 inches to 48 inches (depending on the depth), which would be larger as compared to the 12-inch diameter of the injection wells included in the Original Project. Under the Modified Project, the advanced purified water would be injected at a depth of approximately 160 to 680 feet below ground surface, which is slightly different than the depth range of 200 to 600 feet originally anticipated for the Original Project. The Modified Project would result in injection of similar quantities of advanced purified water into the groundwater basin under Phases I and II as compared to the Original Project.

Similar to the Original Project, the injection well network under the Modified Project would be accompanied by a network of nested monitoring wells at 12 locations (an increase of two locations as compared to the Original Project). Potential locations for the monitoring wells are shown in Figure 5 and Figure 6 and are based on the minimum travel times (i.e., distances) specified by regulatory requirements. The type, materials and aboveground features of these monitoring wells would be similar to those of the Original Project, but these wells would only occupy approximately five square feet of surface area, which would be a decrease of 20 square feet as compared to the Original Project, and would extend to a depth of 680 feet under the Modified Project as compared to the depth of 400 feet anticipated for the Original Project.

At the time of certification of the Final EIR for the Original Project, the test injection well that was constructed in 2021 in the County of San Luis Obispo's Coastal Dunes RV Park and Campground was expected to be converted to an operational injection well (IW-4) as part of the Original Project. This well is located in the southernmost part of the Coastal Dunes RV Park and Campground and labeled as "IW-4 (Existing)" in Figure 5 and Figure 6. However, this park has a land use category of "Recreation," and the County of San Luis Obispo has indicated Public Utility Facilities are not an allowed, special, or principally permitted use in this land use category pursuant to Table O in the San Luis Obispo County General Plan Coastal Zone Framework for Planning. As a result, conversion of the test injection well to an operational injection well would require an amendment to the County of San Luis Obispo's Local Coastal Program, which is not proposed at this time. Therefore, an alternative location for IW-4 has been identified and is considered in this Addendum as part of the Modified Project, and the test injection well is now considered a back-up alternate location for IW-4. Because the test injection well remains as an alternate location for IW-4, the Modified Project assumes this well may be utilized as an operational injection well for the purposes of CEQA, subject to completion of a Local Coastal Program amendment.

Production Wells

As with the Original Project, existing production wells would be utilized to extract the injected advanced purified water under the Modified Project. The SMGB is adjudicated and was separated into three Management Areas in the adjudication process, one of which is the NCMA. The Cities of Arroyo Grande, Grover Beach, and Pismo Beach along with the Oceano Community Services District overlie the urban portion of the NCMA in the SMGB.

Groundwater entitlements (including the agricultural conversion credit) for the three Cities (3,430 AFY) account for approximately 40 percent of the Cities' water supply. However, due to the threat of seawater intrusion during the most recent drought, the NCMA agencies have relied heavily on conservation and use of their surface water supplies to reduce groundwater pumping to less than 1,000 AFY. Under Phase I of the Modified Project, groundwater pumping by the project partners (Cities of Pismo Beach, Grover Beach, and Arroyo Grande) would increase in line with the adaptive management strategies implemented by the NCMA agencies. Based on groundwater modeling, Phase 1 would enable the project partners to potentially increase groundwater pumping for total NCMA agency pumping of approximately 2,500 AFY. Under Phase II of the proposed project, these three Cities would potentially increase groundwater pumping to their full entitlement for urban uses under the existing SMGB Adjudication Agreement. The anticipated changes to groundwater extraction would remain the same under the Modified Project as the Original Project, and groundwater pumping would continue to be subject to the existing SMGB Adjudication Agreement. As with the Original Project, the Modified Project would in no way change existing entitlements or limit pumping rights established by the SMGB Adjudication Agreement, which is outside the scope of this Addendum. In addition, similar to the Original Project, the NCMA agencies would continue to implement their ongoing adaptive management program for groundwater extraction in response to varying year-to-year climatic and groundwater conditions. Similar to the Original Project, one new production well (referred to herein as PB-23) would be constructed and operated under the Modified Project by the City of Pismo Beach to replace an existing well that is failing. The location of the new production well was previously unknown at the time of certification of the certified EIR for the Original Project. Under the Modified Project, this new production well would be located at the ATF complex.

Agricultural Irrigation Pipelines

The Original Project included a programmatic evaluation of the environmental impacts of potential agricultural irrigation pipelines that may be installed between the ATF complex and agricultural lands located in Grover Beach and generally south of Oceano to supply recycled water for irrigation. At the time of certification of the Final EIR for the Original Project, the locations of these pipelines were not known. Their locations remain unknown, and the Modified Project does not propose any changes to this component because they are unlikely to be constructed. Therefore, it is not discussed further in this Addendum.

Construction Activities

The general construction characteristics of the Modified Project would be similar to those of the Original Project. Phase I of the Modified Project would include construction of four injection wells (IW-1, IW-2A, IW-3, and IW-4 Alternate or IW-5A), nine monitoring wells, one production well, the pipelines conveying secondary treated effluent from the Pismo Beach WWTP to the ATF, the concentrate pipeline, the purified water distribution pipelines, and the ATF complex with its initial production capacity designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining three injection wells (IW-2B, IW-4 Alternate or IW-5A, and IW-5B), two monitoring wells, purified water pipelines to connect the new wells to the existing purified water distribution system, a pipeline and pump station to convey secondary treated effluent from the SSLOCSD WWTP to the ATF, and expansion upgrades to the ATF complex to achieve its final production capacity. (Although it would not be utilized in Phase II, the pipeline from the SSLOCSD

WWTP to the ATF could be constructed in Phase I to take advantage of cost efficiencies of installing two pipelines in parallel [with the purified water pipeline from the AWPF to IW-5A] and to minimize local impacts from construction.) Construction of the Modified Project is anticipated to last approximately 24 months for Phase I and approximately 15 months for Phase II.

The timing, duration, and equipment required for construction of the injection, monitoring, and production wells activities would remain the same under the Modified Project as those required for the Original Project with the exception that each monitoring well would only require two weeks of 24-hour well drilling activities (a reduction in schedule as compared to the Original Project). As with the Original Project, groundwater produced during well development may be disposed of via connections to the existing Pismo Beach outfall pipeline that runs below SR 1. Under the Modified Project, there is also the option for produced groundwater to be disposed of via temporary storage with timed release to the sanitary or storm sewer or trucking up to one mile for percolation into a storm retention basin, which would require approximately 1,250 total truck trips per injection and production well and approximately 60 total truck trips per monitoring well. Construction dewatering would also be required at the ATF complex, and disposal of produced groundwater would require approximately 72 truck trips per day on average. Minor dewatering during construction activities may also be required at other locations, such as the pump station proposed within the boundaries of the SSLOCSD WWTP. The project includes use of two existing shallow monitoring wells located between the ATF complex and Oceano Lagoon, located approximately 700 feet to the west of the ATF complex location, to monitor groundwater levels during dewatering activities. If groundwater levels fall below what would be expected due to regular, background seasonal variation, the project includes implementation of an adaptive management plan to avoid an adverse reduction in surface water levels in Oceano Lagoon, including an evaluation program to identify whether reduced groundwater levels are related to project dewatering activities and if so, the timely implementation of the necessary management actions, which may include, but would not be limited to, temporary cessation of dewatering and/or gradual discharge of groundwater produced from dewatering into the City of Grover Beach's stormwater detention basin at the southern terminus of Barca Street and/or the City of Grover Beach's stormwater drainage system, which currently discharge to Meadow Creek upstream of Oceano Lagoon, to supplement surface water levels.[5]

Construction of the pump station at the SSLOCSD WWTP would also have similar construction characteristics as those of the wells, with the exception that nighttime construction activities would not be required. Construction methods and excavation/grading requirements for the proposed pipelines and ATF complex would remain generally the same under the Modified Project as the Original Project with the exception that excavation depth for the ATF complex would extend to 25 feet, which is an increase of five feet as compared to the Original Project, and excavation depth for the trenchless pipeline crossing of the railroad tracks would reach up to approximately 16 feet in depth, which is an increase of 10 feet as compared to the Original Project. Construction of the Modified Project would result in the removal of all trees located on the 980 Huber Street property as well as on Assessor's Parcel Number 060-543-007 to accommodate the ATF complex.

As part of Modified Project design, construction activities (including staging/laydown yards) would avoid mapped California bulrush (*Schoenoplectus californicus*) as well as marsh and coyote brush (*Baccharis pilularis*) scrub habitats.

[5] The project would be required to comply with all applicable permitting requirements should discharge to the stormwater detention basin/stormwater drainage system become necessary.

Site Access

Site access at the ATF complex under the Modified Project would remain the same as under the Original Project. In addition, similar to the Original Project, construction of the project components would result in temporary access restrictions along public roadways throughout the project area.

Operation and Maintenance

No changes in operation and maintenance characteristics would occur under the Modified Project as compared to the Original Project.

3 Decision Not to Prepare Subsequent EIR

As outlined in Section 15164 (Addendum to an EIR or Negative Declaration) of the CEQA Guidelines, a lead agency shall prepare an Addendum to a previously certified EIR if some changes or additions are necessary but none of the conditions described in the CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred.

As discussed in the impact analysis below, the environmental impacts of the Modified Project are substantially similar to those analyzed in the certified EIR for the Original Project. The modifications between the Original Project and the Modified Project would not introduce new significant environmental impacts or increase the severity of significant environmental impacts beyond those which have already been identified and characterized in the certified EIR. None of the conditions described in CEQA Guidelines Section 15162 calling for preparation of a subsequent EIR have occurred or would occur as a result of the Modified Project. Therefore, this Addendum to the certified EIR is consistent with CEQA, and this Addendum is the appropriate level of environmental documentation to provide under CEQA. This Addendum along with the certified EIR will be considered by the City's decision-making body in making a decision on the Modified Project.

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4 Environmental Checklist and Impacts of the Modified Central Coast Blue Project

This Addendum evaluates potential environmental impacts that could result from Modified Project. The existing environmental conditions in the Central Coast Blue project area are substantially the same under present conditions as described in the certified EIR. The analysis below provides updates where necessary to characterize potential impacts associated with the Modified Project.

Appendix G of the CEQA Guidelines provides a checklist of environmental issues areas that are suggested as the issue areas that should be assessed in CEQA analyses. The certified EIR included standalone chapters evaluating project impacts to 11 of the 20 current environmental issue areas included in CEQA Guidelines Appendix G as well as a chapter evaluating the project's environmental justice impacts. The remaining nine environmental issues included in CEQA Guidelines Appendix G were briefly addressed in Section 4.12, *Effects Found Not to Be Significant*, of the certified EIR. In addition, the certified EIR included Section 5, *Federal Cross-Cutting Environmental Regulations Evaluation*, to assist in compliance with the federal environmental requirements of the Clean Water State Revolving Fund, which is administered by the State Water Resources Control Board (SWRCB) on behalf of the United States Environmental Protection Agency (USEPA). This Addendum mirrors the structure of the certified EIR to facilitate a comparative analysis of impacts.

Potential environmental impacts of the Modified Project are analyzed to determine whether impacts are consistent with the impact analysis provided in the certified EIR and whether additional mitigation measures are required to minimize or avoid new or substantially more severe significant impacts. Where impacts are identified in the following analysis, existing applicable policies and regulations are also discussed, as relevant to the avoidance of potential impacts from the Modified Project.

No changes to construction and operation of the potential agricultural irrigation pipelines under Phase II of the Original Project are proposed under the Modified Project; therefore, environmental impacts associated with this project component would remain the same as those identified in the certified EIR and the same mitigation measures would be required. Mitigation measures that are only applicable to this project component (Mitigation Measures BIO-1[f] through BIO-1[k] and CR-2[d]) are not discussed or reproduced in this Addendum, and this project component is not discussed further in the following analysis.

4.1 Air Quality

This section provides a comparison of the construction and operational air quality impacts associated with the Original Project and Modified Project based on the current environmental and regulatory setting and criteria air pollutant emissions estimated using the California Emissions Estimator Model (CalEEMod), version 2022.1, and the Roadway Construction Emissions Model (RCEM), version 9.0. These models are the current industry-standard for estimating air pollutant and greenhouse gas (GHG) emissions from land use development projects for the purposes of CEQA and are therefore appropriate to use in calculating emissions for the Modified Project, as compared to the CalEEMod, version 2016.3.2 model that was utilized in the certified EIR for the Original Project. (The current version of RCEM is the same as that utilized for calculating emissions for the Original Project.)

Current Environmental and Regulatory Setting

As with the Original Project, the Modified Project area is located in the San Luis Obispo County portion of the South Central Coast Air Basin, which is under the jurisdiction of the San Luis Obispo County Air Pollution Control District (SLO County APCD). The federal and State Clean Air Acts mandate the control and reduction of certain air pollutants. Under these laws, the USEPA and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for "criteria pollutants" and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, exhaust stack of a factory) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG), nitrogen oxides (NO_X), particulate matter with a diameter of ten microns or less (PM_{10}), particulate matter with a diameter of 2.5 microns or less, sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO_X. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).[6]

As of January 2019 (the last date that San Luis Obispo County's attainment status was updated), San Luis Obispo County is designated nonattainment for the 1-hour and 8-hour CAAQS for ozone and the 24-hour and annual CAAQS for PM_{10}. In addition, eastern San Luis Obispo County is designated nonattainment for the 8-hour ozone NAAQS. However, the Modified Project area is located in the western portion of the county that is designated in attainment for this NAAQS (SLO County APCD 2019). Because of the county's nonattainment designations, the SLO County APCD has prepared the 2001 Clean Air Plan (CAP), which contains a comprehensive set of control measures and a regulatory framework designed to reduce criteria air pollutants and precursors from both stationary and mobile sources (SLO County APCD 2001).

Impact Analysis

Methodology

To compare the construction air quality impacts of the Original Project and the Modified Project for the purposes of this Addendum, air pollutant emissions generated by construction of the Modified Project were estimated using CalEEMod version 2022.1 and RCEM, version 9.0. No changes to operational characteristics related to air pollutant emissions would occur under the Modified Project as compared to the Original Project; therefore, no quantitative operational emissions modeling was completed.[7] The modeling of construction emissions under the Modified Project relied on similar assumptions to those in the certified EIR with the following modifications:

- **General**
    - During Phase II of construction, approximately 900 linear feet of pipeline would be installed (an increase of approximately 860 linear feet as compared to the Original Project).

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[6] CARB defines VOC and ROG similarly as, "any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate," with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this Addendum.

[7] The minor increase of 0.1 mgd of initial and final production capacity at the ATF would not result in a change in electricity consumption under the Modified Project because the ATF would still treat the same volume of secondary effluent flows from the Pismo Beach and SSLOCSD WWTPs as under the Original Project. In addition, CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the USEPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

- Project construction would begin as early as January 2024 (instead of January 2021 as under the Original Project)[8]
- Approximately 10 construction workers would be at each construction site per day with the exception of the ATF complex at which approximately 25 construction workers per day would be required (an increase of 15 construction workers at the ATF complex location as compared to the Original Project).

- **Injection, Monitoring, and Production Wells**
  - Seven injection wells, 11 monitoring wells, and one production well would be constructed, which represents an increase of one injection well and two monitoring wells as compared to the Original Project.[9]
  - Approximately 93 CY of soil per injection and production well would be excavated and exported during well drilling activities (i.e., a total of 651 CY, which is an increase of 98 CY as compared to the Original Project).[10]
  - Well installation activities (including drilling and equipping) would occur over the course of approximately six months for each injection/production/monitoring well, which is approximately one month longer than under the Original Project.
  - Each monitoring well would require a three-week period of well drilling activities during which two weeks of construction activities would occur for 24 hours a day, which constitutes a reduction of approximately 2.5 weeks in the duration of 24-hour construction activities as compared to the Original Project.
  - Produced groundwater would be disposed of via one of several methods, including connections to the City's existing ocean outfall pipeline that runs under State Route 1, temporary storage and timed release to the sanitary or storm sewer, or trucking up to one mile for percolation into a stormwater retention basin, which would require approximately 1,250 truck trips per injection and production well, approximately 60 truck trips per monitoring well, and approximately 72 truck trips per day on average for the ATF complex.
- **Pipelines**
  - Up to 30,000 linear feet of pipelines would be installed (an increase of approximately 12,000 linear feet as compared to the Original Project), and pipeline trenches would be up to approximately three feet in width and six feet in depth (i.e., a total of 90,000 square feet of surface area would be disturbed with a total trench volume of 540,000 cubic feet, which would be an increase of 36,000 square feet of surface area and 216,000 cubic feet of trench volume as compared to the Original Project).

[8] The exact start date of project construction is unknown at this time. However, the assumption that construction will commence in January 2024 is a conservative assumption because construction equipment is anticipated to become more efficient and generate fewer air pollutant and GHG emissions over time. Therefore, assuming the use of the least-efficient equipment possible results in reasonable worst-case construction emissions.

[9] As discussed in Section 2, *Project Description*, construction of MW-3A/3B was determined by the City of Pismo Beach to be categorically exempt from CEQA under CEQA Guidelines Section 15306. Therefore, the construction impacts of MW-3A/3B is not included in this analysis. However, due to land use permitting constraints, this analysis assumes that a new IW-4 Alternate is constructed instead of re-purposing the existing pilot groundwater well for operational use.

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

- Demolition of approximately 1,667 CY of pavement would be required, which would be an increase of 667 CY as compared to the Original Project.[11]
- Pipeline construction activities would occur over the course of approximately 18 months, which is approximately 12 months longer as compared to the Original Project.
- Approximately 30,000 CY of soil would be exported, which would be an increase of approximately 12,000 CY as compared to the Original Project.[12]
- Approximately 19,980 CY of soil would be imported, which would be an increase of approximately 8,111 CY as compared to the Original Project.[13]

- **ATF Complex**
  - Construction activities under Phase I for the ATF complex would require approximately 24 months to complete, which would be approximately 10 months longer as compared to the Original Project.

Consistency with the 2001 Clean Air Plan

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR determined the Original Project would be consistent with the SLO County APCD's 2001 CAP because the Original Project does not fall within the categories of programs and projects with the potential to induce population growth and/or generate high vehicle miles traveled and because none of the transportation control measures and land use planning strategies contained in the 2001 CAP are applicable to the Original Project. Therefore, the certified EIR determined no impacts related to consistency with the 2001 CAP would occur.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project is similar in nature to the Original Project and would not result in changes to the operational characteristics of the Original Project such that population growth or additional vehicle miles traveled would be induced. In addition, the transportation control measures and land use planning strategies contained in the 2001 CAP remain inapplicable to the Modified Project. Therefore, the Modified Project would be consistent with the 2001 CAP, and no impact would occur. As such, the Modified Project would not result in new significant impacts related to consistency with the 2001 CAP and would not increase the severity of significant impacts identified in the certified EIR.

Construction Emissions

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR determined air quality impacts resulting from construction activities for the Original Project would be significant. However, with implementation of Mitigation Measures AQ-2(a) and AQ-

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[11] 3 feet in trench width * 30,000 linear feet in trench length * 0.5 feet in depth (asphalt and road base).

[12] 3 feet in trench width * 30,000 linear feet in trench length * 6 feet in depth * 1.5 swell factor. This calculation conservatively assumes the maximum quantity of export by assuming that all pipelines would be 24 inches in diameter. In reality, pipeline diameters would range from 6 to 24 inches; therefore, it is likely that less soil export would be required.

[13] 540,000 cubic feet of excavated trench – (30,000 linear feet in pipeline length * π * (0.25 feet of pipeline radius)^2). This calculation conservatively assumes the maximum quantity of import by assuming all pipelines would be 6 inches in diameter and would be placed in a trench large enough to accommodate a 24-inch pipeline. In reality, smaller pipelines would be placed in narrower and shallower trenches than larger pipelines; therefore, it is likely that less soil import would be required.

2(b) outlined in Section 4.1, *Air Quality*, of the certified EIR, construction-related air quality impacts would be reduced to a less-than-significant level.

MODIFIED CENTRAL COAST BLUE PROJECT

As with the Original Project, construction of the Modified Project would generate temporary emissions of air pollutants. Ozone precursors (NO_X and ROG) as well as diesel particulate matter (DPM) would be emitted by the operation of construction equipment, while fugitive dust would be emitted by activities that disturb the soil, such as grading, excavation, and trenching. As described in Section 2, *Background and Project Description*, construction activities would occur in two phases. Phase I would consist of the construction of four injection wells (IW-1, IW-2A, IW-3, and IW-4 Alternate or IW-5A), 11 monitoring wells, one production well, the pipelines conveying secondary treated effluent from the Pismo Beach WWTP to the ATF, the concentrate pipeline, the purified water distribution pipelines, and the ATF complex. Phase II would include construction of the remaining three injection wells (IW-2B, IW-4 Alternate or IW-5A, and IW-5B), purified water pipelines to connect the new wells to the existing purified water distribution system, the pipeline and pump station conveying secondary treated effluent from the SSLOCSD WWTP to the ATF, the agricultural irrigation pipelines, and expansion upgrades to the ATF complex. (Although it would not be utilized in Phase II, the pipeline from the SSLOCSD WWTP to the ATF could be constructed in Phase I to take advantage of cost efficiencies of installing two pipelines in parallel [with the purified water pipeline from the AWPF to IW-5A] and to minimize local impacts from construction. This analysis conservatively assumes construction of this pipeline during Phase I for the purpose of estimating reasonable, worst-case impacts.)

Estimated maximum daily and quarterly emissions during Phase I of construction for the Modified Project are summarized in Table 2 and Table 3. Unlike the Original Project, construction emissions during Phase I of the Modified Project would not exceed the SLO County APCD daily threshold for ROG + NO_X (Table 2). Similar to the Original Project, construction emissions during Phase I of the Modified Project would exceed the SLO County APCD quarterly Tier 1 threshold for ROG + NO_X (Table 3). Therefore, as with the Original Project, construction-related air pollutant emissions from Phase I of construction would be potentially significant. Mitigation Measures AQ-2(a) and AQ-2(b) would continue to apply to construction activities for the Modified Project and would reduce impacts to a less-than-significant level. As such, the Modified Project would not result in new significant impacts from criteria air pollutant emissions during Phase I of construction and would not increase the severity of significant impacts identified in the certified EIR.

Table 2 Phase I Estimated Maximum Daily Construction Air Pollutant Emissions – Modified Project

Project Component	Maximum Daily Emissions (lbs/day) of ROG + NO_X – Modified Project	Maximum Daily Emissions (lbs/day) of ROG + NO_X – Original Project[1]	Net Change in Maximum Daily Emissions (lbs/day) of ROG + NO_X
Injection/Monitoring/ Production Wells[2]	33.52	86.52	(53.00)
Water Distribution and Sewer Pipelines	20.92	32.06	(11.14)
ATF Complex	41.50	72.44	(30.94)
Total	**95.94**	**191.02**	**(95.08)**
SLO County APCD Daily Threshold	137	137	n/a
Threshold Exceeded?	**No**	**Yes**	**n/a**

( ) indicates a negative number

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

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

[1] Source: Table 4.1-6 of the certified EIR

[2] Emissions from installation of one injection/production well were modeled, then multiplied by two to account for simultaneous installation of two wells at any given time during Phase I. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.) See Appendix A for updated calculations.

Table 3 Phase I Estimated Maximum Quarterly Construction Air Pollutant Emissions – Modified Project

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)[1]	Dust (tons/quarter)[2]
Injection/Monitoring/Production Wells[3, 4]	0.90	0.04	0.08
Water Distribution and Sewer Pipelines[5]	0.69	0.03	0.01
ATF Complex[1]	1.46	0.06	0.28
Total Maximum Quarterly Emissions – Modified Project	**3.05**	**0.13**	**0.37**
Total Maximum Quarterly Emissions – Original Project[6]	**3.98**	**0.12**	**0.06**
Net Change in Total Maximum Quarterly Emissions	(0.93)	0.01	0.31
SLO County APCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**Yes**	**No**	**No**
SLO County APCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

( ) indicates a negative number

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

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

[1] DPM estimates were derived from the "PM_{10} Exhaust" outputs, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2022).

[2] Dust is equal to fugitive PM_{10} reported by CalEEMod and RCEM.

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

[4] Emissions from installation of one injection/production well were modeled, then multiplied by two to account for simultaneous installation of two wells during any given quarter of Phase I. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.)

[5] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phase. See Appendix A for updated calculations.

[6] Source: Table 4.1-7 of the certified EIR

Estimated maximum daily and quarterly emissions during Phase II of construction of the Modified Project are summarized in Table 4 and Table 5. Similar to the Original Project, construction emissions during Phase II of the Modified Project would not exceed the SLO County APCD daily threshold for ROG + NO_X but would exceed the quarterly Tier 1 threshold for ROG + NO_X. Therefore, as with the Original Project, construction-related air pollutant emissions from Phase II of construction of the Modified Project would be potentially significant. Implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would continue to apply to construction activities for the Modified Project and would reduce impacts to a less-than-significant level. As such, the Modified Project would not result in new significant impacts from criteria air pollutant emissions during Phase II of construction and would not increase the severity of significant impacts identified in the certified EIR.

Table 4 Phase II Estimated Maximum Daily Construction Air Pollutant Emissions – Modified Project

Project Component	Maximum Daily Emissions (lbs/day) of ROG + NO_X – Modified Project	Maximum Daily Emissions (lbs/day) of ROG + NO_X – Original Project[1]	Net Change in Maximum Daily Emissions (lbs/day) of ROG + NO_X
Injection/Monitoring Wells[2]	33.52	86.52	(53.00)
Additional Water Distribution Pipelines[3]	20.70	0	20.70
Agricultural Irrigation Pipelines[1, 4]	31.12	31.12	0
Total	**85.34**	**117.64**	**(32.30)**
SLO County APCD Daily Threshold	137	137	n/a
Threshold Exceeded?	**No**	**No**	n/a

( ) indicates a negative number

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

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

[1] Source: Table 4.1-8 of the certified EIR

[2] Emissions from installation of one injection well were modeled, then multiplied by two to account for simultaneous installation of two wells under Phase II. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.) Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[3] Under the Original Project, emissions from construction of the additional 40 feet of pipelines under Phase II were assumed to be within the emissions estimate for the injection wells because pipeline construction would be completed with similar equipment and within the same construction schedule assumed for the injection wells. Therefore, no separate emissions estimate was quantified for the additional pipelines. However, because the Modified Project would result in construction of approximately 900 feet of additional pipelines, these emissions were quantified separately due to the more intensive nature of construction activities for this component.

[4] The Modified Project would not result in changes in the characteristics of the agricultural irrigation pipelines under the Original Project; therefore, emissions for this component would remain the same as those estimated for the Original Project.

Table 5 Phase II Estimated Maximum Quarterly Construction Air Pollutant Emissions – Modified Project

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)[1]	Dust (tons/quarter)[2]
Injection/Monitoring Wells[3, 4]	0.90	0.04	0.08
Additional Water Distribution Pipelines[5]	0.68	0.03	0.01
Agricultural Irrigation Pipelines[6]	1.03	0.04	0.01
Total Maximum Quarterly Emissions – Modified Project	**2.61**	**0.12**	**0.06**
Total Maximum Quarterly Emissions – Original Project[7]	**2.93**	**0.07**	**0.03**
Net Change in Total Maximum Quarterly Emissions	(0.32)	0.04	0.07
SLO County APCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**Yes**	**No**	**No**
SLO County APCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

( ) indicates a negative number

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

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

[1] DPM estimates were derived from the "PM_{10} Exhaust" outputs, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2022).

[2] Dust is equal to fugitive PM_{10} reported by CalEEMod and RCEM.

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

[4] Emissions from installation of one injection well were modeled, then multiplied by two to account for simultaneous installation of two wells during any given quarter of Phase II. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.) Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[5] Under the Original Project, emissions from construction of the additional 40 feet of pipelines under Phase II were assumed to be within the emissions estimate for the injection wells because pipeline construction would be completed with similar equipment and within the same construction schedule assumed for the injection wells. Therefore, no separate emissions estimate was quantified for the additional pipelines. However, because the Modified Project would result in construction of approximately 900 feet of additional pipelines, these emissions were quantified separately due to the more intensive nature of construction activities for this component.

[6] Emissions estimates are sourced from Table 4.1-9 of the certified EIR because the Modified Project would not result in changes in the characteristics of the agricultural irrigation pipelines under the Original Project. Therefore, emissions for this component would remain the same as those estimated for the Original Project.

[7] Source: Table 4.1-9 of the certified EIR

Operational Emissions

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined operational air quality impacts would be less than significant because operational emissions would not exceed SLO County APCD thresholds.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project would not result in changes to the operational characteristics of the Original Project. Operational air pollutant emissions would remain the same as those estimated for the

Original Project in Table 4.1-13 of the certified EIR and would not exceed SLO County APCD thresholds, and the operational air quality impacts of the Modified Project would remain less than significant. The Modified Project thus would not result in new significant impacts associated with operational air pollutant emissions and would not increase the severity of significant impacts identified in the certified EIR.

Toxic Air Contaminants

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined toxic air contaminant (TAC) emissions impacts resulting from construction and operation of the Original Project would be less than significant because emissions of DPM would not exceed SLO County APCD thresholds.

MODIFIED CENTRAL COAST BLUE PROJECT

As shown in Table 3 and Table 5, the Modified Project would not generate DPM emissions during construction activities in excess of SLO County APCD thresholds as compared to the Original Project. In addition, the Modified Project would not result in changes to the operational characteristics of the Original Project and thus would not result in changes to estimated operational TAC emissions. The Modified Project would also continue to be subject to compliance with SLO County APCD Rule 219 for the emergency backup diesel generator to be located at the ATF complex. Therefore, the Modified Project would not expose sensitive receptors to substantial TAC emissions, and impacts would be less than significant. The Modified Project would not result in new significant impacts associated with TAC emissions and would not increase the severity of significant impacts identified in the certified EIR.

Naturally-Occurring Asbestos

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined impacts resulting from naturally-occurring asbestos would be less than significant because the Original Project area is not located in an area that is known to contain naturally-occurring asbestos.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. As with the Original Project, the Modified Project area is not located in an area that is known to contain naturally-occurring asbestos, and construction activities, including grading, would not expose sensitive receptors to substantial concentrations of naturally-occurring asbestos (SLO County APCD 2018). As a result, impacts would be less than significant. The Modified Project would thus not result in new significant impacts associated with naturally-occurring asbestos and would not increase the severity of significant impacts identified in the certified EIR.

Odors

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR determined the Original Project would not generate odorous emissions adversely affecting a substantial number of people because odors emitted during construction would be limited and temporary and project operation would not include processes or byproducts known to generate nuisance odors.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project would result in similar types of construction activities as the Original Project and would result in no changes to the operational characteristics of the Original Project. Therefore, the Modified Project would similarly have no potential to generate odorous emissions adversely affecting a substantial number of people during construction or operation. Impacts related to odorous emissions would be less than significant during construction, and no impacts related to odorous emissions would occur during operation. As such, Modified Project would not result in new significant impacts related to odors and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects would occur related to air quality, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measures AQ-2(a) and AQ-2(b) included in Section 4.1, *Air Quality*, of the certified EIR would be required for the Modified Project to reduce potential impacts related to air quality to a less-than-significant level with minor modifications to Mitigation Measure AQ-2(b) as shown in ~~strikeout~~/underline format below.

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

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

- Maintain all construction equipment in proper tune according to manufacturer’s specifications;
- Fuel all off-road and portable diesel-powered equipment with CARB-certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting the CARB’s Tier 2 certified engines or cleaner off-road heavy-duty diesel engines, and comply with the State Off-Road Regulation;
- Use on-road heavy-duty trucks that meet the CARB’s 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g., captive or NOX exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than five minutes in accordance with California Code of Regulations Title 13, Section 2485 and Section 2449(d)(3) of the CARB’s In-Use Off-Road Diesel Regulation. Signs shall be posted in the designated queuing areas and on job sites to remind drivers and operators of the five-minute idling limit;

- Electric-powered equipment shall be used when feasible;
- Gasoline-powered equipment shall be substituted in place of diesel-powered equipment, where feasible; and
- Alternatively fueled construction equipment shall be used on site where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.

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

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

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

According to the SLO County APCD (2012) *CEQA Air Quality Handbook,* for projects with estimated construction emissions expected to exceed the SLO County APCD daily thresholds of significance and the SLO County APCD quarterly Tier 1 thresholds of significance, implementation of standard and Best Available Control Technology measures would reduce potential air quality impacts to a less-than-significant level. These measures are required for both phases of construction activities. As shown in Table 6 and Table 7, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would reduce construction-related emissions of ROG + NO_X below the SLO County APCD quarterly thresholds during both Phases I and II of the Modified Project. As a result, implementation of Mitigation Measures AQ-2(a) and AQ-2(b) would reduce construction-related air quality impacts during Phases I and II of construction under the Modified Project to a less-than-significant level. As such, the Modified Project would not result in new significant impacts from criteria air pollutant emissions during construction and would not increase the severity of significant impacts identified in the certified EIR.

Table 6 Mitigated Phase I Maximum Quarterly Construction Air Pollutant Emissions – Modified Project

Project Component	ROG + NO_X (tons/quarter)	DPM (tons/quarter)[1]	Dust (tons/quarter)[2]
Injection/Monitoring/Production Wells[3, 4,]	0.90	0.04	0.08
Water Distribution and Sewer Pipelines[5]	0.69	0.03	0.01
ATF Complex[3, 6]	0.56	0.01	0.28
Total Maximum Quarterly Emissions	**2.15**	**0.08**	**0.37**
SLO County APCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLO County APCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

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

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

[1] DPM estimates were derived from the "PM_{10} Exhaust" outputs, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2022).

[2] Dust is equal to fugitive PM_{10} reported by CalEEMod and RCEM.

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

[4] Emissions from installation of one injection/production/monitoring well were modeled, then multiplied by two to account for simultaneous installation of two wells during any given quarter of Phase I. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.)

[5] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phase. See Appendix A for updated calculations.

[6] Assumes use of all equipment with Tier 4 Final certified engines.

Table 7 Mitigated Phase II Maximum Quarterly Construction Air Pollutant Emissions – Modified Project

Project Components	ROG + NO_X (tons/quarter)	DPM (tons/quarter)[1]	Dust[2] (tons/quarter)
Injection Wells[3, 4]	0.90	0.04	0.08
Additional Water Distribution Pipelines[5, 6]	0.28	0.01	0.01
Agricultural Irrigation Pipelines[5, 6]	0.40	0.01	0.01
Total Maximum Quarterly Emissions	**1.58**	**0.06**	**0.10**
SLO County APCD Quarterly Tier 1 Threshold	2.5	0.13	2.5
Threshold Exceeded?	**No**	**No**	**No**
SLO County APCD Quarterly Tier 2 Threshold	6.3	0.32	None
Threshold Exceeded?	**No**	**No**	**N/A**

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

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

[1] DPM estimates were derived from the "PM_{10} Exhaust" outputs, which is a conservative assumption given that 90 percent of DPM is a subset of $PM_{2.5}$ (CARB 2022).

[2] Dust is equal to fugitive PM_{10} reported by CalEEMod and RCEM.

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

[4] Emissions from installation of one injection well were modeled, then multiplied by two to account for simultaneous installation of two wells in any given quarter of Phase II. (This approach is conservative because installation of one monitoring well installation would generate fewer emissions than installation of one injection/production well.) Phase II of construction would also include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

[5] Assumes use of all equipment with Tier 4 Final certified engines.

[6] Maximum quarterly emissions were calculated using maximum daily emissions from the highest emissions-generating phase. See Appendix A for updated calculations.

Conclusion

Less than Significant Impact with Mitigation (Same as Certified EIR)

4.2 Biological Resources

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in direct and indirect impacts to special status species, if present during construction and operation. The certified EIR identified five special status species to which the Original Project would potentially result in significant impacts – California red legged frog (*Rana draytonii*; CRLF), southwestern pond turtle (*Emys marmorata*), monarch butterfly (*Danaus plexippus* pop. 1), white-tailed kite (*Elanus leucurus*), and tri-colored blackbird (*Agelaius tricolor*). However, with implementation of Mitigation Measures BIO-1(a) through BIO-1(k) outlined in Section 4.2, *Biological Resources*, of the certified EIR, impacts to special status species would be reduced to a less-than-significant level. Five other special status species – black-flowered figwort (*Scrophularia atrata*), California legless lizard (*Anniella pulchra*), southern sea otter (*Enhydra lutris nereis*), steelhead – south-central California coast distinction population segment (*Oncorhynchus mykiss)*, and tidewater goby (*Eucyclogobius newberryi*) - were also evaluated in the certified EIR. However, the certified EIR concluded that project components with known locations (i.e., injection and monitoring wells, pipelines, ATF complex, and reverse osmosis concentrate discharge) and groundwater extraction would result in less-than-significant impacts to these species.

The certified EIR determined construction activities under the Original Project would directly and indirectly impact arroyo willow riparian vegetation communities, which are considered environmentally sensitive habitat areas (ESHA), associated with Arroyo Grande Creek through habitat removal. However, with implementation of Mitigation Measure BIO-2 outlined in Section 4.2, *Biological Resources*, of the certified EIR, impacts related to sensitive vegetation communities and riparian habitat would be reduced to a less-than-significant level.

The certified EIR determined the Original Project would result in impacts to state and federally protected wetlands during construction activities. The certified EIR determined that the Original Project would potentially impact state and federally protected wetlands through direct removal, filling, or hydrological interruption. However, with implementation of Mitigation Measures BIO-3(a) to BIO-3(c) outlined in Section 4.2, *Biological Resources*, of the certified EIR, impacts related to state and federally protected wetlands would be reduced to a less-than-significant level.

The certified EIR determined the project would result in impacts to biological resources protected by local policies/ordinances, specifically related to the removal of native trees in unincorporated San Luis Obispo County, which are protected by San Luis Obispo County Code Sections 23.05.060, 23.05.062, and 23.05.060. However, with implementation of Mitigation Measure BIO-5 outlined in Section 4.2, *Biological Resources*, of the certified EIR, impacts related to local policies/ordinances protecting biological resources would be reduced to a less-than-significant level.

The certified EIR determined the project would not interfere substantially with wildlife movement, migratory wildlife corridors, or native wildlife nursery sites and would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impacts related to these topics would occur.

Modified Central Coast Blue Project

The following analysis based on an updated Biological Resources Assessment prepared for the Modified Project in 2023 (2023 BRA) and a Jurisdictional Delineation, which are included in Appendices B and C of this Addendum, respectively (Rincon Consultants, Inc. [Rincon] 2023a and 2023b).

SPECIAL STATUS PLANT SPECIES

The certified EIR identified one non-listed special status plant species - black-flowered figwort (California Rare Plant Rank [CRPR] 1B.2) - with the potential to occur near the locations of Original Project components. The 2023 BRA identified 11 special status plant species that have the potential to occur within the Modified Project area. Of these, six special status plant species have a low potential to occur, four species have a moderate potential to occur, and one species is present within the Study Area. The three non-listed special status plant species with a low potential to occur are omitted from further discussion because these species are not likely to occur within the Modified Project site and, even if present, population-wide impacts are not expected to occur. In addition, one special status plant species, Monterey cypress (*Hesperocyparis macrocarpa*; CRPR 1B.2), was observed within the Modified Project site during the field reconnaissance survey. This species is native to the Monterey Peninsula but has been widely planted outside of its native range as a landscape tree. Within the Modified Project site, all occurrences of this species were located along public roadways as landscape trees. Monterey cypress trees are therefore omitted from further discussion because they are not native to the region, and all occurrences within the Modified Project site are planted landscape trees. Listed special status plant species with a low potential to occur, and all special status plant species with a moderate potential to occur are discussed further below.

The 2023 BRA determined the following three listed special status plant species have low potential to occur within the Modified Project site:

- Marsh sandwort (*Arenaria paludicola*; federally endangered, State endangered, CRPR 1B.1)
- La Graciosa thistle (*Cirsium scariosum var. loncholepis*; federally endangered, State threatened, CRPR 1B.1)
- Beach spectaclepod (*Dithyrea maritima*; State threatened, CRPR 1B.1)

The 2023 BRA determined the following four non-listed special status plant species have moderate potential to occur within the Modified Project site:

- Blochman's leafy daisy (*Blochman's leafy daisy*; CRPR 1B.2)
- Crisp monardella (*Monardella undulata ssp. Crispa*; CRPR 1B.2)
- San Luis Obispo monardella (*Monardella undulata ssp. Undulata*; CRPR 1B.2)
- Black-flowered figwort (CRPR 1B.2)

Although additional special status plant species have potential to occur within or near the Modified Project area, the Modified Project would not result in significant direct or indirect impacts to these species because, similar to the Original Project, the majority of Modified Project impacts would occur on developed or landscaped areas outside the limits of native habitats and potentially suitable marsh and coastal scrub habitats for La Graciosa thistle and marsh sandwort would be avoided during construction. As with the Original Project, the footprint of the injection wells, monitoring wells, and pipelines associated with the Modified Project would be relatively small, and the impacts associated with construction would be primarily temporary in nature in developed/landscaped land cover. Furthermore, injection wells would be located along edges of larger habitat blocks potentially suitable for these species. Therefore, only a relatively small number of each of these special status plant species, if any, would be impacted in comparison to the population that could inhabit the remaining regionally occurring suitable habitat. As a result, as with the Original Project, construction of the Modified Project would not be expected to remove or degrade habitat for special status plant species to such an extent as to cause a downward trend in the species range-wide or regional/local populations or cause a restriction in the species range that would lead to a federal or state listing. Therefore, impacts to special status plant species under the Modified Project would be less than significant. As such, the Modified Project would not result in new significant impacts related to special status species and would not increase the severity of significant impacts identified in the certified EIR.

SPECIAL STATUS ANIMAL SPECIES

The certified EIR identified the following nine special status animal species with potential to occur within the Original Project site:

- CRLF (federally threatened; California Department of Fish and Wildlife [CDFW] Species of Special Concern [SSC])

- Southwestern pond turtle (SSC)
- Monarch butterfly-California overwintering population (federal candidate)
- White-tailed kite (State Fully Protected)
- Tri-colored blackbird (State threatened; SSC)
- California legless lizard (SSC)
- Southern sea otter (federally threatened; SSC)
- Steelhead-south-central California coast distinction population segment (federally threatened)
- Tidewater goby (federally endangered; SSC)

The 2023 BRA did not identify new special status animal species as having potential to occur within the Modified Project site (Appendix B).

Similar to the Original Project, the Modified Project would potentially result in significant direct and indirect impacts to individuals of CRLF as well as direct impacts to CRLF habitat during construction and ground-disturbing maintenance activities associated with IW-5A, IW-5B, MW-5A/5B/5C, the pump station at the SSLOCSD WWTP, and pipeline locations adjacent to Arroyo Grande Creek (Appendix B). Therefore, as with the Original Project, impacts to CRLF would be potentially significant. Implementation of Mitigation Measures BIO-1(a) and BIO-1(b) would continue to apply to the Modified Project and would reduce impacts to a less-than-significant level.

Similar to the Original Project, the Modified Project would have the potential to result in impacts to southwestern pond turtles through harassment, injury, and mortality of individuals; destruction of nest sites; general habitat disturbance or removal and disruption of foraging or breeding activities that could impact the reproductive success of the local and regional population, specifically at the locations of IW-5A, IW-5B, MW-5A/5B/5C, and the pump station at the SSLOCSD WWTP adjacent to Arroyo Grande Creek as well as along portions of the pipeline alignments within 50 feet of Arroyo Grande Creek (Appendix B). Therefore, as with the Original Project, impacts to southwestern pond turtle under the Modified Project would be potentially significant. Implementation of Mitigation Measure BIO-1(c) would continue to apply to the Modified Project and would reduce impacts to a less-than-significant level.

The California overwintering population of monarch butterfly has a moderate potential to occur within the Modified Project site as transient individuals due to the proximity of numerous overwintering sites and presence of potential nectar sources within landscaped areas. The eucalyptus grove located within the ATF complex location could serve as potential monarch overwintering habitat. However, as discussed in in the 2023 BRA, the last record of overwintering monarchs at this site is from 1989, and no overwintering monarchs were observed at this site during the appropriately-timed field reconnaissance survey, although they were present at other nearby known overwintering sites, which indicates the species does not currently utilize the eucalyptus grove within the ATF complex location for overwintering. As such, this site would not currently be considered an ESHA in the context of the California Coastal Act, and no impacts to overwintering monarchs at this site would occur as a result of the proposed removal of this eucalyptus grove if removal occurs prior to the start of the next overwintering period in October 2023 (Appendix B). If removal of the eucalyptus grove occurs after the start of the next overwintering period in October 2023, conditions may change, and the area may be used as overwintering habitat by monarchs, in which case removal of the eucalyptus grove could result in direct impacts to monarch butterfly, such as injury/mortality and/or removal of overwintering habitat. In addition, potential indirect impacts to overwintering monarchs due to harassment could occur if they are present within the vicinity of the project during construction, though the likelihood would be low (Appendix B). Therefore, as with the Original Project, impacts to monarch butterfly under the Modified Project would be potentially significant. Implementation of Mitigation Measure BIO-1(d) would continue to apply to the Modified Project and would reduce impacts to a less-than-significant level.

The Modified Project, like the Original Project, would potentially result in impacts to nesting birds, including the white-tailed kite, during construction activities. Impacts to tri-color blackbird under the Modified Project would not occur given the injection well, monitoring well, pump station, pipeline, and ATF complex locations and immediate surroundings only provide foraging habitat for the species. Therefore, no direct impacts to tri-color blackbird nesting would occur. However, direct impacts to nesting birds of other species, including white-tailed kite, may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure (Appendix B). Therefore, as with the Original Project, impacts to nesting birds, including the white-tailed kite, would be potentially significant. Implementation of Mitigation Measure BIO-1(e) would continue to apply to the Modified Project and would reduce impacts to a less-than-significant level.

Similar to the Original Project, the Modified Project may result in direct and indirect impacts to California legless lizard (e.g., mortality, habitat disturbance or removal, disruption of foraging or breeding) during ground-disturbing construction and maintenance activities (e.g., grading, excavation, and trenching), specifically within suitable habitat that occurs within the ATF complex, IW-2A, IW-2B, IW-4 Alternate, MW-3C/3D, MW-4A/4B, MW-4C/4D, MW-5A/5B/5C, and some pipeline alignments). However, as with the Original Project, only a small number of northern California legless lizards, if any, would be directly impacted compared to the size of the regional population in native habitats. Based on these factors, impacts resulting from the Modified Project would not cause a downward trend in the species range-wide or regional/local populations or cause a restriction in the species range that would lead to a federal or state listing (Appendix B). Therefore, as with the Original Project, impacts to northern California legless lizard under the Modified Project would be less than significant.

As with the Original Project, the Modified Project would alter the volume and quality of water discharged through the existing ocean outfall, resulting in an incrementally higher concentration (but not volume or mass) of salinity and other constituents in the effluent. Southern sea otter and steelhead have the potential to occur near this discharge point during migration. However, the ocean discharge would continue to be regulated by the SWRCB under the Pismo Beach and SSLOCSD WWTPs' National Pollutant Discharge Elimination System (NPDES) permits, which include effluent limitations for protection of marine aquatic life. Furthermore, the pipeline outfall is not located within a kelp forest, which sea otters are dependent on. Similar to the Original Project, the change in water salinity output under the Modified Project is not expected to cause an impact to southern sea otter or steelhead given compliance with existing NPDES permit limitations (Appendix B). Therefore, as with the Original Project, impacts to southern sea otter and steelhead under the Modified Project would be less than significant.

As with the Original Project, the Modified Project would not result in impacts to tidewater goby given that suitable habitat for this species within Arroyo Grande Creek is separated from the locations of project components by an earthen levee and suitable habitat within Meadow Creek and Oceano Lagoon are isolated from the locations of project components due to existing roadways and development (Appendix B). Therefore, similar to the Original Project, no impacts to tidewater goby would occur under the Modified Project.

As with the Original Project, groundwater extraction during operation of the Modified Project may lower local alluvial groundwater levels around Arroyo Grande Creek, Arroyo Grande Creek Lagoon, Meadow Creek, and Meadow Creek Lagoon, resulting in greater percolation (i.e., inflow) of surface waters from Arroyo Grande Creek into the alluvial aquifer of the SMGB. However, as indicated in the 2023 BRA, Phase I of the Modified Project would result in a negligible impact to percolation rates of Arroyo Grande Creek during normal and dry years, based on an analysis prepared by Geoscience Support Services, Inc. (Appendix B). Under Phase II of the proposed project, more advanced purified water would be injected into the SMGB than the corresponding increase in groundwater extractions; therefore, this phase of the Modified Project would not have any adverse impacts on percolation rates and corresponding surface water levels of local water features. In addition, the minimal amount of dewatering that may be required during construction of the pump station at the SSLOCSD WWTP would not be substantial enough to affect surface water levels in nearby water bodies. Furthermore, the project includes monitoring of groundwater levels during construction dewatering at the ATF complex location and implementation of management actions to be protective of surface water levels in Oceano Lagoon such that special status species would not be impacted. Therefore, construction-phase and operational groundwater extraction facilitated by the Modified Project would not substantially alter the hydrology of local water features such that adverse impacts to special status aquatic species would occur (Appendix B). As with the Original Project, impacts to special status animal species from groundwater extraction under the Modified Project would be less than significant.

In light of the above discussion, the Modified Project would not result in new significant impacts to special status animal species and would not increase the severity of significant impacts identified in the certified EIR.

RIPARIAN HABITAT AND SENSITIVE VEGETATION COMMUNITIES

Similar to the Original Project, the majority of the Modified Project would not result in impacts to riparian habitat or other sensitive habitat types, and the Modified Project as a whole would not impact federally-designated critical habitat for La Graciosa thistle or other federally listed species. However, construction of pipelines would directly impact the arroyo willow thicket vegetation community associated with Arroyo Grande Creek and saltgrass flats associated with the emergent wetland through habitat removal on the Oceano County Airport property. The arroyo willow riparian habitat is identified as ESHA under the adopted Local Coastal Programs for the City of Grover Beach and the County of San Luis Obispo, while the saltgrass flats are a State-designated sensitive natural community (Appendix B). As with the Original Project, direct impacts to these habitats could occur through ground disturbance, vegetation removal, and conversion of habitats to developed land uses. Indirect impacts would occur if construction equipment inadvertently transports residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that has not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or convert riparian habitat to non-native habitat. Therefore, similar to the Original Project, direct and indirect impacts to sensitive plant communities and ESHA from construction of pipelines in the Oceano County Airport under the Modified Project would be potentially significant (Appendix B). Implementation of Mitigation Measure BIO-2 from the certified EIR would continue to apply to the Modified Project and would reduce this impact to a less-than-significant level. As such, the Modified Project would not result in new significant impacts to riparian habitat and sensitive natural communities and would not increase the severity of significant impacts identified in the certified EIR.

STATE AND FEDERALLY PROTECTED WETLANDS

As required by Mitigation Measure BIO-3(a) in Section 4.2, *Biological Resources*, of the certified EIR, a Jurisdictional Delineation was prepared for the Modified Project (Appendix C). The Jurisdictional Delineation identified two detention basins, two wetlands, a roadway drainage, an intermittent stream, two agriculture ditches, and areas of riparian habitat potentially subject to the jurisdictions of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, and/or California Coastal Commission [CCC] within the Modified Project area (Appendix C). Similar to the Original Project, the Modified Project would potentially result in temporary direct impacts to these features during trenching for pipeline installation in the Oceano County Airport property through temporary displacement of soil and vegetation and removal of riparian habitat. Direct impacts would also occur if spills or leaks occur within arroyo willow riparian habitat during construction at locations within or adjacent to this habitat. Therefore, as with the Original Project, impacts to jurisdictional waters and wetlands under the Modified Project would be potentially significant, and the project would require the issuance of permits by the RWQCB and CDFW as well as the CCC (Appendix B). Mitigation Measures BIO-3(b) and BIO-3(c) would continue to apply to the Modified Project and would reduce this impact to a less-than-significant level. In addition, as with the Original Project, operational groundwater extraction proposed under the Modified Project would not result in hydrologic interruption to state and federally protected wetlands. Furthermore, the construction-phase production of groundwater during well development at the injection and monitoring well locations under the Modified Project would not have the potential to lower surface water levels. Also, the project includes monitoring of groundwater levels during construction dewatering at the ATF complex location and implementation of management actions to be protective of surface water levels in Oceano Lagoon such that hydrologic interruption of state and federally protected wetlands would not occur. As such, impacts from construction-phase and operational groundwater extraction would be less than significant (Appendix B).

WILDLIFE MOVEMENT AND NATIVE WILDLIFE NURSERY SITES

Similar to the Original Project, the Modified Project would not include project components that would interfere substantially with the movement of wildlife, migration, or native wildlife nursery sites (Appendix B). As such, the Modified Project would not result in new significant impacts to wildlife movement and native wildlife nursery sites and would not increase the severity of significant impacts identified in the certified EIR.

LOCAL POLICIES AND ORDINANCES PROTECTING BIOLOGICAL RESOURCES

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area for MW-NCMA-South A/B/C. As with the Original Project, trees may be removed to accommodate the proposed injection wells, monitoring wells, ATF complex and pipelines under the Modified Project; however, the species and number of trees is not known at this time. As with the Original Project, if the removal of native trees in unincorporated San Luis Obispo County does not occur in accordance with the requirements of the San Luis Obispo County Code, the Modified Project would potentially conflict with local policies and ordinances protecting biological resources (Appendix B). Mitigation Measure BIO-5 would continue to apply to the Modified Project and would reduce this impact to a less-than-significant level.

HABITAT CONSERVATION PLANS AND NATURAL COMMUNITY CONSERVATION PLANS

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area for MW-NCMA-South A/B/C. As with the Original Project, the Modified Project would not be subject to an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plans (Appendix B). As such, the Modified Project would not result in new significant impacts to these plans and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with biological resources would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measures BIO-1(a) through BIO-1(k), BIO-2, BIO-3(b), BIO-3(c), and BIO-5 outlined in Section 4.2, *Biological Resources*, of the certified EIR would reduce potential impacts to cultural resources to a less-than-significant level with minor clarifications to Mitigation Measures BIO-1(b), BIO-1(d), BIO-2, and BIO-3(b), and BIO-3(c), as shown in ~~strikeout~~/<u>underline</u> format below.[14] Mitigation Measure BIO-3(a) included in Section 4.4, *Biological Resources*, of the certified EIR has been completed for the Modified Project through preparation of a Jurisdictional Delineation (Appendix C).

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

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

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

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

- A qualified biologist shall survey the project site no more than 48 hours before the start of construction and ground-disturbing maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint, no work shall begin, and consultation with the USFWS shall be initiated. Work shall not begin until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take ~~Permit~~ <u>Statement</u> issued by the USFWS for the project are successfully implemented.
- For construction activities occurring during the wet season (October 15 and April 15), daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a CRLF is found within the project footprint, work shall halt, and consultation with the USFWS shall be

[14] Mitigation Measures BIO-1(f) through BIO-1(k) would continue to apply to the proposed agricultural irrigation pipelines, which have not changed under the Modified Project, to reduce impacts to biological resources associated with this project component to a less-than-significant level.

initiated. Work shall not re-commence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take ~~Permit~~ Statement issued by the USFWS for the project are successfully implemented.

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

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

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

- A qualified biologist shall conduct a visual survey of work areas within 50 feet of Arroyo Grande Creek and Meadow Creek within 48 hours of initial ground-disturbing activities, including but not limited to grading, excavation, and trenching, associated with construction of injection wells. The survey area shall include the proposed disturbance area plus a 100-foot buffer. Prior to the survey, suitable receptor sites shall be identified within Arroyo Grande Creek and Meadow Creek. A biologist authorized to relocate turtles shall be present for activities that require the removal of riparian habitat to monitor for turtles. If a turtle is observed in the work area, the biologist shall relocate it out of the work area to the respective receptor site.

- For the duration of project construction activities at the IW-5A, IW-5B, and MW 5A/5B/5C locations and ~~water distribution~~ pipeline locations within 50 feet of Arroyo Grande Creek and Meadow Creek, daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a turtle is observed in the work area, a biologist authorized to relocate turtles shall relocate it out of the work area to the respective receptor site.
- All excavations or trenches shall be covered when not actively under construction or shall contain earthen ramps sufficient for southwestern pond turtle to escape to avoid entrapment of southwestern pond turtle or other wildlife species.
- In the event that a southwestern pond turtle egg clutch is discovered during pre-construction surveys, the location shall be surrounded with high visibility fencing under the guidance of a qualified biologist. The nest shall be avoided by construction activities until a qualified biologist determines that the clutch has hatched. The CDFW shall also be contacted to provide additional guidance in the event that a southwestern pond turtle nest is discovered. If, during construction, a southwestern pond turtle nest is discovered, construction shall cease immediately upon the discovery, and CDFW shall be notified.
- To the extent feasible, construction activities shall be scheduled outside of the typical nesting season for southwestern pond turtle, which is April through August (Stebbins 2003).

BIO-1(d) Monarch Butterfly Avoidance

The ATF complex and associated construction work areas shall be sited outside of monarch butterfly overwintering habitat. If removal of the eucalyptus tree grove occurs after the start of the next overwintering period in October 2023, a survey shall be conducted prior to removal of the grove and during the overwintering period (i.e., October through February) for monarchs in the region to determine if monarchs are utilizing the eucalyptus grove south of 980 Huber Street in Grover Beach for overwintering. A survey shall also be conducted if the eucalyptus grove is not removed and other construction activities at the ATF complex location commence after the start of the next overwintering period in October 2023. ~~Prior to construction and during the overwintering period for monarchs in the region (i.e., October through February), a survey shall be conducted at the eucalyptus grove adjacent to the ATF complex to determine if monarch butterflies are utilizing the habitat for overwintering.~~ If monarch butterflies are confirmed to overwinter within the eucalyptus grove, the grove shall be considered ESHA, and design of the ATF complex shall be modified to incorporate the appropriate setbacks included in the City of Grover Beach Local Coastal Program and Grover Beach Municipal Code. The limits of construction shall be clearly demarcated by bright orange fencing in order to avoid work within designated setback areas. Areas outside of the limits of construction shall be considered environmentally sensitive, and access and construction shall be restricted. If butterflies are present, all construction adjacent to overwintering habitat shall be conducted outside the overwintering season (i.e., October to February), if feasible. However, if construction must occur during this time period, a pre-construction survey of the monarch overwintering habitat adjacent to the ATF complex location shall be conducted to confirm presence or absence of monarch butterflies. If no butterflies are observed, construction may commence. If butterflies are observed, construction may only commence if a City-approved monarch butterfly expert determines that the construction activities would not adversely impact foraging, roosting, or other behaviors of the species.

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

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

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

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

The following avoidance and minimization measures shall be implemented during project construction and maintenance activities requiring vegetation disturbance within arroyo willow habitat <u>and saltgrass flats</u>.

- Temporary impact areas to arroyo willow habitat <u>and saltgrass flats</u> shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in wetland, stream, or riparian function. Permanent impacts shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1 to mitigate unavoidable permanent impacts to ~~arroyo willow habitat~~ <u>these habitats</u>. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared by a biologist familiar with restoration and mitigation techniques. The plan shall include, but not be limited to the following components:
    - Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);
    - Goal(s) of the compensatory mitigation project (type[s] and area[s] of habitat to be established, restored, enhanced, and/or preserved;
    - Specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved);
    - Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values of the compensatory mitigation site);

  - Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]);
  - Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule);
  - Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);
  - Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;
  - An adaptive management program and remedial measures to address negative impacts to restoration efforts;
  - Notification of completion of compensatory mitigation and agency confirmation; and
  - Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).
- During construction, the project shall make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on site should be used for fill material. If the use of imported fill material is necessary, the imported material shall be obtained from a source that is known to be free of invasive plant species.
- All equipment and vehicles must be free of weed seeds/propagules before accessing and leaving the work areas.

BIO-3(a) Jurisdictional Delineation

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

BIO-3(b) Drainages and Wetlands Impact Mitigation

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

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

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

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

- Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other federal and State waters, including locating access routes and ancillary construction areas outside of jurisdictional areas.
- To control erosion and sediment runoff during and after project implementation, appropriate erosion control materials shall be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint.
- Project activities within the drainages or wetlands shall occur during the dry season in any given year to the extent practicable. The dry season is typically between May 1 and September 30; however, this timeframe may be extended depending on year-to-year precipitation and drought conditions.
- <u>All topsoil removed within riparian habitat and wetland waters shall be salvaged and replaced following completion of construction activities.</u>
- During construction, no litter or construction debris shall be placed within drainages or wetlands. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All project-generated debris, building materials, and rubbish shall be removed daily from jurisdictional areas and from areas where such materials could be washed into them.

- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, shall be prevented from contaminating the soil and/or entering drainages or wetlands.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from drainages and wetlands and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should an accidental spill occur.
- If installation of the agricultural irrigation pipelines requires the crossing of Arroyo Grande Creek, a Frac-Out Contingency Plan shall be prepared and, and in the event of frac-out, it shall be implemented. The Frac-Out Contingency Plan shall include the following:
    - The purpose of the contingency plan;
    - Preventative measures to minimize the likelihood of a frac-out;
    - The planning and design of the augur boring or horizontal directional drilling;
    - Pre-construction requirements; and
    - Contingency response to contain and remove drilling fluids and closeout procedures. The contingency response shall include general guidelines with all equipment required, guidelines for terrestrial frac-outs along the banks and riparian corridor of Arroyo Grande Creek, guidelines for aquatic frac-outs within Arroyo Grande Creek, and bore abandonment.

BIO-5 Native Tree Inventory, Protection, and Replacement

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

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

Conclusion

Less than Significant Impact with Mitigation Incorporated (Same as Certified EIR)

4.3 Cultural and Tribal Resources

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in no impacts to historic resources and potentially significant impacts to archaeological resources. However, with implementation of Mitigation Measures CR-2(a) through CR-2(d) outlined in Section 4.3, *Cultural and Tribal Cultural Resources*, of the certified EIR, impacts to archaeological resources would be reduced to a less-than-significant level. The certified EIR also determined the Original Project would result in no impacts to known human remains and that adherence to existing regulations relating to human remains would ensure impacts related to any unanticipated discoveries of human remains would be less than significant.

No specific tribal cultural resources in the Original Project area were identified through the Assembly Bill (AB) 52 consultation process. Because no specific tribal cultural resources were identified, the certified EIR determined impacts to tribal cultural resources would be less than significant and that implementation of Mitigation Measures CR-2(a) through CR-2(d) would further reduce this already less than significant impact.

Modified Central Coast Blue Project

The following analysis is based on a supplemental Cultural Resources Assessment prepared for the Modified Project in 2023 (2023 CRA), which is included in Appendix D of this Addendum (Rincon 2023c). This report also satisfies the requirements of Mitigation Measure CR-2(d) to prepare an archaeological resource study for the new production well, which had an unknown location at the time of the certified EIR but has since been sited at the ATF complex.

HISTORIC RESOURCES

Similar to the Original Project, the 2023 CRA identified one historic resource located within the Modified Project area - the Oceano Train Depot. MW-5D/5E/5F would be installed in the same location under the Modified Project as under the Original Project within the paved parking lot of the Oceano Train Depot at sufficient distance from the building to avoid vibration impacts (see Section 4.10, *Noise*, of the certified EIR). Therefore, as with the Original Project, the Modified Project would result in no impacts to historic resources (Appendix D). As such, the Modified Project would not result in new significant impacts to historic resources and would not increase the severity of significant impacts identified in the certified EIR.

ARCHAEOLOGICAL RESOURCES

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. Similar to the Original Project, the Modified Project area is highly sensitive for archaeological resources, and as a result, the Modified Project would result in potentially significant impacts to archaeological resources (Appendix D). Mitigation Measures CR-2(a) though CR-2(d) would continue to apply to construction activities for the Modified Project and would reduce these impacts to a less-than-significant level. As such, the Modified Project would not result in new significant impacts to archaeological resources and would not increase the severity of significant impacts identified in the certified EIR.

HUMAN REMAINS

The 2023 CRA determined no human remains exist within the Modified Project area but that the discovery of human remains is always a possibility during ground disturbing activities. As with the Original Project, impacts to human remains would be less than significant under the Modified Project with adherence to existing regulations. As such, the Modified Project would not result in new significant impacts to human remains and would not increase the severity of significant impacts identified in the certified EIR.

TRIBAL CULTURAL RESOURCES

On January 27, 2023, the City of Pismo Beach, as CEQA lead agency, distributed AB 52 consultation letters for the Modified Project, including a description of the Modified Project, map, contact information, and a copy of the original AB 52 letter sent in 2020 for the Original Project. The Native American contacts provided with an AB 52 consultation letter, sent via certified mail, included the following tribes listed on the Native American Heritage Commission (NAHC)-provided contact list:15

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

Under AB 52, Native American tribes were provided 30 days to respond and request further project information and formal consultation. The City received requests for consultation from two tribes - the Northern Chumash Tribal Council and the yak tityu tityu yak tiłhini – Northern Chumash Tribe. In addition, the City received input via email from the Salinan Tribe of Monterey and San Luis Obispo Counties; however, this tribe did not request formal AB 52 consultation.

As discussed in the 2023 CRA (Appendix D), Rincon requested a search of the Sacred Land File (SLF) from the NAHC to identify the potential for cultural resources within the Modified Project site and to obtain contact information for Native Americans groups or individuals who may have knowledge of resources within the project site. The SLF search was returned with positive results. The NAHC identifies sacred sites by 7.5-minute quadrangle; if a site is anywhere within the quadrangle, a positive result is produced. A 7.5-minute quadrangle encompasses areas between 49 to 70 square miles, indicating that the sacred site may be within the Modified Project area or located several miles away. More specific locational information for sacred sites is only obtained through tribal outreach and consultation. On January 24, 2023, Rincon sent informal coordination letters to 10 Native American

[15] Although contacted during the AB 52 consultation process for the Original Project, an AB 52 consultation letter was not sent to the Xolon-Salinan Tribe during the AB 52 consultation process for the Modified Project because this tribe is no longer included on the tribal contact list provided by the NAHC for the Modified Project area. In addition, as indicated in Section 4.3, *Cultural and Tribal Cultural Resources*, of the Final EIR, Chairperson Karen White of the Xolon-Salinan Tribe indicated the Original Project Area, which is largely the same as the Modified Project area, is outside the traditional Xolon-Salinan tribal lands.

contacts in the area to request information on potential cultural resources in the Modified Project area that may be impacted by the Modified Project. Rincon conducted follow-up calls for the coordination efforts on January 31, 2023, and February 3, 2023. This outreach did not constitute formal AB 52 consultation, which is discussed later in this section. Responses from NAHC-listed contacts are provided below (Appendix D):

- **Northern Chumash Tribal Council.** On January 24, 2023, Violet Walker, Chairperson for the Northern Chumash Tribal Council, responded via email stating the Council is interested in consultation for the Modified Project.
- **Barbareño/Ventureño Band of Mission Indians.** On January 30, 2023, Annette Ayala, Cultural Resources Management Committee Chair of Barbareño/Ventureño Band of Mission Indians, stated via phone conversation that she defers to local tribes.
- **Coastal Band of the Chumash Nation.** On January 30, 2023, Mia Lopez, Chairperson for the Coastal Band of the Chumash Nation, stated via phone conversation she was unable to download the letter Rincon sent and requested it be re-sent. Rincon re-sent the letter on January 30, 2023. On February 3, 2023, Chairperson Lopez stated via phone that she is contacting other Northern Chumash Tribes regarding the project and will provide comment at a later date. Rincon followed up with Chairperson Lopez on February 14, 2023, via email. No further comment has been received.
- **yak tityu tityu yak tiłhini – Northern Chumash Tribe.** On January 30, 2023, Mona Tucker, Chairperson for the yak tityu tityu yak tiłhini – Northern Chumash Tribe, requested via phone conversation that archaeological and tribal monitoring be conducted for the undertaking. Chairperson Tucker also stated that although the CHRIS identified two resources within the APE, there are likely more archaeological resources within the APE. Chairperson Tucker inquired when the undertaking may begin ground disturbing activities. Rincon responded via email to Chairperson Tucker's inquiry on February 14, 2023, stating the start of ground-disturbing activities is currently unknown.
- **Santa Ynez Band of Chumash Indians.** On January 31, 2023, Crystal Mendoza, Administrative Assistance for the Santa Ynez Band of Chumash Indians, left Rincon a voicemail stating she would like a copy of the letter sent to her email address. Rincon emailed Ms. Mendoza a copy of the letter on January 31, 2023, and Ms. Mendoza responded via email that she would forward the letter to the Tribe's Cultural Resources Management team and get back with the Tribe's response. On February 2, 2023, Ms. Mendoza sent a letter via email stating the Tribe was requesting formal consultation and to contact Dr. Wendy Teeter, Cultural Resource Archaeologist.
- **Salinan Tribe of Monterey and San Luis Obispo Counties**. On February 1, 2023, Patti Dunton, Tribal Administrator for the Salinan Tribe of Monterey and San Luis Obispo Counties, responded via email that they are aware of the same sites that Rincon has already identified and that the Tribe requests all ground-disturbing activities in these sensitive areas be monitored by a cultural resource specialist from their Tribe. Ms. Dunton requested to be kept informed as the project moves forward.

As stated previously, the City of Pismo Beach held two consultation meetings, one with the Northern Chumash Tribal Council and one with the yak tityu tityu yak tiłhini – Northern Chumash Tribe. In addition, the City of Pismo Beach received two emails with input from the Salinan Tribe of Monterey and San Luis Obispo Counties, but this tribe did not request formal AB 52 consultation. On February 3, Rincon also contacted the Santa Ynez Band of Chumash Indians via email on behalf of the City of

Pismo Beach to inquire as to whether the tribe would like to consult under AB 52 based on feedback received during the informal NAHC outreach process. No response was received from this tribe. A summary of consultation meetings and feedback is provided below.

- **yak tityu tityu yak tiłhini – Northern Chumash Tribe.** The City of Pismo Beach held a consultation meeting with Chairperson Mona Tucker of the yak tityu tityu yak tiłhini – Northern Chumash Tribe on February 13, 2023. Chairperson Tucker expressed concerns about the cultural resource sensitivity of the area, especially to the east of the Coastal Dunes RV Park and Campground as well as within the agricultural lands in which MW-NCMA North A/B/C and MW-NCMA South A/B/C would be located and near the water feature near MW-NCMA South A/B/C. Chairperson Tucker indicated some portions of the Modified Project area may not require monitoring, but indicated the difficulty of identifying those specific areas. Chairperson Tucker recommended the cultural resources monitoring plan be reviewed by the yak tityu tityu yak tiłhini – Northern Chumash Tribe and recommended that the Worker's Environmental Awareness Program (WEAP) training be presented in a way that gives construction personnel a good sense of potential resources they may encounter. Chairperson Tucker also recommended designating a person to keep track of whether construction personnel have received the WEAP as new personnel are added to the work throughout construction.
- **Northern Chumash Tribal Council.** The City of Pismo Beach held a consultation meeting with Chairperson Violet Collins, Ernest R. Houston (Tribal Cultural Resource Monitor), and Michael Khus-zarate (Boardmember) of the Northern Chumash Tribal Council on March 3, 2023. The Tribe requested additional information on the water quality of and permitting requirements for the proposed reverse osmosis concentrate that would be discharged via the existing ocean outfall for comparison to the standards under consideration for the proposed Chumash Heritage National Marine Sanctuary. This information was provided to the Tribe via email on March 3, 2023. The Tribe also requested a copy of the cultural resources mitigation measures from the certified EIR, which was provided via email on March 3, 2023. The Tribe noted a potential grant opportunity (the Regional Resiliency Grant Program) for Tribal collaboration on the Modified Project and expressed interest in collaborating with the City of Pismo Beach on pursuing this opportunity. The Tribe expressed interest in continuing its involvement in the project and providing feedback on the cultural resources monitoring plan once developed, and the Tribe suggested incorporating language from monitoring plans prepared for similar projects in Cayucos and Morro Bay into the Modified Project's monitoring plan. The Tribe recommended equitable distribution of monitoring between local Tribes and recommended a monitor be present at each active construction site. The Tribe indicated that negative results of pedestrian surveys and prior ground disturbance are not indicators of the absence of archaeological resources at depth and noted they have discovered resources at up to six to eight feet in depth while monitoring projects in the region.
- **Salinan Tribe of Monterey and San Luis Obispo Counties**. In emails dated February 2, 2023 and February 24, 2023, Patti Dunton, Tribal Administrator of the Salinan Tribe of Monterey and San Luis Obispo Counties, stated the tribe has many concerns that known and unknown cultural resources may be impacted by the Modified Project and requested all ground-disturbing activities be monitored by a cultural resources specialist from the Salinan Tribe of Monterey and San Luis Obispo Counties. Ms. Dunton also requested to be in contact as the project moves forward.

As with the Original Project, no specific tribal cultural resources in the Modified Project area were identified through the follow-up AB 52 consultation process. The area was discussed to be generally highly sensitive for cultural resources of Native American origin. Requests and recommendations made by the tribes are integrated into Mitigation Measures CR-2(a) through CR-2(c), which require a

WEAP, archaeological and Native American monitoring, and steps to take in the event of an unanticipated discovery of cultural resources during ground-disturbing activities. Similar to the Original Project, because no specific tribal cultural resources were identified, impacts to tribal cultural resources under the Modified Project would be less than significant. Implementation of Mitigation Measures CR-2(a) through CR-2(c) would further reduce this impact below the level of significance. As such, the Modified Project would not result in new significant impacts to tribal cultural resources and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with cultural resources would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measures CR-2(a) through CR-2(d) outlined in Section 4.3, *Cultural and Tribal Resources*, of the certified EIR would reduce potential impacts to cultural resources to a less-than-significant level with minor clarifications to Mitigation Measure CR-2(b) as shown in ~~strikeout~~/<u>underline</u> format below.[16]

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

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

CR-2(b) Archaeological and Native American Monitoring

During initial ground disturbance for the project, a qualified archaeologist and locally affiliated Native American monitor shall monitor construction activities within the project area. Initial ground disturbance is defined as disturbance within previously undisturbed native soils. <u>Prior to ground disturbing activities, a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for archaeology, shall be hired to develop a Cultural Resources Mitigation Plan in consultation with a locally affiliated Native American tribe. The Cultural Resources Mitigation Plan shall identify procedures and requirements for monitoring as well as outline procedures for archaeological finds during monitoring efforts.</u> ~~A cultural resources monitoring plan shall be completed prior to the commencement of monitoring, which outlines monitoring procedures, stop work authorities, and procedures to be taken in the event of a find.~~ The ~~monitoring~~ <u>mitigation</u> plan shall also provide a monitoring form template to be completed by the monitors for each monitoring day. If, during initial ground disturbance, the qualified archaeologist determines that the construction activities have little or no potential to impact cultural resources (e.g., excavations are within previously disturbed, non-native soils, or within a soil formation not expected to yield cultural resources deposits), the qualified archaeologist may recommend that monitoring be reduced or eliminated. If cultural resources are identified during initial monitoring, work in the immediate vicinity shall halt until the resource has been evaluated for significance. <u>Any cultural resources identified will</u>

[16] Mitigation Measure CR-2(d) would continue to apply to the proposed agricultural irrigation pipelines, which have not changed under the Modified Project, to reduce impacts to the archaeological resources associated with this project component to a less-than-significant level.

be reported to the applicable local land use permitting agency (i.e., City of Grover Beach, County of San Luis Obispo).

CR-2(c) Unanticipated Discovery of Cultural Resources

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

Conclusion

Less than Significant Impact with Mitigation Incorporated (Same as Certified EIR)

4.4 Energy

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would not result in wasteful, inefficient, or unnecessary energy consumption during construction and operation because the project would be subject to compliance with energy efficiency regulations, construction contractors would be incentivized to conserve energy for cost efficiency, and the project would serve the necessary purpose of stabilizing and protecting existing local groundwater supplies. The certified EIR also determined the Original Project would be potentially inconsistent with the renewable energy and energy efficiency measures, goals, and policies of the City of Pismo Beach's Climate Action Plan and the City of Grover Beach's General Plan. However, with implementation of Mitigation Measures E-2 and GHG-2 outlined in Section 4.4, *Energy*, and Section 4.6, *Greenhouse Gas Emissions*, respectively, of the certified EIR, impacts related to consistency with renewable energy and energy efficiency plans would be reduced to a less-than-significant level.

Modified Central Coast Blue Project

ENERGY RESOURCE CONSUMPTION

Construction

As with the Original Project, construction of the Modified Project would require energy resources primarily in the form of fuel consumption to operate heavy equipment, light-duty vehicles, machinery, and generators. Temporary grid power may also be provided to construction trailers or electric construction equipment. Table 8 summarizes the anticipated fuel consumption from construction equipment and vehicles, including worker trips to and from the construction site, under the Modified Project. As shown therein, construction of the Modified Project would require approximately 26,073 gallons of gasoline and 305,110 gallons of diesel fuel. Estimated gasoline fuel consumption would be greater than that estimated for the Original Project due to changes in construction characteristics under the Modified Project, such as extended construction schedules that result in additional construction worker and vendor trips for material/concrete deliveries and water trucks. Estimated diesel fuel consumption would be less than that estimated for the Original Project, primarily due to updated construction equipment and vehicle trip parameters developed in support of CalEEMod 2022.1, which are utilized in the energy modeling completed in support of this Addendum.

Table 8 Construction Fuel Consumption – Modified Project

Source	Gasoline (gallons)	Diesel (gallons)
Construction Equipment and Hauling Trips		
Injection/Monitoring/Production Wells	--	74,970
Water Distribution and Sewer Pipelines – Phase I	--	62,549
Water Distribution Pipelines – Phase II	--	18,281
Agricultural Irrigation Pipelines[1]	--	46,837
Advanced Treatment Facility	--	102,473
Construction Worker Vehicle Trips		
Injection/Monitoring/Production Wells	8,667	--
Water Distribution and Sewer Pipelines – Phase I	4,290	--
Water Distribution Pipelines – Phase II	1,430	--
Agricultural Irrigation Pipelines[1]	2,860	--
Advanced Treatment Facility	8,826	--
Total – Modified Project	**26,073**	**305,110**
Total – Original Project[1]	**18,081**	**356,331**
Net Change in Fuel Consumption	7,992	(51,221)

( ) denotes a negative number

[1] Energy consumption estimate sourced from Table 4.4-4 of the certified EIR. The Modified Project would not result in changes to the characteristics of the agricultural irrigation pipelines under the Original Project; therefore, energy consumption for this component would remain the same as that estimated for the Original Project.

See Appendix A for updated energy calculation sheets.

Similar to the Original Project, energy use during construction of the Modified Project would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, contractors would be required to comply with the provisions of 13 California Code of Regulations Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes, which would minimize unnecessary fuel consumption. Construction equipment would be subject to the U.S. EPA Construction Equipment Fuel Efficiency Standard (40 Code of Federal Regulations Parts 1039, 1065, and 1068), which would minimize inefficient fuel consumption. Electrical power would be consumed during construction activities, and the demand, to the extent required, would be supplied from existing electrical infrastructure in the area.

Overall, construction activities under the Modified Project would utilize fuel-efficient equipment consistent with state and federal regulations and would comply with state measures to reduce the inefficient, wasteful, or unnecessary consumption of energy. Construction contractors would not be expected to utilize fuel in a manner that is wasteful or unnecessary as a business practice to ensure cost efficiency. Moreover, the use of energy to construct the Modified Project would not be unnecessary because the project is intended to resolve an existing issue by stabilizing and protecting groundwater supplies from seawater intrusion. Therefore, construction of the Modified Project would not result in potentially significant environmental effects due to the wasteful, inefficient, or unnecessary consumption of energy, and as with the Original Project, no impact would occur. The Modified Project thus would not result in new significant impacts associated with construction-related energy consumption and would not increase the severity of significant impacts identified in the certified EIR.

OPERATION

The Modified Project would not result in changes to the operational characteristics of the Original Project related to energy consumption.[17] Therefore, operational energy consumption under the Modified Project would remain the same as that estimated for the Original Project in Table 4.4-5 of the certified EIR. As with the Original Project, this energy consumption would not be inefficient, unnecessary, or wasteful because the proposed project would stabilize and protect the existing local water supply and would preclude the need for the NCMA agencies to compensate for the decreased availability of local groundwater supplies due to water quality degradation by importing additional future water supplies (beyond those already planned to accommodate growth), which would have a greater energy intensity than existing water supplies. Therefore, similar to the Original Project, no operational energy consumption impact would occur under the Modified Project. The Modified Project thus would not result in new significant impacts associated with operational energy consumption and would not increase the severity of significant impacts identified in the certified EIR.

Renewable Energy and Energy Efficiency Plans

Similar to the Original Project, the Modified Project would be potentially inconsistent with the renewable energy and energy efficiency measures, goals, and policies of the City of Pismo Beach's Climate Action Plan and the City of Grover Beach's General Plan. In particular, the Modified Project may be inconsistent with Measure C-4 and Action C-4.2 of the City of Pismo Beach's Climate Action Plan, which require installation of renewable energy projects at select City government facilities, as well as Goal LU-27 and associated policies LU-27.4, LU-27.5, and LU-27.6 of the City of Grover Beach's General Plan, which require reducing GHG emissions from new development by promoting Leadership in Energy and Environmental Design Silver standards for new non-residential buildings, siting and design features to maximize passive solar heating and opportunities for installation of solar panels, and energy-saving elements. Therefore, as with the Original Project, implementation of Mitigation Measures E-2 and GHG-2 would be required for the Modified Project to reduce impacts to a less-than-significant level. Similar to the Original Project, adherence to these mitigation measures would achieve consistency with the renewable energy and energy efficiency measures, goals, and policies City of Pismo Beach's Climate Action Plan and the City of Grover Beach's General Plan. Therefore, the Modified Project would not result in new significant impacts related to consistency with renewable energy and energy efficiency plans and would not increase the severity of significant impacts identified in the certified EIR.

[17] The minor increase of 0.1 mgd of initial and final production capacity at the ATF would not result in a change in electricity consumption under the Modified Project because the ATF would still treat the same volume of secondary effluent flows from the Pismo Beach and SSLOCSD WWTPs as under the Original Project. In addition, CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the USEPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

Effects and Mitigation Measures

No new significant or substantially more severe effects would occur related to energy, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measure E-2 included in Section 4.4, *Energy*, of the certified EIR as well as Mitigation Measure GHG-2 included in Section 4.6, *Greenhouse Gas Emissions*, of the certified EIR would be required for the Modified Project to reduce potential energy impacts to a less-than-significant level. Mitigation Measure E-2 is shown below, and Mitigation Measure GHG-2 is shown in Section 4.6, *Greenhouse Gas Emissions* of this Addendum.

E-2 Energy Efficiency and Renewable Energy Measures

The proposed project shall implement the following energy efficiency and renewable energy measures:

- The ATF building shall incorporate LEED Silver design standards, such as outdoor and indoor water-efficiency features, energy-efficiency and conservation features, energy metering, demand response technologies and programs, and renewable energy systems, where feasible.
- The orientation of the ATF building shall be designed to accomplish the following to the maximum extent practicable:
    - Maximize passive solar heating during cool seasons
    - Avoid solar heat gain in warm seasons
    - Enhance natural ventilation and effective use of daylight
    - Maximize opportunities for the installation of solar panels
    - Facilitate the use of sunlight for direct heating and illumination whenever possible
    - Take advantage of natural ventilation and shading to cool a building
- The ATF building shall use exterior shading devices, skylights, daylighting controls, high performance glazing that allows the transmission of light with minimal heat gain, and high thermal mass building components to the extent feasible.

Conclusion

Less than Significant Impact with Mitigation (Same as Certified EIR)

4.5 Environmental Justice

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in potentially significant environmental justice impacts due to localized construction and operational impacts related to air pollutant emissions, the use of hazardous materials, noise, and traffic to the environmental justice communities of Oceano and Grover Beach. However, with implementation of Mitigation Measures AQ-2(a), AQ-

2(b), HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1 outlined in the certified EIR, the Original Project would not result in disproportionately high and adverse impacts to Oceano and Grover Beach.

Modified Central Coast Blue Project

The Modified Project would affect largely the same area as the Original Project within the communities of Oceano and Grover Beach. Although poverty rates in Oceano and Grover Beach have fallen below the poverty rates of San Luis Obispo County and California since the time of the certified EIR, both communities still have minority populations that are greater than 50 percent (United States Census Bureau 2021a, 2021b, and 2021c). Therefore, both communities are still considered to be environmental justice communities.

As discussed throughout this Addendum, construction and operation of the Modified Project would result in similar localized environmental impacts related to air pollutant emissions, the use of hazardous materials, noise, and traffic as the Original Project. Mitigation Measures AQ-2(a), AQ-2(b), HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1 would continue to apply to the Modified Project to reduce these localized impacts to less-than-significant levels with the exception of the significant and unavoidable construction noise impacts associated with 24-hour well drilling activities. As with the Original Project, the significant and unavoidable construction noise impact under the Modified Project would be evenly distributed throughout the Modified Project area across the proposed well locations, not focused on a single area. As such, this impact would not affect one area or population more than another. Furthermore, construction noise impacts would be short-term, temporary, and typical of construction projects occurring throughout the region, which often generate temporary increases in noise. Therefore, although this impact would affect the environmental justice communities of Oceano and Grover Beach, this impact would not be disproportionately high and adverse. As such, with implementation of the mitigation measures outlined in the certified EIR, the Modified Project would not result in disproportionately high impacts on minority, low income, or disadvantaged communities. Accordingly, the Modified Project would not result in new significant environmental justice impacts and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with environmental justice would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR. As with the Original Project, Mitigation Measures AQ-2(a), AQ-2(b), HAZ-1(a), HAZ-1(b), N-1, N-2, N-4, and T-1, of the certified EIR would be required for the Modified Project to reduce potential impacts to environmental justice communities to a less-than-significant level. The text of these mitigation measures is reproduced in their respective sections of this Addendum.

Conclusion

Less than Significant Impact with Mitigation Incorporated (Same as Certified EIR)

4.6 Greenhouse Gas Emissions

Impact Analysis

Methodology

GHG emissions associated with construction of the Modified Project were estimated using CalEEMod, version 2022.1 and RCEM, version 9.0 with the assumptions described under Section 4.1, *Air Quality.* No changes to operational characteristics would occur under the Modified Project as compared to the Original Project; therefore, no quantitative operational emissions modeling was completed.[18] Consistent with the GHG emissions modeling completed for the Original Project in the certified EIR, construction emissions under the Modified Project were amortized over a 25-year project lifetime and added to annual operational GHG emissions to calculate a combined total annual emissions quantity.

Original Central Coast Blue Project

The certified EIR determined the Original Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment because the Original Project would be consistent with the goals of CARB's 2017 Scoping Plan to develop more reliable, resilient, diversified, and sustainably managed water supplies; reuse water more efficiently through water recycling and reuse, and reduce the carbon footprint of water systems. The certified EIR determined the Original Project would be potentially inconsistent with the City of Pismo Beach's Climate Action Plan. However, with implementation of Mitigation Measure GHG-2 outlined in Section 4.6, *Greenhouse Gas Emissions*, of the certified EIR, impacts related to consistency with GHG reduction plans, policies, and regulations would be reduced to a less-than-significant level.

Modified Central Coast Blue Project

GHG EMISSIONS

As with the Original Project, construction of the Modified Project would generate temporary GHG emissions primarily from diesel-powered construction equipment as well as from vehicles transporting construction workers to and from the project area and heavy trucks transporting building materials, construction equipment, and soil. As described in Section 2, *Background and Project Description*, construction activities would occur in two phases. Phase I would consist of the construction of four injection wells (IW-1, IW-2A, IW-3, and IW-4 Alternate or IW-5A), 11 monitoring wells, one production well, the pipelines conveying secondary treated effluent from the Pismo Beach WWTP to the ATF, the concentrate pipeline, the purified water distribution pipelines, and the ATF complex. Phase II would include construction of the remaining three injection wells (IW-2B, IW-4 Alternate or IW-5A, and IW-5B), purified water pipelines to connect the new wells to the existing purified water distribution system, the pipeline conveying secondary treated effluent from the SSLOCSD WWTP to the ATF, the agricultural irrigation pipelines, and expansion upgrades to the ATF complex. (Although it would not be utilized in Phase II, the pipeline from the SSLOCSD WWTP to the

[18] The minor increase of 0.1 mgd of initial and final production capacity at the ATF would not result in a change in electricity consumption under the Modified Project because the ATF would still treat the same volume of secondary effluent flows from the Pismo Beach and SSLOCSD WWTPs as under the Original Project. In addition, CalEEMod does not calculate or attribute emissions of criteria pollutants from electricity generation to individual projects because fossil fuel power plants are existing stationary sources permitted by air districts and/or the USEPA, and they are subject to local, state and federal control measures. Criteria pollutant emissions from power plants are associated with the power plants themselves, and not individual projects or electricity users.

ATF could be constructed in Phase I to take advantage of cost efficiencies of installing two pipelines in parallel [with the purified water pipeline from the AWPF to IW-5A] and to minimize local impacts from construction. Whether this pipeline is constructed in Phase I or Phase II would not have a substantial effect on the magnitude of the Modified Project's construction-related GHG emissions.)

Estimated GHG emissions for both Phases I and II of construction of the Modified Project are summarized in Table 9. As shown therein, construction of the Modified Project would generate approximately 3,772 metric tons (MT) of carbon dioxide equivalents (CO_2e) in total, or approximately 151 MT of CO_2e per year when amortized over a 25-year period (the assumed project lifetime per SLO County APCD guidance). The Modified Project would thus result in a decrease of approximately 7 MT of CO_2e per year of amortized construction emissions as compared to the Original Project, primarily due to more accurate construction equipment and vehicle trip parameters developed in support of CalEEMod 2022.1, which are utilized in the GHG emissions modeling completed in support of this Addendum.

Table 9 Estimated GHG Emissions during Construction (Phases I and II) – Modified Project

Project Component	Modified Project Emissions (MT of CO_2e)	Original Project Emissions (MT of CO_2e)[1]	Net Change in Emissions (MT of CO_2e)
Injection, Monitoring, and Production Wells[2]	1,600.4	2,370.4	(770.0)
Water Distribution and Sewer Pipelines	945.1	280.0	665.1
Agricultural Irrigation Pipelines[3]	556.1	556.1	0
Advanced Treatment Facility[4]	670.0	752.2	(82.2)
Total	3,771.6	3,958.7	(187.1)
Amortized over project lifetime (25 years)	**150.9**	**158.3**	**(7.4)**

( ) indicates a negative number

MT = metric tons; CO_2e = carbon dioxide equivalents; GHG = greenhouse gas; CalEEMod = California Emissions Estimator Model; RCEM = Roadway Construction Emissions Model

[1] Source: Table 4.6-2 of the certified EIR

[2] Emissions from installation one injection/production well were modeled, then multiplied by 8 (seven injection wells and one production well), and emissions from installation of one monitoring well were modeled, then multiplied by 11. These emissions were summed to estimate total GHG emissions from construction activities for injection, production, and monitoring wells.

[3] GHG emissions estimate sourced from Table 4.6-2 of the certified EIR. The Modified Project would not result in changes to the characteristics of the agricultural irrigation pipelines under the Original Project; therefore, GHG emissions generated by construction of this component would remain the same as those estimated for the Original Project.

[4] Phase II of construction would include expansion upgrades at the ATF complex; however, emissions from these activities were not modeled because upgrades would primarily be completed using small hand tools and not large emission-generating construction equipment.

Notes: All emissions modeling was completed using CalEEMod and RCEM. See Appendix A for updated modeling results.

As with the Original Project, the Modified Project would generate long-term GHG emissions from new vehicle trips (mobile emissions), use of electricity and natural gas (energy emissions), solid waste disposal, water use, and landscaping equipment (area emissions). No changes in the operational characteristics of the Original Project would occur under the Modified Project that would affect operational GHG emissions; therefore, operational GHG emissions would remain the same as those of the Original Project. Table 10 summarizes and combines the amortized construction and operational GHG emissions associated with the Modified Project for year 2030 (next milestone GHG target year per the 2017 Scoping Plan). As shown therein, combined annual GHG emissions would be approximately 1,695 MT of CO_2e per year. The Modified Project would thus result in a decrease of approximately 7 MT of CO_2e per year as compared to the Original Project, which would be attributable to changes in the construction characteristics under the Modified Project.

Table 10 Combined Annual GHG Emissions – Modified Project

Emission Source	Modified Project Emissions (MT of CO_2e per year)	Original Project Emissions (MT of CO_2e per year)[1]	Net Change in Emissions (MT of CO_2e per year)
Construction	150.9	158.3	(7.4)
Operational[2]			
Area	<0.1	<0.1	0
Energy			
ATF Building	62.0	62.0	0
ATF Treatment Process and Pump Station	1,082.7	1,082.7	0
Groundwater Pumping	346.5	346.5	0
Mobile			
CO_2 and CH_4	29.1	29.1	0
N_2O	1.1	1.1	0
Solid Waste	15.6	15.6	0
Water	7.2	7.2	0
Total Emissions	**1,695.1**	**1,702.5**	**(7.4)**

( ) indicates a negative number

MT = metric tons; CO_2e = carbon dioxide equivalents; ATF = advanced treatment facility complex; CO_2 = carbon dioxide; CH_4 = methane; N_2O = nitrous oxide; CalEEMod = California Emissions Estimator Model; RCEM = Roadway Construction Emissions Model

[1] Source: Table 4.6-3 of the certified EIR

[2] Because the Modified Project would not result in changes to the operational characteristics of the Original Project, the operational emissions of the Modified Project were assumed to be the same as those estimated for the Original Project in the certified EIR (see Table 4.6-3 of the certified EIR).

See Appendix A for updated CalEEMod and RCEM results.

Similar to the Original Project, the Modified Project would improve water supply reliability through water recycling and reuse; create a sustainable, drought-resistant local water supply for southern San Luis Obispo County; and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion. In doing so, the proposed project would stabilize and protect the existing local water supply and would reduce the need for the NCMA agencies to compensate for the decreased availability of local groundwater supplies due to water quality degradation by importing additional future water supplies, such as State Water Project supplies, (beyond those already planned to accommodate growth), which would have a greater energy intensity and associated GHG emissions than existing water supplies. Furthermore, as shown in Table 10, the majority of GHG emissions associated with the Modified Project would be generated by electricity used to power the treatment process and pump station. Therefore, as the requirements of the Renewables Portfolio Standard continue to phase in through 2045, annual GHG emissions generated by operation would decrease correspondingly. As a result, as with the Original Project, the Modified Project would be consistent with the State's long-term climate goals and strategies as outlined in the 2017 Scoping Plan, and impacts related to GHG emissions would be less than significant. Therefore, the Modified Project would not result in new significant impacts related to GHG emissions and would not increase the severity of significant impacts identified in the certified EIR.

GHG Emission Reduction Plans, Policies, and Regulations

Similar to the Original Project, the Modified Project would be potentially inconsistent with the City of Pismo Beach's Climate Action Plan. In particular, the Modified Project may be inconsistent with Measure C-4 and Action C-4.2, which require installation of renewable energy projects at select City government facilities, as well as Measure C-7 and Action C-7.2, which requires installation of recycling facilities at City-owned or operated facilities, because these features are not currently part of the project design. Therefore, as with the Original Project, implementation of Mitigation Measure GHG-2 would be required for the Modified Project to reduce impacts to a less-than-significant level. Similar to the Original Project, adherence to this mitigation measure would achieve consistency with the City of Pismo Beach's Climate Action Plan. Therefore, the Modified Project would not result in new significant impacts related to consistency with GHG emission reduction plans, policies, and regulations and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects related to GHG emissions would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measure GHG-2 included in Section 4.6, *Greenhouse Gas Emissions*, of the certified EIR would be required for the Modified Project to reduce potential impacts related to GHG emissions to a less-than-significant level.

GHG-2 GHG Emission Reduction Measures

The proposed project shall implement the following GHG emission reduction measures, as identified in the City's Climate Action Plan:

- The ATF complex shall include a solar photovoltaic system.
- The ATF complex shall include recycling receptacles.

Conclusion

Less than Significant Impact with Mitigation (Same as Certified EIR)

4.7 Hazards and Hazardous Materials

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined construction and operation of the Original Project would increase the routine transport and use of hazardous materials in the project area but would not create a significant hazard to the public or the environment. The certified EIR also determined the Original Project would potentially result in release of hazardous materials through reasonably foreseeable upset or accident conditions during both construction and operation of the project. However, with implementation of Mitigation Measures HAZ-1(a), HAZ-1(b), BIO-3(c), and HWQ-1 outlined in Section 4.7, *Hazards and Hazardous Materials*, Section 4.2, *Biological Resources*, and Section 4.8, *Hydrology and Water Quality*, respectively, of the certified EIR, impacts would be reduced to less-than-significant levels.

The certified EIR determined the Original Project would handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school during construction activities and that there would be potential for an accidental release of these materials. However, with implementation of Mitigation Measure HAZ-1(a) outlined in Section 4.7, *Hazards and Hazardous Materials*, this impact would be reduced to a less-than-significant level.

The certified EIR did not identify active hazardous materials/wastes sites within the Original Project area and concluded no impact related to such sites would occur. The certified EIR also determined the Original Project would not result in a safety hazard or excessive noise exposure from the Oceano County Airport and that such impacts would be less than significant. In addition, the certified EIR determined the Original Project would result in no impacts related to wildland fires because the Original Project area is generally not at elevated risk for wildland fires.

The certified EIR concluded the Original Project would potentially interfere with an adopted emergency plan or evacuation plan during construction activities due to work within public roadway rights-of-way that could result in temporary lane or road closures. However, with implementation of Mitigation Measure T-1 as described in Section 4.11, *Transportation*, of the certified EIR, impacts would be reduced to a less-than-significant level.

Modified Central Coast Blue Project

Construction activities under the Modified Project would be similar in nature to those of the Original Project and would continue to be subject to provisions of the California Building Code as well as state and federal laws and local policies. No changes to operational characteristics as they relate to hazards and hazardous materials would occur under the Modified Project as compared to the Original Project. As a result, the Modified Project would result in similar impacts related to the transport, use, and disposal of hazardous materials during construction and operation. As with the Original Project, impacts related to the routine transport, use, and disposal of hazardous materials would be less than significant. Impacts related to the release of hazardous materials through reasonably foreseeable upset or accident conditions during construction and operation and related to the handling of hazardous or acutely hazardous materials within 0.25 mile of a school during construction activities would be potentially significant. Mitigation Measures HAZ-1(a), HAZ-1(b), BIO-3(c), and HWQ-1 would continue to apply to construction and operational activities for the Modified Project and would reduce these impacts to a less-than-significant level.

No active hazardous materials/waste contamination sites were identified within the Modified Project area (SWRCB 2023; Department of Toxic Substances Control 2023; USEPA 2023).

Similar to the Original Project, several components of the Modified Project would be located within the boundaries of the Oceano County Airport Land Use Plan (San Luis Obispo County Airport Land Use Commission 2007). However, compliance with the requirements of the Airport Review Area combining designation would ensure no safety hazards would occur as a result of the Modified Project. In addition, some components of the Modified Project would be located within the single-event noise level contours for the Oceano County Airport. MW-3A/3B, MW-4C/4D, and some pipelines would be located within the 65 dBA single-event noise level contour; IW-4 Alternate, MW-4A/4B, MW-5D/5E/5F, MW-NCMA North A/B/C, and some pipelines would be located within the 75 dBA single-event noise level contour; and IW-5A, IW-5B, MW-5A/5B/5C, and some pipelines would be located within the 85 dBA single-event noise level contour and within Oceano County Airport. As with the Original Project, construction workers and operations staff would be intermittently exposed to elevated noise levels during aircraft take-off and landing events at the Oceano County Airport. However, construction workers and operations staff would be protected from high noise levels by compliance with California Occupational Safety and Health Administration (Cal OSHA) regulations. In addition, operations staff would primarily work indoors at the ATF complex, which is outside the single event noise contours for the airport, and staff completing outdoor operations and maintenance activities at wells and pipelines within the single event noise contours would be exposed infrequently to high noise levels during aircraft takeoff and landing events with the option to seek a quieter noise environment inside the SSLOCSD WWTP building or their vehicles, if desired, to reduce exposure to aircraft noise. Therefore, as with the Original Project, impacts related to airport hazards under the Modified Project would be less than significant.

Similar to the Original Project, the Modified Project would potentially interfere with an adopted emergency plan or evacuation plan during construction activities due to work within public roadway rights-of-way that could result in temporary lane or road closures. Mitigation Measure T-1 would continue to apply to construction activities for the Modified Project and would reduce this impact to a less-than-significant level.

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. As such, the Modified Project area is similarly not at elevated risk for wildland fires. As with the Original Project, no impacts related to wildland fires would occur under the Modified Project.

In light of the above discussion, the Modified Project would result in no new significant impacts related to hazards and hazardous materials or significant impacts that would be substantially more severe than those discussed in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with hazards and hazardous materials would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measures HAZ-1(a) and HAZ-1(b) outlined in Section 4.7, *Hazards and Hazardous Materials*, Mitigation Measure BIO-3(c) outlined in Section 4.2, *Biological Resources*, and Mitigation Measure HWQ-1 outlined in Section 4.8, *Hydrology and Water Quality*, of the certified EIR would be required for the Modified Project to reduce potential impacts related to hazards and hazardous materials to a less-than-significant level. Mitigation Measures HAZ-1(a) and HAZ-1(b) are shown below, and Mitigation Measures BIO-3(c) and HWQ-1 are included in Section 4.2, *Biological Resources*, and Section 4.8, *Hydrology and Water Quality*, of this Addendum, respectively.

HAZ-1(a) Hazardous Materials Management and Spill Prevention and Control Plan

Prior to the start of construction, the construction contractor(s) shall prepare a Hazardous Materials Management and Spill Prevention and Control Plan that includes a project-specific contingency plan for hazardous materials and waste operations. The Plan shall be applicable to construction activities and shall establish policies and procedures according to applicable codes and regulations, including but not limited to the California Building and Fire Codes and federal and Cal OSHA regulations, to minimize risks associated with hazardous materials spills. Elements of the Plan shall include, but would not be limited to the following:

- A discussion of hazardous materials management, including delineation of hazardous material storage areas, access and egress routes, waterways, emergency assembly areas, and temporary hazardous waste storage areas;
- Notification and documentation of procedures; and
- Spill control and countermeasures, including employee spill prevention/response training.

HAZ-1(b) Preparation of Hazardous Materials Business Plan

A Hazardous Materials Business Plan shall be prepared for the ATF complex. The Hazardous Materials Business Plan shall include, at a minimum, a hazardous materials inventory, site plan, emergency response plan, and requirements for employee training. The Hazardous Materials Business Plan shall be prepared prior to issuance of a certificate of occupancy for the ATF complex. The Hazardous Materials Business Plan shall inform staff and contractors of the chemicals that may be used at the site and how to respond to potential hazardous material emergencies or exposure. Signage specified in the Hazardous Materials Business Plan shall be posted at the ATF complex and at associated chemical storage areas, and a copy of the hazardous materials inventory, site plan, and emergency response plan shall be kept at each chemical storage area. The hazardous materials inventory shall be consistent with chemicals ordered during operation and maintenance of the ATF complex.

Conclusion

Less than Significant with Mitigation Incorporated (Same as Certified EIR)

4.8 Hydrology/Water Quality

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in potentially significant impacts to water quality due to trenchless installation of agricultural irrigation pipelines under Arroyo Grande Creek and to marine water quality due to an exceedance of the radioactive toxicity screening level in the reverse osmosis concentrate that is proposed for discharge via the existing ocean outfall. However, with implementation of Mitigation Measures BIO-3(c) and HWQ-1, outlined in Section 4.2, *Biological Resources*, and Section 4.8, *Hydrology/Water Quality*, of the certified EIR, respectively, these impacts would be reduced to less-than-significant levels. The certified EIR also determined impacts to groundwater quality and public health under the Original Project would be less than significant.

The certified EIR determined the Original Project would not result in adverse impacts to groundwater supplies and groundwater recharge such that sustainable management of the groundwater basin would not be impeded because the Original Project would recharge the SMGB and would not result in changes to the pumping entitlements of the SMGB Adjudication Judgment or in significant adverse impacts to groundwater storage or surface water levels in Arroyo Grande Creek.

The certified EIR determined the Original Project would result in less-than-significant impacts related to alterations of the existing drainage patterns of the Original Project area such that substantial erosion/siltation, flooding on and off site, an exceedance of the capacity of stormwater drainage systems, or generation of substantial additional polluted runoff would occur due to regulatory compliance with state, regional, and local requirements. In addition, the certified EIR determined the

Original Project would not introduce facilities in flood or tsunami hazard areas that would have the potential to impede or redirect flood flows or risk release of pollutants due to project inundation and that such impacts would be less than significant.

Modified Central Coast Blue Project

Construction and operational activities under the Modified Project would be similar in nature to those of the Original Project and would continue to be subject to state, regional and local laws and regulations related to soil erosion, stormwater runoff, and surface water quality, including the NPDES Construction General Permit, NPDES No. CAG993002 (Order No. R3-2016-0035 for discharges of highly treated groundwater), the *Central Coast Post-Construction Stormwater Requirements* (Central Coast RWQCB Order R3-2013-0032), and local stormwater management programs and municipal code requirements. As a result, the Modified Project would result in less-than-significant impacts to surface water quality with implementation of Mitigation Measure BIO-3(c) for impacts associated with trenchless installation of agricultural irrigation pipelines under Arroyo Grande Creek (this component remains unchanged under the Modified Project). The Modified Project would also be subject to the same regulatory requirements under Title 22 as the Original Project related to the injection of advanced purified water into the groundwater basin, including acquisition of a Waste Discharge Requirements permit, which would ensure the Modified Project would result in less-than-significant impacts to groundwater quality and public and environmental health.

Under the Modified Project, the initial and final production capacity of the ATF complex would be approximately 0.1 mgd greater than under the Original Project; however, the volume of reverse osmosis concentrate discharged via the existing ocean outfall would not increase because the ATF would still treat the same volume of secondary effluent flows from the Pismo Beach and SSLOCSD WWTPs as under the Original Project. The reverse osmosis concentrate discharge as well as the backwash water discharge from the ATF complex and certain injection wells under the Modified Project would continue to be required to comply with the water quality standards, monitoring, and reporting requirements of the NPDES permits for the Pismo Beach and SSLOCSD WWTPs (Permit No. CA0048151, Order No. R3-2015-0016 and Permit No. CA0048003, Order No. R3-2019-0002), which are protective of marine water quality. Mitigation Measure HWQ-1 would continue to be required for the Modified Project to address potential exceedances of the radioactive toxicity standard, which would reduce potential impacts to marine water quality to a less-than-significant level.

As with the Original Project, the Modified Project would require temporary groundwater pumping during well development as part of construction activities that would not exceed the groundwater pumping entitlements established in the SMGB Adjudication Judgment. In addition, similar to the Original Project, the Modified Project would involve recharge of the SMGB and creation of a seawater intrusion barrier to protect the existing groundwater supply through injection of advanced purified water treated to Title 22 standards and would thus have a beneficial impact on the groundwater basin. In addition, as with the Original Project, the Modified Project would enable the Cities of Pismo Beach, Grover Beach, and Arroyo Grande to extract up to their full entitlement of groundwater allowed under the SMGB Adjudication Judgment and ultimately result in a net benefit to groundwater storage under Phase II due to increased groundwater recharge. Furthermore, as discussed in Section 4.2, *Biological Resources*, of this Addendum, the Modified Project would not result in significant adverse impacts to surface water levels in Arroyo Grande Creek. Therefore, similar to the Original Project, the Modified Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Modified Project may impede sustainable groundwater management of the basin, and no impact would occur.

Similar to the Original Project, the Modified Project would result in alterations to existing drainage patterns due to the introduction of new impervious surfaces associated with project facilities. However, the Modified Project would also be required to comply with state, regional, and local laws and regulations that would minimize erosion, siltation, and stormwater runoff during construction and operation. Therefore, as with the Original Project, the Modified Project would not substantially alter the existing drainage pattern of the area such that substantial erosion/siltation, flooding on and off site, an exceedance of the capacity of stormwater drainage systems, or the generation of substantial additional polluted runoff would occur.

Like the Original Project, several components of the Modified Project would be located within a flood hazard area, which is defined as the 100-year floodplain and 500-year floodplain. Under the Modified Project, IW-4 Alternate, IW-5A, IW-5B, MW-5A/5B/5C, MW-NCMA North A/B/C, MW-NCMA South A/B/C, and most of the pipelines would be located within a 100-year floodplain (Federal Emergency Management Agency [FEMA] 2017). No Modified Project components are located within a 500-year flood zone. All Modified Project components would also be located in a tsunami zone (DOC 2023). The nature of the injection wells, monitoring wells, and pipelines would be the same under the Modified Project as under the Original Project and thus would not impede or redirect flood flows or risk release of pollutants in the event of inundation due to design features and regulatory compliance. Therefore, as with the Original Project, impacts related to flood flows and release of pollutants during inundation would be less than significant under the Modified Project.

In light of the above discussion, the Modified Project would result in no new significant impacts related to hydrology and water quality or significant impacts that would be substantially more severe than those discussed in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with hydrology and water quality would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measure HWQ-1 outlined in Section 4.8, *Hydrology/Water Quality*, of the certified EIR would be required for the Modified Project to reduce potential impacts to marine water quality to a less-than-significant level with minor clarifications as shown in ~~strikeout~~/<u>underline</u> format below.[19]

HWQ-1 Initial Quarterly Radioactivity Testing

Initial quarterly monitoring <u>of reverse osmosis concentrate</u> will be conducted at the full-scale facility for the first year of operation to establish future monitoring requirements and possible additional analysis of beta/photon emitters. If monitoring detects violations of the maximum contaminant level for radioactivity specified by California Code of Regulations Title 22, Division 4, Chapter 15, Article 5, Section 64443 occur, these exceedances shall be resolved. Potential treatment process to resolve identified exceedances would include, but would not be limited to, ion exchange, lime softening, and coagulation filtration.<u> Source control could also be used to resolve identified exceedances.</u>

[19] Mitigation Measure BIO-3(c) would continue to apply to the proposed agricultural irrigation pipelines, which have not changed under the Modified Project, to reduce impacts to the surface water quality of Arroyo Grande Creek during construction activities to a less-than-significant level.

Conclusion

Less than Significant Impact with Mitigation Incorporated (Same as Certified EIR)

4.9 Land Use/Planning

Impact Analysis

Original Central Coast Blue Project

The certified EIR determined the Original Project would not construct or alter roadways or other features in such a manner that would physically divide a community, and no impact would occur. The certified EIR also concluded the Original Project would result in a significant and unavoidable impact related to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect because it may not be feasible to reduce all construction noise impacts that would potentially conflict with local noise standards below the applicable thresholds. Implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(a) through BIO-3(c), HAZ-1(a), HAZ-1(b), N-1, and N-2 were required to reduce impacts under the Original Project to the extent feasible.

Modified Central Coast Blue Project

As with the Original Project, the Modified Project would not construct or alter roadways or other features in such a manner that would physically divide a community, and no impact would occur.

Similar to the Original Project, the Modified Project would be located within the land use and coastal development permitting authorities of the City of Grover Beach, County of San Luis Obispo, and CCC. The purpose of the Modified Project would be the same as that of the Original Project; thus, the Modified Project would support the same objectives of the Grover Beach General Plan Open Space and Conservation Element and San Luis Obispo County General Plan as those outlined in Section 4.9, *Land Use/Planning*, of the certified EIR for the Original Project. Modified Project components would be considered public and quasi-public land uses in Grover Beach, which are allowed with a use permit in all zones except for Coastal Open Space, Coastal Golf Course, Coastal Pedestrian Beach, and Coastal Vehicular Beach zones. No Modified Project components would be located in these restricted zones. In addition, all Modified Project components in unincorporated San Luis Obispo County would be installed in the public rights-of-way, which do not have a General Plan or zoning designation, or on properties zoned for Public Facilities. As discussed throughout this Addendum, the Modified Project would not result in significant impacts related to recreation, cultural resources, airport hazards and noise, wetlands, and flood hazard zones with implementation of Mitigation Measures CR-2(a) through CR-2(d), BIO-3(b), and BIO-3(c). As a result, similar to the Original Project, the Modified Project would be consistent with local policies and regulations adopted to protect these environmental resources. Similar to the Original Project, coordination with property owners would occur to minimize interference with use of Oceano Campground, Oceano Park, and the SSLOCSD WWTP, such as adjusting the construction schedule to occur when use of the properties is less frequent or less intensive. In addition, as discussed in Section 4.11, *Transportation*, of this Addendum, implementation of Mitigation Measure T-1 would be required for the Modified Project to address potentially significant transportation impacts that could temporarily interfere with existing land uses.

As with the Original Project, construction of the injection, monitoring, and production wells under the Modified Project would create temporary noise impacts that could temporarily interfere with existing land uses and potentially conflict with applicable land use plans, policies, and regulations, and implementation of Mitigation Measure N-1 would be required. As discussed in Section 4.10, *Noise*, of this Addendum, residents in Grover Beach and unincorporated San Luis Obispo County that live near the proposed well locations may voluntarily choose not to temporary relocate during 24-hour well drilling activities and would be exposed to a significant temporary increase in ambient noise levels in excess of the specified thresholds, which are based on compliance with the San Luis Obispo County Code and Grover Beach Municipal Code. Therefore, as with the Original Project, construction noise during 24-hour well drilling activities would conflict with applicable land use plans, policies, and regulations, and this impact would be significant and unavoidable under the Modified Project.

For the reasons stated above, the Modified Project would result in no new significant impacts related to land use and planning or significant impacts that would be substantially more severe than those discussed in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with land use and planning would occur, and no new mitigation measures are necessary. Impacts would remain significant and unavoidable with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measures CR-2(a) through CR-2(d), BIO-3(b), BIO-3(c), HAZ-1(a), HAZ-1(b), and N-1 of the certified EIR would reduce potential impacts to land use/planning to the extent feasible. The text of these mitigation measures is reproduced in their respective sections of this Addendum. Mitigation Measure BIO-3(a) included in Section 4.4, *Biological Resources*, of the certified EIR has been completed through preparation of a Jurisdictional Delineation (Appendix C). In addition, Mitigation Measure N-2 in Section 4.10, *Noise*, of the certified EIR is no longer necessary has been completed through preparation of an acoustical analysis in Section 4.10, *Noise*, of this Addendum and is thus not necessary to mitigate Modified Project impacts.

Conclusion

No Impact for Physical Division of a Community, Significant and Unavoidable Impact for Conflicts with Land Use Plans, Policies, and Regulations (Same as Certified EIR)

4.10 Noise

Overview of Noise and Vibration

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Sound changes in both level and frequency spectrum as it travels from the source to the receiver. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (California Department of Transportation [Caltrans] 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels.

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The equivalent noise level (L_{eq}) is one of the most frequently-used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period.

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent buildings or structures and vibration energy may propagate through the buildings or structures. Vibration may be felt, may manifest as an audible low-frequency rumbling noise (referred to as groundborne noise), and may cause windows, items on shelves, and pictures on walls to rattle. Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants at vibration-sensitive land uses and may cause structural damage.

Current Environmental and Regulatory Setting

As with the Original Project, the Modified Project area is located in Grover Beach and in unincorporated San Luis Obispo County, and sensitive receivers within and near the Modified Project area include residential neighborhoods, schools, hotels, motels, nursing homes, libraries, museums, parks, playgrounds, public assembly and entertainment venues, office buildings, restaurants, and Arroyo Grande Community Hospital. Sensitive receivers nearest to the locations of Modified Project components include residential neighborhoods, the Coastal Dunes RV Park and Campground, Oceano Campground, and Oceano Park.

Because project components would be located in unincorporated San Luis Obispo County and Grover Beach, this analysis evaluates the project's potential noise impacts considering noise standards established by the County of San Luis Obispo and the City of Grover Beach, as outlined in their General Plans, the San Luis Obispo County Code (SLOCC), and the Grover Beach Municipal Code (GBMC). Specific relevant policies and regulations are detailed in Section 4.10, *Noise*, of the certified EIR.

Impact Analysis

Construction Noise

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined daytime construction noise impacts would be significant because noise levels associated with daytime construction of MW-1C/1D and MW-2D/2E/2F would exceed the threshold of 80 decibels (dBA) L_{eq} at the nearest sensitive receivers. However, with implementation of Mitigation Measure N-1 outlined in Section 4.10, *Noise*, of the certified EIR, daytime construction noise impacts would be reduced to a less-than-significant level.

The certified EIR for the Original Project also determined noise levels associated with 24-hour well drilling activities would exceed the noise level standards contained in the SLOCC and GBMC. Nighttime construction noise impacts were found to be significant and unavoidable because implementation of Mitigation Measure N-1 may not be feasible in all cases and therefore may not reduce nighttime construction noise impacts below the specified thresholds. Implementation of Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-(j) outlined in Section 4.2, *Biological Resources*, of the certified EIR were also required for the project components with unknown locations (i.e., the new production well and agricultural irrigation pipelines) under the Original Project to reduce indirect nighttime construction noise impacts to special status wildlife species to a less-than-significant level.

MODIFIED CENTRAL COAST BLUE PROJECT

Similar to the Original Project, the Modified Project would require daytime construction activities for all project components as well as nighttime construction activities for injection, monitoring, and production wells. The following subsections evaluate potential daytime and nighttime noise impacts under the Modified Project as compared to the Original Project.

Daytime Construction Noise

Injection, Monitoring, and Production Wells

Under the Modified Project, IW-5A, IW-5B, MW-1C/1D, MW-4C/4D, MW-5A/5B/5C, and MW-5D/5E/5F would be sited in similar locations as under the Original Project. Therefore, no changes to daytime construction noise impacts for these wells would occur under the Modified Project, and implementation of Mitigation Measure N-1 would continue to be required for MW-1C/1D to reduce potentially significant daytime construction noise impacts, as under the Original Project.

Table 11 summarizes daytime well construction noise levels at the nearest sensitive receivers for the remaining injection, monitoring, and production wells, including the identified alternate locations. As shown therein, daytime construction activities for IW-1, IW-3, MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, MW-2A/2B/2C, MW-3C/3D, and MW-4A/B under the Modified Project would exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers during all construction phases. In addition, daytime construction activities for IW-2 Alternate and MW-2A/2B/2C Alternate under the Modified Project would exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers during the well drilling/installation phase. Therefore, implementation of Mitigation Measure N-1 would also be required for these project components to reduce daytime construction noise impacts to a less-than-significant level. As a result, the Modified Project would not result in new significant impacts associated with daytime construction noise related to the injection and monitoring wells and would not increase the severity of significant impacts identified in the certified EIR.

At the time of certification of the certified EIR, the location of the new production well (PB-23) was not known, and a provision was included in Mitigation Measure N-1 to complete an acoustical analysis to determine the construction noise reduction measures necessary to reduce daytime exterior construction noise levels to at or below 80 dBA L_{eq} at the nearest sensitive receivers. PB-23 is currently planned to be sited on the northern portion of the ATF complex, approximately 200 feet or more from the nearest sensitive receivers to the south. As shown in Table 11, at this location, daytime construction noise associated with installation of PB-23 would not exceed the daytime construction noise threshold of 80 dBA L_{eq} at the nearest sensitive receivers, and no daytime construction noise reduction measures are necessary. Therefore, this provision of Mitigation Measure N-1 has been satisfied. As a result, the Modified Project would not result in new significant impacts associated with daytime construction noise related to the new production well and would not increase the severity of significant impacts identified in the certified EIR.

Table 11 Daytime Well Construction Noise Levels at Nearest Sensitive Receivers (dBA L_{eq}) – Modified Project

Construction Phase	Equipment	MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, (Residences 15 Feet Away)	IW-2 Alternate, IW-3, MW-2A/2B/2C Alternate, MW-4A/4B (Residences 40 Feet Away)	IW-1, MW-2A/2B/2C, MW-3C/3D (Residences 80 Feet Away)	IW-2A, IW-2B, IW-4 Alternate, PB-23 (Residences 200 Feet Away)	MW-NCMA North A/B/C, MW-2D/2E/2F (Residence 400 Feet Away)	MW-NCMA South A/B/C (Residence 2,200 Feet Away)
Site Preparation	Backhoe	85	76	70	62	56	41
Sewer Connection	Excavator, Backhoe	89	80	74	66	n/a	n/a
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	96	87	81	73	67	52
Site Restoration	Forklift, Backhoe	86	77	71	63	57	42
Threshold		80	80	80	80	80	80
Threshold Exceeded?		**Yes**	**Yes**	**Yes**	No	No	No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at a distance of 50 feet.

Water Distribution, Sewer, and Agricultural Irrigation Pipelines

Similar to the Original Project, pipeline alignments under the Modified Project would be located within 25 feet of sensitive receivers in some areas. As a result, daytime construction noise associated with pipeline installation would be similar to that estimated for the Original Project, as shown in Table 4.10-14 in Section 4.10, *Noise*, of the certified EIR. Therefore, as with the Original Project, daytime pipeline construction noise levels under the Modified Project at the nearest existing and planned sensitive receivers would not exceed the daytime construction noise threshold of 80 dBA L_{eq}, and impacts would be less than significant. As a result, the Modified Project would not result in new significant impacts associated with daytime construction noise related to pipelines and would not increase the severity of significant impacts identified in the certified EIR.

Advanced Treatment Facility Complex

Construction activities at the ATF complex under the Modified Project would require similar equipment as the Original Project and would therefore generate similar noise levels at the nearest sensitive receivers, which are existing residences located along Calvin Court approximately 250 feet southeast of the center of the construction site and undeveloped properties zoned for Coastal Low Density Residential Use approximately 145 feet south of the center of the construction site. Daytime construction noise associated with ATF complex construction under the Modified Project would be similar to that estimated for the Original Project, as shown in Table 4.10-15 in Section 4.10, *Noise*, of the certified EIR. Therefore, as with the Original Project, daytime ATF construction noise levels under the Modified Project at the nearest existing and planned sensitive receivers would not exceed the daytime construction noise threshold of 80 dBA L_{eq}, and impacts would be less than significant. As a result, the Modified Project would not result in new significant impacts associated with daytime construction noise related to the ATF complex and would not increase the severity of significant impacts identified in the certified EIR.

Nighttime Construction Noise

Nighttime construction would only be required for 24-hour well drilling activities associated with the injection, monitoring, and production wells. Noise-sensitive receivers during nighttime hours include residential land uses, transient lodging such as hotels and motels, and recreational land uses with overnight accommodations such as campgrounds. Each injection/production well would require approximately three weeks of 24-hour well drilling activities, and each monitoring well would require approximately two weeks of 24-hour well drilling activities. The length of 24-hour well drilling activities under the Modified Project would be similar to that of the Original Project with the exception that the 24-hour well drilling period for monitoring wells would be reduced by one week.

Under the Modified Project, IW-5A, IW-5B, MW-1C/1D, MW-4C/4D, MW-5A/5B/5C, and MW-5D/5E/5F would be sited in similar locations as under the Original Project. Therefore, no changes to nighttime construction noise impacts for these wells would occur under the Modified Project, and implementation of Mitigation Measure N-1 would continue to be required for these wells to minimize potentially significant nighttime construction noise impacts, as under the Original Project.

Table 12 and Table 13 summarize nighttime exterior construction noise levels during well drilling activities at the nearest sensitive receivers for the remaining injection, monitoring, and production well locations, including the identified alternate locations. As shown therein, nighttime exterior construction noise levels under the Modified Project at the nearest sensitive receivers would exceed the nighttime exterior thresholds for all well locations. Therefore, as with the Original Project,

Table 12 Nighttime Well Construction Noise Levels at Nearest Sensitive Receivers – Injection and Production Wells - Modified Project[1]

Construction Phase	Equipment	IW-2 Alternate, IW-3 (Residences 40 Feet Away)	IW-1 (Residences 80 Feet Away)	IW-2A, IW-2B, IW-4 Alternate, PB-23 (Residences 200 Feet Away)
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	87 dBA L_{eq}	81 dBA L_{eq}	73 dBA L_{eq}
Thresholds[2]		55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}
Threshold Exceeded?		**Yes**	**Yes**	**Yes**

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County (Table 4.10-5 in Section 4.10, *Noise*, of the certified EIR; County of San Luis Obispo General Plan Noise Element Table 3-2) or the city of Grover Beach (Table 4.10-7 in Section 4.10, *Noise*, of the certified EIR; GBMC Section 3120.8, Table 1).

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at 50 feet.

Table 13 Nighttime Well Construction Noise Levels at Nearest Sensitive Receivers – Monitoring Wells - Modified Project[1]

Construction Phase	Equipment	MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate (Residences 15 Feet Away)	MW-4A/4B (Residences 40 Feet Away)	MW-2A/2B/2C Alternate (Residences 40 Feet Away)	MW-2A/2B/2C, MW-3C/3D (Residences 80 Feet Away)	MW-2D/2E/2F (Residences 400 Feet Away)	MW-NCMA North A/B/C (Residence 400 Feet Away)	MW-NCMA South A/B/C (Residence 2,200 Feet Away)
Well Drilling/ Installation	Drill Rig, Generators (4), Air Compressor	96 dBA L_{eq}	87 dBA L_{eq} 86 dBA L_{max}	87 dBA L_{eq}	81 dBA L_{eq}	67 dBA L_{eq}	67 dBA L_{eq} 66 dBA L_{max}	52 dBA L_{eq} 51 dBA L_{max}
Threshold[2]		55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes/No**

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County (Table 4.10-5 in Section 4.10, *Noise*, of the certified EIR; County of San Luis Obispo General Plan Noise Element Table 3-2) or the city of Grover Beach (Table 4.10-7 in Section 4.10, *Noise*, of the certified EIR; GBMC Section 3120.8, Table 1).

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at 50 feet.

implementation of Mitigation Measure N-1 would also be required for these components under the Modified Project to reduce nighttime construction noise impacts to a less-than-significant level.

At the time of certification of the certified EIR, the location of the new production well (PB-23) was not known, and a provision was included in Mitigation Measure N-1 to complete an acoustical analysis to determine the construction noise reduction measures necessary to reduce nighttime exterior construction noise levels to at or below 55 dBA L_{eq} at the nearest sensitive receivers. PB-23 is currently planned to be sited on the northern portion of the ATF complex, approximately 280 feet from the nearest sensitive receivers to the south. As shown in Table 12, at this location, nighttime construction noise associated with installation of PB-23 would exceed the nighttime construction noise threshold of 55 dBA L_{eq} at the nearest sensitive receivers. Therefore, additional construction noise reduction measures have been added to Mitigation Measure N-1 to address nighttime construction noise associated with installation of PB-23. The provision of Mitigation Measure N-1 to complete a nighttime construction noise analysis for PB-23 has thus been satisfied.

Modern building construction generally provides an exterior-to-interior noise level reduction of at least 20 dBA with closed windows (Federal Highway Administration 2011). Therefore, exterior construction noise levels greater than 55 dBA L_{eq} and 75 dBA L_{max} would potentially result in an exceedance of the nighttime interior noise level thresholds of 35 dBA L_{eq} and 55 dBA L_{max} for project components in unincorporated San Luis Obispo County. As shown in Table 12 and Table 13, nighttime exterior construction noise levels for injection, monitoring, and production wells in unincorporated San Luis Obispo County at the nearest sensitive receivers would exceed 55 dBA L_{eq} and 75 dBA L_{max} at all well locations except MW-NCMA South A/B/C. Exterior construction noise levels greater than 60 dBA L_{eq} would potentially result in an exceedance of the nighttime interior noise level threshold of 40 dBA L_{eq} for project components in Grover Beach. As shown in Table 12 and Table 13, nighttime exterior construction noise levels for injection, monitoring, and production wells in Grover Beach would exceed 60 dBA L_{eq} at the nearest sensitive receivers for all well locations. As a result, similar to the Original Project, nighttime well construction activities under the Modified Project would exceed the nighttime interior noise level thresholds.

In addition to the exceedances identified above for each individual well location, if nighttime well drilling activities for two wells in close proximity to each other (e.g., IW-2A and MW-2A/2B/2C) occur simultaneously, construction noise levels could combine to generate even higher noise levels than those for each individual well. Therefore, given the above analysis, nighttime construction activities would result in a substantial temporary increase in ambient noise levels, and impacts would be potentially significant under the Modified Project, as with the Original Project. Implementation of Mitigation Measure N-1 would be required to reduce impacts under the Modified Project to the extent feasible. However, similar to the Original Project, implementation of Mitigation Measure N-1 for the Modified Project may not be feasible in all cases and therefore may not reduce construction noise impacts below the specified thresholds. Therefore, construction noise impacts would be significant and unavoidable under the Modified Project, as with the Original Project. Accordingly, the Modified Project would not result in new significant impacts associated with nighttime construction noise and would not increase the severity of significant impacts identified in the certified EIR.

Operational Noise

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined operational noise impacts would be significant because long-term operational noise sources at the ATF complex may result in a substantial long-term increase in ambient noise levels at nearby sensitive receivers in excess of the noise standards established in the GBMC. However, with implementation of Mitigation Measure N-2 outlined in Section 4.10, *Noise*, of the certified EIR, operational noise impacts would be reduced to a less-than-significant level.

MODIFIED CENTRAL COAST BLUE PROJECT

Operation of the Modified Project would generate noise at the ATF complex. Injection and monitoring wells and pipelines would not include noise-generating components and are therefore not discussed further in this analysis. In addition, an approximately 5-hp pump would be installed at the SSLOCSD WWTP that would pump water out of a tank as part of the Modified Project. However, given the size of this pump and the existing ambient levels of noise associated with operation of the SSLOCSD WWTP, noise generated by this component would be negligible and is not discussed further in this analysis.

The primary sources of long-term operational noise at the ATF complex would be a series of 17 pumps, two blowers, two air compressors, HVAC equipment, and an emergency back-up generator. The pumps, blowers, and air compressors would be located inside the ATF building and pumphouse; therefore, noise transmittal from operation of these components would be limited to the building vents/louvers. The HVAC equipment would be located on the roof of the ATF building, and the emergency generator would be located on the central-eastern boundary of the project site.

Table 14 Reference Noise Levels

Project Component	Quantity	Location	Reference Noise Level[1]	Average Distance to Nearest Sensitive Receiver
Rotary Lobe Blowers	2	Inside ATF Building	78 dBA L_{eq} at 3 feet	220 feet
Air Compressors	2	Inside ATF Building	75 dBA L_{eq} at 3 feet	215 feet
Pumps	11	Inside ATF Building	85 dBA L_{eq} at 3 feet	170 feet
Pumps	4	Inside ATF Building	80 dBA L_{eq} at 3 feet	170 feet
Pumps	2	Inside Pumphouse	80 dBA L_{eq} at 3 feet	40 feet
HVAC Equipment – 180 MBH[2]	2	Rooftop of ATF Building	62 dBA L_{eq} at 3 feet	75 feet
HVAC Equipment – 66 MBH[3]	1	Rooftop of ATF Building	57 dBA L_{eq} at 3 feet	75 feet
HVAC Equipment – 12 MBH[3]	2	Rooftop of ATF Building	57 dBA L_{eq} at 3 feet	75 feet
Emergency Generator	1	Central-eastern boundary of ATF complex inside weather protective enclosure with sound attenuation material	60 dBA L_{eq} at 15 feet	130 feet

dBA = A-weighted decibels; L_{eq} = equivalent noise level; MBH = thousand British thermal units per hour (measurement of HVAC capacity)

[1] Reference noise levels do not account for interior-exterior attenuation provided by building structures.

[2] Based on reference noise level for 192 MBH capacity, which provides a conservative estimate of noise generation.

[3] Based on reference noise level for 72 MBH capacity, which provides a conservative estimate of noise generation.

Source: Steele 2023

Existing sensitive receivers nearest to the ATF complex location are residences located along Calvin Court approximately 60 feet southeast of the property boundary. [20] Table 15 summarizes estimated exterior noise levels generated by operation of the ATF complex (including the new production well and during the monthly, daytime emergency generator testing event). As shown therein, operation of the ATF complex would generate daytime and nighttime exterior noise levels of approximately 54 dBA L_{eq} at the nearest noise-sensitive receivers (i.e., residences to the south and southwest of the ATF complex). These noise levels would not exceed the GBMC exterior daytime and nighttime noise level standards for residential uses of 60 dBA L_{eq} and 55 dBA L_{eq}, respectively. In addition, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (Federal Highway Administration 2011), operational noise generated by the ATF complex would be approximately 34 dBA L_{eq}, which would not exceed the GBMC interior daytime and nighttime noise level standards for residential uses of 45 dBA L_{eq} and 40 dBA L_{eq}, respectively. Accordingly, the Modified Project would not result in new significant impacts associated with operational noise generated by the ATF complex and would not increase the severity of significant impacts identified in the certified EIR.

[20] There are no commercial properties located within 750 feet of the ATF complex; therefore, impacts to commercial properties are not evaluated.

Table 15 Estimated ATF Complex Exterior Noise Levels at Nearest Sensitive Receivers

Project Component	Quantity	Location	Daytime Noise Level at Nearest Sensitive Receivers (dBA L_{eq})[2]	Nighttime Noise Level at Nearest Sensitive Receivers (dBA L_{eq})[2]
Rotary Lobe Blowers	2	Inside ATF Building	33.7	33.7
Air Compressors	2	Inside ATF Building	30.9	30.9
Pumps	11	Inside ATF Building	50.3	50.3
Pumps	4	Inside ATF Building	40.9	40.9
Pumps	2	Inside Pumphouse	50.5	50.5
HVAC Equipment – 180 MBH	2	Rooftop of ATF Building	37.0	29.0
HVAC Equipment – 66 MBH	1	Rooftop of ATF Building	29.0	29.0
HVAC Equipment – 12 MBH	2	Rooftop of ATF Building	32.0	32.0
Emergency Generator[3]	1	Central-eastern boundary of ATF complex inside weather protective enclosure with sound attenuation material	41.2	n/a
Total Combined Noise Level			54.1	53.8
Thresholds of Significance[4]			60	55
Threshold Exceeded?			No	No

dBA = A-weighted decibels; L_{eq} = equivalent noise level; MBH = thousand British thermal units per hour (measurement of HVAC capacity)

[1] Reference noise levels do not account for interior-exterior attenuation provided by building structures.

[2] Includes a 10-dBA interior-exterior noise level reduction to account for attenuation provided by the ATF building and pumphouse structures, based on Federal Highway Administration (FHWA) guidance that buildings with open windows (similar to vents) provide a minimum 10-dBA noise reduction (FHWA 2011).

[3] Testing and maintenance of the emergency generator would only occur during daytime hours (7:00 a.m. to 10:00 p.m.). Operation of the back-up generator during emergency events (e.g., power outages) would be exempt from compliance with these noise standards pursuant to GBMC Section 3120.11(B).

[4] Based on exterior noise level limits outlined in GBMC Section 3120.8, Table 1 and the stationary equipment noise standards outlined in GMBC Section 3120.10(B)(6).

Source: Steele 2023

Roadway Noise

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined roadway noise impacts would be less than significant because project operation would result in minimal increases to existing daily traffic volumes on local roadways.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project would not result in changes to the operational characteristics of the Original Project. Therefore, roadway noise impacts under the Modified Project would be similar to those of the Original Project and less than significant. As a result, the Modified Project would not result in new significant impacts associated with roadway noise and would not increase the severity of significant impacts identified in the certified EIR.

Vibration

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined vibration impacts would be less than significant because construction and operational activities would not generate perceptible vibration at nearby receivers and would not exceed the threshold for structural damage.

MODIFIED CENTRAL COAST BLUE PROJECT

Construction activities under the Modified Project would require the use of similar construction equipment as that required for the Original Project with the exception that sheet pile installation using vibratory methods may be required for installation of the equalization basin pump station at the ATF complex under the Modified Project. Vibration levels associated with sheet pile installation were estimated at a distance of 150 feet pursuant to GBMC Section 3.120.10(B)(7) and Pismo Beach Municipal Code Section 9.24.050(B)(6), which both prohibit operation of any device that creates a vibration which is above the vibration perception threshold of an individual at 150 feet from the source if on a public space or public right-of-way. At 150 feet, sheet pile installation would generate vibration levels of approximately 0.21 inches per second (in/sec) peak particle velocity (PPV), which would not exceed the threshold for human annoyance of 0.25 in/sec PPV (Table 4.10-2 in Section 4.10, *Noise*, of the certified EIR).[21] Sheet pile installation would occur within 40 feet of the nearest off-site structure, which is a commercial/industrial building to the west. At this distance, vibration levels would be approximately 0.91 in/sec PPV, which would not exceed 2.0 in/sec PPV, the threshold for damage to modern industrial/commercial buildings (Table 4.10-2 in Section 4.10, *Noise*, of the certified EIR). In addition, sheet pile installation would occur within 210 feet of the nearest residence, and at this distance, vibration levels would be approximately 0.15 in/sec PPV, which would not exceed 0.5 in/sec PPV, the threshold for damage to older residential buildings (Table 4.10-2 in Section 4.10, *Noise*, of the certified EIR). Therefore, as with the Original Project, impacts related to construction vibration under the Modified Project would be less than significant. The Modified Project thus would not result in new significant impacts associated with construction vibration and would not increase the severity of significant impacts identified in the certified EIR.

As with the Original Project, the Modified Project does not include components or processes that would generate substantial vibration during operation. Therefore, similar to the Original Project, no operational vibration impacts would occur under the Modified Project. The Modified Project thus would not result in new significant impacts associated with operational vibration and would not increase the severity of significant impacts identified in the certified EIR.

[21] Assumes sheet pile installation using vibratory methods would generate similar or lower vibration levels as the upper range vibration level for an impact pile driver, which is 1.518 in/sec PPV at 25 feet (FTA 2018).

Airport-Related Noise

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR for the Original Project determined impacts resulting from airport-related noise would be less than significant because construction workers and operations staff would be protected from high noise levels by compliance with Cal OSHA regulations and because operations staff would be exposed infrequently to outdoor aircraft noise.

MODIFIED CENTRAL COAST BLUE PROJECT

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. Several components of the Modified Project would be located within the single-event noise level contours for the Oceano County Airport. MW-3A/3B, MW-4C/4D, and some pipelines would be located within the 65 dBA single-event noise level contour; IW-4 Alternate, MW-4A/4B, MW-5D/5E/5F, MW-NCMA North A/B/C, and some pipelines would be located within the 75 dBA single-event noise level contour; and IW-5A, IW-5B, MW-5A/5B/5C, and some pipelines would be located within the 85 dBA single-event noise level contour and within Oceano County Airport.

As with the Original Project, construction workers and operations staff would be intermittently exposed to elevated noise levels during aircraft take-off and landing events at the Oceano County Airport. However, construction workers and operations staff would be protected from high noise levels by compliance with Cal OSHA regulations. In addition, operations staff would primarily work indoors at the ATF complex, which is outside the single event noise contours for the airport, and staff completing outdoor operations and maintenance activities at wells and pipelines within the single event noise contours would be exposed infrequently to high noise levels during aircraft takeoff and landing events with the option to seek a quieter noise environment inside the SSLOCSD WWTP building or their vehicles, if desired, to reduce exposure to aircraft noise. Therefore, as with the Original Project, impacts related to airport noise under the Modified Project would be less than significant. The Modified Project thus would not result in new significant impacts associated with airport-related noise and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with noise would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR, as revised below.

As with the Original Project, Mitigation Measure N-1 included in Section 4.10, *Noise*, of the certified EIR as well as Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-1(j), detailed in Section 4.2, *Biological Resources*, would be required for the Modified Project to reduce noise impacts to a less-than-significant level.[22] Minor modifications to Mitigation Measure N-1 are shown in ~~strikeout~~/underline format below to incorporate revised specifications for noise barriers due to different project component locations under the Modified Project. In addition, certain provisions have been removed from Mitigation Measure N-1 because project components are no longer proposed to be located in the Coastal Dunes RV Park and Campground, with the exception of MW-3A/3B that was

[22] Mitigation Measures BIO-1(a), BIO-1(b), BIO-1(e), and BIO-1(j) were required in the Certified EIR to reduce potential adverse impacts to special status species associated with installation of the agricultural irrigation pipelines, which currently have undetermined locations. The Modified Project would not result in changes to this component of the Original Project.

previously installed. The provisions of Mitigation Measure N-1 related to preparation of a construction noise analysis for the new production well have been satisfied through preparation of this Addendum. Mitigation Measure N-2 included in Section 4.10, *Noise*, of the certified EIR has been completed through preparation of an acoustical analysis as part of this Addendum that demonstrated exterior and interior noise levels generated by operation of the ATF complex (including the new production well) would not exceed GBMC standards (see *Operational Noise* section).

N-1 Construction Noise Reduction Measures

The following construction noise reduction measures shall be implemented during project construction activities:

- ~~Well drilling activities for IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B, shall be scheduled during the non-peak season for the Coastal Dunes RV Park and Campground to the extent practicable, as defined by the County of San Luis Obispo Parks and Recreation Department.~~
- Construction of individual injection, monitoring, and production wells located within 0.25 mile of each other shall be scheduled so as not to overlap to the extent practicable.
- Construction of the water distribution/agricultural irrigation pipelines and ATF complex shall be scheduled so as not to overlap with construction of the injection, monitoring, and production wells to the extent practicable.
- Noise-generating construction activities associated with IW-5A, IW-5B, and MW-5A/5B/5C shall not occur on the same days as noise-generating construction activities for the SSLOCSD Wastewater Redundancy Project to the extent practicable.
- Whenever possible, construction activities shall be scheduled so as to avoid operating several pieces of equipment simultaneously, which causes high noise levels.
- ~~The City shall coordinate with the County of San Luis Obispo Parks and Recreation Department to temporarily close all campsites within 200 feet of IW-1, IW-2A, IW-2B, IW-3, MW-1A/1B, MW-2A/2B/2C, and MW-3A/3B for the duration of 24-hour well drilling activities.~~
- The City shall provide temporary housing accommodation via hotel or other comparable accommodation for the duration of 24-hour well drilling activities for residents and hotel/motel/campground guests in Grover Beach within 100 feet of ~~construction activity~~ construction equipment used for 24-hour well drilling activities and for residents and hotel/motel/campground guests in unincorporated San Luis Obispo County within 175 feet of ~~construction activity~~ construction equipment used for 24-hour well drilling activities.
- All heavy-duty stationary construction equipment shall be placed so that emitted noise is directed away from the nearest sensitive receivers.
- During injection, production, and monitoring well construction, all equipment, fixed or mobile, shall be operated with closed engine doors and shall be equipped with properly operating and maintained critical grade mufflers consistent with manufacturers' standards.
- During injection, production, and monitoring well construction, the City's contractor(s) shall use portable sound enclosures for all generators and air compressors that provide at least a 10-dBA reduction in noise levels.
- During injection, production, and monitoring well construction, the City's contractor(s) shall install temporary sound barriers/blankets of sufficient height and length to break the line-of-sight between the engines of heavy-duty equipment and nearby sensitive receivers. All temporary barriers/blankets shall be constructed of material with a minimum weight of two pounds per

square foot and shall be continuous with no gaps or holes between panels or the ground. Sound blankets on individual pieces of construction equipment may also be used in place of temporary sound barriers and shall be of sufficient length to overlap each other and the ground surface. Temporary sound barriers and/or blankets shall be installed for the entire duration of the well drilling phase for each injection and monitoring well. Temporary sound barriers shall meet the following specifications for each location. Alternatively, the City can choose to instead provide temporary housing accommodation via hotel or other comparable accommodation for the duration of 24-hour well drilling activities for residents and hotel/motel guests in Grover Beach within 550 feet of construction equipment used for 24-hour well drilling activities and for residents and hotel/motel guests in unincorporated San Luis Obispo County within 1,750 feet of construction equipment used for 24-hour well drilling activities, which would achieve an equivalent level of noise reduction.

- **IW-1 (Well Drilling)**. The barrier shall be at least ~~13~~ 17 feet in height and shall be installed along the northern, southern, and eastern edges of the construction site. The barrier shall be ~~at least 50 feet in length along the southern edge and at least 100 feet in length along the eastern edge~~ installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.). If sound blankets are used, they shall be a minimum STC rating of ~~9~~ 16.
- **IW-2A and IW-2B (Well Drilling)**. The barrier shall be at least 13 feet in height and shall surround all active heavy-duty equipment at the construction sites during nighttime construction activities (10:00 p.m. to 7:00 a.m.). The barrier shall be installed along the southern, eastern, and northern edges of the construction site boundaries ~~and at least 100 feet in length along the eastern edge~~. If sound blankets are used, they shall have a minimum STC rating of 9.
- **IW-3, IW-2 Alternate, MW-2A/2B/2C Alternate, and MW-4A/4B (Well Drilling)**. The barrier shall be at least ~~22~~ 17 feet in height, surround all active heavy-duty equipment at the construction sites, and installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.) ~~be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides~~. If sound blankets are used, they shall be a minimum STC rating of ~~18~~ 15.
- **IW-4 Alternate (Well Drilling)**. The barrier shall be at least 24 feet in height, surround all active heavy-duty equipment at the construction sites, and installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.) ~~be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides~~. If sound blankets are used, they shall be a minimum STC rating of ~~20~~ 19.
- **IW-5A, IW-5B, and MW-5A/5B/5C (Well Drilling)**. The barrier shall be at least 13 feet in height and shall be installed along the western and northern edges of the construction sites during nighttime construction activities (10:00 p.m. to 7:00 a.m.). ~~The barrier shall be at least 50 feet in length along the western edge and at least 100 feet in length along the northern edge.~~ If sound blankets are used, they shall be a minimum STC rating of 8.
- **MW-1A/1B, MW-1A/1B Alternate, and MW-1C/1D Alternate ~~and MW-3A/3B~~ (Well Drilling)**. The barrier shall be at least ~~13~~ 17 feet in height, surround all active heavy-duty equipment at the construction sites, and be installed around the construction site boundaries during all well drilling/installation activities ~~at least 100 feet in length along the southern and~~

~~northern edges and at least 50 feet in length along the eastern and western edges~~. If sound blankets are used, they shall be a minimum STC rating of ~~9~~ 15.

- **MW-1C/1D ~~and MW-2D/2E/2F~~ (Well Drilling)**. The barrier shall be at least 15 feet in height, surround all active heavy-duty equipment at the construction sites, and be installed around the construction site boundaries during all well drilling/installation activities ~~at least 100 feet in length along the southern and northern edges and at least 50 feet in length along the eastern and western edges~~. If sound blankets are used, they shall be a minimum STC rating of 15.
- **MW-2A/2B/2C (Well Drilling)**. The barrier shall be at least ~~13~~ 17 feet in height, surround all active heavy-duty equipment at the construction sites, and be installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.) ~~at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides~~. If sound blankets are used, they shall be a minimum STC rating of ~~9~~ 15.
- **MW-2D/2E/2F (Well Drilling).** The barrier shall be at least 10 feet in height and shall be installed along the western and southern edges of the construction site during nighttime construction activities (10:00 p.m. to 7:00 a.m.). ~~The barrier shall be at least 50 feet in length along the southern and western edges.~~ If sound blankets are used, they shall be a minimum STC rating of 5.
- **MW-3C/3D~~/3E~~ (Well Drilling)**. The barrier shall be at least ~~12~~ 17 feet in height~~, surround all active heavy-duty equipment at the construction sites,~~ and shall be installed along the western, southern, and eastern edges of the construction site during nighttime construction activities (10:00 p.m. to 7:00 a.m.). ~~and be at least 50 feet in length along the southern and northern edges and at least 100 feet in length along the eastern and western edges.~~ If sound blankets are used, they shall be a minimum STC rating of ~~7~~ 20.
- **MW-4C/4D (Well Drilling)**. The barrier shall be at least 14 feet in height, surround all active heavy-duty equipment at the construction sites, and be installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.) ~~at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western and eastern sides~~. If sound blankets are used, they shall be a minimum STC rating of 11.
- **MW-5D/5E/5F (Well Drilling)**. The barrier shall be at least 24 feet in height~~,~~ and surround all active heavy-duty equipment at the construction sites during nighttime construction activities (10:00 p.m. to 7:00 a.m.)~~, and be at least 100 feet in length along the northern and southern sides and at least 50 feet in length along the western side~~. If sound blankets are used, they shall be a minimum STC rating of 20.
- **MW-NMCA North A/B/C (Well Drilling).** The barrier shall be at least 17 feet in height and shall be installed along the southern edge of the construction site during nighttime construction activities (10:00 p.m. to 7:00 a.m.). If sound blankets are used, they shall be a minimum STC rating of 14.
- **MW-NMCA South A/B/C (Well Drilling).** The barrier shall be at least 10 feet in height and shall be installed along the northern and eastern edges of the construction site during nighttime construction activities (10:00 p.m. to 7:00 a.m.). If sound blankets are used, they shall be a minimum STC rating of 5.

  - **PB-23 (Well Drilling).** The barrier shall be at least 13 feet in height and shall be installed around the construction site boundaries during nighttime construction activities (10:00 p.m. to 7:00 a.m.). If sound blankets are used, they shall be a minimum STC rating of 9.

- The City shall provide a non-automated telephone number for local residents to call to submit complaints associated with construction noise during all phases of construction. The City shall maintain a log of complaints and shall address complaints to minimize noise issues for neighbors.
- Upon selection of the location of the new production well, an acoustical analysis shall be prepared by a qualified professional to determine the construction noise reduction measures necessary to reduce daytime exterior construction noise levels to at or below 80 dBA L_{eq} at the nearest sensitive receivers and nighttime exterior construction noise levels to at or below 55 dBA L_{eq} at the nearest sensitive receivers. The acoustical analysis shall only evaluate the construction noise impacts of the new production well if proposed construction activities are located within 1,620 feet of sensitive receivers, as measured from the center of the construction site.
  - The acoustical analysis shall include the following components:
  - Identification of the nearest noise-sensitive receivers to the location of the new production well;
  - Quantitative analysis of construction noise levels for the production well at the nearest noise-sensitive receivers; and
  - Identification of noise reduction measures that would achieve compliance with the aforementioned exterior daytime and nighttime noise standards. These measures may include, but would not be limited to, use of mufflers, portable sound enclosures, and temporary sound barriers and/or blankets.
  - The City or its contractor(s) shall implement all noise reduction measures identified in the acoustical analysis.

N-2 Acoustical Analysis of ATF Complex Operations

Upon completion of the 30 percent design for the ATF complex and selection of equipment, an acoustical analysis shall be prepared to determine whether combined operational noise levels from stationary noise-generating equipment, including but not limited to the pump station, HVAC equipment, and treatment equipment, will exceed the following noise standards:

- Exterior noise level limits, measured at the property line of residential land use (GBMC Section 3120.8, Table 1):
  - 60 dBA L_{eq} from 7:00 a.m. to 10:00 p.m.
  - 55 dBA L_{eq} from 10:00 p.m. to 7:00 a.m.
- Stationary equipment noise standards, measured at the property line of the receiving land use (GBMC Section 3120.10[B][6]):23
  - 60 dBA Leq from 7:00 a.m. to 10:00 p.m. at single-family residential land uses
  - 65 dBA Leq from 7:00 a.m. to 10:00 p.m. at multi-family residential land uses
  - 70 dBA Leq from 7:00 a.m. to 10:00 p.m. at mixed use residential/commercial land uses

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

- Interior noise limits, measured at the interior of habitable rooms (i.e., bedrooms, kitchens, living rooms, dining rooms) of the affected residential use (GBMC Section 3120.9):
  - 45 dBA Leq from 7:00 a.m. to 10:00 p.m.
  - 40 dBA Leq from 10:00 p.m. to 7:00 a.m.

If operational noise levels would exceed any of the noise level limits, the acoustical analysis shall provide recommended attenuation measures to reduce operational noise levels below the standards. The City shall implement these measures at the ATF complex. Measures may include, but would not be limited to:

- Siting the pump station and/or HVAC equipment away from noise-sensitive land uses
- Orienting the pump station and/or ATF building such that louvers face away from noise-sensitive land uses
- Installing a sound barrier (e.g., a wall, berm, or combination or both) of sufficient height and length to break the line of sight between noise-sensitive land uses and noise sources at the ATF complex
- Screening HVAC equipment
- Installing HVAC equipment on the rooftop rather than at ground-level

As indicated in the certified EIR for the Original Project, implementation of Mitigation Measure N-1 would entail the use of several noise reduction measures, including mufflers and temporary sound barriers. Use of critical grade mufflers would reduce engine noise levels from mobile construction equipment by at least 10 dBA in comparison to industrial grade mufflers, and installation of portable sound enclosures for generators and air compressors would reduce noise levels by at least 10 dBA. Temporary sound barriers would reduce noise levels from well drilling activities by approximately 5 to 20 dBA, depending on the barrier height specified for each well location (see Appendix E for updated barrier calculations). As shown in Table 16, implementation of Mitigation Measure N-1 would reduce daytime construction noise levels for IW-1, IW-2 Alternate, IW-3, MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, MW-2A/2B/2C, MW-2A/2B/2C Alternate, MW-3C/3D, and MW-4A/4B under the Modified Project at the nearest sensitive receivers below the daytime exterior noise thresholds. In addition, as determined in the certified EIR, implementation of Mitigation Measure N-1 for MW-1C/1D, the location of which remains the same under the Modified Project, would reduce daytime construction noise impacts below the daytime exterior noise threshold. Therefore, daytime construction noise impacts for the injection, monitoring and production wells would be reduced to a less-than-significant level.

In addition to mufflers, enclosures, and barriers, Mitigation Measure N-1 would require the temporary relocation of residents in Grover Beach within 100 feet of construction activity in Grover Beach and residents in unincorporated San Luis Obispo County within 175 feet of construction activity during 24-hour well drilling activities to reduce daytime and nighttime noise impacts. Therefore, by relocating the nearest residents, the closest noise-sensitive receivers would be located at greater distances, which would reduce noise impacts. As shown in Table 17 and Table 18 for the injection/production wells and monitoring wells, respectively, implementation of Mitigation Measure N-1 would reduce nighttime construction noise levels under the Modified Project at the nearest noise-sensitive receivers below the nighttime exterior noise thresholds. In addition, nighttime exterior noise levels for injection and monitoring wells in unincorporated San Luis Obispo County under the Modified Project would be reduced below 55 dBA L_{eq} and 75 dBA L_{max}, which would result in interior

Table 16 Mitigated Daytime Well Construction Noise Levels at Nearest Sensitive Receivers – Modified Project

Construction Phase	Equipment	MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, MW-4A/4B (Residences 15 Feet Away)	IW-2 Alternate, IW-3, MW-2A/2B/2C Alternate, MW-4A/4B (Residences 40 Feet Away)	IW-1, MW-2A/2B/2C, MW-3C/3D (Residences 80 Feet Away)
Site Preparation[1]	Backhoe	75	66	60
Sewer Connection[1]	Excavator, Backhoe	79	70	64
Well Drilling/Installation[1, 2]	Drill Rig, Generators (4), Air Compressor	71	77	76
Site Restoration[1]	Forklift, Backhoe	76	67	66
Threshold		80	80	80
Threshold Exceeded?		No	No	No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction).

[2] Assumes use of portable sound enclosures that provide a minimum 10-dBA reduction for generators and air compressors (10-dBA reduction) and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (at least 15-dBA reduction) for PB-23, MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, and MW-4A/4B.

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at a distance of 50 feet.

Table 17 Mitigated Nighttime 24-Hour Well Drilling Noise Levels at Nearest Sensitive Receivers – Injection and Production Wells – Modified Project[1]

Construction Phase	Equipment	IW-3 (Residences 175 Feet Away)	IW-2 Alternate (Residences 100 Feet Away)	IW-1 (Residences 100 Feet Away)	IW-4 Alternate (Residences 200 Feet Away)	IW-2A, IW-2B, PB-23 (Residences 200 Feet Away)
Well Drilling/ Installation[1, 2]	Drill Rig, Generators (4), Air Compressor	45 dBA L_{eq} 44 dBA L_{max}	54 dBA L_{eq}	54 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}	55 dBA L_{eq}
Thresholds[3]		45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}
Threshold Exceeded?		No	No	No	No	No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction), use of portable sound enclosures for stationary construction equipment (10-dBA reduction), and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (reduction varies by barrier) or alternative provision of temporary accommodations for residents and hotel/motel guests during nighttime well drilling/installation activities.

[3] Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County (Table 4.10-5 in Section 4.10, *Noise*, of the certified EIR; County of San Luis Obispo General Plan Noise Element Table 3-2) or the city of Grover Beach (Table 4.10-7 in Section 4.10, *Noise*, of the certified EIR; GBMC Section 3120.8, Table 1).

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at 50 feet.

Table 18 Mitigated Nighttime 24-Hour Well Drilling Noise Levels at Nearest Sensitive Receivers – Monitoring Wells – Modified Project[1]

Construction Phase	Equipment	MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate, MW-3C/3D (Residences 100 Feet Away)	MW-4A/4B (Residences 175 Feet Away)	MW-2A/2B/2C Alternate (Residences 100 Feet Away)	MW-2A/2B/2C (Residences 100 Feet Away)	MW-2D/2E/2F (Residences 400 Feet Away)	MW-NCMA North A/B/C (Residence 400 Feet Away)	MW-NCMA South A/B/C (Residence 2,200 Feet Away)
Well Drilling/ Installation[1, 2]	Drill Rig, Generators (4), Air Compressor	54 dBA L_{eq}	45 dBA L_{eq} 44 dBA L_{max}	54 dBA L_{eq}	54 dBA L_{eq}	52 dBA L_{eq}	44 dBA L_{eq} 43 dBA L_{max}	37 dBA L_{eq} 36 dBA L_{max}
Threshold[3]		55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	55 dBA L_{eq}	55 dBA L_{eq}	55 dBA L_{eq}	45 dBA L_{eq} 65 dBA L_{max}	45 dBA L_{eq} 65 dBA L_{max}
Threshold Exceeded?		No	No	No	No	No	No	No

dBA = A-weighted decibel; L_{eq} = equivalent noise level; L_{max} = maximum instantaneous noise level

[1] The L_{max} value is the maximum instantaneous noise level generated by the loudest single piece of equipment operating during each phase. Unlike average L_{eq} values, which assume multiple pieces of equipment operating within the one-hour averaging period, L_{max} values are not summed because it is not assumed that a given piece of equipment would generate its peak noise level at the same time as another piece of equipment.

[2] Assumes use of critical grade mufflers on all construction equipment (10-dBA reduction), use of portable sound enclosures for stationary construction equipment (10-dBA reduction), and installation of temporary sound barriers meeting the requirements of Mitigation Measure N-1 (reduction varies by barrier) or alternative provision of temporary accommodations for residents and hotel/motel guests during nighttime well drilling/installation activities.

[3] Thresholds are applied based on whether the project component is located in unincorporated San Luis Obispo County (Table 4.10-5 in Section 4.10, *Noise*, of the certified EIR; County of San Luis Obispo General Plan Noise Element Table 3-2) or the city of Grover Beach (Table 4.10-7 in Section 4.10, *Noise*, of the certified EIR; GBMC Section 3120.8, Table 1).

Note: Assumes a standard attenuation rate of 6 dBA per doubling of distance. See Table 4.10-10 in Section 4.10, *Noise*, of the certified EIR for construction noise levels by phase at 50 feet.

noise levels below the thresholds of 35 dBA L_{eq} and 55 dBA L_{max}, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (Federal Highway Administration 2011).

Nighttime exterior noise levels for injection, production, and monitoring wells in Grover Beach under the Modified Project would be reduced below 60 dBA L_{eq}, which would result in interior noise levels below the threshold of 40 dBA L_{eq}, assuming an exterior-to-interior noise level reduction of 20 dBA with windows closed (Federal Highway Administration 2011). Furthermore, as determined in the certified EIR, implementation of Mitigation Measure N-1 for IW-5A, IW-5B, MW-1C/1D, MW-4C/4D, MW-5A/5B/5C, and MW-5D/5E/5F, the locations of which remain the same under the Modified Project, would reduce nighttime construction noise impacts below the nighttime exterior and interior noise thresholds.

As with the Original Project, it is possible that the final well locations under the Modified Project may shift within a 50-foot radius of their current locations during final engineering and/or during installation to account for subsurface conditions. As a result, the final well locations may be closer to sensitive receivers than analyzed herein such that the specified mitigation measures would not sufficiently reduce noise levels. Furthermore, similar to the Original Project, residents in Grover Beach within 100 feet of well locations and residents in unincorporated San Luis Obispo County within 175 feet of well locations may voluntarily choose not to temporary relocate during 24-hour well drilling activities and would thus be exposed to a significant temporary increase in ambient noise levels in excess of the specified thresholds. Therefore, as with the Original Project, construction noise impacts would be minimized but not completely mitigated through implementation of Mitigation Measure N-1 for the Modified Project. As a result, nighttime construction noise impacts related to 24-hour well drilling activities for the injection, production, and monitoring wells would be significant and unavoidable under the Modified Project, similar to the Original Project. Therefore, the Modified Project would not result in new significant impacts from nighttime construction noise and would not increase the severity of significant impacts identified in the certified EIR.

Conclusion

Significant and Unavoidable for Nighttime Construction Noise, Less than Significant with Mitigation Incorporated for Daytime Construction Noise and Operational Noise, Less than Significant for Roadway Noise, Vibration, and Airport-Related Noise (Same as Certified EIR).

4.11 Transportation

Impact Analysis

ORIGINAL CENTRAL COAST BLUE PROJECT

The certified EIR determined the Original Project would result in potentially significant construction-related impacts to circulation system programs, plans, policies, and ordinances as well as emergency access. However, with implementation of Mitigation Measure T-1 outlined in Section 4.11, *Transportation*, of the certified EIR, these impacts would be reduced to a less-than-significant level. The certified EIR determined the Original Project would not conflict with CEQA Guidelines Section 15064.3 because of the low level of operational traffic generated, and no impact would occur. In addition, the certified EIR concluded the Original Project would not result in construction or operational impacts related to traffic hazards or operational impacts to emergency access due to compliance with existing regulations, policies, codes, and standards.

MODIFIED CENTRAL COAST BLUE PROJECT

Similar to the Original Project, construction of Modified Project would result in temporary access restrictions along public roadways throughout the Modified Project area that could conflict with programs, plans, ordinances, and policies addressing the circulation system as well as result in inadequate emergency access. Mitigation Measure T-1 would continue to apply to construction activities for the Modified Project and would reduce these impacts to a less-than-significant level. Construction of the Modified Project would include changes in construction characteristics, such as extended construction schedules, greater lengths of pipelines, and additional truck trips for hauling demolished pavement and soil material and disposing of produced groundwater. The Modified Project would therefore generate greater VMT during construction activities as compared to the Original Project. However, as with the Original Project, increases in VMT during construction of the Modified Project would be short-term, minimal, and temporary and would therefore be less than significant. Similar to the Original Project, the Modified Project would be required to implement existing regulations and policies for road closures and lane detours that would reduce the potential for the construction to increase traffic hazards. Therefore, as with the Original Project, construction impacts related to traffic hazards under the Modified Project would be less than significant.

The Modified Project would not result in changes to the operational characteristics of the Original Project, including those related to employee trip and VMT generation and site access. As a result, operational transportation impacts would remain the same as those identified for the Original Project in the certified EIR. Operational impacts related to plans, policies, and programs addressing the circulation system and emergency access would be less than significant under the Modified Project, and no operational impacts related to VMT and traffic hazards would occur

In light of the above discussion, the Modified Project would not result in new significant impacts to transportation and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe effects associated with transportation would occur, and no new mitigation measures are necessary. Impacts would remain less than significant with mitigation incorporated from the certified EIR.

As with the Original Project, Mitigation Measure T-1 included in Section 4.11, *Transportation*, of the certified EIR would be required for the Modified Project to reduce potential impacts related to transportation to a less-than-significant level.

T-1 Transportation Management Plan

A Transportation Management Plan (TMP) shall be developed and implemented by the City, SSLOCSD, and/or their construction contractor(s) during construction of the proposed project. The TMP shall conform to Caltrans' Transportation Management Plan Guidelines and shall include but is not limited to:

- **Construction Traffic Routes and Staging Locations:** The TMP shall identify construction staging site locations and potential road closures, alternate routes for detours, and planned truck routes for construction-related vehicle traffic, including but not limited to haul trucks, material delivery trucks, and equipment delivery trucks. It shall also identify alternative safe routes and policies to maintain safety along bicycle and pedestrian routes during construction. Construction traffic routes shall avoid local residential streets to the maximum extent practicable. Staging locations, alternate detour routes, and construction traffic routes shall avoid other active construction projects within 0.25 mile of the project construction sites to the maximum extent practicable.

- **Damage Repair:** The TMP shall include the following requirements to minimize damage to the existing roadway network:
    - A list of precautionary measures to protect the existing roadway network, including but not limited to pavements, curbs, gutters, sidewalks, and drainage structures, shall be outlined. The construction contractor(s) shall be required to implement these measures throughout the duration of construction of the ~~water distribution~~ pipelines.
    - The roadway network along the proposed water distribution alignment(s) shall be surveyed prior to the start of project construction activities, and existing roadway conditions shall be summarized in a brief report.
    - Any damage to the roadway network that occurs as a result of project construction activities shall be noted, and the project sponsors shall repair all damage.
- **Coordination with Emergency Services:** The TMP shall include requirements to notify local emergency response providers, including Five Cities Fire Authority, the San Luis Obispo Sheriff Department, ambulance services, and paramedic services at least one week prior to the start of work within public rights-of-way if lane and/or road closures are required. To the extent possible, the City shall minimize the duration of disruptions/closures to roadways and critical access points for emergency services.
- **Coordination with Recreation Facilities:** The TMP shall require coordination with owners/operators of any affected recreational facilities to minimize the duration of disruptions/closures to recreational facilities, trails, and adjacent access points.
- **Coordination with South County Transit:** If the proposed project will affect access to existing South County Transit bus stops, the TMP shall also include temporary, alternative bus stops and directional signage, as determined in coordination with South County Transit.
- **Coordination with Schools:** The TMP shall require coordination with the Lucia Mar Unified School District in the study area to minimize construction impacts during the regular school year.
- **Coordinate with Caltrans:** If the proposed project requires lane and/or road closures of SR 1, the TMP shall require coordination with Caltrans to ensure the TMP conforms with Caltrans' Transportation Management Plan Guidelines.
- **Coordination with Nearby Construction Sites**: The TMP shall identify all active construction projects within 0.25 mile of project construction sites and require coordination with the applicants and/or contractors of these projects during all phases of construction regarding the following:
    - All temporary lane and/or roadway closures shall be coordinated to limit overlap of roadway closures
    - All major deliveries and haul truck trips shall be coordinated to limit the occurrence of simultaneous deliveries and haul truck trips
    - The City, its contractor(s), or its representative(s) shall meet on a regular basis with the applicant(s), contractor(s) or their representative(s) of active construction projects within 0.25 mile of the project construction sites during construction to address any outstanding issues related to construction traffic.

- **Transportation Control and Safety:** The TMP shall provide for traffic control measures including flag persons, warning signs, lights, barricades, cones, and/or detour routes to provide safe passage of vehicular, bicycle and pedestrian traffic and access by emergency responders.
- **Plan Approval:** The TMP shall be submitted to County of San Luis Obispo Departments of Public Works and Parks & Recreation (if park property is affected) ~~Planning and Building~~ and the City of Grover Beach Community Development Department for review and approval.
- **Public Notification:** Prior to the start of construction, written notice shall be provided regarding potential land and/or road closures as described in the TMP. Notice shall be delivered to potentially affected properties within a 500-foot radius of the project construction sites. The notice shall contain a brief description of the work, work dates, and contact information of the City's Planning Division. The notice shall be delivered ten calendar days prior to beginning the work and again at two working days prior to beginning the work. The notice shall be in the form of a door hanger made of index paper with a size of 14 inches by 4.5 inches. The notice shall be printed in both in English and Spanish. A revised notice shall be delivered in the event of delays in schedule as soon as reasonably possible after a delay is identified, and the revised schedule is known.

Conclusion

Less than Significant Impact with Mitigation (Same as Certified EIR)

4.12 Effects Found Not to Be Significant

Aesthetics

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in less-than-significant effects on scenic vistas, state scenic highways, visual character and scenic quality, and light and glare. This determination was primarily the result of several factors, including that underground project components would not be visible after construction, aboveground project components would be low-profile and similar in height to existing development, project components would be consistent with underlying zoning designations, and the Original Project would introduce minimal new light and glare sources.

Modified Central Coast Blue Project

Similar to the Original Project, underground components of the Modified Project, such as pipelines, would not be visible after construction, and aboveground components under the Modified Project would be low-profile and similar in height to existing development such that they would not impede scenic vistas. There are no Modified Project components within potential view of SR 1, an officially designated scenic highway, with the exception of IW-3, located in the public right-of-way of Monroe Drive to the west of SR 1, and the existing MW-3A/3B and IW-4, which are located in the Coastal Dunes RV Park and Campground. All of these components have small footprints and are either at-grade or have a low height profile. As with the Original Project, Modified Project components would not be visible from U.S. Highway 101, which is an eligible state scenic highway (Caltrans 2018). Modified Project components would continue to be consistent with the underlying zoning designations and would not result in impacts related to visual character or scenic quality due to zoning conflicts. In addition, the Modified Project would introduce similar types of lighting and glare sources as those included in the Original Project. Therefore, similar to the Original Project, aesthetic impacts under the Modified Project would be less than significant. As such, the Modified Project would not result in new significant impacts related to aesthetics and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to aesthetics would occur. Potential aesthetic impacts would remain less than significant, and no mitigation measures would be required.

Conclusion

Less than Significant Impact (Same as Certified EIR)

Agricultural and Forestry Resources

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in no impacts to agricultural and forestry resources because most components would not be located on mapped, zoned, or active farmland, forestland, or timberland with the exception of MW-4C/4D, which would be located in a stormwater detention basin that is mapped as Farmland of Statewide Importance but zoned as Public Facilities. As such, installation of this monitoring well would not convert Farmland of Statewide Importance to non-agricultural use.

Modified Central Coast Blue Project

As with the Original Project, most components of the Modified Project would not be located on mapped, zoned, or active farmland, forestland, or timberland (California Department of Conservation [DOC] 2022). MW-4C/4D would remain in a generally similar location as that evaluated for the Original Project and would similarly not result in the conversion of Farmland of Statewide Importance to non-agricultural use. MW-NCMA South A/B/C would be located on Unique Farmland, and MW-NCMA North A/B/C would be located on Prime Farmland and on parcels under Williamson Act Contract (DOC 2021 and 2022). However, the footprint of each monitoring well would be relatively small (25 square feet) as compared to the overall size of the parcels (36 acres and 42 acres). As such, installation of these two monitoring wells would not result in the conversion of Prime Farmland or Unique Farmland to non-agricultural use. Therefore, similar to the Original Project, no impacts to agricultural and forestry resources would occur. As such, the Modified Project would not result in new significant impacts related to agricultural and forest resources and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to agricultural and forestry resources would occur. No impacts to agricultural and forestry resources would occur, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

Geology & Soils

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in less-than-significant impacts related to geology and soils, including the rupture of known earthquake faults, strong seismic ground shaking, liquefaction, landslides, soil erosion, unstable geologic units and soils, expansive soils, septic tanks and alternative wastewater disposal systems, and paleontological resources. This determination was primarily the result of several factors, including compliance with applicable design and construction standards and regulations; the lack of fault rupture, landslide, expansive soils risks; a groundwater injection regime within the natural capacity of the groundwater basis; and the low potential for discovery of scientifically significant paleontological resources.

Modified Central Coast Blue Project

As with the Original Project, the Modified Project site is not located in an earthquake fault zone and is within in an area with low landslide potential, moderate liquefaction potential, and some expansive soils (County of San Luis Obispo 2006 and 2013; United States Department of Agriculture [USDA] 1984, 2007, and 2017). The Modified Project would not include any components that would exacerbate seismic risks related to fault rupture, ground shaking, or landslides due to compliance with applicable design and construction standards. In addition, similar to the Original Project, the Modified Project would result in groundwater injection to recharge the underlying groundwater basin and counterbalance groundwater pumping by NCMA agencies, which would not exceed the groundwater basin's natural capacity such that the area would become more prone to risks from liquefaction or expansive soils. The Modified Project also would not construct habitable structures on expansive soils. Thus, impacts related to fault rupture, seismic ground shaking, liquefaction, landslides, and expansive soils under the Modified Project would be less than significant.

Like the Original Project, the Modified Project would involve excavation, grading, trenching, well drilling, and soil export, which would result in some land and soil disturbance. The Modified Project would also be subject to the NPDES Construction General Permit, Central Coast Post-Construction Stormwater Requirements, and applicable local regulations. As a result, impacts related to soil erosion and loss of topsoil under the Modified Project would be less than significant.

Like the Original Project, the Modified Project would not require septic tanks or alternative wastewater disposal systems, and no impacts would occur.

The following analysis is based on an updated Paleontological Resources Assessment prepared for the Modified Project in 2023, which is included in Appendix F of this Addendum (Rincon 2023d). As indicated in this report, the Modified Project components are located in areas mapped as sediments with low paleontological sensitivity, and excavations up to 100 feet below the surface would not result in significant impacts on paleontological resources because they would be confined to geologic units with low paleontological sensitivity (Rincon 2023c). Drilling for groundwater injection, monitoring, and production wells is anticipated to reach up to 680 feet below the surface, which means that drilling would impact geologic units below 100 feet, which have not been mapped at the surface. Based on the regional geology, the likely underlying geologic units could range from having no paleontological sensitivity to high paleontological sensitivity. The nature of the rocks more than 100 feet below the surface is unknown; therefore, they are considered to have an undetermined paleontological sensitivity (Rincon 2023c). Paleontological monitoring of boreholes is typically conducted by examining spoils brought up during the drilling process for any contained fossil remains. However, as noted in Section 4.12, *Effects Found Not to Be Significant*, of the certified EIR, any encountered paleontological resources would be pulverized by drilling equipment before the spoils reach the surface due to the proposed well drilling method for depths greater than 100 feet such that it would not be possible to know whether a paleontological resource is significantly impacted by drilling activities. No known paleontological resources would be impacted by the Modified Project, and the level of potential impacts to undiscovered resources is unknowable; therefore, as with the Original Project, well drilling activities under the Modified Project would be unlikely to result in destruction, damage, or loss of scientifically important paleontological resources, and impacts would be less than significant (Rincon 2023c).

In light of the above discussion, the Modified Project would not result in new significant impacts related to geology and soils and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to geology and soils would occur. Potential impacts to geology and soils would remain less than significant, and no mitigation measures would be required.

Conclusion

Less than Significant Impact (Same as Certified EIR)

Mineral Resources

Original Central Coast Blue Project

The certified EIR for the Original Project determined no impacts to mineral resources would occur because the Original Project area is not located in a mineral resource zone or in an area that would be used for mineral extraction in the foreseeable future.

Modified Central Coast Blue Project

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. As with the Original Project, the Modified Project area would not be located in mineral resource zone or in an area that would be used for mineral extraction in the foreseeable future. The Modified Project would thus not result in new significant impacts to mineral resources and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to mineral resources would occur. Potential mineral resources impacts would remain less than significant, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

Population/Housing

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in no impacts to population and housing because it would not directly or indirectly induce substantial unplanned population growth or lead to the displacement of substantial numbers of people or housing, necessitating construction of replacement housing.

Modified Central Coast Blue Project

The Modified Project, like the Original Project, does not include construction of residences or the creation of substantial employment opportunities. In addition, the Modified Project would not increase water supplies but would rather improve water supply reliability such that substantial unplanned population growth would not be induced. As with the Original Project, the Modified Project would not require demolition of existing housing or create long-term disturbances to residential land uses that would lead to the displacement of substantial numbers of people and necessitate construction of replacement housing. Therefore, the Modified Project would result in no impacts to population and housing. As such, the Modified Project would not result in new significant impacts associated with population and housing and would not increase the severity of impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to population and housing would occur. No impacts to population and housing would occur, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

Public Services

Original Central Coast Blue Project

The certified EIR determined the Original Project would not include residential or commercial development that would directly induce population growth or change existing demand for public services and would not expand future water supplies such that population growth and associated additional demand of public services would be indirectly induced. As a result, the Original Project would result in no impacts to public services.

Modified Central Coast Blue Project

The Modified Project, like the Original Project, would not include residential or commercial development that would directly induce population growth or change existing demand for public services. The Modified Project also would not expand future water supplies and therefore would not indirectly induce population growth such that population growth and associated additional demand of public services would be indirectly induced. Therefore, the Modified Project would result in no impacts to public services. As such, the Modified Project would not result in new significant impacts associated with public services and would not increase the severity of impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to public services would occur. No impacts to public services would occur, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

Recreation

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in less-than-significant impacts to recreation because 1) the Original Project would not directly or indirectly induce population growth such that demand on existing recreational facilities would increase and 2) the Original Project would not increase or require the construction or expansion of recreational facilities or affect the maintenance of the County of San Luis Obispo's Coastal Dunes RV Park and Campground in which several project components would be located.

Modified Central Coast Blue Project

The Modified Project, like the Original Project would not directly or indirectly induce population growth such that demand on existing neighborhood or regional parks or other recreational facilities would increase. Unlike the Original Project, IW-1, IW-2A, IW-2B, IW-3, IW-4 Alternate, MW-2A/2B/2C, and MW-4A/4B would be re-sited under the Modified Project outside the County of San Luis Obispo's Coastal Dunes RV Park and Campground. Therefore, construction and operational-related impacts to the Coastal Dunes RV Park and Campground associated with these project components would be less under the Modified Project as compared to the Original Project. MW-3A/3B under the Modified Project, which has been constructed, would remain within Coastal Dunes RV Park and Campground and would not interfere with campground operations. Similar to the Original Project, the Modified Project would include a series of pipelines that would traverse the Coastal Dunes RV Park and Campground and Oceano Campground and would be installed via trenching and trenchless methods. Construction activities for these pipelines may result in temporary closure of several sites within the parks for the duration of construction activities within the parks. However, as with the Original Project, construction activities would be scheduled to occur during the off-season (i.e., between Labor Day and Memorial Day) to the extent practicable to reduce impacts to recreational activities in this park, and several other campgrounds are available in the vicinity, such as North Beach Campground in Pismo State Beach. In addition, these sites would continue to be available for use after the completion of construction. IW-4 Alternate and MW-4A/B would be located within the public right-of-way adjacent to Oceano Park. Construction activities for these project components may temporarily restrict access to portions of Oceano Park if construction equipment/materials are staged adjacent to the well locations, but upon completion, these components would not permanently restrict or otherwise affect use of Oceano Park. Furthermore, the Modified Project would not increase or require the construction or expansion of recreational facilities. Therefore, similar to the Original Project, impacts to recreation under the Modified Project would be less than significant. As such, the Modified Project would not result in new significant impacts to recreation and would not increase the severity of impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to recreation would occur. Potential impacts to recreation would remain less than significant, no mitigation measures would be required.

Conclusion

Less than Significant Impact (Same as Certified EIR)

Utilities/Service Systems

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in no impacts to utilities and service systems for the following reasons:

- Environmental impacts associated with construction of the ATF complex and associated infrastructure, which is a type of wastewater treatment facility, as well as utility relocations, if necessary, were evaluated and disclosed in the rest of the certified EIR;
- The physical connections between the ATF complex and existing water supply, sewer, electric power, natural gas, and telecommunications utilities would be minor given its location in an urbanized area;
- The Original Project would include on-site stormwater drainage features in compliance with the Central Coast Post-Construction Stormwater Requirements such that the capacity of existing or planned stormwater drainage systems would not be exceeded;
- Minimal water demand, wastewater, and solid waste would be generated by employees at the ATF complex;
- The Original Project would increase the reliability of groundwater supplies by creating a sustainable, drought-resistant local water supply for southern San Luis Obispo County and provide a new source of recharge to the SMGB to protect the basin from degradation via seawater intrusion;
- Increased groundwater extraction by the NCMA agencies would remain within the entitlements of the existing SMGB Adjudication Agreement; and
- Reverse osmosis concentrate and backwash water discharged via the existing ocean outfall would comply with NPDES permit standards and would not be treated by the existing WWTPs.

Modified Central Coast Blue Project

The Modified Project would result in similar types of construction activities as the Original Project and would result in no changes to the operational characteristics of the Original Project. Therefore, the Modified Project would similarly result in no impacts related to the construction or relocation of wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities that could result in significant environmental impacts and would generate the same minimal level of water demand, wastewater, and solid waste that would be adequately served by existing water supplies, wastewater treatment plants, and landfills. The Modified Project, like the Original Project, would provide a new source of groundwater recharge to the SMGB to improve groundwater supply reliability, and increased groundwater extraction by the Cities of Pismo Beach, Grover Beach, and Arroyo Grande would remain within the entitlements of the existing SMGB Adjudication

Agreement. Therefore, as with the Original Project, the Modified Project would result in no impacts to utilities and service systems. As such, Modified Project would not result in new significant impacts related to utilities and service systems and would not increase the severity of significant impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to utilities and service systems would occur. No impacts to utilities and service system impacts would occur, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

Wildfire

Original Central Coast Blue Project

The certified EIR determined the Original Project would result in no wildfire impacts because the Original Project area is generally not at elevated risk for wildfire and because the Original Project does not include components that would exacerbate wildfire risk or post-fire risks of flooding/landslides or require installation or maintenance of associated infrastructure that would result in temporary or ongoing impacts to the environment.

Modified Central Coast Blue Project

The Modified Project area would remain largely the same as the Original Project area with the addition of an approximately 0.5-acre area immediately adjacent to the southwestern boundary of the Original Project area. The Modified Project would be subject to the same wildfire conditions as the Original Project and would similarly not include components that would exacerbate wildfire risk or post-fire risks of flooding/landslides or require installation or maintenance of associated infrastructure that would result in temporary or ongoing impacts to the environment. Therefore, as with the Original Project, the Modified Project would result in no impacts to wildfire. As such, the Modified Project would not result in new significant impacts associated with wildfire and would not increase the severity of impacts identified in the certified EIR.

Effects and Mitigation Measures

No new significant or substantially more severe environmental effects related to wildfire would occur. No wildfire impacts would occur, and no mitigation measures would be required.

Conclusion

No Impact (Same as Certified EIR)

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5 Federal Cross-Cutting Environmental Regulations Evaluation

Similar to the Original Project, the Modified Project may receive funding from the Clean Water State Revolving Fund, which is administered by the SWRCB on behalf of the USEPA. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this Addendum includes analysis pertinent to several federal cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus).

This section describes the status of compliance with relevant federal laws, executive orders, and policies, and the consultation that has occurred to date or will occur in the future. The topics are based in part on the SWRCB's Clean Water State Revolving Fund Program Federal Cross-cutting Environmental Regulations Evaluation Form for Environmental Review and Federal Coordination. This section focuses on project components with known locations, which may receive funding under the project's initial Clean Water State Revolving Fund application. Other project components with unknown locations (such as the potential agricultural irrigation pipelines described in the certified EIR for the Original Project) would require supplemental environmental review prior to pursuing Clean Water State Revolving Fund funding; therefore, compliance with federal environmental requirements will be discussed at the time of the supplemental environmental review.

5.1 Federal Endangered Species Act

Section 7 of the federal Endangered Species Act requires federal agencies, in consultation with the Secretary of the Interior, to ensure their actions do not jeopardize the continued existence of endangered or threatened species or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7, a project that could result in incidental take of a listed threatened or endangered species must consult with the USFWS to obtain a Biological Opinion. If the Biological Opinion finds the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion.

As detailed in Section 4.2, *Biological Resources*, of this Addendum and the 2023 BRA (Appendix B), the Modified Project site contains suitable habitat for special status plant and wildlife species. Of the 58 special status plant species and 31 special status wildlife species that are known to or have the potential to occur within the vicinity of the project area, four federally threatened species – marsh sandwort, La Graciosa thistle, CRLF, and south-central California coast distinct population segment of steelhead - have the potential to occur within the Modified Project site.

As indicated in Section 4.2, *Biological Resources*, of this Addendum, the Modified Project would not result in significant direct or indirect impacts to marsh sandwort and La Graciosa thistle because the majority of Modified Project impacts would occur on developed or landscaped areas outside the limits of native habitats and potentially suitable marsh and coastal scrub habitats for La Graciosa thistle and marsh sandwort would be avoided during construction.

CRLF have the potential to occur in the footprints of IW-5A, IW-5B, and MW-5A/5B/5C as well as portions of the pipeline alignments adjacent to potentially suitable dispersal habitat for the CRLF in the form of arroyo willow riparian within 50 feet of Arroyo Grande Creek. No CRLF individuals were observed within the Modified Project site during the survey effort. Given the potential for direct and indirect impacts to CRLF individuals as well as direct impacts to CRLF habitat, impacts to CRLF would be potentially significant. Mitigation Measures BIO-1(a) and BIO-1(b), which include avoidance of CRLF habitat and implementation of avoidance and minimization measures for CRLF during construction activities, would be required to reduce impacts to a less-than-significant level.

Steelhead have the potential to occur in Arroyo Grande Creek, located approximately 50 feet south of the Modified Project site, and in Meadow Creek and its lagoon, located more than 100 feet west and south of the Modified Project site. Steelhead may also potentially migrate near the discharge point of the existing ocean outfall. The Modified Project would not result in direct impacts to Arroyo Grande Creek or Meadow Creek and its lagoon. In addition, the change in water salinity output at the discharge point of the existing ocean outfall under the Modified Project is not expected to cause an impact to steelhead given compliance with existing NPDES permit limitations. Therefore, impacts to steelhead would be less than significant.

In light of the above discussion, with implementation of Mitigation Measures BIO-1(a) and BIO-1(b) from the certified EIR, the Modified Project would not jeopardize any federally listed species. Similar to the Original Project, the lead agency would be in compliance with the federal Endangered Species Act for the Modified Project.

5.2 National Historic Preservation Act, Section 106

The purpose of the National Historic Preservation Act (NHPA) is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Section 106 requires federal agencies to take into account effects on historic properties. Section 106 review involves a step-by-step procedure described in detail in the implementing regulations (36 Code of Federal Regulations Part 800).

As described in Section 4.3, *Cultural Resources*, of this Addendum, a supplemental cultural resource assessment with updated Section 106 consultation was prepared for the Modified Project, which is included as Appendix D. The supplemental cultural resources assessment as well as the original cultural resources assessment prepared for the Original Project were completed in compliance with Section 106 of the NHPA and can be submitted as part of the consultation process with the State Historic Preservation Officer. Concurrence by State Historic Preservation Officer would ensure compliance with the NHPA. The Area of Potential Effect for a project is defined in 36 Code of Federal Regulations 800.16(d) as the "geographic area or areas within which a project may directly or indirectly cause changes in the character or use of historic properties if any such property exists." Historic properties are those significant cultural resources listed in or are eligible for listing in the National Register of Historic Places per the following criteria (36 Code of Federal Regulations 60.4):

(A) Are associated with events that have made a significant contribution to the broad patterns of our history

(B) Are associated with the lives of persons significant to our past

(C) Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components that may lack individual distinction

(D) Have yielded, or may be likely to yield, information import in prehistory or history

As discussed in Section 4.3, *Cultural Resources*, of this Addendum and the 2023 CRA (Appendix D), the Modified Project would not result in adverse effects to historic properties. Therefore, similar to the Original Project, the Modified Project would result in no effect to historic properties under Section 106 of NHPA.

5.3 Clean Air Act

The U.S. Congress adopted general conformity requirements as part of the federal CAA Amendments in 1990, and USEPA implemented those requirements in 1993 (Section 176 of the FCAA [42 United States Code § 7506] and 40 Code of Federal Regulations Part 93, Subpart B). General conformity requires that all federal actions “conform” with the State Implementation Plan as approved or promulgated by USEPA. The purpose of the general conformity program is to ensure that actions taken by the federal government do not undermine State or local efforts to achieve and maintain the NAAQS. Before a federal action is taken, it must be evaluated for conformity with the State Implementation Plan. All “reasonably foreseeable” emissions predicted to result from the action are taken into consideration. These include direct and indirect emissions and must be identified as to location and quantity. If it is found that the action would create emissions above *de minimis* threshold levels specified in USEPA regulations (40 Code of Federal Regulations § 93.153[b]), or if the activity is considered “regionally significant” because its emissions exceed 10 percent of an area’s total emissions, the action cannot proceed unless mitigation measures are specified that would bring the proposed project into conformance.

As described in Section 4.1, *Air Quality*, the project area lies within the western portion of San Luis Obispo County, which is designated attainment for all NAAQS. Therefore, under the General Conformity Rule, there are no applicable *de minimis* levels for the Modified Project. As such, because the proposed project would not exceed an applicable *de minimis threshold,* general conformity requirements do not apply, and the Modified Project is exempt from a conformity determination. Accordingly, the lead agency would be in compliance with the FCAA.

For informational purposes, Table 19 summarizes the total maximum annual emissions that would be generated during construction and operation of the Modified Project. Regardless of basin attainment status, the SWRCB requires that estimates of criteria pollutant emissions associated with the project and supporting calculations be submitted with Attachment E1 of the State Revolving Fund Environmental Package. The results of this assessment will be summarized in Attachment E1, and this section will be included with the State Revolving Fund Environmental Package as supporting documentation.

Table 19 Estimated Maximum Annual Emissions (tons per year) – Modified Project

Emissions Source	VOC[1]	NO_X	NO_2[2]	CO	PM_{10}	$PM_{2.5}$	SO_2
Maximum Construction Emissions[3]	1.05	7.56	7.56	8.67	0.95	0.46	0.10
Maximum Operational Emissions	0.12	0.05	0.05	0.21	0.06	0.02	0.01
Maximum Construction plus Operational Emissions[4]	1.17	7.61	7.61	8.88	1.01	0.48	0.11
Maximum Annual Emissions	**1.17**	**7.61**	**7.61**	**8.88**	**1.01**	**0.48**	**0.11**
De Minimis Thresholds[5]	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Threshold Exceeded?	N/A	N/A	N/A	N/A	N/A	N/A	N/A

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

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

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

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

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

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

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

5.4 Coastal Zone Management Act

The Coastal Zone Management Act, passed by Congress in 1972 and managed by the National Oceanic and Atmospheric Administration's Office of Ocean and Coastal Resource Management, is designed to balance competing land and water issues in coastal zones. It also aims to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." Within California, the Coastal Zone Management Act is administered by the Bay Conservation and Development Commission, the California Coastal Conservancy, and the CCC.

Several project components would be located within the coastal zone, and the project sponsors would be required to obtain Coastal Development Permits prior to construction. At this time, the City of Grover Beach and County of San Luis Obispo have consented to a consolidated coastal development permitting process with the CCC, and efforts are underway to apply for and obtain a coastal development permit for the Modified Project. Therefore, the lead agency would be in compliance with the Coastal Zone Management Act.

5.5 Farmland Protection Policy Act

The Farmland Protection Policy Act requires a federal agency to consider the effects of its actions and programs on the nation's farmlands. The Farmland Protection Policy Act is intended to minimize the impact of federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland.

As described in Section 4.12, *Effects Found Not to Be Significant*, of this Addendum, the Modified Project would not adversely impact any agricultural lands. Therefore, the lead agency would be in compliance with the Farmland Protection Policy Act.

5.6 Executive Order 11988 – Floodplain Management

Executive Order (EO) 11988 requires federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains.

As described in Section 4.8, *Hydrology/Water Quality*, the following Modified Project components would be located within the 100-year Flood Hazard Area:

- Two injection wells (IW-5A and IW-5B)
- Three monitoring well (MW-5A/5B/5C, MW-NCMA North A/B/C, and MW-NCMA South A/B/C)
- Certain pipelines

Upon completion of construction, the proposed pipelines would be located entirely underground and would not interfere with the floodplain. Furthermore, the proposed injection and monitoring wells would be located primarily underground with relatively small aboveground footprints (approximately 3,000 square feet for the injection wells and approximately 25 square feet for the monitoring wells). In addition, these wells would be located within the development footprint of existing land uses (i.e., the SSLOCSD WWTP property). Therefore, these project components would have a negligible impact on the floodplain. As such, the lead agency would be in compliance with this EO.

5.7 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The MBTA and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 requires that any project with federal involvement address impacts of federal actions on migratory birds.

As described in Section 4.2, *Biological Resources*, of this Addendum, the Modified Project would have a less-than-significant impact on nesting birds protected under the MBTA with implementation of Mitigation Measure BIO-1(e) if construction cannot be avoided during nesting season. Thus, with implementation of Mitigation Measure BIO-1(e), the lead agency would be in compliance with this EO.

5.8 Executive Order 11990 – Protection of Wetlands

Under EO 11990, federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

As described in Section 4.2, *Biological Resources*, of this Addendum and the Jurisdictional Delineation included as Appendix C, the Modified Project site does not include any federally protected wetlands. Therefore, the lead agency would be in compliance with EO 11990.

5.9 Wild and Scenic Rivers Act

The Wild and Scenic Rivers Act was passed in 1968 to preserve and protect designated rivers for their natural, cultural, and recreational value.

There are no designated Wild and Scenic Rivers within the Modified Project area, and no designated rivers would be adversely affected by the Modified Project (National Park Service 2022). As a result, the Wild and Scenic Rivers Act does not apply to the Modified Project.

5.10 Safe Drinking Water Act – Source Water Protection

Section 1424(e) of the Safe Drinking Water Act established the USEPA's Sole Source Aquifer Program. This program protects communities from groundwater contamination from federally funded projects.

Within USEPA's Region 9, which includes California, there are nine sole source aquifers. None of these sole source aquifers are located within or near the Modified Project area (USEPA 2022). Therefore, the Sole Source Aquifer Program does not apply to the Modified Project, and the lead agency would be in compliance with Section 1424(e) of the Safe Drinking Water Act.

5.11 Executive Order on Trails for America in the 21st Century

The EO on Trails for America requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. Existing trails located within and adjacent to the project area include the Lagoon Trail, which loops around Oceano Lagoon west of SR 1; the Meadow Creek Trail, which runs adjacent to Meadow Creek between Nacimiento Avenue to 4th Street; and several trails through Pismo State Beach east of SR 1, including the Beach Trail and Dune Trail (California State Parks 2020; City of Grover Beach 2007). The County of San Luis Obispo Parks Department does not identify any County trails within the project area (County of San Luis Obispo 2023). Project construction and operation would not impact any existing trails because no temporary or permanent trail closures would be required. Furthermore, project components would not be located on or interfere with the planned route of the Beach Cities Multi-Purpose Trail through Pismo State Beach and Pismo Lakes Ecological Reserve (RRM Design Group 2019). As a result, no adverse effects on trails would occur, and the lead agency is in compliance with this EO.

5.12 Executive Order 13007 – Indian Sacred Sites

Sacred sites are defined in EO 13007 (May 24, 1996) as "any specific, discrete, narrowly delineated location on federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The Modified Project would not be located on or impact any federal lands and therefore would not affect any Indian sacred sites under EO 13007.

5.13 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the U.S. Exclusive Economic Zone. It establishes exclusive U.S. management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat, as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297). Essential Fish Habitat includes those habitats that support the different life stages of each managed species. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions. Essential Fish Habitat can consist of both the water column and the underlying surface (e.g., streambed) of a particular area.

The Modified Project area is located primarily within developed/landscaped land and existing roadways. The existing ocean outfall pipeline extends approximately 0.5 mile off the coast and therefore falls within the state territorial sea limit, which extends three nautical miles (i.e., 3.5 miles) offshore. As such, the existing ocean outfall does not fall within the jurisdiction of the Magnuson-Stevens Act. Furthermore, as described in Section 4.2, *Biological Resources*, of this Addendum, the Modified Project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area. Therefore, the lead agency would be in compliance with this act.

5.14 Executive Order 12898 - Environmental Justice

EO 12898, known as the federal environmental justice policy, requires federal agencies to address to the greatest extent practicable and permitted by law the disproportionately high adverse human health and environmental impacts of their programs, policies, and activities on minority and low-income populations in the United States. EO 12898 also directs each agency to develop its own strategy to implement environmental justice.

As discussed in Section 4.5, *Environmental Justice*, of this Addendum, the entire Modified Project area, which includes both Oceano and Grover Beach, is identified as an environmental justice community. However, most of the potentially significant environmental impacts would be reduced to a less-than-significant level through incorporation of mitigation measures. The Modified Project's significant and unavoidable construction noise impact would be evenly distributed throughout the Modified Project area at 18 well locations, not focused on a single area. Therefore, this impact would not affect one area or population more than another. Furthermore, construction noise impacts would be short-term, temporary, and typical of construction projects occurring throughout the region, which often generate temporary increases in noise. Therefore, although this impact would occur in the environmental justice communities of Oceano and Grover Beach, this impact would not be disproportionately high and adverse, and the lead agency would be in compliance with EO 12898.

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6 Conclusion

As discussed in detail in the preceding sections, potential impacts associated with the Modified Central Coast Blue Project are consistent with potential impacts characterized and mitigated for in the certified EIR for the Original Central Coast Blue Project. Substantive revisions to the certified EIR are not necessary because no new significant impacts or impacts of substantially greater severity than previously described would occur as a result of the Modified Project. Therefore, the following determinations have been found to be applicable:

- No further evaluation of environmental impacts is required for the Modified Central Coast Blue Project;
- No Subsequent EIR is necessary pursuant to CEQA Guidelines Section 15162; and
- This Addendum is the appropriate level of environmental analysis and documentation for the Modified Central Coast Blue Project in accordance with CEQA Guidelines Section 15164.

Pursuant to CEQA Guidelines Section 15164(c), this Addendum will be included in the public record for the Modified Central Coast Blue Project. Documents related to this Addendum will be available at the City of Grover Beach, 154 South 8th Street, Grover Beach, California 93433 and the City of Pismo Beach, 760 Mattie Road, Pismo Beach, California 93449.

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7.2 List of Preparers

This Addendum was prepared by Rincon Consultants, Inc. under contract to the City of Pismo Beach. Persons and firms involved in data gathering, analysis, project management, and quality control include:

City of Pismo Beach (Lead Agency)

Matthew Downing, Community Development Director

City of Grover Beach (Responsible Agency)

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Appendix A

Air Quality, Energy, and Greenhouse Gas Modeling

CCB I&P Wells v2 Custom Report

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5.8. Construction Electricity Consumption and Emissions Factors

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB I&P Wells v2
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.11

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	3.00	1000sqft	0.07	3,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.80	8.13	7.65	0.03	0.26	0.64	0.90	0.24	0.17	0.41	3,095	0.11	0.31	3,198
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.76	15.0	18.2	0.03	0.56	0.64	0.90	0.52	0.17	0.56	3,091	0.14	0.31	3,187
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.27	2.65	2.59	0.01	0.09	0.19	0.28	0.08	0.05	0.13	941	0.04	0.09	970
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.48	0.47	< 0.005	0.02	0.03	0.05	0.01	0.01	0.02	156	0.01	0.01	161

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.80	8.13	7.65	0.03	0.26	0.64	0.90	0.24	0.17	0.41	3,095	0.11	0.31	3,198

Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.76	15.0	18.2	0.03	0.56	0.64	0.90	0.52	0.17	0.56	3,091	0.14	0.31	3,187
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.27	2.65	2.59	0.01	0.09	0.19	0.28	0.08	0.05	0.13	941	0.04	0.09	970
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.05	0.48	0.47	< 0.005	0.02	0.03	0.05	0.01	0.01	0.02	156	0.01	0.01	161

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.20	1.92	< 0.005	0.05	—	0.05	0.05	—	0.05	290	0.01	< 0.005	291
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.98	< 0.005	< 0.005	3.99

Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.66	< 0.005	< 0.005	0.66
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.64	< 0.005	< 0.005	1.67
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.63	< 0.005	< 0.005	0.66
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.27	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	14.2	17.2	0.03	0.56	—	0.56	0.51	—	0.51	2,634	0.11	0.02	2,643
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.01	0.48	0.26	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	125	0.01	0.02	131
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.16	0.19	< 0.005	0.01	—	0.01	0.01	—	0.01	28.9	< 0.005	< 0.005	29.0
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.36	< 0.005	< 0.005	1.43
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.78	< 0.005	< 0.005	4.80
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.23	< 0.005	< 0.005	0.24
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	< 0.005	0.16	0.05	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	112	0.01	0.02	117
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.31	< 0.005	< 0.005	1.34
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.50	< 0.005	< 0.005	0.52
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.22	< 0.005	< 0.005	1.28
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.22	< 0.005	< 0.005	0.22
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.08	< 0.005	< 0.005	0.09
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.20	< 0.005	< 0.005	0.21

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	5.41	6.01	0.01	0.23	—	0.23	0.21	—	0.21	920	0.04	0.01	923
Onsite truck	0.02	0.47	0.25	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	124	0.01	0.02	131

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.66	5.41	6.01	0.01	0.23	—	0.23	0.21	—	0.21	920	0.04	0.01	923
Onsite truck	0.01	0.48	0.26	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	125	0.01	0.02	131
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.51	1.68	< 0.005	0.06	—	0.06	0.06	—	0.06	257	0.01	< 0.005	258
Onsite truck	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	34.8	< 0.005	0.01	36.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.28	0.31	< 0.005	0.01	—	0.01	0.01	—	0.01	42.6	< 0.005	< 0.005	42.7
Onsite truck	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	5.76	< 0.005	< 0.005	6.05
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.70	0.00	0.00	0.11	0.11	0.00	0.03	0.03	124	0.01	0.01	127
Vendor	0.04	2.12	0.65	0.01	0.03	0.50	0.53	0.03	0.14	0.17	1,900	0.05	0.28	1,990
Hauling	< 0.005	0.07	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	26.7	< 0.005	< 0.005	28.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	0.04	2.19	0.65	0.01	0.03	0.50	0.53	0.03	0.14	0.17	1,900	0.05	0.28	1,985
Hauling	< 0.005	0.08	0.04	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	26.8	< 0.005	< 0.005	28.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.19	0.00	0.00	0.03	0.03	0.00	0.01	0.01	33.5	< 0.005	< 0.005	34.1
Vendor	0.01	0.62	0.18	< 0.005	0.01	0.14	0.15	0.01	0.04	0.05	531	0.01	0.08	555

Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.47	< 0.005	< 0.005	7.85
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	5.55	< 0.005	< 0.005	5.64
Vendor	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	87.9	< 0.005	0.01	91.9
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.24	< 0.005	< 0.005	1.30

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.38	3.40	3.75	0.01	0.15	—	0.15	0.14	—	0.14	613	0.02	< 0.005	615
Architectura l Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.13	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	23.5	< 0.005	< 0.005	23.6
Architectura l Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.89	< 0.005	< 0.005	3.90
Architectura l Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.70	0.00	0.00	0.11	0.11	0.00	0.03	0.03	124	0.01	0.01	127
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.60	< 0.005	< 0.005	4.68
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.75	< 0.005	< 0.005	1.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.76	< 0.005	< 0.005	0.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	< 0.005	< 0.005	0.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Trenching (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	2.05	2.93	< 0.005	0.08	—	0.08	0.08	—	0.08	432	0.02	< 0.005	434
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	5.92	< 0.005	< 0.005	5.94
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.98	< 0.005	< 0.005	0.98
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.64	< 0.005	< 0.005	1.67
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.63	< 0.005	< 0.005	0.66
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.27	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2024	1/7/2024	5.00	5.00	—
Critical Drilling	Grading	1/15/2024	1/18/2024	5.00	4.00	—
Well Installation	Building Construction	1/19/2024	6/10/2024	5.00	102	—
Site Restoration	Paving	6/11/2024	6/28/2024	5.00	14.0	—
Sewer Connection	Trenching	1/8/2024	1/14/2024	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Critical Drilling	Generator Sets	Diesel	Average	2.00	24.0	14.0	0.74
Critical Drilling	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Critical Drilling	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Critical Drilling	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Critical Drilling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Well Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Well Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Well Installation	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Well Installation	Bore/Drill Rigs	Diesel	Average	1.00	1.00	83.0	0.50
Well Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Well Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Restoration	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Site Restoration	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Site Restoration	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Sewer Connection	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Sewer Connection	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.90	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Critical Drilling	—	—	—	—
Critical Drilling	Worker	20.0	8.10	LDA,LDT1,LDT2
Critical Drilling	Vendor	2.00	6.90	HHDT,MHDT
Critical Drilling	Hauling	1.50	20.0	HHDT
Critical Drilling	Onsite truck	23.6	1.00	HHDT
Sewer Connection	—	—	—	—
Sewer Connection	Worker	20.0	8.10	LDA,LDT1,LDT2
Sewer Connection	Vendor	2.00	6.90	HHDT,MHDT
Sewer Connection	Hauling	0.00	20.0	HHDT
Sewer Connection	Onsite truck	—	—	HHDT
Well Installation	—	—	—	—
Well Installation	Worker	20.0	8.10	LDA,LDT1,LDT2
Well Installation	Vendor	2.00	300	HHDT,MHDT
Well Installation	Hauling	3.00	2.00	HHDT
Well Installation	Onsite truck	23.6	1.00	HHDT
Site Restoration	—	—	—	—
Site Restoration	Worker	20.0	8.10	LDA,LDT1,LDT2
Site Restoration	Vendor	2.00	6.90	HHDT,MHDT
Site Restoration	Hauling	0.00	20.0	HHDT
Site Restoration	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Site Restoration	0.00	0.00	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.00	0.00	—
Critical Drilling	—	93.0	0.00	0.00	—
Site Restoration	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2024	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Engineer-provided construction schedule for one well
Construction: Off-Road Equipment	Engineer-provided info.
Construction: Trips and VMT	Up to 10 workers during each phase. 1 delivery/water truck trip per day. Max trip distance of 300 miles for vendor delivery. 1,250 roundtrip truck trips for hauling produced groundwater one mile to stormwater detention basin.
Construction: Architectural Coatings	Wells do not include components that would receive architectural coatings.
Construction: On-Road Fugitive Dust	On-site truck trips used as proxy for transporting produced groundwater to SW basin via paved roadway network.

CCB I&P Wells v2 Quarterly Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB I&P Wells v2
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.11

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	3.00	1000sqft	0.07	3,000	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions

2.1.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (ton/quarter) and GHGs (MT/quarter)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Q1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.40	0.44	< 0.005	0.02	0.04	0.04	0.02	0.01	0.02	141	< 0.005	0.02	147
Q2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.38	0.43	< 0.005	0.02	0.04	0.04	0.01	0.01	0.01	137	< 0.005	0.02	143
Quarterly (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.40	0.44	< 0.005	0.02	0.04	0.04	0.02	0.01	0.02	141	< 0.005	0.02	147

2.1.2. Construction Quarters

Quarter	Start Date	End Date	Length (days)
Q1	1/1/2024	3/31/2024	91
Q2	4/1/2024	6/28/2024	89

CCB Monitoring Wells Custom Report

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8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB Monitoring Wells
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.11

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	0.00	User Defined Unit	< 0.005	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.73	14.7	17.8	0.03	0.56	0.62	0.93	0.52	0.17	0.55	3,320	0.13	0.30	3,413
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.06	0.55	0.63	< 0.005	0.02	0.03	0.05	0.02	0.01	0.03	168	0.01	0.01	172
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.10	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	27.8	< 0.005	< 0.005	28.4

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.73	14.7	17.8	0.03	0.56	0.62	0.93	0.52	0.17	0.55	3,320	0.13	0.30	3,413

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.55	0.63	< 0.005	0.02	0.03	0.05	0.02	0.01	0.03	168	0.01	0.01	172
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.01	0.10	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	27.8	< 0.005	< 0.005	28.4

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	1.20	1.92	< 0.005	0.05	—	0.05	0.05	—	0.05	290	0.01	< 0.005	291
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.98	< 0.005	< 0.005	3.99
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.66	< 0.005	< 0.005	0.66
Dust From Material Movement	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.64	< 0.005	< 0.005	1.67
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.63	< 0.005	< 0.005	0.66
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.27	< 0.005	< 0.005	0.28
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.10	< 0.005	< 0.005	0.11
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.66	14.2	17.2	0.03	0.56	—	0.56	0.51	—	0.51	2,634	0.11	0.02	2,643
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	42.3	< 0.005	0.01	44.4
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	14.4	< 0.005	< 0.005	14.5
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.23	< 0.005	< 0.005	0.24
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.39	< 0.005	< 0.005	2.40
Dust From Material Movement	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.04	< 0.005	< 0.005	0.04
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.51	0.00	0.00	0.09	0.09	0.00	0.02	0.02	89.3	0.01	< 0.005	90.6
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.27	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	186	0.01	0.03	195
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.49	< 0.005	< 0.005	0.50
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.02	< 0.005	< 0.005	1.07
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.08	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.17	< 0.005	< 0.005	0.18

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	6.66	8.11	0.01	0.28	—	0.28	0.25	—	0.25	1,254	0.05	0.01	1,258
Onsite truck	< 0.005	0.16	0.09	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	42.3	< 0.005	0.01	44.4

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.29	< 0.005	0.01	—	0.01	0.01	—	0.01	44.7	< 0.005	< 0.005	44.8
Onsite truck	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.50	< 0.005	< 0.005	1.58
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	7.39	< 0.005	< 0.005	7.42
Onsite truck	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.25	< 0.005	< 0.005	0.26
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	0.04	2.19	0.65	0.01	0.03	0.50	0.53	0.03	0.14	0.17	1,900	0.05	0.28	1,985
Hauling	< 0.005	0.05	0.03	< 0.005	< 0.005	0.00	< 0.005	0.00	0.00	0.00	4.91	< 0.005	< 0.005	5.18
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.27	< 0.005	< 0.005	4.34
Vendor	< 0.005	0.08	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	67.7	< 0.005	0.01	70.8
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.17	< 0.005	< 0.005	0.18
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.71	< 0.005	< 0.005	0.72
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	11.2	< 0.005	< 0.005	11.7
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	0.00	0.00	0.00	0.00	0.03	< 0.005	< 0.005	0.03

3.7. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.35	3.10	3.27	0.01	0.14	—	0.14	0.13	—	0.13	540	0.02	< 0.005	542
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.12	0.13	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	20.7	< 0.005	< 0.005	20.8
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	3.43	< 0.005	< 0.005	3.44
Architectural Coatings	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.06	0.68	0.00	0.00	0.11	0.11	0.00	0.03	0.03	119	0.01	0.01	121
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.60	< 0.005	< 0.005	4.68
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.75	< 0.005	< 0.005	1.83
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	0.76	< 0.005	< 0.005	0.77
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.29	< 0.005	< 0.005	0.30
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequestere	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2024	1/7/2024	5.00	5.00	—
Critical Drilling	Grading	1/8/2024	1/9/2024	5.00	2.00	—
Well Installation	Building Construction	1/10/2024	1/26/2024	5.00	13.0	—
Site Restoration	Paving	1/27/2024	2/15/2024	5.00	14.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Critical Drilling	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Critical Drilling	Generator Sets	Diesel	Average	2.00	24.0	14.0	0.74
Critical Drilling	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Critical Drilling	Bore/Drill Rigs	Diesel	Average	1.00	24.0	83.0	0.50
Critical Drilling	Air Compressors	Diesel	Average	1.00	24.0	37.0	0.48
Well Installation	Pumps	Diesel	Average	1.00	8.00	11.0	0.74
Well Installation	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Well Installation	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Well Installation	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50
Well Installation	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48
Well Installation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Restoration	Forklifts	Diesel	Average	1.00	6.00	82.0	0.20
Site Restoration	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74

Site Restoration	Tractors/Loaders/Backh	Diesel	Average	1.00	6.00	84.0	0.37

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.90	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Well Installation	—	—	—	—
Well Installation	Worker	20.0	8.10	LDA,LDT1,LDT2
Well Installation	Vendor	2.00	300	HHDT,MHDT
Well Installation	Hauling	3.00	0.00	HHDT
Well Installation	Onsite truck	8.00	1.00	HHDT
Site Restoration	—	—	—	—
Site Restoration	Worker	20.0	8.10	LDA,LDT1,LDT2
Site Restoration	Vendor	2.00	6.90	HHDT,MHDT
Site Restoration	Hauling	0.00	20.0	HHDT
Site Restoration	Onsite truck	—	—	HHDT
Critical Drilling	—	—	—	—
Critical Drilling	Worker	15.0	8.10	LDA,LDT1,LDT2
Critical Drilling	Vendor	0.00	6.90	HHDT,MHDT
Critical Drilling	Hauling	2.50	20.0	HHDT
Critical Drilling	Onsite truck	8.00	1.00	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Site Restoration	0.00	0.00	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.00	0.00	—
Critical Drilling	—	40.0	0.00	0.00	—
Site Restoration	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2024	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Engineer-provided construction schedule for one well
Construction: Off-Road Equipment	Engineer-provided info.
Construction: Trips and VMT	Up to 10 workers during each phase. 1 delivery/water truck trip per day. Max trip distance of 300 miles for vendor delivery. 60 round-trip truck trips for hauling produced groundwater one mile to stormwater detention basin.
Construction: Architectural Coatings	Wells do not include components that would receive architectural coatings.
Land Use	Size of monitoring well - 25 sf
Construction: On-Road Fugitive Dust	On-site truck trips used as proxy for transporting produced groundwater to SW basin via paved roadway network.

CCB Monitoring Wells Quarterly Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB Monitoring Wells
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.11

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	0.00	User Defined Unit	< 0.005	0.00	—	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions

2.1.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (ton/quarter) and GHGs (MT/quarter)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Q1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.06	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	15.8	< 0.005	< 0.005	16.4
Quarterly (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.01	0.06	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	15.8	< 0.005	< 0.005	16.4

2.1.2. Construction Quarters

Quarter	Start Date	End Date	Length (days)
Q1	1/1/2024	2/15/2024	46

CCB ATF Complex v2 Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB ATF Complex v2
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.12

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	25.0	1000sqft	0.64	25,000	3,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.97	17.4	19.0	0.03	0.79	7.43	8.22	0.73	3.51	4.24	3,266	0.17	0.17	3,294
Mit.	0.49	4.07	17.9	0.03	0.06	7.43	7.49	0.06	3.51	3.56	3,266	0.17	0.17	3,294
% Reduced	75%	77%	6%	—	93%	—	9%	92%	—	16%	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	24.0	17.5	18.9	0.03	0.79	7.43	8.23	0.73	3.51	4.24	3,254	0.18	0.17	3,279
Mit.	23.9	4.19	17.8	0.03	0.06	7.43	7.49	0.06	3.51	3.56	3,254	0.18	0.17	3,279
% Reduced	< 0.5%	76%	6%	—	93%	—	9%	92%	—	16%	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.10	8.58	9.53	0.02	0.33	1.64	1.97	0.30	0.71	1.01	2,070	0.11	0.11	2,102
Mit.	1.74	2.64	10.3	0.02	0.03	1.64	1.68	0.03	0.71	0.74	2,070	0.11	0.11	2,102
% Reduced	17%	69%	-8%	—	90%	—	15%	89%	—	27%	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.38	1.57	1.74	< 0.005	0.06	0.30	0.36	0.05	0.13	0.18	343	0.02	0.02	348

Mit.	0.32	0.48	1.87	< 0.005	0.01	0.30	0.31	0.01	0.13	0.13	343	0.02	0.02	348
% Reduced	17%	69%	-8%	—	90%	—	15%	89%	—	27%	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.97	17.4	19.0	0.03	0.79	7.43	8.22	0.73	3.51	4.24	3,266	0.17	0.17	3,294
2025	1.02	10.1	11.7	0.02	0.30	0.45	0.75	0.28	0.11	0.39	2,984	0.17	0.17	3,041
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.97	17.5	18.9	0.03	0.79	7.43	8.23	0.73	3.51	4.24	3,254	0.18	0.17	3,279
2025	24.0	10.2	11.8	0.02	0.30	0.45	0.75	0.28	0.11	0.39	2,974	0.16	0.17	3,028
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.91	8.58	9.53	0.02	0.33	1.64	1.97	0.30	0.71	1.01	2,070	0.11	0.09	2,102
2025	2.10	6.52	7.67	0.02	0.20	0.31	0.50	0.18	0.08	0.26	1,911	0.10	0.11	1,946
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.17	1.57	1.74	< 0.005	0.06	0.30	0.36	0.05	0.13	0.18	343	0.02	0.02	348
2025	0.38	1.19	1.40	< 0.005	0.04	0.06	0.09	0.03	0.01	0.05	316	0.02	0.02	322

2.3. Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.49	4.07	17.9	0.03	0.06	7.43	7.49	0.06	3.51	3.56	3,266	0.17	0.17	3,294
2025	0.48	3.99	13.8	0.02	0.05	0.45	0.50	0.04	0.11	0.16	2,984	0.17	0.17	3,041
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.47	4.19	17.8	0.03	0.06	7.43	7.49	0.06	3.51	3.56	3,254	0.18	0.17	3,279
2025	23.9	4.11	13.8	0.02	0.05	0.45	0.50	0.04	0.11	0.16	2,974	0.16	0.17	3,028
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.33	2.27	10.3	0.02	0.03	1.64	1.68	0.03	0.71	0.74	2,070	0.11	0.09	2,102
2025	1.74	2.64	8.93	0.02	0.03	0.31	0.33	0.03	0.08	0.10	1,911	0.10	0.11	1,946
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.06	0.42	1.87	< 0.005	0.01	0.30	0.31	0.01	0.13	0.13	343	0.02	0.02	348
2025	0.32	0.48	1.63	< 0.005	0.01	0.06	0.06	< 0.005	0.01	0.02	316	0.02	0.02	322

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.59	5.40	6.60	0.01	0.29	—	0.29	0.26	—	0.26	1,010	0.04	0.01	1,014
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.49	0.60	< 0.005	0.03	—	0.03	0.02	—	0.02	91.3	< 0.005	< 0.005	91.7
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.09	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	15.1	< 0.005	< 0.005	15.2
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	< 0.005	0.22	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	149	0.01	0.02	156
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	27.1	< 0.005	< 0.005	27.6
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.13	< 0.005	< 0.005	4.32
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	13.5	< 0.005	< 0.005	14.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.49	< 0.005	< 0.005	4.56
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.68	< 0.005	< 0.005	0.72
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.23	< 0.005	< 0.005	2.34

3.2. Site Preparation (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.50	7.06	0.01	0.02	—	0.02	0.02	—	0.02	1,010	0.04	0.01	1,014
Dust From Material Movement	—	—	—	—	—	0.53	0.53	—	0.06	0.06	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.64	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	91.3	< 0.005	< 0.005	91.7
Dust From Material Movement	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.12	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	15.1	< 0.005	< 0.005	15.2
Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	< 0.005	0.22	0.07	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	149	0.01	0.02	156
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.15	0.00	0.00	0.03	0.03	0.00	0.01	0.01	27.1	< 0.005	< 0.005	27.6
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	4.13	< 0.005	< 0.005	4.32
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	13.5	< 0.005	< 0.005	14.1
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.49	< 0.005	< 0.005	4.56
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.68	< 0.005	< 0.005	0.72
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	2.23	< 0.005	< 0.005	2.34

3.3. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	16.9	17.1	0.02	0.79	—	0.79	0.73	—	0.73	2,708	0.11	0.02	2,717
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.75	16.9	17.1	0.02	0.79	—	0.79	0.73	—	0.73	2,708	0.11	0.02	2,717
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.32	3.11	3.14	< 0.005	0.14	—	0.14	0.13	—	0.13	497	0.02	< 0.005	499
Dust From Material Movement	—	—	—	—	—	1.30	1.30	—	0.63	0.63	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.57	0.57	< 0.005	0.03	—	0.03	0.02	—	0.02	82.3	< 0.005	< 0.005	82.6
Dust From Material Movement	—	—	—	—	—	0.24	0.24	—	0.11	0.11	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.14	1.75	0.00	0.00	0.29	0.29	0.00	0.07	0.07	311	0.02	0.01	316
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.9
Hauling	< 0.005	0.29	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	202	0.01	0.03	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	< 0.005	0.30	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	202	0.01	0.03	212
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.31	0.00	0.00	0.05	0.05	0.00	0.01	0.01	55.0	< 0.005	< 0.005	55.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.40	< 0.005	< 0.005	8.78
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	37.2	< 0.005	0.01	39.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.11	< 0.005	< 0.005	9.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.39	< 0.005	< 0.005	1.45
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.15	< 0.005	< 0.005	6.45

3.4. Grading (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	1.33	16.0	0.02	0.05	—	0.05	0.05	—	0.05	2,708	0.11	0.02	2,717
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.25	1.33	16.0	0.02	0.05	—	0.05	0.05	—	0.05	2,708	0.11	0.02	2,717
Dust From Material Movement	—	—	—	—	—	7.08	7.08	—	3.42	3.42	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.24	2.94	< 0.005	0.01	—	0.01	0.01	—	0.01	497	0.02	< 0.005	499
Dust From Material Movement	—	—	—	—	—	1.30	1.30	—	0.63	0.63	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.04	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	82.3	< 0.005	< 0.005	82.6
Dust From Material Movement	—	—	—	—	—	0.24	0.24	—	0.11	0.11	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.14	1.75	0.00	0.00	0.29	0.29	0.00	0.07	0.07	311	0.02	0.01	316
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.9
Hauling	< 0.005	0.29	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	202	0.01	0.03	213
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	< 0.005	0.07	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7	< 0.005	0.01	47.8
Hauling	< 0.005	0.30	0.09	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	202	0.01	0.03	212
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.31	0.00	0.00	0.05	0.05	0.00	0.01	0.01	55.0	< 0.005	< 0.005	55.9
Vendor	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	8.40	< 0.005	< 0.005	8.78
Hauling	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	37.2	< 0.005	0.01	39.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.11	< 0.005	< 0.005	9.26
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.39	< 0.005	< 0.005	1.45
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	6.15	< 0.005	< 0.005	6.45

3.5. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.76	7.60	8.55	0.02	0.34	—	0.34	0.31	—	0.31	1,800	0.07	0.01	1,806
Onsite truck	0.10	2.84	1.53	0.01	0.01	0.13	0.14	0.01	0.04	0.05	758	0.08	0.12	797
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.60	8.55	0.02	0.34	—	0.34	0.31	—	0.31	1,800	0.07	0.01	1,806
Onsite truck	0.09	2.94	1.58	0.01	0.01	0.13	0.14	0.01	0.04	0.05	761	0.08	0.12	798
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.34	3.39	3.82	0.01	0.15	—	0.15	0.14	—	0.14	803	0.03	0.01	806
Onsite truck	0.04	1.29	0.69	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	339	0.03	0.05	356
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.62	0.70	< 0.005	0.03	—	0.03	0.03	—	0.03	133	0.01	< 0.005	133
Onsite truck	0.01	0.24	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	56.1	0.01	0.01	58.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.14	1.75	0.00	0.00	0.29	0.29	0.00	0.07	0.07	311	0.02	0.01	316
Vendor	0.01	0.21	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	137	< 0.005	0.02	144
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	0.01	0.21	0.09	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	137	< 0.005	0.02	143
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.75	0.00	0.00	0.13	0.13	0.00	0.03	0.03	134	0.01	0.01	136
Vendor	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	61.2	< 0.005	0.01	64.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	22.1	< 0.005	< 0.005	22.5
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	10.1	< 0.005	< 0.005	10.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.6. Building Construction (2024) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.89	10.5	0.02	0.03	—	0.03	0.03	—	0.03	1,800	0.07	0.01	1,806
Onsite truck	0.10	2.84	1.53	0.01	0.01	0.13	0.14	0.01	0.04	0.05	758	0.08	0.12	797
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.89	10.5	0.02	0.03	—	0.03	0.03	—	0.03	1,800	0.07	0.01	1,806
Onsite truck	0.09	2.94	1.58	0.01	0.01	0.13	0.14	0.01	0.04	0.05	761	0.08	0.12	798
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.40	4.70	0.01	0.02	—	0.02	0.02	—	0.02	803	0.03	0.01	806

Onsite truck	0.04	1.29	0.69	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	339	0.03	0.05	356
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.86	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	133	0.01	< 0.005	133
Onsite truck	0.01	0.24	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	56.1	0.01	0.01	58.9
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.14	1.75	0.00	0.00	0.29	0.29	0.00	0.07	0.07	311	0.02	0.01	316
Vendor	0.01	0.21	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	137	< 0.005	0.02	144
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.21	0.15	1.70	0.00	0.00	0.29	0.29	0.00	0.07	0.07	298	0.02	0.01	302
Vendor	0.01	0.21	0.09	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	137	< 0.005	0.02	143
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.07	0.75	0.00	0.00	0.13	0.13	0.00	0.03	0.03	134	0.01	0.01	136
Vendor	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	61.2	< 0.005	0.01	64.0
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.14	0.00	0.00	0.02	0.02	0.00	0.01	0.01	22.1	< 0.005	< 0.005	22.5
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	10.1	< 0.005	< 0.005	10.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.97	8.50	0.02	0.29	—	0.29	0.27	—	0.27	1,800	0.07	0.01	1,806
Onsite truck	0.10	2.78	1.53	0.01	0.01	0.13	0.14	0.01	0.04	0.04	744	0.07	0.12	783
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.71	6.97	8.50	0.02	0.29	—	0.29	0.27	—	0.27	1,800	0.07	0.01	1,806
Onsite truck	0.09	2.88	1.58	0.01	0.01	0.13	0.14	0.01	0.04	0.04	747	0.07	0.12	785
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.44	4.34	5.29	0.01	0.18	—	0.18	0.17	—	0.17	1,120	0.05	0.01	1,124
Onsite truck	0.06	1.77	0.97	< 0.005	0.01	0.08	0.09	< 0.005	0.02	0.03	464	0.05	0.08	488
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.79	0.97	< 0.005	0.03	—	0.03	0.03	—	0.03	185	0.01	< 0.005	186
Onsite truck	0.01	0.32	0.18	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	76.8	0.01	0.01	80.7
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.13	1.63	0.00	0.00	0.29	0.29	0.00	0.07	0.07	305	0.02	0.01	311
Vendor	0.01	0.20	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	135	< 0.005	0.02	141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.01	0.20	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	135	< 0.005	0.02	141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.09	0.98	0.00	0.00	0.18	0.18	0.00	0.04	0.04	183	0.01	0.01	186
Vendor	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	83.9	< 0.005	0.01	87.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.02	0.18	0.00	0.00	0.03	0.03	0.00	0.01	0.01	30.3	< 0.005	< 0.005	30.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	13.9	< 0.005	< 0.005	14.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.8. Building Construction (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.89	10.5	0.02	0.03	—	0.03	0.03	—	0.03	1,800	0.07	0.01	1,806
Onsite truck	0.10	2.78	1.53	0.01	0.01	0.13	0.14	0.01	0.04	0.04	744	0.07	0.12	783
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.17	0.89	10.5	0.02	0.03	—	0.03	0.03	—	0.03	1,800	0.07	0.01	1,806
Onsite truck	0.09	2.88	1.58	0.01	0.01	0.13	0.14	0.01	0.04	0.04	747	0.07	0.12	785
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.55	6.56	0.01	0.02	—	0.02	0.02	—	0.02	1,120	0.05	0.01	1,124
Onsite truck	0.06	1.77	0.97	< 0.005	0.01	0.08	0.09	< 0.005	0.02	0.03	464	0.05	0.08	488
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.10	1.20	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	185	0.01	< 0.005	186
Onsite truck	0.01	0.32	0.18	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	< 0.005	76.8	0.01	0.01	80.7
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.13	1.63	0.00	0.00	0.29	0.29	0.00	0.07	0.07	305	0.02	0.01	311
Vendor	0.01	0.20	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	135	< 0.005	0.02	141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.01	0.20	0.08	< 0.005	< 0.005	0.03	0.04	< 0.005	0.01	0.01	135	< 0.005	0.02	141
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.12	0.09	0.98	0.00	0.00	0.18	0.18	0.00	0.04	0.04	183	0.01	0.01	186
Vendor	< 0.005	0.13	0.05	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	83.9	< 0.005	0.01	87.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.18	0.00	0.00	0.03	0.03	0.00	0.01	0.01	30.3	< 0.005	< 0.005	30.8
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	13.9	< 0.005	< 0.005	14.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	4.88	6.28	0.01	0.22	—	0.22	0.20	—	0.20	946	0.04	0.01	949
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.13	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	25.9	< 0.005	< 0.005	26.0
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.29	< 0.005	< 0.005	4.31
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.06	< 0.005	< 0.005	8.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.33	< 0.005	< 0.005	1.36
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Paving (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	2.04	6.55	0.01	0.03	—	0.03	0.03	—	0.03	946	0.04	0.01	949

Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.06	0.18	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	25.9	< 0.005	< 0.005	26.0
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	4.29	< 0.005	< 0.005	4.31
Paving	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	8.06	< 0.005	< 0.005	8.19
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.33	< 0.005	< 0.005	1.36

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.88	1.14	< 0.005	0.03	—	0.03	0.03	—	0.03	134	0.01	< 0.005	134
Architectural Coatings	23.7	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.05	0.07	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.05	< 0.005	< 0.005	8.08
Architectural Coatings	1.43	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.33	< 0.005	< 0.005	1.34

Architectural Coatings	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	17.7	< 0.005	< 0.005	18.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.94	< 0.005	< 0.005	2.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.12. Architectural Coating (2025) - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.65	0.96	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	134	0.01	< 0.005	134
Architectura l Coatings	23.7	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.04	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	8.05	< 0.005	< 0.005	8.08
Architectura l Coatings	1.43	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.33	< 0.005	< 0.005	1.34
Architectura l Coatings	0.26	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.20	0.14	1.59	0.00	0.00	0.29	0.29	0.00	0.07	0.07	292	0.01	0.01	296
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.10	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	17.7	< 0.005	< 0.005	18.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.94	< 0.005	< 0.005	2.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2024	2/14/2024	5.00	33.0	—
Grading	Grading	2/15/2024	5/17/2024	5.00	67.0	—
Building Construction	Building Construction	5/18/2024	11/14/2025	5.00	390	—
Paving	Paving	11/15/2025	11/29/2025	5.00	10.0	—
Architectural Coating	Architectural Coating	11/30/2025	12/30/2025	5.00	22.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Forklifts	Diesel	Average	1.00	8.00	82.0	0.20
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	2.00	8.00	84.0	0.37
Building Construction	Forklifts	Diesel	Average	2.00	6.00	82.0	0.20
Paving	Pavers	Diesel	Average	1.00	8.00	81.0	0.42
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Site Preparation	Forklifts	Diesel	Tier 4 Final	1.00	8.00	82.0	0.20
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	3.00	7.00	84.0	0.37

Building Construction	Cranes	Diesel	Tier 4 Final	1.00	8.00	367	0.29
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	2.00	8.00	84.0	0.37
Building Construction	Forklifts	Diesel	Tier 4 Final	2.00	6.00	82.0	0.20
Paving	Pavers	Diesel	Tier 4 Final	1.00	8.00	81.0	0.42
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.00	10.0	0.56
Paving	Rollers	Diesel	Tier 4 Final	2.00	8.00	36.0	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	1.00	8.00	84.0	0.37
Architectural Coating	Air Compressors	Diesel	Tier 4 Final	1.00	6.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	50.0	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.90	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	50.0	8.10	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.90	HHDT,MHDT
Grading	Hauling	2.72	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	50.0	8.10	LDA,LDT1,LDT2

Building Construction	Vendor	6.00	6.90	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	144	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	50.0	8.10	LDA,LDT1,LDT2
Paving	Vendor	0.00	6.90	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	50.0	8.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.90	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	50.0	8.10	LDA,LDT1,LDT2
Site Preparation	Vendor	2.00	6.90	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	50.0	8.10	LDA,LDT1,LDT2
Grading	Vendor	2.00	6.90	HHDT,MHDT
Grading	Hauling	2.72	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—

Building Construction	Worker	50.0	8.10	LDA,LDT1,LDT2
Building Construction	Vendor	6.00	6.90	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	144	1.00	HHDT
Paving	—	—	—	—
Paving	Worker	50.0	8.10	LDA,LDT1,LDT2
Paving	Vendor	0.00	6.90	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	50.0	8.10	LDA,LDT1,LDT2
Architectural Coating	Vendor	0.00	6.90	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	37,500	12,500	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	16.5	0.00	—
Grading	—	1,451	201	0.00	—
Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
General Light Industry	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	204	0.03	< 0.005
2025	0.00	204	0.03	< 0.005

8. User Changes to Default Data

Screen	Justification
Land Use	Based on current site plan
Construction: Construction Phases	Provided by engineer.
Construction: Off-Road Equipment	Info provided by engineer.
Construction: Architectural Coatings	SLOAPCD Rule 433
Construction: Trips and VMT	Info provided by engineer. Average 72 round-trip truck trips for hauling produced groundwater one mile to stormwater detention basin.

Construction: On-Road Fugitive Dust	On-site truck trips used as proxy for transporting produced groundwater to SW basin via paved roadway network.

CCB ATF Complex v2 Quarterly Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	CCB ATF Complex v2
Construction Start Date	1/1/2024
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.20
Precipitation (days)	1.60
Location	980 Huber St, Grover Beach, CA 93433, USA
County	San Luis Obispo
City	Grover Beach
Air District	San Luis Obispo County APCD
Air Basin	South Central Coast
TAZ	3319
EDFZ	6
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Southern California Gas
App Version	2022.1.1.12

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
General Light Industry	25.0	1000sqft	0.64	25,000	3,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-5	Use Advanced Engine Tiers

2. Emissions Summary

2.1. Construction Emissions

2.1.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (ton/quarter) and GHGs (MT/quarter)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2T	CH4	N2O	CO2e
Q1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.78	0.79	< 0.005	0.04	0.28	0.28	0.03	0.15	0.15	113	< 0.005	< 0.005	113
Mit.	0.01	0.06	0.74	< 0.005	< 0.005	0.28	0.28	< 0.005	0.15	0.15	113	< 0.005	< 0.005	113
% Reduced	85%	92%	6%	—	94%	—	—	93%	—	—	—	—	—	—
Q2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.08	0.80	0.80	< 0.005	0.04	0.28	0.28	0.03	0.16	0.16	144	0.01	0.01	144
Mit.	0.02	0.20	0.93	< 0.005	< 0.005	0.28	0.28	< 0.005	0.16	0.16	144	0.01	0.01	144
% Reduced	70%	74%	-15%	—	92%	—	—	91%	—	—	—	—	—	—
Q3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.33	1.55	< 0.005	0.06	0.07	0.07	0.05	0.02	0.05	297	0.01	0.02	298
Mit.	0.05	0.42	1.92	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	297	0.01	0.02	298
% Reduced	62%	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—
Q4	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.33	1.55	< 0.005	0.06	0.07	0.07	0.05	0.02	0.05	297	0.01	0.02	298
Mit.	0.05	0.42	1.92	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	297	0.01	0.02	298
% Reduced	62%	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—

Q5	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.33	1.55	< 0.005	0.06	0.07	0.07	0.05	0.02	0.05	297	0.01	0.02	298
Mit.	0.05	0.42	1.92	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	297	0.01	0.02	298
% Reduced	62%	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—
Q6	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.33	1.55	< 0.005	0.06	0.07	0.07	0.05	0.02	0.05	297	0.01	0.02	298
Mit.	0.05	0.42	1.92	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	297	0.01	0.02	298
% Reduced	62%	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—
Q7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.13	1.33	1.55	< 0.005	0.06	0.07	0.07	0.05	0.02	0.05	297	0.01	0.02	298
Mit.	0.05	0.42	1.92	< 0.005	0.01	0.07	0.07	0.01	0.02	0.02	297	0.01	0.02	298
% Reduced	62%	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—
Q8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	0.68	0.80	< 0.005	0.03	0.04	0.04	0.03	0.01	0.03	153	0.01	0.01	154
Mit.	0.34	0.22	0.99	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	153	0.01	0.01	154
% Reduced	—	68%	-24%	—	89%	—	—	88%	—	66%	—	—	—	—
Q9	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.26	< 0.005	< 0.005	0.26
Mit.	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	0.26	< 0.005	< 0.005	0.26
% Reduced	—	27%	15%	—	91%	—	—	91%	—	—	—	—	—	—
Quarterly (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.34	1.33	1.55	< 0.005	0.06	0.28	0.28	0.05	0.16	0.16	297	0.01	0.02	298
Mit.	0.34	0.42	1.92	< 0.005	0.01	0.28	0.28	0.01	0.16	0.16	297	0.01	0.02	298
% Reduced	—	68%	-24%	—	89%	—	—	88%	—	—	—	—	—	—

2.1.2. Construction Quarters

Quarter	Start Date	End Date	Length (days)
Q1	1/1/2024	3/31/2024	91
Q2	4/1/2024	6/30/2024	91
Q3	7/1/2024	9/29/2024	91
Q4	9/30/2024	12/29/2024	91
Q5	12/30/2024	3/30/2025	91
Q6	3/31/2025	6/29/2025	91
Q7	6/30/2025	9/28/2025	91
Q8	9/29/2025	12/28/2025	91
Q9	12/29/2025	12/30/2025	2

Road Construction Emissions Model Version 9.0.0
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

	Months
Grubbing/Land Clearing	1.80
Grading/Excavation	8.10
Drainage/Utilities/Sub-Grade	5.40
Paving	2.70

Input Type

Project Name	CCB Water Distribution Pipelines - Phase I	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	18.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the lone formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	5.68	miles
Total Project Area	2.07	acres
Maximum Area Disturbed/Day	0.04	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		168.40
	Drainage/Utilities/Sub-Grade	20.00	167.98	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		41.68
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	28.06	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

	EF source
on-road	EMFAC2017

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.80		1/1/2024
Grading/Excavation		8.10		2/25/2024
Drainage/Utilities/Sub-Grade		5.40		10/29/2024
Paving		2.70		4/12/2025
Totals (Months)		18		

Program Calculated Activity Fractions

start date	end date
1/1/2024	2/24/2024
2/25/2024	10/28/2024
10/29/2024	4/11/2025
4/12/2025	7/3/2025

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			0	0.00
Miles/round trip: Grading/Excavation	20.00			9	180.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			9	180.00
Miles/round trip: Paving	20.00			0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.47	0.12	0.05	0.02	1,690.65	0.00	0.27	1,769.89
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.02	0.17	1.47	0.05	0.02	0.01	676.25	0.00	0.11	707.95
Tons per const. Period - Grading/Excavation	0.00	0.02	0.13	0.00	0.00	0.00	60.25	0.00	0.01	63.08
Pounds per day - Drainage/Utilities/Sub-Grade	0.02	0.17	1.47	0.05	0.02	0.01	670.91	0.00	0.11	702.35
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.01	0.09	0.00	0.00	0.00	39.85	0.00	0.01	41.72
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.03	0.22	0.01	0.00	0.00	100.11	0.00	0.02	104.80

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			3	60.00

Miles/round trip: Grading/Excavation	20.00			0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			0	0.00
Miles/round trip: Paving	20.00			2	40.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.47	0.12	0.05	0.02	1,690.65	0.00	0.27	1,769.89
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.01	0.06	0.49	0.02	0.01	0.00	225.42	0.00	0.04	235.98
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.01	0.00	0.00	0.00	4.46	0.00	0.00	4.67
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.04	0.32	0.01	0.00	0.00	148.35	0.00	0.02	155.30
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	4.41	0.00	0.00	4.61
Total tons per construction project	0.00	0.00	0.02	0.00	0.00	0.00	8.87	0.00	0.00	9.29

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
User Input				
Miles/ one-way trip	13			
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	20		40	520.00
No. of employees: Grading/Excavation	20		40	520.00
No. of employees: Drainage/Utilities/Sub-Grade	20		40	520.00
No. of employees: Paving	20		40	520.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grading/Excavation (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.80	0.06	0.05	0.02	0.00	300.00	0.00	0.01	301.75
Paving (grams/mile)	0.01	0.78	0.06	0.05	0.02	0.00	295.84	0.00	0.01	297.52
Grubbing/Land Clearing (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Grading/Excavation (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Draining/Utilities/Sub-Grade (grams/trip)	0.95	2.60	0.25	0.00	0.00	0.00	64.60	0.06	0.03	74.86
Paving (grams/trip)	0.93	2.56	0.25	0.00	0.00	0.00	63.73	0.06	0.03	73.77
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grubbing/Land Clearing	0.00	0.02	0.00	0.00	0.00	0.00	7.08	0.00	0.00	7.14
Pounds per day - Grading/Excavation	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grading/Excavation	0.01	0.11	0.01	0.00	0.00	0.00	31.85	0.00	0.00	32.12
Pounds per day - Drainage/Utilities/Sub-Grade	0.10	1.15	0.09	0.05	0.02	0.00	349.62	0.01	0.01	352.53
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.07	0.01	0.00	0.00	0.00	20.77	0.00	0.00	20.94
Pounds per day - Paving	0.10	1.12	0.09	0.05	0.02	0.00	344.77	0.01	0.01	347.59
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	10.24	0.00	0.00	10.32
Total tons per construction project	0.02	0.23	0.02	0.01	0.00	0.00	69.93	0.00	0.00	70.52

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
User Input								
Grubbing/Land Clearing - Exhaust	1		1.00			20.00		20.00
Grading/Excavation - Exhaust	1		1.00			20.00		20.00
Drainage/Utilities/Subgrade	1		1.00			20.00		20.00
Paving	1		1.00			20.00		20.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.47	0.12	0.05	0.02	1,690.65	0.00	0.27	1,769.89
Paving (grams/mile)	0.04	0.43	3.46	0.12	0.05	0.02	1,682.27	0.00	0.26	1,761.12
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Grading/Excavation	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grading/Excavation	0.00	0.00	0.01	0.00	0.00	0.00	6.69	0.00	0.00	7.01
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.02	0.16	0.01	0.00	0.00	74.55	0.00	0.01	78.04
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	4.43	0.00	0.00	4.64
Pounds per day - Paving	0.00	0.02	0.16	0.01	0.00	0.00	74.18	0.00	0.01	77.65
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	2.20	0.00	0.00	2.31
Total tons per construction project	0.00	0.00	0.03	0.00	0.00	0.00	14.81	0.00	0.00	15.51

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.40	0.01	0.08	0.00
Fugitive Dust - Grading/Excavation			0.40	0.04	0.08	0.01
Fugitive Dust - Drainage/Utilities/Subgrade			0.40	0.02	0.08	0.00

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Concrete/Industrial Saws	0.31	3.65	2.41	0.11	0.11	0.01	592.67	0.03	0.00	594.70
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.29	4.47	2.90	0.13	0.12	0.01	603.53	0.20	0.01	610.03
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.66	8.42	5.67	0.26	0.25	0.01	1,245.51	0.23	0.01	1,254.29
Grubbing/Land Clearing	tons per phase	0.01	0.17	0.11	0.01	0.00	0.00	24.66	0.00	0.00	24.83

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.18	3.27	1.40	0.07	0.06	0.01	500.27	0.16	0.00	505.66
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.14	2.24	1.45	0.07	0.06	0.00	301.77	0.10	0.00	305.01
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	0.38	5.80	3.21	0.15	0.14	0.01	851.35	0.26	0.01	860.24
Grading/Excavation	tons per phase	0.03	0.52	0.29	0.01	0.01	0.00	75.85	0.02	0.00	76.65

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Air Compressors	0.23	2.41	1.56	0.07	0.07	0.00	375.26	0.02	0.00	376.62
1.00			Model Default Tier	Bore/Drill Rigs	0.53	6.07	3.86	0.15	0.14	0.03	2,968.30	0.96	0.03	3,000.16
1.00			Model Default Tier	Cement and Mortar Mixers	0.06	0.31	0.37	0.01	0.01	0.00	50.52	0.01	0.00	50.77
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.17	3.26	1.29	0.06	0.06	0.01	500.31	0.16	0.00	505.70
1.00			Model Default Tier	Forklifts	0.09	1.14	0.84	0.05	0.04	0.00	148.03	0.05	0.00	149.63
1.00			Model Default Tier	Generator Sets	0.27	3.66	2.45	0.10	0.10	0.01	623.04	0.02	0.00	625.03
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pumps	0.29	3.72	2.48	0.11	0.11	0.01	623.04	0.03	0.00	625.08
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rubber Tired Loaders	0.24	1.48	2.04	0.07	0.06	0.01	605.58	0.20	0.01	612.12
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Welders	0.23	1.66	1.36	0.04	0.04	0.00	207.48	0.02	0.00	208.50

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	2.22	24.22	16.87	0.69	0.66	0.07	6,185.35	1.47	0.05	6,237.84
Drainage/Utilities/Sub-Grade	tons per phase	0.13	1.44	1.00	0.04	0.04	0.00	367.41	0.09	0.00	370.53

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.48	3.19	2.87	0.10	0.09	0.01	1,279.68	0.41	0.01	1,293.45
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pavers	0.17	2.90	1.58	0.07	0.07	0.00	454.99	0.15	0.00	459.90
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rollers	0.14	1.85	1.44	0.07	0.07	0.00	254.06	0.08	0.00	256.80
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	0.85	8.23	6.25	0.26	0.24	0.02	2,038.05	0.65	0.02	2,059.72
	Paving	tons per phase	0.03	0.24	0.19	0.01	0.01	0.00	60.53	0.02	0.00	61.17
Total Emissions all Phases (tons per construction period) =>			0.20	2.37	1.59	0.07	0.06	0.01	528.46	0.13	0.00	533.18

Road Construction Emissions Model **Version 9.0.0**

Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a
yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

	Months
Grubbing/Land Clearing	0.60
Grading/Excavation	2.70
Drainage/Utilities/Sub-Grade	1.80
Paving	0.90

Input Type

Project Name	CCB Water Distribution Pipelines - Phase II	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	6.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.17	miles
Total Project Area	0.06	acres
Maximum Area Disturbed/Day	0.04	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		15.25
	Drainage/Utilities/Sub-Grade	20.00	14.83	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		3.85
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	2.53	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	No Mitigation	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

	EF source
on-road	EMFAC2017

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		0.60		1/1/2024
Grading/Excavation		2.70		1/20/2024
Drainage/Utilities/Sub-Grade		1.80		4/12/2024
Paving		0.90		6/6/2024
Totals (Months)		6		

Program Calculated Activity Fractions

start date	end date
1/1/2024	1/19/2024
1/20/2024	4/11/2024
4/12/2024	6/5/2024
6/6/2024	7/3/2024

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			0	0.00
Miles/round trip: Grading/Excavation	20.00			1	20.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			1	20.00
Miles/round trip: Paving	20.00			0	0.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	0.00	2.34
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.72	0.00	0.00	3.89

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			1	20.00

Miles/round trip: Grading/Excavation	20.00			0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			0	0.00
Miles/round trip: Paving	20.00			1	20.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.52
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.78
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	1.24	0.00	0.00	1.30

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip	13			
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	20		40	520.00
No. of employees: Grading/Excavation	20		40	520.00
No. of employees: Drainage/Utilities/Sub-Grade	20		40	520.00
No. of employees: Paving	20		40	520.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grading/Excavation (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Paving (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grubbing/Land Clearing (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Grading/Excavation (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Draining/Utilities/Sub-Grade (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Paving (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	2.36	0.00	0.00	2.38
Pounds per day - Grading/Excavation	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grading/Excavation	0.00	0.04	0.00	0.00	0.00	0.00	10.62	0.00	0.00	10.71
Pounds per day - Drainage/Utilities/Sub-Grade	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.02	0.00	0.00	0.00	0.00	7.08	0.00	0.00	7.14
Pounds per day - Paving	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	3.54	0.00	0.00	3.57
Total tons per construction project	0.01	0.08	0.01	0.00	0.00	0.00	23.59	0.00	0.00	23.79

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust	1		1.00			20.00		20.00
Grading/Excavation - Exhaust	1		1.00			20.00		20.00
Drainage/Utilities/Subgrade	1		1.00			20.00		20.00
Paving	1		1.00			20.00		20.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.52
Pounds per day - Grading/Excavation	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	0.00	2.34
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Paving	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.78
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	4.96	0.00	0.00	5.19

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.40	0.00	0.08	0.00
Fugitive Dust - Grading/Excavation			0.40	0.01	0.08	0.00
Fugitive Dust - Drainage/Utilities/Subgrade			0.40	0.01	0.08	0.00

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Concrete/Industrial Saws	0.31	3.65	2.41	0.11	0.11	0.01	592.67	0.03	0.00	594.70
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Model Default Tier	Tractors/Loaders/Backhoes	0.29	4.47	2.90	0.13	0.12	0.01	603.53	0.20	0.01	610.03
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.66	8.42	5.67	0.26	0.25	0.01	1,245.51	0.23	0.01	1,254.29
Grubbing/Land Clearing	tons per phase	0.00	0.06	0.04	0.00	0.00	0.00	8.22	0.00	0.00	8.28

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.18	3.27	1.40	0.07	0.06	0.01	500.27	0.16	0.00	505.66
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Tractors/Loaders/Backhoes	0.14	2.24	1.45	0.07	0.06	0.00	301.77	0.10	0.00	305.01
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	0.38	5.80	3.21	0.15	0.14	0.01	851.35	0.26	0.01	860.24
Grading/Excavation	tons per phase	0.01	0.17	0.10	0.00	0.00	0.00	25.28	0.01	0.00	25.55

Drainage/Utilities/Subgrade Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Air Compressors	0.24	2.41	1.63	0.08	0.08	0.00	375.26	0.02	0.00	376.63
1.00			Model Default Tier	Bore/Drill Rigs	0.55	6.08	4.14	0.16	0.15	0.03	2,964.40	0.96	0.03	2,996.23
1.00			Model Default Tier	Cement and Mortar Mixers	0.06	0.31	0.37	0.01	0.01	0.00	50.52	0.01	0.00	50.77
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Excavators	0.18	3.27	1.40	0.07	0.06	0.01	500.27	0.16	0.00	505.66
1.00			Model Default Tier	Forklifts	0.09	1.14	0.88	0.05	0.05	0.00	148.03	0.05	0.00	149.63
1.00			Model Default Tier	Generator Sets	0.29	3.66	2.54	0.11	0.11	0.01	623.04	0.03	0.00	625.06
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Plate Compactors	0.04	0.21	0.25	0.01	0.01	0.00	34.48	0.00	0.00	34.65
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pumps	0.31	3.72	2.58	0.12	0.12	0.01	623.04	0.03	0.00	625.12
			Model Default Tier	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rubber Tired Loaders	0.25	1.50	2.33	0.08	0.07	0.01	605.51	0.20	0.01	612.05
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Welders	0.24	1.66	1.38	0.05	0.05	0.00	207.48	0.02	0.00	208.52

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	2.30	24.26	17.87	0.75	0.72	0.07	6,181.33	1.47	0.05	6,233.90
Drainage/Utilities/Sub-Grade	tons per phase	0.05	0.48	0.35	0.01	0.01	0.00	122.39	0.03	0.00	123.43

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Model Default Tier	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Off-Highway Trucks	0.50	3.25	3.33	0.12	0.11	0.01	1,280.35	0.41	0.01	1,294.14
			Model Default Tier	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Pavers	0.18	2.89	1.74	0.08	0.07	0.00	455.16	0.15	0.00	460.07
			Model Default Tier	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Rollers	0.15	1.85	1.52	0.08	0.07	0.00	254.15	0.08	0.00	256.88
			Model Default Tier	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Model Default Tier	Signal Boards	0.06	0.30	0.36	0.01	0.01	0.00	49.31	0.01	0.00	49.56
			Model Default Tier	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Model Default Tier	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment

If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	0.88	8.29	6.95	0.30	0.27	0.02	2,038.97	0.65	0.02	2,060.65
	Paving	tons per phase	0.01	0.08	0.07	0.00	0.00	0.00	20.19	0.01	0.00	20.40
Total Emissions all Phases (tons per construction period) =>			0.07	0.79	0.56	0.02	0.02	0.00	176.08	0.04	0.00	177.66

Road Construction Emissions Model Version 9.0.0
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

	Months
Grubbing/Land Clearing	0.60
Grading/Excavation	2.70
Drainage/Utilities/Sub-Grade	1.80
Paving	0.90

Input Type

Project Name	CCB Water Distribution Pipelines - Phase II - Mitigated	
Construction Start Year	2024	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	6.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	0.17	miles
Total Project Area	0.06	acres
Maximum Area Disturbed/Day	0.04	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		15.25
	Drainage/Utilities/Sub-Grade	20.00	14.83	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		3.85
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	2.53	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	Tier 4 Equipment	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation).
Will all off-road equipment be tier 4?	All Tier 4 Equipment	Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard

	EF source
on-road	EMFAC2017

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		0.60		1/1/2024
Grading/Excavation		2.70		1/20/2024
Drainage/Utilities/Sub-Grade		1.80		4/12/2024
Paving		0.90		6/6/2024
Totals (Months)		6		

Program Calculated Activity Fractions

start date	end date
1/1/2024	1/19/2024
1/20/2024	4/11/2024
4/12/2024	6/5/2024
6/6/2024	7/3/2024

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			0	0.00
Miles/round trip: Grading/Excavation	20.00			1	20.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			1	20.00
Miles/round trip: Paving	20.00			0	0.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	0.00	2.34
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	3.72	0.00	0.00	3.89

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions **User Input**	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			1	20.00

Miles/round trip: Grading/Excavation	20.00			0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			0	0.00
Miles/round trip: Paving	20.00			1	20.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.52
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.78
Total tons per construction project	0.00	0.00	0.00	0.00	0.00	0.00	1.24	0.00	0.00	1.30

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions	User Override of Worker			
User Input	Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip	13			
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	20		40	520.00
No. of employees: Grading/Excavation	20		40	520.00
No. of employees: Drainage/Utilities/Sub-Grade	20		40	520.00
No. of employees: Paving	20		40	520.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grading/Excavation (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Draining/Utilities/Sub-Grade (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Paving (grams/mile)	0.01	0.84	0.06	0.05	0.02	0.00	306.70	0.00	0.01	308.54
Grubbing/Land Clearing (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Grading/Excavation (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Draining/Utilities/Sub-Grade (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Paving (grams/trip)	0.98	2.66	0.27	0.00	0.00	0.00	65.99	0.07	0.03	76.61
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grubbing/Land Clearing	0.00	0.01	0.00	0.00	0.00	0.00	2.36	0.00	0.00	2.38
Pounds per day - Grading/Excavation	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Grading/Excavation	0.00	0.04	0.00	0.00	0.00	0.00	10.62	0.00	0.00	10.71
Pounds per day - Drainage/Utilities/Sub-Grade	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.02	0.00	0.00	0.00	0.00	7.08	0.00	0.00	7.14
Pounds per day - Paving	0.10	1.20	0.10	0.05	0.02	0.00	357.42	0.01	0.01	360.47
Tons per const. Period - Paving	0.00	0.01	0.00	0.00	0.00	0.00	3.54	0.00	0.00	3.57
Total tons per construction project	0.01	0.08	0.01	0.00	0.00	0.00	23.59	0.00	0.00	23.79

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions	User Override of	Program Estimate of	User Override of Truck	Default Values	Calculated	User Override of	Default Values	Calculated
User Input	Default # Water Trucks	Number of Water Trucks	Round Trips/Vehicle/Day	Round Trips/Vehicle/Day	Trips/day	Miles/Round Trip	Miles/Round Trip	Daily VMT
Grubbing/Land Clearing - Exhaust	1		1.00			20.00		20.00
Grading/Excavation - Exhaust	1		1.00			20.00		20.00
Drainage/Utilities/Subgrade	1		1.00			20.00		20.00
Paving	1		1.00			20.00		20.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grading/Excavation (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Draining/Utilities/Sub-Grade (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Paving (grams/mile)	0.04	0.43	3.49	0.12	0.05	0.02	1,704.13	0.00	0.27	1,784.00
Grubbing/Land Clearing (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.50	0.00	0.00	0.52
Pounds per day - Grading/Excavation	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	2.23	0.00	0.00	2.34
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	1.56
Pounds per day - Paving	0.00	0.02	0.16	0.01	0.00	0.00	75.14	0.00	0.01	78.66
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.74	0.00	0.00	0.78
Total tons per construction project	0.00	0.00	0.01	0.00	0.00	0.00	4.96	0.00	0.00	5.19

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.40	0.00	0.08	0.00
Fugitive Dust - Grading/Excavation			0.40	0.01	0.08	0.00
Fugitive Dust - Drainage/Utilities/Subgrade			0.40	0.01	0.08	0.00

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Concrete/Industrial Saws	0.16	3.86	0.31	0.02	0.01	0.01	592.67	0.03	0.00	594.70
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Tier 4	Tractors/Loaders/Backhoes	0.19	4.68	0.38	0.02	0.02	0.01	603.53	0.20	0.01	610.03
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.37	9.06	1.15	0.06	0.06	0.01	1,245.51	0.23	0.01	1,254.29
Grubbing/Land Clearing	tons per phase	0.00	0.06	0.01	0.00	0.00	0.00	8.22	0.00	0.00	8.28

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Excavators	0.16	3.92	0.32	0.02	0.01	0.01	500.27	0.16	0.00	505.66
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Tractors/Loaders/Backhoes	0.09	2.34	0.19	0.01	0.01	0.00	301.77	0.10	0.00	305.01
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	0.28	6.78	0.97	0.05	0.05	0.01	851.35	0.26	0.01	860.24
Grading/Excavation	tons per phase	0.01	0.20	0.03	0.00	0.00	0.00	25.28	0.01	0.00	25.55

Drainage/Utilities/Subgrade	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Air Compressors	0.10	2.44	0.20	0.01	0.01	0.00	375.26	0.02	0.00	376.63
1.00			Tier 4	Bore/Drill Rigs	0.92	16.05	1.85	0.09	0.09	0.03	2,964.40	0.96	0.03	2,996.23
1.00			Tier 4	Cement and Mortar Mixers	0.03	0.53	0.47	0.03	0.02	0.00	50.52	0.01	0.00	50.77
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Excavators	0.16	3.92	0.32	0.02	0.01	0.01	500.27	0.16	0.00	505.66
1.00			Tier 4	Forklifts	0.05	1.16	0.09	0.00	0.00	0.00	148.03	0.05	0.00	149.63
1.00			Tier 4	Generator Sets	0.16	4.06	0.33	0.02	0.02	0.01	623.04	0.03	0.00	625.06
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Plate Compactors	0.02	0.36	0.32	0.02	0.02	0.00	34.48	0.00	0.00	34.65
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Pumps	0.16	4.06	0.33	0.02	0.02	0.01	623.04	0.03	0.00	625.12
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Rubber Tired Loaders	0.19	3.35	0.39	0.02	0.02	0.01	605.51	0.20	0.01	612.05
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Welders	0.07	1.50	1.21	0.01	0.01	0.00	207.48	0.02	0.00	208.52

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
			pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	1.89	37.95	5.98	0.25	0.23	0.07	6,181.33	1.47	0.05	6,233.90
Drainage/Utilities/Sub-Grade	tons per phase	0.04	0.75	0.12	0.01	0.00	0.00	122.39	0.03	0.00	123.43

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Off-Highway Trucks	0.40	7.00	0.81	0.04	0.04	0.01	1,280.35	0.41	0.01	1,294.14
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Pavers	0.14	3.56	0.29	0.01	0.01	0.00	455.16	0.15	0.00	460.07
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Rollers	0.08	1.98	0.16	0.01	0.01	0.00	254.15	0.08	0.00	256.88
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Paving	pounds per day	0.65	13.07	1.72	0.09	0.08	0.02	2,038.97	0.65	0.02	2,060.65
	Paving	tons per phase	0.01	0.13	0.02	0.00	0.00	0.00	20.19	0.01	0.00	20.40
Total Emissions all Phases (tons per construction period) =>			0.05	1.14	0.17	0.01	0.01	0.00	176.08	0.04	0.00	177.66

Road Construction Emissions Model Version 9.0.0
Data Entry Worksheet

Note: Required data input sections have a yellow background.
Optional data input sections have a blue background. Only areas with a yellow or blue background can be modified. Program defaults have a white background.
The user is required to enter information in cells D10 through D24, E28 through G35, and D38 through D41 for all project types.
Please use "Clear Data Input & User Overrides" button first before changing the Project Type or begin a new project.

To begin a new project, click this button to clear data previously entered. This button will only work if you opted not to disable macros when loading this spreadsheet.

SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT

	Months
Grubbing/Land Clearing	1.20
Grading/Excavation	5.40
Drainage/Utilities/Sub-Grade	3.60
Paving	1.80

Input Type

Project Name	CCB Agricultural Irrigation Pipelines - Mitigated	
Construction Start Year	2021	Enter a Year between 2014 and 2040 (inclusive)
Project Type For 4: Other Linear Project Type, please provide project specific off-road equipment population and vehicle trip data	4	1) New Road Construction : Project to build a roadway from bare ground, which generally requires more site preparation than widening an existing roadway 2) Road Widening : Project to add a new lane to an existing roadway 3) Bridge/Overpass Construction : Project to build an elevated roadway, which generally requires some different equipment than a new roadway, such as a crane 4) Other Linear Project Type: Non-roadway project such as a pipeline, transmission line, or levee construction
Project Construction Time	12.00	months
Working Days per Month	22.00	days (assume 22 if unknown)
Predominant Soil/Site Type: Enter 1, 2, or 3 (for project within "Sacramento County", follow soil type selection instructions in cells E18 to E20 otherwise see instructions provided in cells J18 to J22)	2	1) Sand Gravel : Use for quaternary deposits (Delta/West County) 2) Weathered Rock-Earth : Use for Laguna formation (Jackson Highway area) or the Ione formation (Scott Road, Rancho Murieta) 3) Blasted Rock : Use for Salt Springs Slate or Copper Hill Volcanics (Folsom South of Highway 50, Rancho Murieta)
Project Length	7.60	miles
Total Project Area	2.80	acres
Maximum Area Disturbed/Day	0.04	acres
Water Trucks Used?	1	1. Yes 2. No

Please note that the soil type instructions provided in cells E18 to E20 are specific to Sacramento County. Maps available from the California Geologic Survey (see weblink below) can be used to determine soil type outside Sacramento County.

http://www.conservation.ca.gov/cgs/information/geologic_mapping/Pages/googlemaps.aspx#regionalseries

Material Hauling Quantity Input

Material Type	Phase	Haul Truck Capacity (yd^3) (assume 20 if unknown)	Import Volume (yd^3/day)	Export Volume (yd^3/day)
Soil	Grubbing/Land Clearing	20.00		
	Grading/Excavation	20.00		336.70
	Drainage/Utilities/Sub-Grade	20.00	222.00	
	Paving	20.00		
Asphalt	Grubbing/Land Clearing	20.00		84.17
	Grading/Excavation	20.00		
	Drainage/Utilities/Sub-Grade	20.00		
	Paving	20.00	56.11	

Mitigation Options

On-road Fleet Emissions Mitigation	No Mitigation	Select "2010 and Newer On-road Vehicles Fleet" option when the on-road heavy-duty truck fleet for the project will be limited to vehicles of model year 2010 or newer
Off-road Equipment Emissions Mitigation	Tier 4 Equipment	Select "20% NOx and 45% Exhaust PM reduction" option if the project will be required to use a lower emitting off-road construction fleet. The SMAQMD Construction Mitigation Calculator can be used to confirm compliance with this mitigation measure (http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/Mitigation). Select "Tier 4 Equipment" option if some or all off-road equipment used for the project meets CARB Tier 4 Standard
Will all off-road equipment be tier 4?	All Tier 4 Equipment	

	EF source
on-road	EMFAC2017

The remaining sections of this sheet contain areas that require modification when 'Other Project Type' is selected.

Note: The program's estimates of construction period phase length can be overridden in cells D50 through D53, and F50 through F53.

Construction Periods	User Override of Construction Months	Program Calculated Months	User Override of Phase Starting Date	Program Default Phase Starting Date
Grubbing/Land Clearing		1.20		1/1/2021
Grading/Excavation		5.40		2/7/2021
Drainage/Utilities/Sub-Grade		3.60		7/22/2021
Paving		1.80		11/9/2021
Totals (Months)	12			

Program Calculated Activity Fractions

start date	end date
1/1/2021	2/6/2021
2/7/2021	7/21/2021
7/22/2021	11/8/2021
11/9/2021	1/2/2022

Note: Soil Hauling emission default values can be overridden in cells D61 through D64, and F61 through F64.

Soil Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			0	0.00
Miles/round trip: Grading/Excavation	20.00			17	340.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			12	240.00
Miles/round trip: Paving	20.00			0	0.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Draining/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Paving (grams/mile)	0.41	1.11	6.40	0.21	0.14	0.02	1,856.47	0.02	0.29	1,943.91
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Grading/Excavation	0.32	0.85	5.00	0.16	0.11	0.01	1,394.04	0.01	0.22	1,459.71
Tons per const. Period - Grading/Excavation	0.02	0.05	0.30	0.01	0.01	0.00	82.81	0.00	0.01	86.71
Pounds per day - Drainage/Utilities/Sub-Grade	0.23	0.60	3.53	0.11	0.08	0.01	984.03	0.01	0.15	1,030.38
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.02	0.14	0.00	0.00	0.00	38.97	0.00	0.01	40.80
Pounds per day - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Paving	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total tons per construction project	0.03	0.07	0.44	0.01	0.01	0.00	121.77	0.00	0.02	127.51

Note: Asphalt Hauling emission default values can be overridden in cells D91 through D94, and F91 through F94.

Asphalt Hauling Emissions User Input	User Override of Miles/Round Trip	Program Estimate of Miles/Round Trip	User Override of Truck Round Trips/Day	Default Values Round Trips/Day	Calculated Daily VMT
Miles/round trip: Grubbing/Land Clearing	20.00			5	100.00

Miles/round trip: Grading/Excavation	20.00			0	0.00
Miles/round trip: Drainage/Utilities/Sub-Grade	20.00			0	0.00
Miles/round trip: Paving	20.00			3	60.00

Emission Rates	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Grubbing/Land Clearing (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Draining/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Paving (grams/mile)	0.41	1.11	6.40	0.21	0.14	0.02	1,856.47	0.02	0.29	1,943.91
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.09	0.25	1.47	0.05	0.03	0.00	410.01	0.00	0.06	429.33
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.02	0.00	0.00	0.00	5.41	0.00	0.00	5.67
Pounds per day - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Grading/Excavation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pounds per day - Paving	0.05	0.15	0.87	0.03	0.02	0.00	245.57	0.00	0.04	257.14
Tons per const. Period - Paving	0.00	0.00	0.02	0.00	0.00	0.00	4.86	0.00	0.00	5.09
Total tons per construction project	0.00	0.01	0.04	0.00	0.00	0.00	10.27	0.00	0.00	10.76

Note: Worker commute default values can be overridden in cells D121 through D126.

Worker Commute Emissions User Input	User Override of Worker Commute Default Values	Default Values	Calculated Daily Trips	Calculated Daily VMT
Miles/ one-way trip	13			
One-way trips/day	2			
No. of employees: Grubbing/Land Clearing	20		40	520.00
No. of employees: Grading/Excavation	20		40	520.00
No. of employees: Drainage/Utilities/Sub-Grade	20		40	520.00
No. of employees: Paving	20		40	520.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Grading/Excavation (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Draining/Utilities/Sub-Grade (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.80	0.00	0.01	342.28
Paving (grams/mile)	0.02	1.10	0.10	0.05	0.02	0.00	339.24	0.00	0.01	341.71
Grubbing/Land Clearing (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Grading/Excavation (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Draining/Utilities/Sub-Grade (grams/trip)	1.18	2.95	0.34	0.00	0.00	0.00	72.81	0.08	0.04	85.39
Paving (grams/trip)	1.17	2.94	0.34	0.00	0.00	0.00	72.70	0.08	0.04	85.24
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.13	1.52	0.14	0.05	0.02	0.00	395.97	0.01	0.01	399.92
Tons per const. Period - Grubbing/Land Clearing	0.00	0.02	0.00	0.00	0.00	0.00	5.23	0.00	0.00	5.28
Pounds per day - Grading/Excavation	0.13	1.52	0.14	0.05	0.02	0.00	395.97	0.01	0.01	399.92
Tons per const. Period - Grading/Excavation	0.01	0.09	0.01	0.00	0.00	0.00	23.52	0.00	0.00	23.76
Pounds per day - Drainage/Utilities/Sub-Grade	0.13	1.52	0.14	0.05	0.02	0.00	395.97	0.01	0.01	399.92
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.01	0.06	0.01	0.00	0.00	0.00	15.68	0.00	0.00	15.84
Pounds per day - Paving	0.13	1.52	0.14	0.05	0.02	0.00	395.32	0.01	0.01	399.26
Tons per const. Period - Paving	0.00	0.03	0.00	0.00	0.00	0.00	7.83	0.00	0.00	7.91
Total tons per construction project	0.02	0.20	0.02	0.01	0.00	0.00	52.25	0.00	0.00	52.78

Note: Water Truck default values can be overridden in cells D153 through D156, I153 through I156, and F153 through F156.

Water Truck Emissions User Input	User Override of Default # Water Trucks	Program Estimate of Number of Water Trucks	User Override of Truck Round Trips/Vehicle/Day	Default Values Round Trips/Vehicle/Day	Calculated Trips/day	User Override of Miles/Round Trip	Default Values Miles/Round Trip	Calculated Daily VMT
Grubbing/Land Clearing - Exhaust	1		1.00			20.00		20.00
Grading/Excavation - Exhaust	1		1.00			20.00		20.00
Drainage/Utilities/Subgrade	1		1.00			20.00		20.00
Paving	1		1.00			20.00		20.00

Emission Rates	ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Grading/Excavation (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Draining/Utilities/Sub-Grade (grams/mile)	0.43	1.14	6.49	0.21	0.15	0.02	1,859.78	0.02	0.29	1,947.39
Paving (grams/mile)	0.41	1.11	6.40	0.21	0.14	0.02	1,856.47	0.02	0.29	1,943.91
Grubbing/Land Clearing (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Grading/Excavation (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Draining/Utilities/Sub-Grade (grams/trip)	0.00	0.00	3.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Paving (grams/trip)	0.00	0.00	3.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Emissions	**ROG**	**CO**	**NOx**	**PM10**	**PM2.5**	**SOx**	**CO2**	**CH4**	**N2O**	**CO2e**
Pounds per day - Grubbing/Land Clearing	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Grubbing/Land Clearing	0.00	0.00	0.00	0.00	0.00	0.00	1.08	0.00	0.00	1.13
Pounds per day - Grading/Excavation	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Grading/Excavation	0.00	0.00	0.02	0.00	0.00	0.00	4.87	0.00	0.00	5.10
Pounds per day - Drainage/Utilities/Sub-Grade	0.02	0.05	0.29	0.01	0.01	0.00	82.00	0.00	0.01	85.87
Tons per const. Period - Drainage/Utilities/Sub-Grade	0.00	0.00	0.01	0.00	0.00	0.00	3.25	0.00	0.00	3.40
Pounds per day - Paving	0.02	0.05	0.29	0.01	0.01	0.00	81.86	0.00	0.01	85.71
Tons per const. Period - Paving	0.00	0.00	0.01	0.00	0.00	0.00	1.62	0.00	0.00	1.70
Total tons per construction project	0.00	0.01	0.04	0.00	0.00	0.00	10.82	0.00	0.00	11.33

Note: Fugitive dust default values can be overridden in cells D183 through D185.

Fugitive Dust	User Override of Max Acreage Disturbed/Day	Default Maximum Acreage/Day	PM10 pounds/day	PM10 tons/per period	PM2.5 pounds/day	PM2.5 tons/per period
Fugitive Dust - Grubbing/Land Clearing			0.40	0.01	0.08	0.00
Fugitive Dust - Grading/Excavation			0.40	0.02	0.08	0.00
Fugitive Dust - Drainage/Utilities/Subgrade			0.40	0.02	0.08	0.00

Values in cells D195 through D228, D246 through D279, D297 through D330, and D348 through D381 are required when 'Other Project Type' is selected.

Off-Road Equipment Emissions

Grubbing/Land Clearing	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*		Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Concrete/Industrial Saws	0.16	3.86	0.31	0.02	0.01	0.01	592.67	0.03	0.00	594.85
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2.00			Tier 4	Tractors/Loaders/Backhoes	0.19	4.68	0.38	0.02	0.02	0.01	601.80	0.19	0.01	608.28
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grubbing/Land Clearing	pounds per day	0.37	9.06	1.15	0.06	0.06	0.01	1,243.78	0.23	0.01	1,252.70
Grubbing/Land Clearing	tons per phase	0.00	0.12	0.02	0.00	0.00	0.00	16.42	0.00	0.00	16.54

Grading/Excavation Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Excavators	0.16	3.92	0.32	0.02	0.01	0.01	500.19	0.16	0.00	505.59
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipn	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Tractors/Loaders/Backhoes	0.09	2.34	0.19	0.01	0.01	0.00	300.90	0.10	0.00	304.14
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Grading/Excavation	pounds per day	0.28	6.78	0.97	0.05	0.05	0.01	850.41	0.26	0.01	859.29
Grading/Excavation	tons per phase	0.02	0.40	0.06	0.00	0.00	0.00	50.51	0.02	0.00	51.04

Drainage/Utilities/Subgrade	Default Number of Vehicles	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Override of Default Number of Vehicles	*Program-estimate*				pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Air Compressors	0.10	2.44	0.20	0.01	0.01	0.00	375.26	0.03	0.00	376.75
1.00			Tier 4	Bore/Drill Rigs	0.92	16.05	1.85	0.09	0.09	0.03	2,926.47	0.95	0.03	2,957.99
1.00			Tier 4	Cement and Mortar Mixers	0.03	0.53	0.47	0.03	0.02	0.00	50.52	0.01	0.00	50.77
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Excavators	0.16	3.92	0.32	0.02	0.01	0.01	500.19	0.16	0.00	505.59
1.00			Tier 4	Forklifts	0.05	1.16	0.09	0.00	0.00	0.00	148.03	0.05	0.00	149.63
1.00			Tier 4	Generator Sets	0.16	4.06	0.33	0.02	0.02	0.01	623.04	0.03	0.00	625.23
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Trucks	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pavers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Plate Compactors	0.02	0.36	0.32	0.02	0.02	0.00	34.48	0.00	0.00	34.65
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Pumps	0.16	4.06	0.33	0.02	0.02	0.01	623.04	0.03	0.00	625.28
			Tier 4	Rollers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Rubber Tired Loaders	0.19	3.35	0.39	0.02	0.02	0.01	605.23	0.20	0.01	611.76
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Welders	0.07	1.50	1.21	0.01	0.01	0.00	207.48	0.03	0.00	208.67

User-Defined Off-road Equipment	If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Number of Vehicles	Equipment Tier	Type	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day	pounds/day
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

		ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
Drainage/Utilities/Sub-Grade	pounds per day	1.89	37.95	5.98	0.25	0.23	0.06	6,143.04	1.48	0.05	6,195.88
Drainage/Utilities/Sub-Grade	tons per phase	0.07	1.50	0.24	0.01	0.01	0.00	243.26	0.06	0.00	245.36

Paving Override of Default Number of Vehicles	Default Number of Vehicles *Program-estimate*	Mitigation Option Override of Default Equipment Tier (applicable only when "Tier 4 Mitigation" Option Selected)	Default Equipment Tier	Type	ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
			Tier 4	Aerial Lifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Air Compressors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Bore/Drill Rigs	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cement and Mortar Mixers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Concrete/Industrial Saws	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Cranes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crawler Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Crushing/Proc. Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Excavators	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Generator Sets	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Graders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Off-Highway Tractors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Off-Highway Trucks	0.40	7.00	0.81	0.04	0.04	0.01	1,278.55	0.41	0.01	1,292.32
			Tier 4	Other Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other General Industrial Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Other Material Handling Equipm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Pavers	0.14	3.56	0.29	0.01	0.01	0.00	455.07	0.15	0.00	459.98
			Tier 4	Paving Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Plate Compactors	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pressure Washers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Pumps	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Rollers	0.08	1.98	0.16	0.01	0.01	0.00	254.09	0.08	0.00	256.83
			Tier 4	Rough Terrain Forklifts	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Dozers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Rubber Tired Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Scrapers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1.00			Tier 4	Signal Boards	0.03	0.52	0.46	0.03	0.02	0.00	49.31	0.01	0.00	49.56
			Tier 4	Skid Steer Loaders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Surfacing Equipment	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Sweepers/Scrubbers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Tractors/Loaders/Backhoes	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Trenchers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
			Tier 4	Welders	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

User-Defined Off-road Equipment If non-default vehicles are used, please provide information in 'Non-default Off-road Equipment' tab

Number of Vehicles	Equipment Tier	Type		ROG pounds/day	CO pounds/day	NOx pounds/day	PM10 pounds/day	PM2.5 pounds/day	SOx pounds/day	CO2 pounds/day	CH4 pounds/day	N2O pounds/day	CO2e pounds/day
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
0.00	N/A		0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

			ROG	CO	NOx	PM10	PM2.5	SOx	CO2	CH4	N2O	CO2e
	Paving	pounds per day	0.65	13.07	1.72	0.09	0.08	0.02	2,037.02	0.65	0.02	2,058.69
	Paving	tons per phase	0.01	0.26	0.03	0.00	0.00	0.00	40.33	0.01	0.00	40.76
Total Emissions all Phases (tons per construction period) =>			0.11	2.28	0.34	0.02	0.01	0.00	350.53	0.09	0.00	353.70

Central Coast Blue - I&P Well Construction - Modified Project

Last Updated: April 27, 2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation	73.06
Excavator	1	8	36	0.38	Sewer Connection	32.16
Tractors/Loaders/Backhoes	1	8	84	0.37	Sewer Connection	73.06
Air Compressors	1	24	37	0.48	Critical Drilling	100.19
Bore/Drill Rigs	1	24	83	0.50	Critical Drilling	234.12
Forklifts	1	6	82	0.20	Critical Drilling	23.13
Generator Sets	2	24	14	0.74	Critical Drilling	116.89
Tractors/Loaders/Backhoes	1	6	84	0.37	Critical Drilling	43.83
Air Compressors	1	8	37	0.48	Groundwater Well Installation	851.62
Bore/Drill Rigs	1	8	83	0.50	Groundwater Well Installation	1,989.99
Forklifts	1	6	82	0.20	Groundwater Well Installation	589.80
Generator Sets	2	8	14	0.74	Groundwater Well Installation	993.56
Tractors/Loaders/Backhoes	1	8	84	0.37	Groundwater Well Installation	1,490.34
Forklifts	1	6	82	0.20	Site Restoration	80.95
Generator Sets	2	8	14	0.74	Site Restoration	136.37
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Restoration	204.56
					Total Fuel Used	**7,033.62 (Gallons)**

Construction Phase	Days of Operation
Site Preparation	5
Sewer Connection	5
Critical Drilling	4
Groundwater Well Installation	102
Site Restoration	14
Total Days	130

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.0	20	8.1	33.75
Sewer Connection	24.0	20	8.1	33.75
Critical Drilling	24.0	20	8.1	27.00
Groundwater Well Installation	24.0	20	8.1	688.50
Site Restoration	24.0	20	8.1	94.50
			Fuel	**877.50**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
VENDOR TRIPS				
Site Preparation	7.4	2	6.9	9.32
Sewer Connection	7.4	2	6.9	9.32
Critical Drilling	7.4	2	300.0	324.32
Groundwater Well Installation	7.4	2	6.9	190.22
Site Restoration	7.4	2	6.9	26.11
			Fuel	**559.30**
HAULING TRIPS				
Critical Drilling and Well Installation - Groundwater	7.4	2500	1.0	337.84
Critical Drilling and Well Installation - Soil	7.4	10	20.0	27.03
			Fuel	**364.86**

	One Well	7 Wells
Total Gasoline Consumption (gallons)	**877.50**	**6,142.50**
Total Diesel Consumption (gallons)	**7,957.78**	**55,704.45**

Sources:
[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.
[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

Central Coast Blue - Monit Well Construction - Modified Project

Last Updated: April 27, 2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per Day	Horsepower	Load Factor	Construction Phase	Fuel Used (gallons)
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation	73.06
Air Compressors	1	24	37	0.48	Critical Drilling	50.10
Bore/Drill Rigs	1	24	83	0.50	Critical Drilling	117.06
Forklifts	1	6	82	0.20	Critical Drilling	11.56
Generator Sets	2	24	14	0.74	Critical Drilling	58.44
Tractors/Loaders/Backhoes	1	6	84	0.37	Critical Drilling	21.92
Air Compressors	1	8	37	0.48	Well Installation	108.54
Bore/Drill Rigs	1	8	83	0.50	Well Installation	253.63
Forklifts	1	6	82	0.20	Well Installation	75.17
Generator Sets	2	8	14	0.74	Well Installation	126.63
Tractors/Loaders/Backhoes	1	8	84	0.37	Well Installation	189.94
Forklifts	1	6	82	0.20	Site Restoration	80.95
Generator Sets	2	8	14	0.74	Site Restoration	136.37
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Restoration	204.56
					Total Fuel Used	**1,507.93 (Gallons)**

Construction Phase	Days of Operation
Site Preparation	5
Critical Drilling	2
Well Installation	13
Site Restoration	14
Total Days	34

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Site Preparation	24.0	20	8.1	33.75
Critical Drilling	24.0	20	8.1	13.50
Well Installation	24.0	20	8.1	87.75
Site Restoration	24.0	20	8.1	94.50
			Fuel	**229.50**

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
		VENDOR TRIPS		
Site Preparation	7.4	2	6.9	9.32
Critical Drilling	7.4	2	300.0	162.16
Well Installation	7.4	2	6.9	24.24
Site Restoration	7.4	2	6.9	26.11
			Fuel	**221.84**
		HAULING TRIPS		
Critical Drilling and Well Installation - Groundwater	7.4	60	1	8.11
Critical Drilling and Well Installation - Soil	7.4	5	20.0	13.51
			Fuel	**21.62**

	One Well	11 Wells
Total Gasoline Consumption (gallons)	**229.50**	**2,524.50**
Total Diesel Consumption (gallons)	**1,751.39**	**19,265.26**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

Central Coast Blue - ATF Construction - Modified Project

Last Updated: April 27, 2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	**#**	**Hours per Day**	**Horsepower**	**Load Factor**	**Construction Phase**	**Fuel Used (gallons)**
Forklifts	1	8	82	0.20	Site Preparation	254.43
Graders	1	8	148	0.41	Site Preparation	846.78
Tractors/Loaders/Backhoes	1	8	84	0.37	Site Preparation	482.17
Graders	1	8	148	0.41	Grading	1,719.21
Plate Compactors	1	8	8	0.43	Grading	108.35
Rubber Tired Dozer	1	8	423	0.40	Grading	4,793.85
Scrapers	2	8	367	0.48	Grading	9,982.08
Tractors/Loaders/Backhoes	3	7	84	0.37	Grading	2,569.73
Air Compressors	3	8	37	0.48	Building Construction	9,768.59
Cranes	1	8	367	0.29	Building Construction	17,552.44
Excavators	1	8	36	0.38	Building Construction	2,508.15
Forklifts	2	7	82	0.20	Building Construction	5,261.98
Generators	3	8	14	0.74	Building Construction	5,698.34
Plate Compactors	1	8	8	0.43	Building Construction	630.70
Skid Steer Loaders	1	8	71	0.37	Building Construction	4,816.46
Tractors/Loaders/Backhoes	3	6	84	0.37	Building Construction	12,821.27
Welders	3	8	46	0.45	Building Construction	11,385.69
Air Compressors	1	6	37	0.48	Architectural Coating	137.76
Pavers	1	8	81	0.42	Paving	175.93
Cement/Mortar Mixer	1	8	10	0.56	Paving	28.96
Rollers	2	8	36	0.38	Paving	141.49
Tractors/Loaders/Backhoes	1	8	84	0.37	Paving	160.72
					Total Fuel Used	**91,845.07 (Gallons)**

Construction Phase	**Days of Operation**
Site Preparation	33
Grading	67
Building Construction	390
Paving	11
Architectural Coating	22
Total Days	523

WORKER TRIPS				
Constuction Phase	**MPG [2]**	**Trips**	**Trip Length (miles)**	**Fuel Used (gallons)**
Site Preparation	24.0	50	8.1	556.88
Grading	24.0	50	8.1	1130.63
Building Construction	24.0	50	8.1	6581.25
Paving	24.0	50	8.1	185.63
Architectural Coating	24.0	50	8.1	371.25
			Fuel	**8,825.63**

HAULING AND VENDOR TRIPS				
Trip Class	**MPG [2]**	**Trips**	**Trip Length (miles)**	**Fuel Used (gallons)**
HAULING TRIPS				
Site Preparation/Grading	7.4	248	20.0	670.27
Groundwater	7.4	56160	1	7589.19
			Fuel	**8,259.46**
VENDOR TRIPS				
Site Preparation	7.4	2	6.9	61.54
Grading	7.4	2	6.9	124.95
Building Construction	7.4	6	6.9	2181.89
			Fuel	**2,368.38**

Total Gasoline Consumption (gallons)	**8,825.63**
Total Diesel Consumption (gallons)	**102,472.91**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

Central Coast Blue - Phase I Water Distribution and Sewer Pipeline Construction - Modified Project

Last Updated: March 3, 2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	**#**	**Hours per Day**	**Horsepower**	**Load Factor**	**Construction Phase**	**Fuel Used (gallons)**
Concrete/Industrial Saws	1	8	81	0.73	Pavement Cutting	1,100.79
Tractors/Loaders/Backhoes	2	8	97	0.37	Pavement Cutting	1,336.29
Signal Boards	1	8	6	0.82	Pavement Cutting	91.59
Excavator	1	6	158	0.38	Trenching	3,393.27
Tractors/Loaders/Backhoes	1	8	97	0.37	Trenching	3,006.66
Signal Boards	1	8	6	0.82	Trenching	412.17
Air Compressor	1	8	78	0.48	Installation	2,091.01
Bore/Drill Rigs	1	8	700	0.50	Installation	17,583.02
Cement and Mortar Mixers	1	8	9	0.56	Installation	281.48
Excavators	1	8	158	0.38	Installation	3,016.24
Forklifts	1	8	89	0.20	Installation	994.12
Generator Set	1	8	84	0.74	Installation	3,471.61
Plate Compactor	1	8	8	0.43	Installation	192.12
Pumps	1	8	84	0.74	Installation	3,471.61
Rubber Tired Loader	1	8	203	0.36	Installation	3,671.33
Signal Boards	1	8	6	0.82	Installation	274.78
Welders	1	8	46	0.45	Installation	1,156.09
Pavers	1	8	130	0.42	Paving	1,371.48
Rollers	1	8	80	0.38	Paving	848.91
Off-Highway Truck	1	8	402	0.38	Paving	3,837.12
Signal Boards	1	8	6	0.82	Paving	137.39
					Total Fuel Used	**51,739.07 (Gallons)**

Construction Phase	**Days of Operation**
Grubbing/Land Clearing (Pavement Cutting)	39.6
Grading/Excavation (Trenching)	178.2
Draginage/Utilities/Sub-Grade (Installation)	118.8
Paving	59.4
Total Days	396

WORKER TRIPS				
Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Pavement Cutting	24.0	20	13.0	429.00
Trenching	24.0	20	13.0	1930.50
Installation	24.0	20	13.0	1287.00
Paving	24.0	20	13.0	643.50
			Fuel	**4,290.00**

HAULING AND VENDOR TRIPS				
Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Pavement Cutting	7.4	119	20.0	321.08
Trenching	7.4	3208	20.0	8669.19
Installation	7.4	2138	20.0	5779.46
Paving	7.4	238	20.0	642.16
			Fuel	**8,669.19**
WATER TRUCK TRIPS				
Pavement Cutting	7.4	2	20.0	214.05
Trenching	7.4	2	20.0	963.24
Installation	7.4	2	20.0	642.16
Paving	7.4	2	20.0	321.08
			Fuel	**2,140.54**

Total Gasoline Consumption (gallons)	**4,290.00**
Total Diesel Consumption (gallons)	**62,548.80**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

Central Coast Blue - Phase II Water Distribution Pipeline Construction - Modified Project

Last Updated: March 3, 2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors **[1]**:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529

Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	**#**	**Hours per Day**	**Horsepower**	**Load Factor**	**Construction Phase**	**Fuel Used (gallons)**
Concrete/Industrial Saws	1	8	81	0.73	Pavement Cutting	366.93
Tractors/Loaders/Backhoes	2	8	97	0.37	Pavement Cutting	445.43
Signal Boards	1	8	6	0.82	Pavement Cutting	30.53
Excavator	1	6	158	0.38	Trenching	1,131.09
Tractors/Loaders/Backhoes	1	8	97	0.37	Trenching	1,002.22
Signal Boards	1	8	6	0.82	Trenching	137.39
Air Compressor	1	8	78	0.48	Installation	697.00
Bore/Drill Rigs	1	8	700	0.50	Installation	5,861.01
Cement and Mortar Mixers	1	8	9	0.56	Installation	93.83
Excavators	1	8	158	0.38	Installation	1,005.41
Forklifts	1	8	89	0.20	Installation	331.37
Generator Set	1	8	84	0.74	Installation	1,157.20
Plate Compactor	1	8	8	0.43	Installation	64.04
Pumps	1	8	84	0.74	Installation	1,157.20
Rubber Tired Loader	1	8	203	0.36	Installation	1,223.78
Signal Boards	1	8	6	0.82	Installation	91.59
Welders	1	8	46	0.45	Installation	385.36
Pavers	1	8	130	0.42	Paving	457.16
Rollers	1	8	80	0.38	Paving	282.97
Off-Highway Truck	1	8	402	0.38	Paving	1,279.04
Signal Boards	1	8	6	0.82	Paving	45.80
					Total Fuel Used	**17,246.36 (Gallons)**

Construction Phase	**Days of Operation**
Grubbing/Land Clearing (Pavement Cutting)	13.2
Grading/Excavation (Trenching)	59.4
Draginage/Utilities/Sub-Grade (Installation)	39.6
Paving	19.8
Total Days	132

WORKER TRIPS				
Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Pavement Cutting	24.0	20	13.0	143.00
Trenching	24.0	20	13.0	643.50
Installation	24.0	20	13.0	429.00
Paving	24.0	20	13.0	214.50
			Fuel	**1,430.00**

HAULING AND VENDOR TRIPS				
Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Pavement Cutting	7.4	13	20.0	35.68
Trenching	7.4	119	20.0	321.08
Installation	7.4	79	20.0	214.05
Paving	7.4	40	20.0	107.03
			Fuel	**321.08**
WATER TRUCK TRIPS				
Pavement Cutting	7.4	2	20.0	71.35
Trenching	7.4	2	20.0	321.08
Installation	7.4	2	20.0	214.05
Paving	7.4	2	20.0	107.03
			Fuel	**713.51**

Total Gasoline Consumption (gallons)	**1,430.00**
Total Diesel Consumption (gallons)	**18,280.95**

Sources:

[1] United States Environmental Protection Agency. 2018. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES2014b* . July 2018. Available at: https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100UXEN.pdf.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2018. *National Transportation Statistics 2018* . Available at: https://www.bts.gov/sites/bts.dot.gov/files/docs/browse-statistical-products-and-data/national-transportation-statistics/223001/ntsentire2018q4.pdf.

Appendix B

2023 Biological Resources Assessment

Central Coast Blue Project

Biological Resources Assessment

prepared for

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

prepared by

Rincon Consultants, Inc.
1530 Monterey Street, Suite 300
San Luis Obispo, California 93401

January 2021
Revised June 2023

rincon
RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Central Coast Blue Project

Biological Resources Assessment

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Executive Summary

Rincon Consultants, Inc. has prepared this Biological Resources Assessment to document existing conditions and provide a basis for evaluation of potential impacts to special status biological resources to assist in the environmental documentation and permitting phases of a regional advanced purified water project located in the city of Grover Beach and community of Oceano (a census-designated place in unincorporated San Luis Obispo County), California. Central Coast Blue (herein referred to as the "proposed project" or "project") is proposed by the Cities of Pismo Beach, Grover Beach, and Arroyo Grande and the South San Luis Obispo County Sanitation District and is intended to enhance water supply reliability by reducing the Santa Maria Groundwater Basin's vulnerability to drought and seawater intrusion.

The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization tank, monitoring well, and new production well), pipelines, injection wells, monitoring wells, and a pump station. The project would specifically involve injection of advanced purified water into the Santa Maria Groundwater Basin via a series of injection wells, installed at various locations in Grover Beach and Oceano. At this time, the locations of the injection and monitoring wells, pipelines, ATF complex (including a production well), pump station, and the existing ocean outfall pipeline are known; therefore, this assessment focuses on the impacts to biological resources from these components.

The Study Area analyzed herein is comprised of the footprints of project components as well as associated buffers around those features in order to capture potential direct and indirect impacts. Ten terrestrial vegetation and land cover types were observed within the Study Area during the biological field survey: developed/landscaped, ruderal, eucalyptus grove, agriculture, arroyo willow thicket, wild oats and annual brome grassland, saltgrass flats, coyote brush scrub, iceplant mats, and California bulrush marshes. A roadway drainage was observed within the Study Area that is ephemeral in nature. The arroyo willow riparian habitats associated with Meadow Creek and Arroyo Grande Creek are classified under the California Coastal Act as wetlands, and the City of Grover Beach and the County of San Luis Obispo each have an adopted Local Coastal Program that identifies these riparian areas as Environmentally Sensitive Habitat Areas. California overwintering population of monarch butterfly habitat is also identified in the Local Coastal Program as Environmentally Sensitive Habitat Areas. This project is anticipated to require permits from the California Department of Fish and Wildlife and the Regional Water Quality Control Board if riparian habitat cannot be avoided and a Coastal Development Permit from the California Coastal Commission.[1]

Based on the habitats found in the Study Area, a number of special status species have the potential to be encountered during construction of the proposed injection wells. The federally threatened California red-legged frog (*Rana draytonii*) has a potential to occur at the locations of IW-5A, IW-5B, and MW-5A/5B/5C and along an approximately 0.36-mile section of the pipelines. Direct impacts to California red-legged frog from construction of the injection wells, monitoring wells, and the pipelines would be minimized and/or avoided to the greatest extent feasible with the implementation of measures described in Section 5, *Impact Analysis and Mitigation Measures*. No federally designated critical habitat is present within the Study Area.

[1] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of local CDP processing by the City of Grover Beach and County of San Luis Obispo.

The Study Area also contains potentially suitable foraging habitat for tricolored blackbird, which is a State Species of Special Concern and a State threatened species. The Study Area also provides suitable nesting and foraging habitat for the white-tailed kite, a State Fully Protected species. Direct and indirect impacts to tricolored blackbird and white-tailed kite are not expected to occur with the implementation of the proposed avoidance and minimization measures described in Section 5, *Impact Analysis and Mitigation Measures*.

Based on the presence of suitable habitat, two additional special status animal species may occur on site, California legless lizard (*Anniella pulchra*) and southwestern pond turtle (*Emys marmorata*), both of which are State Species of Special Concern. In addition, based on the presence of suitable habitat, two special status animal species may migrate by the existing wastewater treatment plant discharge pipeline, southern sea otter (*Enhydra lutris nereis*) and steelhead – south-central California coast distinct population segment (*Oncorhynchus mykiss irideus*), both of which are federally threatened species. Furthermore, vegetation within and adjacent to the project site offers potential nesting habitat for bird species that are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Direct and indirect impacts to these species are not expected with implementation of the proposed avoidance and minimization measures.

1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Resources Assessment (BRA) to document existing conditions and provide a basis for the evaluation of potential impacts to special status biological resources from the implementation of the proposed Central Coast Blue project (herein referred to as “proposed project” or “project”) located in San Luis Obispo County, California.

This BRA has been prepared to provide technical information and impact analysis and to review the proposed project in sufficient detail to determine to what extent the proposed project may impact special status species and sensitive natural communities to support review of the project under the California Environmental Quality Act (CEQA). This assessment focuses on the biological resources that may occur in the vicinity of and/or be impacted by construction and operation of project components with known locations (i.e., the injection wells, monitoring wells, ATF complex [including new production well], pipelines, and pump station).

1.1 Project Location and Study Area

The project components analyzed in this BRA area located within Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano, which is a census-designated place. Figure 1 shows the regional location of the project site, which is approximately seven miles south of the city of San Luis Obispo. The project area is regionally accessible from U.S. Highway 101 and locally accessible from California State Route (SR) 1. The project components analyzed in this BRA are located within the *Oceano*, *California* United States Geological Survey (USGS) 7.5-minute topographical quadrangle within Township 32 South, Range 13 East, Sections 30 and 31, Mount Diablo baseline and meridian (USGS 2019). The majority of the project components are located within the California Coastal Zone (Figure 2). The Study Area analyzed herein is comprised of the temporary and permanent project impact footprints, which includes the actual permanent footprint of project components as well as associated staging areas for construction equipment and materials (Figure 2).

Figure 1 Regional Location Map

Imagery provided by ESRI and its licensors © 2019.

☆ Project Location

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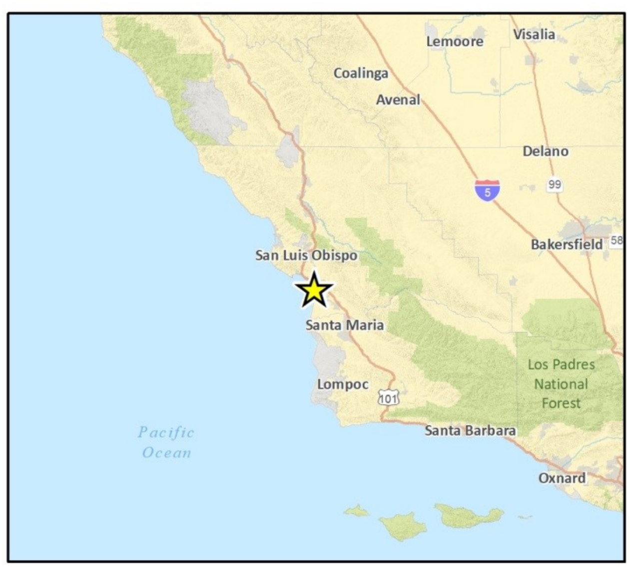
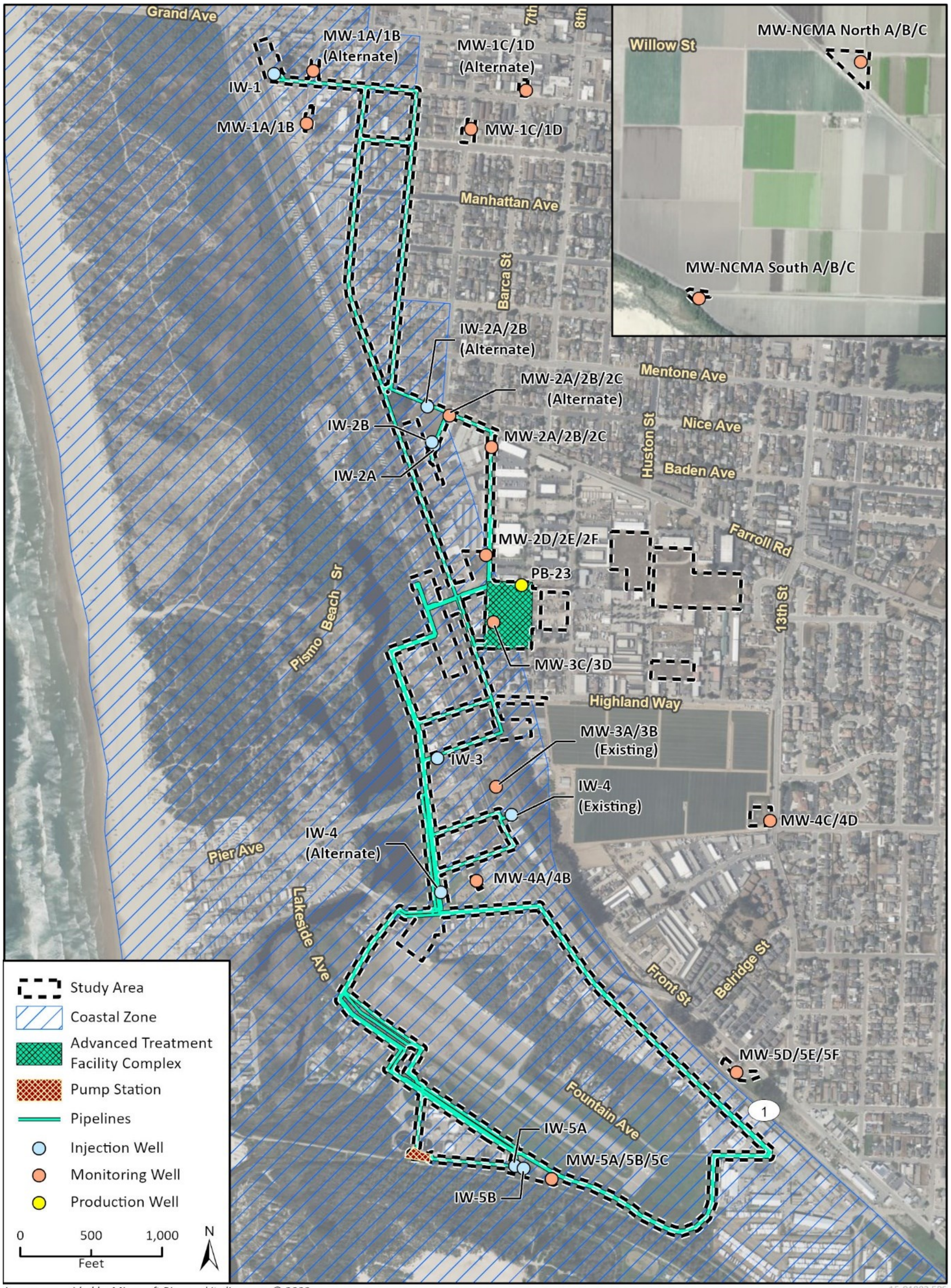


Fig 1 Regional Location

Figure 2 Proposed Injection Wells, Monitoring Wells, ATF Complex, and Study Area



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

15-01882 EPS
Fig X Bio Project Components 20230222

1.2 Project Description

The proposed project is a regional advanced purified water project intended to enhance supply reliability by reducing the Santa Maria Groundwater Basin (SMGB) vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the Cities of Pismo Beach, Grover Beach and Arroyo Grande and the South San Luis Obispo County Sanitation District (SSLOCSD). The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization basin, monitoring well, and new production well), pipelines, injection wells, monitoring wells, and a pump station. The project would also involve recharge of the SMGB with advanced purified water via injection wells installed at multiple locations in Grover Beach and Oceano. Water for the project would be sourced from two of the region's wastewater treatment facilities, the Pismo Beach Wastewater Treatment Plant (WWTP) and the SSLOCSD WWTP. The project would alter the pumping regime of existing, operational production wells in the project area and also would include construction of one new production well (PB-23) at the ATF complex to replace an existing well that is failing. Pipelines would be located within the public rights-of-way along the majority of the pipeline alignments.

Injection Wells and Monitoring Wells

Seven injection wells would be installed at five of the potential locations shown in Figure 2.[2] The injection wells would be located generally within one-half mile of the coast and would each require approximately 4,000 square feet (sf) of land.[3] Each injection well would be capable of injecting approximately 500 acre-feet per year. The advanced purified water would be injected at a depth of approximately 160 to 680 feet (ft) below ground surface. The injection well network would be accompanied by a network of nested monitoring wells at up to eleven locations throughout the project area. Nested monitoring wells would each include two to three well casings that would extend to varying depths up to 675 ft. Each monitoring well would have a surface footprint of approximately 5 sf and would be designed to facilitate measurements and monitoring of water level and water quality. Equipment associated with injection wells (e.g., piping and infrastructure such as electrical panels, control panels, storage facilities, and water storage tanks) would have a mix of aboveground and belowground facilities, the location of which would depend on the site, space constraints, and surrounding land uses. Maintenance of the injection wells would involve monitoring of pressures, frequent inspections, backwashing out the well casings, and removing microbial build-up once every two years.

Monitoring well MW-3A/3B and a test injection well were constructed in 2021 in the southern portion of the County of San Luis Obispo's Coastal Dunes RV Park as part of a preliminary hydrogeological investigation of the physical and technological constraints and opportunities in the project area. These wells were determined by the City of Pismo Beach to be categorically exempt from CEQA under CEQA Guidelines Section 15306. MW-3A/3B would continue to operate as a monitoring well under the proposed project. The test injection well has the potential to be converted to an operational injection well and serve as part of the project's injection well network. However, conversion of the test injection well to an operational injection well would require an amendment to the County of San Luis Obispo's Local Coastal Program, which is not proposed at this time. Therefore, an alternative location for IW-4 has been identified and is considered in this report as part of the proposed project,

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[2] Due to ongoing siting and design efforts, several alternative injection well locations are included in the proposed project to provide flexibility in ultimate siting.

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

and the test injection well is now considered a back-up alternate location for IW-4. Because the test injection well remains as an alternate location for IW-4, this report assumes this well may be utilized as an operational injection well for the purposes of CEQA, pending completion of a Local Coastal Program amendment.

Pipelines

Pipelines would be installed along the potential alignments shown in Figure 2.[4] These pipelines would accomplish five purposes: 1) convey secondary treated effluent discharged by the Pismo Beach WWTP from the existing WWTP discharge pipeline to the proposed ATF; 2) convey secondary treated effluent from the SSLOCSD WWTP to the proposed ATF; 3) convey advanced purified water from the proposed ATF to the injection wells; 4) convey concentrate from the proposed ATF to the existing WWTP discharge pipeline; and 5) convey backwash water from certain injection wells to the sanitary sewer system and sanitary sewer waste streams from the ATF complex. Construction methods for the proposed pipelines would predominantly involve open trenching, with trenchless methods used as needed (e.g., to cross the Union Pacific Railroad tracks).

Advanced Treatment Facility Complex

The ATF complex would treat secondary treated wastewater flows from the Pismo Beach and SSLOCSD WWTPs via microfiltration/ultrafiltration, reverse osmosis, and UV disinfection/advanced oxidation treatment processes and discharge to the ocean through the existing WWTP discharge pipeline. The proposed ATF would produce a clean water stream (permeate) and a wastewater stream (concentrate). The reverse osmosis component of the ATF would produce a percentage of concentrate water, which contains a higher concentration of the dissolved particles than were in the source water and would be discharged to the Pacific Ocean outfall that currently receives all flows from the Pismo Beach and SSLOCSD WWTPs under the City of Pismo Beach's and SSLOCSD's existing National Pollutant Discharge Elimination System permits. No physical modifications to the off-shore portion of current ocean outfall would be required.

The ATF would be accompanied by an approximately 7,500-square foot equalization basin to address fluctuations in flow from the WWTPs, outdoor chemical storage, a monitoring well, and a new production well (PB-23), all of which would be located on the same property as the ATF as part of the ATF complex.

Construction Activities

Project construction would occur in two main phases. Phase I would include construction of four injection wells (IW-1, IW-2A, IW-3, and IW-5A), up to nine monitoring wells, pipelines, and the ATF complex with its initial capacity (1.1 million gallons per day of produced water) designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining three injection wells (IW-2B, IW-4, and IW-5B), the remaining two monitoring wells, installation of purified water pipelines to connect the new wells to the existing purified water distribution system, installation of the pipeline and pump station conveying SSLOCSD WWTP effluent to the AWPF, and expansion upgrades to the ATF complex to accommodate flows from the SSLOCSD WWTP (4.1 million gallons per day of produced water).

[4] Due to ongoing siting and design efforts, several alternative pipeline alignments are included in the proposed project to provide flexibility in ultimate siting.

Construction of the project components is anticipated to last a total of approximately 24 months for Phase I and approximately 15 months for Phase II. Construction of the project would result in the removal of all trees located on the 980 Huber Street property as well as on Assessor's Parcel Number 060-543-007 to accommodate the ATF complex. Also, the project would include planting trees for accenting, screening, or other purposes as space allows, with a preference for native trees. As part of project design, construction activities (including staging/laydown yards) would avoid mapped California bulrush (*Schoenoplectus californicus*) marsh and coyote brush (*Baccharis pilularis*) scrub habitats.

The location of the ATF complex would likely need to be graded to provide a level base for the ATF and appurtenant structures, to provide site access, and to provide appropriate stormwater drainage. It is assumed that a moderate amount of existing soil would be excavated and exported, and a moderate amount of clean engineered fill or another suitable substrate would be imported to provide geotechnical stability for the ATF and appurtenant structures. Soil export would also be required to accommodate construction of the equalization tank and other ATF components, such as underground storage tanks required for the treatment processes. Excavation depth is not anticipated to exceed 20 ft for any of the project components other than the microfiltration feed pump cans and the injection, monitoring, and production wells, which would be drilled to depths of up to 680 ft. Pipelines under the Union Pacific Railroad tracks would be installed via jack and bore, pipe ramming, or other similar trenchless method.

Groundwater produced during well development may be disposed of via connections to the existing Pismo Beach outfall pipeline that runs below SR 1. There is also the option for produced groundwater to be disposed of via temporary storage with timed release to the sanitary or storm sewer or trucking up to one mile for percolation into a storm retention basin. Construction dewatering would also be required at the ATF complex. Minor dewatering during construction activities may also be required at other locations, such as the pump station proposed within the boundaries of the SSLOCSD WWTP. The project includes use of two existing shallow monitoring wells located between the ATF complex and Oceano Lagoon, located approximately 700 feet to the west of the ATF complex location, to monitor groundwater levels during dewatering activities. If groundwater levels fall below what would be expected due to regular, background seasonal variation, the project includes implementation of an adaptive management plan to avoid an adverse reduction in surface water levels in Oceano Lagoon, including an evaluation program to identify whether reduced groundwater levels are related to project dewatering activities and if so, the timely implementation of the necessary management actions, which may include, but would not be limited to, temporary cessation of dewatering and/or gradual discharge of groundwater produced from dewatering into the City of Grover Beach's stormwater detention basin at the southern terminus of Barca Street and/or the City of Grover Beach's stormwater drainage system, which currently discharge to Meadow Creek upstream of Oceano Lagoon, to supplement surface water levels.[5]

[5] The project would be required to comply with all applicable permitting requirements should discharge to the stormwater detention basin/stormwater drainage system become necessary.

2 Methodology

2.1 Regulatory Overview

Regulated resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources typically lies within the land use control and planning authority of local jurisdictions (in this instance, the County of San Luis Obispo and City of Grover Beach). However, because the project is seeking a consolidated coastal development permit from the California Coastal Commission (CCC), the CCC will also have primary authority for regulation of general biological resources.

Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (species that are under review may be included if there is a reasonable expectation of listing within the life of the project);
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act;
- Plant species listed as rare under the Native Plant Protection Act;
- Wildlife species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW); and
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this document. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are part of a unique community, from the type locality, designated as rare or significant by local governments or where cumulative impacts could result in population–level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant, are not part of a unique community, and the Study Area is not known to be the type locality for any CRPR 3 or 4 plant species. Therefore, CRPR 3 and 4 species were not included in this analysis.

2.2 Environmental Statutes

For the purpose of this report, potential impacts to terrestrial and marine biological resources were analyzed based on the following statutes, which are detailed in Appendix A:

- California Environmental Quality Act
- Federal Endangered Species Act
- California Endangered Species Act
- Native Plant Protection Act

- Federal Clean Water Act
- California Fish and Game Code
- Porter-Cologne Water Quality Control Act
- California Coastal Act (administered by the CCC and through the County of San Luis Obispo and City of Grover Beach Local Coastal Programs)
- Migratory Bird Treaty Act
- The Bald and Golden Eagle Protection Act
- County of San Luis Obispo General Plan
- City of Grover Beach General Plan

2.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by Appendix G of the CEQA Guidelines, were used to evaluate potential environmental impacts. Based on these criteria, the proposed project would have a significant impact on biological resources if it would:

a) Have substantial adverse effects, 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 CDFW or United States 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 CDFW or United States Fish and Wildlife Service;

c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

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; or

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.

2.4 Literature Review

Queries of the United States Fish and Wildlife Service (USFWS) Information for Planning and Consultation System (IPaC; USFWS 2023a), the CDFW California Natural Diversity Database (CNDDB; CDFW 2023a), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (2023) were conducted to obtain comprehensive information regarding State and federally listed species as well as other special status species considered to have potential to occur within the *Oceano, California* 7.5-minute topographic quadrangle and the surrounding seven quadrangles (*Pismo Beach, Arroyo Grande NE, Tar Springs Ridge, Nipomo, Point Sal, Guadalupe* and *Santa Maria*). No quadrangles occur west of the *Oceano* and *Point Sal* 7.5-minute quadrangles since these areas consist entirely of the Pacific Ocean. The results of these scientific database queries were compiled into a table that is presented below in Appendix B.

In addition, the following resources were reviewed for information about the Study Area:

- Aerial photographs of the Study Area and vicinity (Google Earth 2023)
- *Oceano, California* USGS 7.5-minute topographic quadrangle
- United States Department of Agriculture, Natural Resources Conservation Service (USDA, NRCS) Web Soil Survey (2023a)
- Soil Survey of San Luis Obispo County, California (USDA, NRCS 1984)
- Critical Habitat Portal (USFWS 2023b)
- National Marine Fisheries Service (NMFS) Critical Habitat (National Oceanic and Atmospheric Administration Fisheries 2023)
- National Wetlands Inventory (NWI) (USFWS 2023c)
- National Hydrography Dataset (NHD) (USGS 2023)

2.5 Field Reconnaissance Survey

A field reconnaissance survey for was conducted within the revised Study Area by Biologist Carolynn Honeycutt and Associate Biologist Frances Glaser on January 20, 2023. The field reconnaissance survey was conducted on foot where access was granted and by the use of binoculars for areas where access was limited to record all biological resources encountered in the Study Area. Additionally, a windshield survey was conducted along the pipeline alignments within existing roadways. The survey was conducted to document existing site conditions and to evaluate the potential for presence of regulated biological resources, including special status plant and animal species, sensitive plant communities, and habitat for nesting birds protected by federal and State laws. During the survey, an inventory of all plant and animal species observed was compiled (Appendix D) and an evaluation of potentially jurisdictional aquatic features was conducted.

Plant species nomenclature and taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). All plant species encountered were noted and identified to the lowest possible taxonomic level. The vegetation classification system used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009) but has been modified as needed to accurately describe the existing habitats observed on site.

Wildlife identification and nomenclature followed standard reference texts, including *Sibley Birds West: Field Guide to Birds of Western North America* (Sibley 2016), *Field Guide to Western Reptiles and Amphibians* (Stebbins 2003), and *Mammals of North America* (Bowers et al. 2004).

The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the Study Area during the field survey. Several special status species were eliminated from consideration as having potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or knowledge of regional distribution.

3 Existing Conditions

This section summarizes the results of the reconnaissance-level field surveys and literature review. Discussions regarding the general environmental setting, vegetation communities present, plant and animals observed, and potential special status species issues on site are presented below. Representative photographs of the Study Area are provided in Appendix C, and a complete list of all plant and animal species observed on site during the field survey is presented as Appendix D.

3.1 Physical Characteristics

The Study Area is located in San Luis Obispo County where the moderate climate typifies a Mediterranean climate throughout the year. The majority of rainfall occurs during the winter months. The Study Area is also within the South Coast Ranges geographic subregion of California. The South Coast Ranges subregion is a component of the larger Central Western California Region, which occurs within the even larger California Floristic Province (Baldwin et al. 2012).

The Study Area is located at the western edges of Grover Beach and the community of Oceano, extending from West Grand Avenue in the north along SR 1 to Arroyo Grande Creek and the levee in the south. Residences occur primarily to the east of the SR 1 along with agricultural lands, the County's Coastal Dunes RV Park, and industrial land uses. Additional residences occur west of SR 1 along with open space and park lands, including Oceano Lagoon, Meadow Creek, Pismo State Beach, and the Oceano Dunes State Vehicular Recreational Area. The majority of the Study Area has been previously developed and disturbed due to the existing wastewater treatment facilities, recreational and RV Park facilities, roadways, and urban development. The topography within the Study Area consists generally of level topography with elevation ranging from 10 to 40 ft above mean sea level.

3.2 Watersheds and Drainages

The Study Area is located within the Meadow Creek-Frontal Pacific Ocean subwatershed (Hydrologic Unit Code 12 – 180600060705) and Lower Arroyo Grande Creek subwatershed (Hydrologic Unit Code 180600060605) (USGS 2019). The NWI depicts Freshwater Forested/Shrub Wetland areas associated with Meadow Creek and Arroyo Grande Creek occurring at or within 100 ft of some of the proposed injection well, monitoring well, and pipeline locations (Table 1; USFWS 2023c). The NWI also depicts Freshwater Forested Shrub/Wetland and Riverine areas occurring at or within 100 ft of monitoring well MW-NCMA South A/B/C, along Silver Spur Place. Additionally, the NHD depicts a canal ditch located in the vicinity of MW-NCMA South A/B/C and a lake/pond feature at MW-4C/4D (USGS 2023). The drainages and wetlands mapped by the NWI and NHD are generally consistent with the observations made during the field reconnaissance survey.

Table 1 Drainages and Wetlands Mapped by the NWI and/or NHD within the Study Area

Project Component	Project Component Located within NWI and/or NHD Feature?
IW-1	No
IW-2A	No
IW-2B	No
IW-3	No
IW-4	No
IW-5A	No
IW-5B	No
NCMA North A/B/C	No
NCMA South A/B/C	Yes
MW-1A/1B	No
MW-1C/1D	No
MW-2A/2B/2C	No
MW-2D/2E/2F	No
MW-3A/3B	No
MW-3D/3E	No
MW-4A/4B	No
MW-4C/4D	Yes
MW-5A/5B/5C	No
MW-5D/5E/5F	No
ATF	No
Pipelines	No

During the reconnaissance survey, in addition to those drainages and wetlands mapped by the NWI and NHD, a detention basin, wetlands, roadway drainage, intermittent stream, and agriculture ditch were also observed and documented in the Jurisdictional Delineation Report (Rincon 2023; Appendix E). More surface water was observed within the Study Area than what is typical due to a significant rain event that occurred between January 9 and January14, 2023 where more than 5 inches of rain was recorded at the Oceano County Airport property (Weather Underground 2023).

3.3 Soils

The project site is located in the *San Luis Obispo County, California, Coastal Part* soil survey area. The USDA, NRCS Web Soil Survey delineates six soil map units within the Study Area: Mocho variant fine sandy loam, Mocho fine sandy loam (0 to 2 percent slopes, major land resource area [MLRA] 14), Oceano sand (0 to 9 percent slopes), Marimel sandy clay loam (occasionally flooded), Dune land, and psamments and fluvents (wet) (USDA, NRCS 2023a). Site-specific soil observations are consistent with those mapped by the USDA, NRCS *Web Soil Survey*. Soil distribution within 100 ft of the locations of project components is depicted in Figure 3, and each soil map unit is described below.

Mocho Variant Fine Sandy Loam

Mocho variant fine sandy loam is a well-drained soil that occurs on alluvial fans and alluvial flats. It is formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 15 inches, very fine sandy loam between 15 and 33 inches, and stratified gravelly sand from 33 to 64 inches. Available water storage is low (about 5.9 inches) and the runoff class is very low. This soil map unit is included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Mocho Fine Sandy Loam, 0 to 2 Percent Slopes, MLRA 14

Mocho fine sandy loam soils are well-drained soils that occur on alluvial fans and flats. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 18 inches, silty clay loam between 18 and 45 inches, and stratified sand to gravelly sand between 45 and 60 inches. For Mocho fine sandy loam, 0 to 2 percent slopes, available water storage is moderate (about 6.5 inches), and the runoff class is low. This soil map unit is included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Oceano Sand, 0 to 9 Percent Slopes

Oceano sand soils are deep, excessively-drained soils that formed in material weathered from sandy eolian deposits. They are present on rolling dune-like topography near the ocean. Available water storage is low (2.75 inches) with very slow runoff and rapid permeability. A typical soil profile consists of sandy textures up to 60 inches. This soil map unit is not included on the *National Hydric Soils List* (USDA, NRCS 2023b).

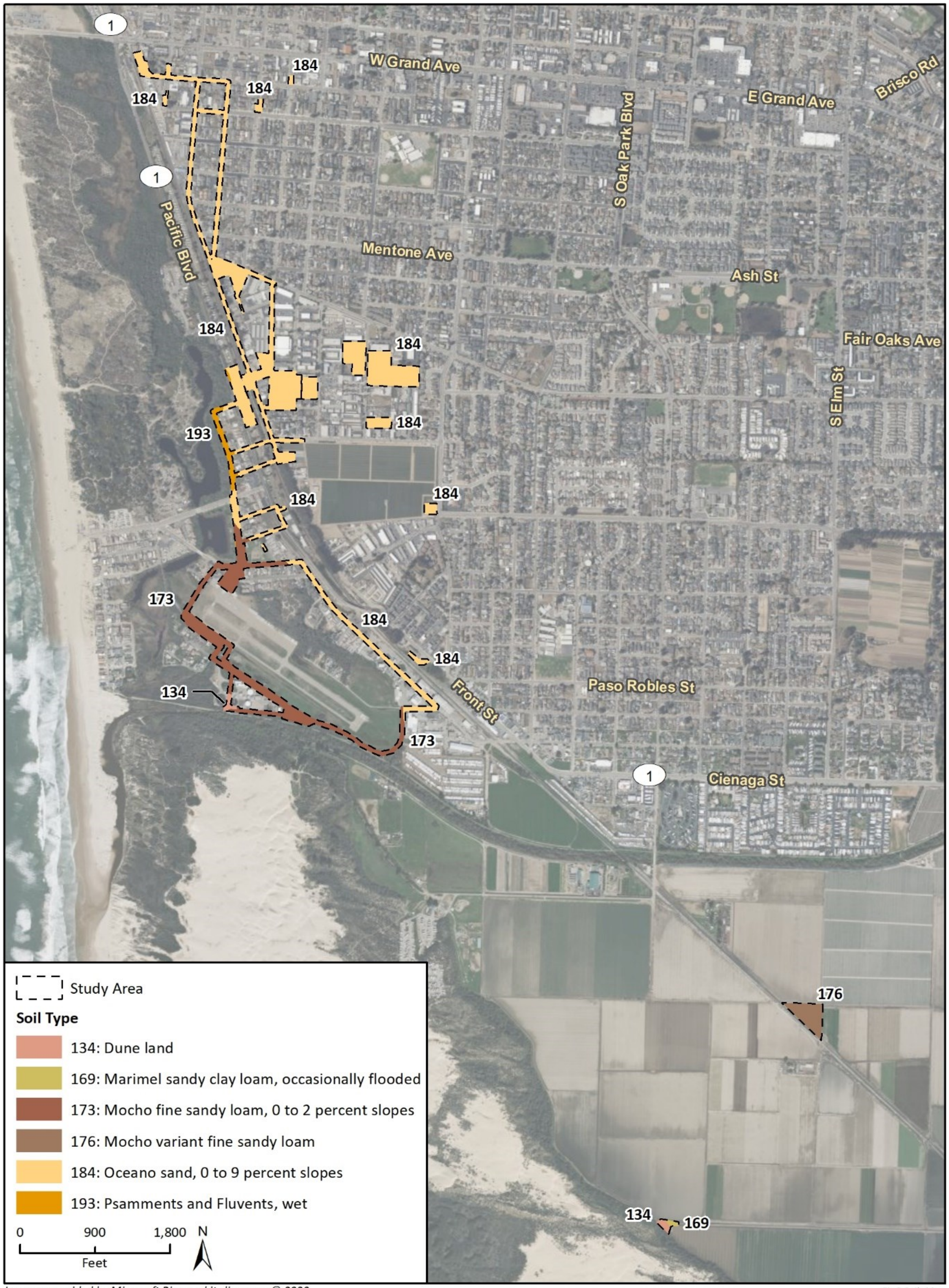
Marimel Sandy Clay Loam, Occasionally Flooded

Marimel sandy clay loam soils are somewhat poorly drained soils that occur in alluvial fans, flood plains, and valleys. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of sandy clay loam to a depth of 16 inches and stratified loam to clay loam to silty clay loam from 16 to 60 inches. For Marimel sandy clay loam, occasionally flooded, available water storage is high (10.2 inches) and the runoff class is high. This soil map unit is included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Dune Land

Dune land is excessively drained soil that occurs on beach dunes. It consists of 90 percent dune land soils and 9 percent other minor components. A typical profile consists of fine sand to a depth of 60 inches. Available water storage is low and the runoff class is low. This soil map unit is included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Figure 3 Soils Map Units within the Study Area



Imagery provided by Microsoft Bing and its licensors © 2023.
Additional data provided by USDA NRCS SSURGO 2022.

Fig 3 Soils Map

Psamments and Fluvents, Wet

Psamments and fluvents are entisols, which have no diagnostic horizons. In the Study Area, they are found on floodplains that receive frequent deposits of alluvium. Fluvents are freely-drained and formed in recent water-deposited sediments along rivers and small streams. They are frequently flooded. Psamments are unconsolidated sandy deposits common in dune habitat. In the Study Area, these mixed entisols are found on and near permanently wet areas, such as ponds and vegetated wetlands. This soil map unit is included on the *National Hydric Soil*s List, which lists soils that are permanently or seasonally saturated by water resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

3.4 Vegetation and Other Land Cover

Ten terrestrial vegetation communities or land cover types occur within the Study Area: developed/landscaped, ruderal, eucalyptus grove, agriculture, arroyo willow thicket, wild oats and annual brome grassland, saltgrass flats, coyote brush scrub, iceplant mats, and California bulrush marshes. Vegetation was classified and mapped during the reconnaissance-level survey conducted on January 20, 2023 to characterize the Study Area. A summary of the vegetation/land cover types identified in the Study Area is presented in Table 2 and shown in Figure 4a through Figure 4g.

Habitat characterizations were based on the classification system presented in MCV2 (Sawyer et al. 2009) and *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) but have been modified slightly to most accurately reflect existing site conditions. The CDFW (1988) California Wildlife Habitat Relationships database was also referenced for describing the habitat types within the Study Area. Plant species nomenclature and taxonomy used for the Study Area follow treatments within Baldwin et al. (2012).

Table 2 Terrestrial Vegetation and Land Cover Types

Vegetation Community/ Land Cover	Project Component Locations Within Vegetation Community/Land Cover	Total Acreage in Study Area
Developed/Landscaped	MW-1A/1B, MW-1A/1B (Alternate), MW-1C/1D, MW-1C/1D (Alternate), MW-2A/2B/2C, MW-2A/2B/2C (Alternate), MW-2D/2E/2F, MW-3A/3B (Existing), MW-3C/3D, MW-4A/4B, MW-5D/5E/5F IW-1, IW-2A/2B (Alternate), IW-3, IW-4 (Existing), IW-4 (Alternate), IW-5A, IW-5B PB-23 ATF Complex Pipelines Staging/Laydown Yards	37.75
Ruderal	MW-1C/1D, MW-4C/4D, MW-5A/5B/5C IW-2A, IW-2B Staging/Laydown Yards	10.53
Eucalyptus Grove	Pipelines	3.56
Agriculture	MW-NCMA North A/B/C, MW-NCMA South A/B/C	3.31
Arroyo Willow Thicket	Pipelines	2.45
Wild Oats and Annual Brome Grassland	Pipelines	1.78
Saltgrass Flats	Pipelines	0.62
Coyote Brush Scrub	Pipelines	0.31
Iceplant Mats	Pipelines	0.21
California Bulrush Marshes	Construction staging/laydown area	0.06

Figure 4a Vegetation and Land Cover – IW-1, MW-1A/1B, MW-1A/1B (Alternate), MW-1C/1D, MW-1C/1D (Alternate), and Pipeline Alignments

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Fig X Vegetation Communities_DDP

Figure 4b Vegetation and Land Cover – IW-2A/2B (Alternate), IW-2A, IW-2B, MW-2A/2B/2C, MW-2A/2B/2C (Alternate), and Pipeline Alignments

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Fig X Vegetation Communities_DDP

Figure 4c Vegetation and Land Cover – MW-2D/2E/2F, MW-3C/3D, PB-23, Staging/Laydown Yards, Potential Jack and Bore Pits, ATF Complex, and Pipeline Alignments

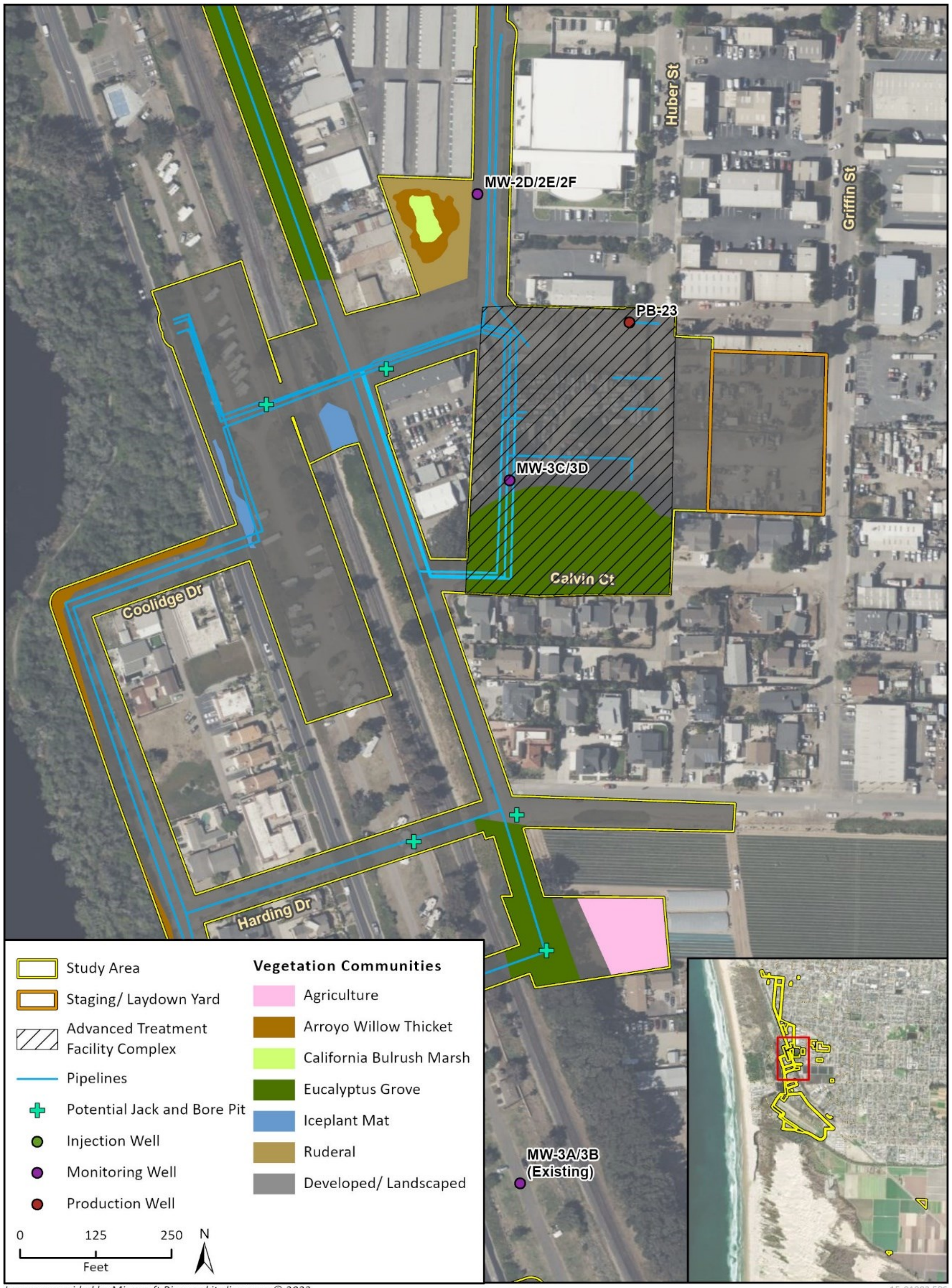

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Fig X Vegetation Communities_DDP

Figure 4d Vegetation and Land Cover – MW-4C/4/D, ATF Complex, and Staging/Laydown Yards

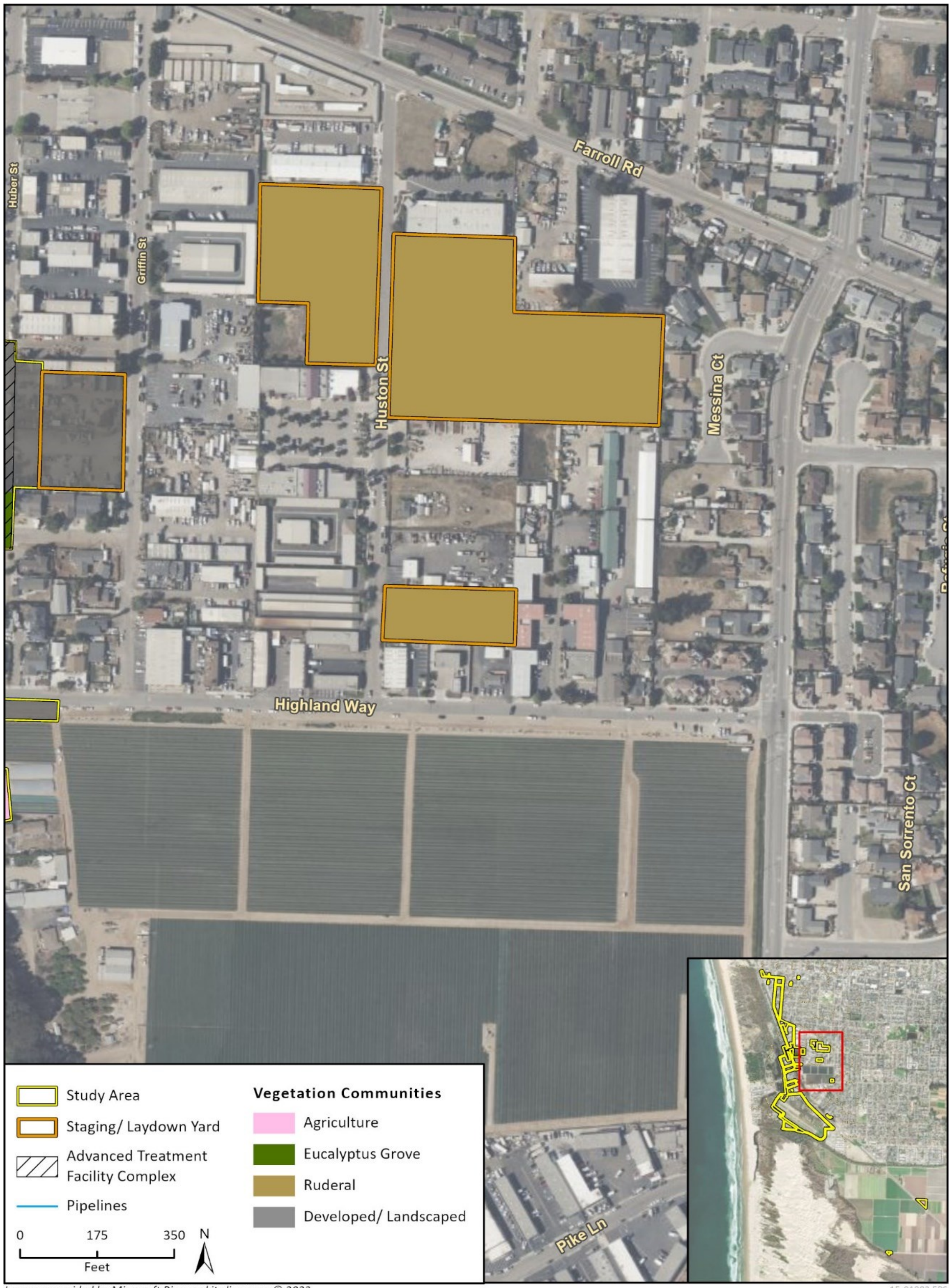

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Figure 4e Vegetation and Land Cover – IW-3, IW-4 (Existing), IW-4 (Alternate), MW-3A/3B (Existing), MW-4A/4B, Potential Jack and Bore Pits, and Pipeline Alignments

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Fig X Vegetation Communities_DDP

Figure 4f Vegetation and Land Cover – IW-4 and Pipeline Alignments

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Fig X Vegetation Communities_DDP

Figure 4g Vegetation and Land Cover – Pipeline Alignments

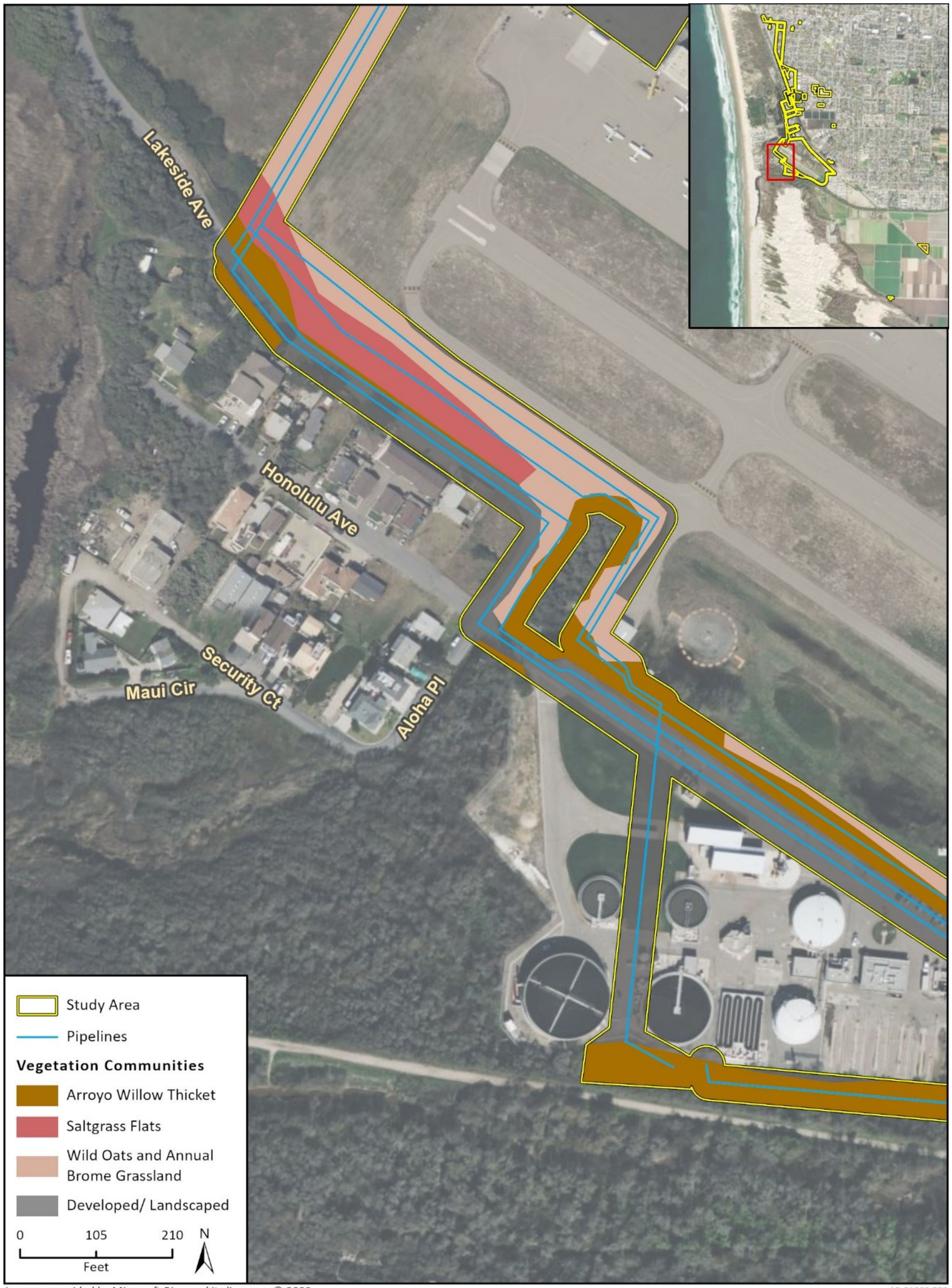

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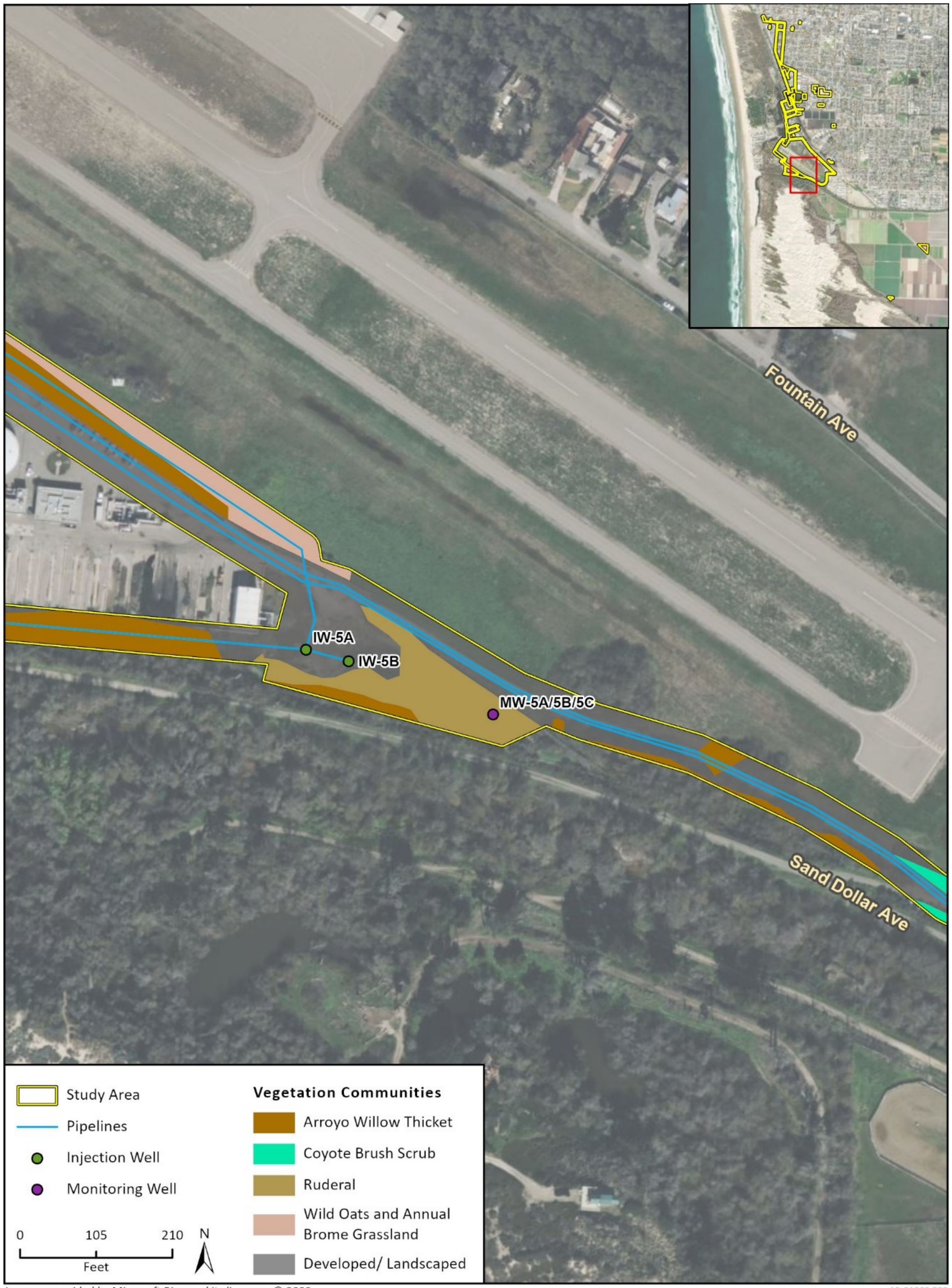
Fig X Vegetation Communities_DDP

Figure 4h Vegetation and Land Cover – IW-5A, IW-5B, MW-5A/5B/5C, and Pipeline Alignments



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15-01882 EPS
Fig X Vegetation Communities_DDP

Figure 4i Vegetation and Land Cover – MW-5D/5E/5F, Staging/Laydown Yards, and Pipeline Alignments

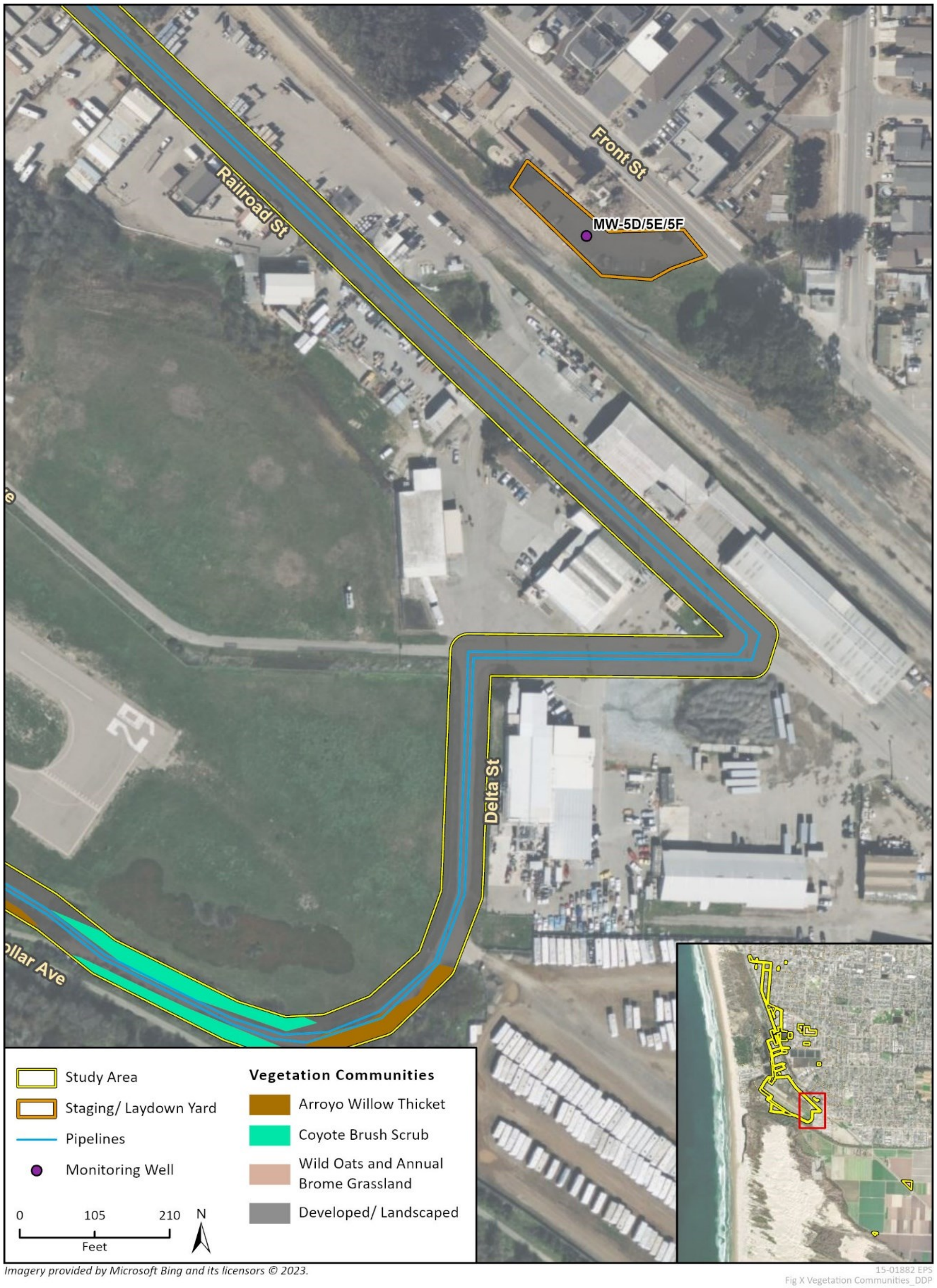

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Figure 4j Vegetation and Land Cover – MW-NCMA North A/B/C and MW-NCMA South A/B/C

Developed/Landscaped

Developed/Landscaped land cover is the largest land cover type in the Study Area, occupying approximately 37.75 acres. This land cover consists of areas that have been previously developed or otherwise physically modified to the extent that they no longer contain native soil and habitat conditions and no longer support most vegetation. Developed land in the Study Area is characterized by the presence of permanent or semi-permanent structures, such as residential and commercial buildings, campgrounds, gravel lots, pavement including parking lots and roadways, or hardscape. This land cover type may also contain areas that are sparsely vegetated, primarily with non-native species.

Landscaped land refers to vegetated areas associated with development, specifically planted for aesthetic beautification. Landscaped plants in the Study Area include Monterey cypress (*Hesperocyparis macrocarpa*), Monterey pine (*Pinus radiata*), and African daisy (*Dimorphotheca sinuata*).

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

Ruderal

Ruderal vegetation is associated with and adjacent to areas of active disturbance within the Study Area, occupying approximately 10.53 acres. This vegetation community occurs where ground has previously been disturbed and is currently not in active use. The ruderal vegetation is dominated by cheeseweed mallow (*Malva parviflora*), black mustard (*Brassica nigra*), short-podded mustard (*Hirschfeldia incana*), telegraphweed (*Heterotheca grandiflora*), and wild radish (*Raphanus sativus*), with non-native grasses and forbs also present. The ruderal areas most closely correspond to the *Brassica nigra - Raphanus* spp. Herbaceous Semi-Natural Alliance in the MCV2 classification system (Sawyer et al. 2009).

Eucalyptus Grove (*Eucalyptus* spp. Woodland Semi-Natural Alliance)

Eucalyptus grove is found planted as trees, groves, and windbreaks, as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from 0 to 1,900 meters (m) in elevation. Eucalyptus species consist of over 80 percent cover within the tree layer. Eucalyptus has a California Invasive Plant Council (Cal-IPC) rating of “Moderate” for its invasive tendencies (Cal-IPC 2023).

Within the Study Area, this community occupies approximately 3.56 acres and is dominated by blue gum (*Eucalyptus globulus*) as the sole tree species. The understory was primarily ruderal vegetation and blue gum debris. This land cover provides habitat for nesting birds, including raptors.

Agriculture

The agriculture land cover type covers approximately 3.31 acres of the Study Area. This land cover type includes active agriculture operations, including heavily disturbed bare ground areas and row crops such as strawberries. Sparse vegetation is present in portions of this land cover type, including non-native cheeseweed mallow, prostrate knotweed (*Polygonum aviculare*), and annual stinging nettle (*Urtica urens*).

Arroyo Willow Thicket (*Salix lasiolepis* Shrubland Alliance)

The arroyo willow (*Salix lasiolepis*) thicket is typically found between 0 to 9,186 ft (0 to 2,800 m) in elevation within stream banks and benches, slope seeps and along drainage with sediment depositions. Arroyo willow contributes to at least 50 percent relative cover in the tree or shrub canopy.

Within the Study Area, this community is associated with Arroyo Grande Creek, Meadow Creek, roadway drainages, and intermittent streams and occupies approximately 2.45 acres. Vegetation consists of a canopy of mature arroyo willow and red willow (*Salix laevigata*) trees. The understory is dense and dominated by California blackberry (*Rubus ursinus*), coyote brush (*Baccharis pilularis*), stinging nettle (*Urtica dioica*), and poison oak (*Toxicodendron diversilobum*).

Wild Oats and Annual Brome Grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance)

Wild oats and annual brome grassland is an open-to-dense naturalized vegetation community that is dominated or codominated by non-native, often invasive, annual grasses (e.g., wild oats [*Avena* spp.], ripgut brome [*Bromus diandrus*], and foxtail barley [*Hordeum murinum*]). This vegetation community is often interspersed with native and non-native forbs. Emergent trees and shrubs may be present but at low cover.

This vegetation community occurs within the Oceano Airport and covers approximately 1.78 acres of the Study Area. This vegetation type is dominated by ripgut brome and wild oats, with Bermuda grass (*Cynodon dactylon*), English plantain (*Plantago lanceolata*), cheeseweed mallow, common sowthistle (*Sonchus oleraceus*), hairy vetch (*Vicia villosa*), black mustard, and short-podded mustard also present. Signs of active mowing were also observed within this community on the Oceano Airport.

Iceplant Mats (*Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance)

Iceplant mats (*Mesembryanthemum spp. – Carpobrotus spp.* Herbaceous Semi-Natural Alliance) are typically found on bluffs, disturbed land, and sand dunes of the immediate coastline from sea level to 330 ft (100 m) in elevation. Iceplant (*Carpobrotus edulis*), common iceplant (*Mesembryanthemum crystallinum*), or other iceplant provide at least 80 percent absolute cover close to the coast or provide at least 50 percent relative cover on bluffs, dunes, or disturbed lands.

Within the Study Area, this community is associated with development and occurs along existing roadways, occupying approximately 0.21 acre. Iceplant is the dominant species, with non-native cheeseweed mallow and native blue elderberry (*Sambucas nigra* ssp. *caerulea*) also present. Iceplant has a Cal-IPC rating of “High” for its invasive tendencies (Cal-IPC 2023).

Saltgrass Flats (*Distichlis spicata* Herbaceous Alliance)

Saltgrass flats are a low growing herbaceous vegetation community that occurs in coastal salt marshes, playas, swales and terraces along washes that are intermittently flooded from 0 to 1,500 m. It is most often associated with alkaline or saline soils that are poorly drained. Saltgrass (*Distichlis spicata*), spiny rush (*Juncus acutus*) or Cooper’s rush (*Juncus cooperi*) are dominant species with greater than 50 percent relative cover.

Within the Study Area, this community is associated with the freshwater emergent wetland located along the southern portion of Oceano Airport and covers approximately 0.62 acre. This vegetation community is dominated by saltgrass and fleshy jaumea (*Jaumea carnosa*), with non-native Bermuda grass and native beaked spikerush (*Eleocharis rostellata*) also present. This is a CDFW-designated sensitive vegetation community (CDFW 2023b).

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance)

Coyote brush scrub is a coastal scrub vegetation community that occurs on coastal bluffs, terraces, stabilized dunes, stream sides, and other similar areas. The soils are variable and contain sandy to relatively heavy clay. Coyote brush (*Baccharis pilularis*) is the dominant to co-dominant in the shrub canopy where it must have greater than 50 percent absolute cover in the shrub canopy. Common co-dominants and associates include California coffeeberry (*Frangula californica*), coast silk tassel (*Garrya elliptica*), California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), and other similar coastal scrub and riparian shrub species. Emergent trees (i.e., coast live oak) may be present at low cover. This vegetation community is typically less than three meters tall, the shrub canopy is variable, and the herbaceous layer is variable.

Within the Study Area, this community occurs along the southwestern portion of Oceano Airport and covers approximately 0.31 acre. The shrub layer of this vegetation community is dominated by coyote brush and California blackberry, with stinging nettle, ripgut brome, and short-podded mustard also present.

California Bulrush Marshes (*Schoenoplectus (acutus, californicus*) Herbaceous Alliance)

California bulrush marshes are an herbaceous emergent wetland vegetation community that occurs in brackish to freshwater marshes, estuaries, sloughs, ponds, and swamps as well as along stream shores. The soils have a high organic content and are poorly aerated. Hardstem bulrush (*Schoenoplectus acutus*) and/or California bulrush (*Schoenoplectus californicus*) are dominant or co-dominant where either species must have greater than 50 percent relative cover. Common associates include a variety of other freshwater wetland perennial species such as cattails (*Typha* spp.) and alkali bulrush (*Bolboschoenus maritimus*). Emergent trees and shrubs may be present at low cover. This vegetation community is typically less than 15 ft tall and the cover is intermittent to continuous.

Within the Study Area, this community occurs adjacent to the pipeline alignment along Railroad Street and at the location of MW-2D/2E/2F, covering approximately 0.06 acre of the Study Area. This vegetation type is comprised of a dense herbaceous layer of California bulrush, with tall flatsedge (*Cyperus eragrostis*) and saltgrass also present. This is a CDFW-designated sensitive vegetation community (CDFW 2023b).

3.5 General Wildlife

Wildlife activity was moderate during the field reconnaissance survey. Vegetation communities within and adjacent to the Study Area, including arroyo willow thicket, coyote brush scrub, and eucalyptus grove, provide suitable habitat for a variety of birds and raptors. Ornamental trees within landscaped portions of the Study Area may also serve as suitable nesting habitat for a number of bird species. Bird species such as Anna’s hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), wrentit (*Chamaea fasciata*), black phoebe *(Sayornis nigricans)* and lesser goldfinch (*Spinus psaltria*) were observed. Mammals detected within the Study Area consisted of California ground squirrel (*Otospermophilus beecheyi*) as well as sign of coyote (*Canis latrans*) and raccoon (*Procyon lotor*). For a complete list of wildlife observed, see Appendix D.

The riparian corridor adjacent to Arroyo Grande Creek and Meadow Creek function as wildlife corridors within the area. The habitat value for wildlife west and east of the corridor is limited by urban development and the Pacific Ocean.

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4 Regulated Biological Resources

Local, state, and federal agencies regulate special status species and other biological resources. This section discusses regulated biological resources observed in the Study Area and evaluates the potential for the Study Area to support additional regulated biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDB, species occurrence records from other sites in the vicinity of the survey area, previous reports for the SSLOCSD WWTP property, and the results of surveys of the project site. The potential for each special status species to occur in the study area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential**. Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential**. All of the habitat components meeting the species requirements are present, and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDB or other reports) on the site recently (within the last five years).

4.1 Special Status Species

For the purpose of this report, special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by the USFWS or NMFS under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act or Native Plant Protection Act; and animals designated as “Species of Special Concern” by the CDFW or “Fully Protected” under the California Fish and Game Code. Additionally, rookery sites for species that nest colonially, such as bat maternity roosts are also treated as special status.

Based on the database searches, literature review, and the results of the field reconnaissance survey of the Study Area, Rincon evaluated a total of 89 special status plant and animal species. Of these, 11 special status plant species and 7 special status animal species were evaluated as being present or having some potential to occur within the Study Area. Special status species with potential to occur within the Study Area are summarized in Table 3, and a complete list of special status species evaluated for the proposed project is presented in Appendix B.

Table 3 Special Status Species with Potential to Occur in the Study Area[1]

Scientific Name	Common Name	Status	Potential to Occur
Plants			
Arctostaphylos rudis	sand mesa manzanita	CRPR 1B.2	Low Potential
Arenaria paludicola	marsh sandwort	FE/SE/ CRPR 1B.1	Low Potential
Cirsium scariosum var. *loncholepis*	La Graciosa thistle	FE/ST/ CRPR 1B.1	Low Potential
Dithyrea maritima	beach spectaclepod	ST/ CRPR 1B.1	Low Potential
Erigeron blochmaniae	Blochman's leafy daisy	CRPR 1B.2	Moderate Potential
Hesperocyparis macrocarpa	Monterey cypress	CRPR 1B.2	Present (Planted)
Horkelia cuneata var. *sericea*	Kellogg's horkelia	CRPR 1B.1	Low Potential
Monardella 34inuate ssp. *Sinuata*	southern curly-leaved monardella	CRPR 1B.2	Low Potential
Monardella undulata ssp. *Crispa*	crisp monardella	CRPR 1B.2	Moderate Potential
Monardella undulata ssp. *Undulata*	San Luis Obispo monardella	CRPR 1B.2	Moderate Potential
Scrophularia atrata	black-flowered figwort	CRPR 1B.2	Moderate Potential
Invertebrates			
Danaus plexippus pop. 1	monarch – California overwintering population	FC	Moderate Potential
Fish			
Eucyclogobius newberryi	tidewater goby	FE/SSC	Low Potential
Oncorhynchus mykiss irideus pop. 9	steelhead – south central California distinct population segment	FT	Low Potential
Amphibians			
Rana draytonii	California red-legged frog	FT/SSC	Low Potential
Reptiles			
Anniella pulchra	northern California legless lizard	SSC	Moderate Potential
Emys marmorata	southwestern pond turtle	SSC	Low Potential
Birds			
Agelaius tricolor	tricolored blackbird	ST/SSC	Moderate Potential
Elanus leucurus	white-tailed kite	FP	Low Potential

FC = Federal Candidate FE = Federally Endangered FT = Federally Threatened FP = State Fully Protected

SE = State Endangered ST = State Threatened SSC = CDFW Species of Special Concern CRPR = California Rare Plant Rank

See Appendix B for additional justification on each species' potential to occur along with all other special status species identified during the literature and database review, their listing statuses, their habitat requirements, their potential to occur designations, and their habitat suitability/observation notes

Special Status Plant Species

Based on the database and literature review of records from the *Oceano, California* USGS 7.5-minute topographic quadrangle and surrounding seven quadrangles as well as the USFWS IPaC list of federally listed species, 58 special status plant species are known to occur or have the potential to occur within the vicinity of the Study Area. Of the 58 special status plant species, 47 are not expected to occur within the Study Area because habitat within and adjacent to the Study Area is unsuitable for the species (i.e., the area does not meet minimum habitat requirements). As shown in Table 3, six special status plant species have a low potential to occur, four species have a moderate potential to occur, and one species, discussed further below, is present within the Study Area. The three non-listed special status plant species with a low potential to occur are omitted from further discussion because these species are not likely to occur within the Study Area and, even if present, population-wide impacts are not expected to occur. Listed special status plant species with a low potential to occur, and all special status plant species with a moderate potential to occur are discussed further below.

One special status plant species, Monterey cypress (*Hesperocyparis macrocarpa*; CRPR 1B.2), was observed within the Study Area during the field reconnaissance survey. This species is native to the Monterey Peninsula but has been widely planted outside of its native range as a landscape tree. In the Study Area, all occurrences of this species were located along public roadways as landscape trees. Monterey cypress trees are therefore omitted from further discussion because they are not native to the region and all occurrences within the Study Area are planted landscape trees.

Marsh Sandwort

Marsh sandwort, a federally endangered, State endangered, and CRPR 1B.1 species, is a perennial herbaceous plant in the pink family (Caryophyllaceae). This species grows in brackish or freshwater marshes and swamps in scattered populations between San Francisco County and San Bernardino County. This species occurs between 10 and 560 ft (3 to 170 m) in elevation. Only two natural occurrences are known from Black Lake Canyon and Oso Flaco Lake, both of which are located approximately three to four miles south of the Study Area. Several introduced populations are also known throughout San Luis Obispo County, none of which overlap with the Study Area. Suitable habitat for this species within the Study Area occurs in the marsh habitat located adjacent to MW-2D/2E/2F. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (May through August). As such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

La Graciosa Thistle

La Graciosa thistle, a federally endangered, State threatened, and CRPR 1B.1 species, is a perennial herbaceous plant in the sunflower family (Asteraceae). This species grows in mesic or sandy areas within cismontane woodland, coastal dunes, coastal scrub, brackish marshes and swamps, and valley and foothill grassland habitats from southwestern San Luis Obispo County to northwestern Santa Barbara County. This species occurs between 15 and 720 ft (4 to 220 m) in elevation. Marginally suitable habitat for this species occurs within the Study Area adjacent to Delta Lane, along the southern edge of the Oceano Airport, as well as in the marsh habitat located adjacent to MW-2D/2E/2F. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (May through August). As such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

Beach Spectaclepod

Beach spectaclepod, a State threatened and CRPR 1B.1 species, is a perennial herbaceous plant in the mustard family (Brassicaceae). This species grows in coastal dunes or sandy coastal scrub from San Luis Obispo County to Los Angeles County. This species occurs between 10 and 165 ft (3 to 50 m) in elevation. Marginally suitable habitat for this species occurs within the Study Area adjacent to Delta Lane, along the southern edge of the Oceano Airport. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (March through May). As such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

Blochman's Leafy Daisy

Blochman's leafy daisy, a CRPR 1B.2 species, is a perennial herbaceous plant in the sunflower family (Asteraceae). This species occurs in coastal dune and coastal scrub habitats from northwestern Santa Barbara County to southwestern San Luis Obispo County. This species occurs between 10 and 150 ft (3 to 45 m). Potentially suitable habitat for this species occurs adjacent to Delta Lane, along the southern edge of the Oceano Airport. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (June through August). As such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

Crisp Monardella

Crisp monardella, a CRPR 1B.2 species, is a perennial herbaceous plant in the mint family (Lamiaceae). This species occurs in coastal dune and coastal scrub habitats within San Luis Obispo and Santa Barbara Counties. This species occurs between 35 and 395 ft (10 to 120 m) in elevation. Potentially suitable habitat for this species occurs within the Study Area adjacent to Delta Lane, along the southern edge of the Oceano Airport. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (April through August). As such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

San Luis Obispo Monardella

San Luis Obispo monardella, a CRPR 1B.2 species, is a perennial herbaceous plant in the mint family (Lamiaceae). This species occurs in sandy coastal scrub and coastal dune habitats within San Luis Obispo County. This species occurs between 25 and 655 ft (10 to 200 m) in elevation. Potentially suitable habitat for this species occurs within the Study Area adjacent to Delta Lane, along the southern edge of the Oceano Airport. This species was not detected during the reconnaissance-level survey; however, the survey was not conducted during the blooming period of this species (May-September) and as such, its potential to occur within the Study Area is based solely on the presence of suitable habitat and the proximity of the Study Area to occurrences documented in the CNDDB.

Black-flowered Figwort

Black-flowered figwort, a CRPR 1B.2 species, is a perennial herbaceous plant in the figwort family (Scropulariaceae). This species occurs in closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, and riparian scrub habitats within San Luis Obispo and Santa Barbara Counties. This species occurs between 35 and 1,640 ft (10 to 500 m) in elevation. Potentially suitable coastal scrub and riparian scrub habitats for this species occur within the Study Area adjacent to Delta Lane and the SSLOCSD WWTP, along the southern edge of the Oceano Airport. Potentially suitable riparian scrub habitat for this species occurs within 100 ft of MW-5A/5B/5C, IW-5A, IW-5B, and pipelines elsewhere in the Study Area. This species was not observed in these areas during the field reconnaissance survey; however, a focused rare plant survey was not conducted.

Special Status Animal Species

Based on the database and literature review of records from the *Oceano, California* USGS 7.5-minute topographic quadrangle and surrounding seven quadrangles as well as the USFWS IPaC list of federally listed species, 31 special status animal species are known to occur or have the potential to occur within the vicinity of the Study Area. Of the 31 special status animal species, 24 are not expected to occur because habitat within and adjacent to the Study Area is unsuitable for the species (i.e., the area does not meet minimum habitat requirements). As shown in Table 3, four special status animal species have a low potential to occur, and three species have a moderate potential to occur within the Study Area.

Although definitive surveys for special status animal species were not conducted, no individual or sign indicating the presence of these special status animal species were observed during the reconnaissance-level survey. As such, the following analysis of potential for occurrences is based on the habitat suitability and CNDDB occurrences of these species in the vicinity.

Tidewater Goby

Tidewater goby, a federally endangered and SSC, inhabits lagoons, estuaries, marshes, and freshwater tributaries along the coast of California, from Del Norte County south to San Diego County (USFWS 2023d). Potentially suitable habitat for tidewater goby in the form of Arroyo Grande Creek and its associated lagoon occurs approximately 50 ft south of the Study Area; however, an earthen levee separates the Study Area from Arroyo Grande Creek and its associated lagoon. Additionally, Meadow Creek and its lagoon, located more than 100 ft west and south of the Study Area, are also isolated from the Study Area due to existing roadways and development. Therefore, this species has a low potential to occur within the Study Area.

Steelhead – South-Central California Coast DPS

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

Steelhead are known to occur within Arroyo Grande Creek and at the mouth of its lagoon; however, an earthen levee separates the Study Area from Arroyo Grande Creek and its lagoon. In addition, a surface connection between Arroyo Grande Lagoon and Meadow Creek Lagoon through the Sand Canyon structure (i.e., the flap gates) is only present during high flows in Meadow Creek and/or Arroyo Grande Creek and/or in conjunction with high tides. As a result, there is an infrequent possibility for steelhead to enter the Meadow Creek Lagoon. Furthermore, Meadow Creek and

Meadow Creek Lagoon are located more than 100 ft west of the Study Area and are separated from the Study Area by existing roadways and development. The species has a low potential to migrate near the discharge point of the existing ocean outfall pipeline in the Pacific Ocean during migration towards Arroyo Grande Creek.

Monarch Butterfly – California Overwintering Population

The monarch butterfly – California overwintering population, a federal candidate species, roosts in eucalyptus, Monterey pine, and Monterey cypress groves along the California coast from Mendocino County to Baja California, Mexico. This species must have water and nectar sources located near their roosting sites (CDFW 2023a). The monarch overwintering period in California typically spans from October through March (Monarch Joint Venture 2020).

Potentially suitable habitat for this species in the form of eucalyptus groves occurs throughout the Study Area. Several known overwintering sites, including Xerces Sites #2031, #3082, and #3061, occur within one mile of the Study Area (Xerces Society 2023). Additionally, Xerces Site #3063 overlaps with the Study Area at the ATF complex location; however, the last record of overwintering monarchs at this site is from 1989. No overwintering monarchs were observed at this site during the field reconnaissance survey; as such, this site is not currently an environmentally sensitive habitat area (ESHA). This species has a moderate potential to occur within the Study Area as transient individuals traveling between overwintering and nectar sites or within landscaped areas.

California Red-legged Frog

The California red-legged frog (CRLF), a federally threatened species and SSC, inhabits quiet pools of streams, marshes, and ponds. All life history stages are most likely to be encountered in and around breeding sites, which include coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams, as well as artificial impoundments such as stock ponds, irrigation ponds, and siltation ponds. Eggs are typically deposited in permanent pools, attached to emergent vegetation.

The Study Area is located within the known range of CRLF in San Luis Obispo County based upon the current range depicted in the Arroyo Grande Creek core area as presented in *Recovery Plan for the California Red-Legged Frog* (USFWS 2002). CRLF are known to occur within Arroyo Grande Creek from its lagoon to approximately 1.4 miles upstream (CDFW 2023a).

The majority of the Study Area is developed or heavily disturbed. No aquatic breeding habitat occurs within the Study Area. IW-5A, IW-5B, and MW-5A/5B/5C as well as portions of the pipeline alignments are adjacent to potentially suitable dispersal habitat for the CRLF, in the form of arroyo willow riparian associated with Arroyo Grande Creek (see Figure 4a through Figure 4g). The potential to encounter CRLF within the project site is anticipated to be low and could be expected during conditions suitable for amphibian terrestrial movement, such as during wet conditions during or following rain events or at night. Although no suitable aquatic habitat for CRLF exists within the project footprint, encounters with CRLF during implementation are still possible due to the close proximity to known occurrences within Arroyo Grande Creek and known breeding areas within dispersal distance.

Northern California Legless Lizard

Northern California legless lizard, an SSC, requires sandy soils with moisture and sparse vegetation. The CNDDB documents numerous occurrences within five miles of the Study Area, the closest of which is from 2015 and is located less than one mile south of the Oceano Airport (CDFW 2023a).

Potentially suitable habitat in the form of areas with sandy soils and sparse vegetation are present in native and non-native habitat types throughout the Study Area, excluding developed areas. As a result, this species has a moderate potential to occur within the Study Area.

Southwestern Pond Turtle

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

No southwestern pond turtles or basking sites were observed within the Study Area during the field reconnaissance survey. Several CNDDB occurrences of this species have been recorded within five miles of the Study Area, the closest of which is from 2003 and is located approximately 2.5 miles northeast of the Study Area, within Arroyo Grande Creek (CDFW 2023a). Suitable upland habitat for this species is comprised of the arroyo willow riparian habitats adjacent to Meadow Creek and Arroyo Grande Creek which can be used as nesting habitat (see Table 2 and Figure 4a through Figure 4g). Therefore, within the Study Area, the species has the highest potential to occur at the IW-5A, IW-5B and MW-5A/5B/5C locations, which are adjacent to riparian habitat.

Tri-colored Blackbird

Potentially suitable foraging habitat for tri-colored blackbird, a State threatened species and SSC, occurs throughout the Study Area. Tri-colored blackbird requires open water, protected nesting substrate, and adequate foraging area with insect prey within a few miles of the colony. Suitable nesting substrate is not within the Study Area; however, potentially suitable nesting habitat can be found in the larger vicinity outside the Study Area in areas in proximity to open water such as Oceano Lagoon (which is 150 ft west of the proposed pipelines along SR 1, Coolidge Drive, and Norswing Drive) in areas containing cattails forming protected nesting substrate. No CNDDB occurrences have been documented within five miles of the Study Area; however, the species has been documented at numerous locations within a 10-mile radius of the Study Area in areas similar in nature to Oceano Lagoon. Other resources, including eBird, have documented the species within Oceano Lagoon (observed in 2018) as well as at the confluence of Oceano/Meadow Creek Lagoon with Arroyo Grande Creek (observed in 1992; eBird 2023). Based on the habitats found within the Study Area, this species is only expected to occur incidentally as it forages or moves through the area.

White-tailed Kite

The Study Area contains potentially suitable habitat for white-tailed kite, a State Fully Protected species. Potential foraging and nesting habitat for white-tailed kite occurs throughout the Study Area. White-tailed kite requires open grassland or marshes for foraging and dense-topped trees for nesting and perching. Eucalyptus, Monterey pine, and Monterey cypress trees scattered throughout the Study Area may be potential nesting habitat for the species, and grassland habitats throughout the Study Area may provide potential foraging habitat for the species. No CNDDB occurrences have been documented within five miles of the Study Area; however, the species has been documented adjacent to Oceano Lagoon (observed each year from 2006 through 2023) (eBird 2023).

Southern Sea Otter

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

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

Other Protected Species

Structures, trees, and shrubs in and surrounding the Study Area provide habitat for other bird species to nest, many of which are protected under the Migratory Bird Treaty Act and similar provisions under the California Fish and Game Code. Several species of birds common to the area typically nest in the habitats found within the Study Area, such as house finch, black phoebe, wrentit, and lesser goldfinch. Although no raptor nests were detected during the survey, the eucalyptus trees within and adjacent to the Study Area could be utilized by raptors for nesting.

4.2 Sensitive Plant Communities and Critical Habitats

The CNDDB lists six sensitive natural communities in the eight quadrangles that include and surround the Study Area (Appendix B). None of these six listed sensitive natural communities occur within the Study Area. On-site vegetation types were compared with the California Sensitive Natural Communities List (CDFW 2023c). According to the CDFW's California Sensitive Natural Communities List, two vegetation communities present within the Study Area, saltgrass flats and California bulrush marshes, are considered to be sensitive.

Figure 5 provides an overview of all federally designated critical habitat in relation to the Study Area. Critical habitat for tidewater goby, steelhead – south-central California coast DPS, and western snowy plover (*Charadrius alexandrinus nivosus*) occur within five miles of the Study Area. Additionally, critical habitat for La Graciosa thistle overlaps with the Study Area at MW-NCMA South A/B/C; however, construction activities for this monitoring well would be restricted to the existing agricultural areas, outside of potentially suitable habitat for La Graciosa thistle (USFWS 2023b).

Figure 5 Critical Habitat within the Study Area

Imagery provided by Microsoft Bing and its licensors © 2023.
Critical Habitat data provided by USFWS, 2022 and NOAA, 2021.

4.3 California Coastal Zone and Environmentally Sensitive Habitat Areas

All injection and monitoring well locations except MW-1C/1D, MW-4C/4D, MW-5D/5E/5F, the majority of pipelines, and portions of the ATF complex location occur within the Coastal Zone designated by the CCC under the California Coastal Act. Additionally, several potential jack and bore pit locations occur within the Coastal Zone. Because project components fall within the jurisdictions of the City of Grover Beach and the County of San Luis Obispo as well as within the original jurisdiction of the CCC, the City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of local permit processing by the City of Grover Beach and County of San Luis Obispo.

The CCC defines ESHAs as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments" (Coastal Act Section 30107.5). Wetlands, including saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens, are often considered as ESHAs (Coastal Act Section 30121).

LCPs typically identify areas or habitats that are considered as ESHAs within specific cities or counties. Within the Study Area, the City of Grover Beach and the County of San Luis Obispo each have an adopted LCP that identifies riparian habitats associated with Arroyo Grande Creek and Meadow Creek as ESHA. See Table 2 and Figure 4a through Figure 4g for information on locations of riparian habitat that would be considered ESHA.

4.4 Jurisdictional Waters and Wetlands

As noted in Section 3.2, *Watersheds and Drainages*, and Section 3.4, *Vegetation and Other Land Cover*, two detention basins, two wetlands, two agriculture ditches, a roadway drainage, an intermittent stream and associated riparian vegetation were observed during the reconnaissance survey (see Table 1, Table 2, and Appendix E). Figure 6a through Figure 6f provide a summary of jurisdictional waters and wetlands within the Study Area. These features are potentially under the jurisdiction(s) of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), CDFW, CCC, and local agencies pursuant to the California Coastal Act and associated CCC-approved LCPs (i.e., the City of Grover Beach and San Luis Obispo County).[6] These agencies make the final determination regarding limits of jurisdiction, typically at the time permits are requested for activities within these areas.

4.5 Wildlife Movement

Wildlife movement corridors, or habitat linkages, are generally defined as connections between habitat patches that allow for physical and genetic exchange between otherwise isolated animal populations. Such linkages may serve a local purpose, such as providing a habitat connection between foraging and denning areas, or they may be regional in nature. Some habitat linkages may

[6] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC.

Figure 6a Jurisdictional Waters and Wetlands – Detention Basin 1

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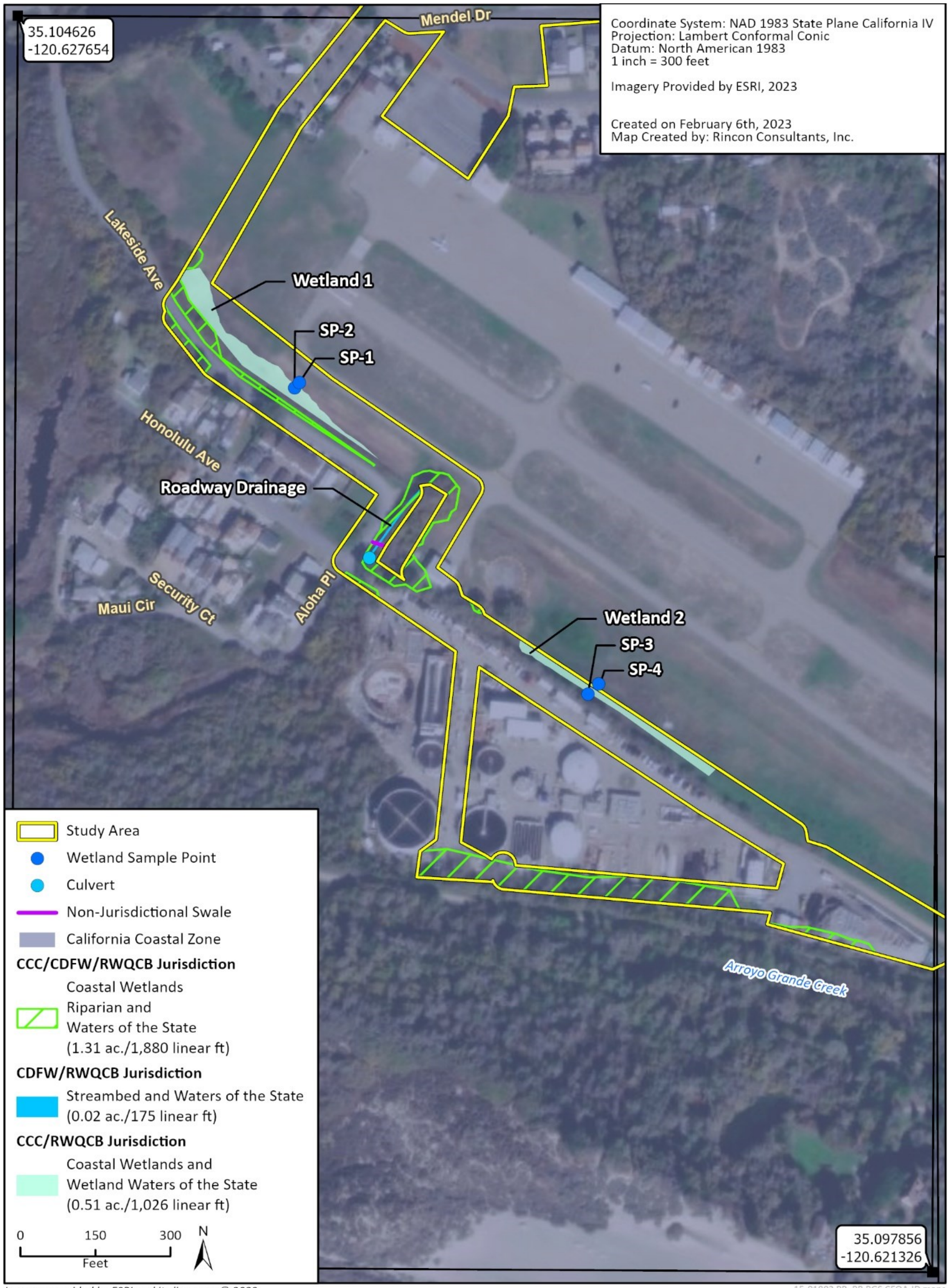
15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 6b Jurisdictional Waters and Wetlands – Wetlands 1 and 2, Roadway Drainage, and Sample Points 1-4



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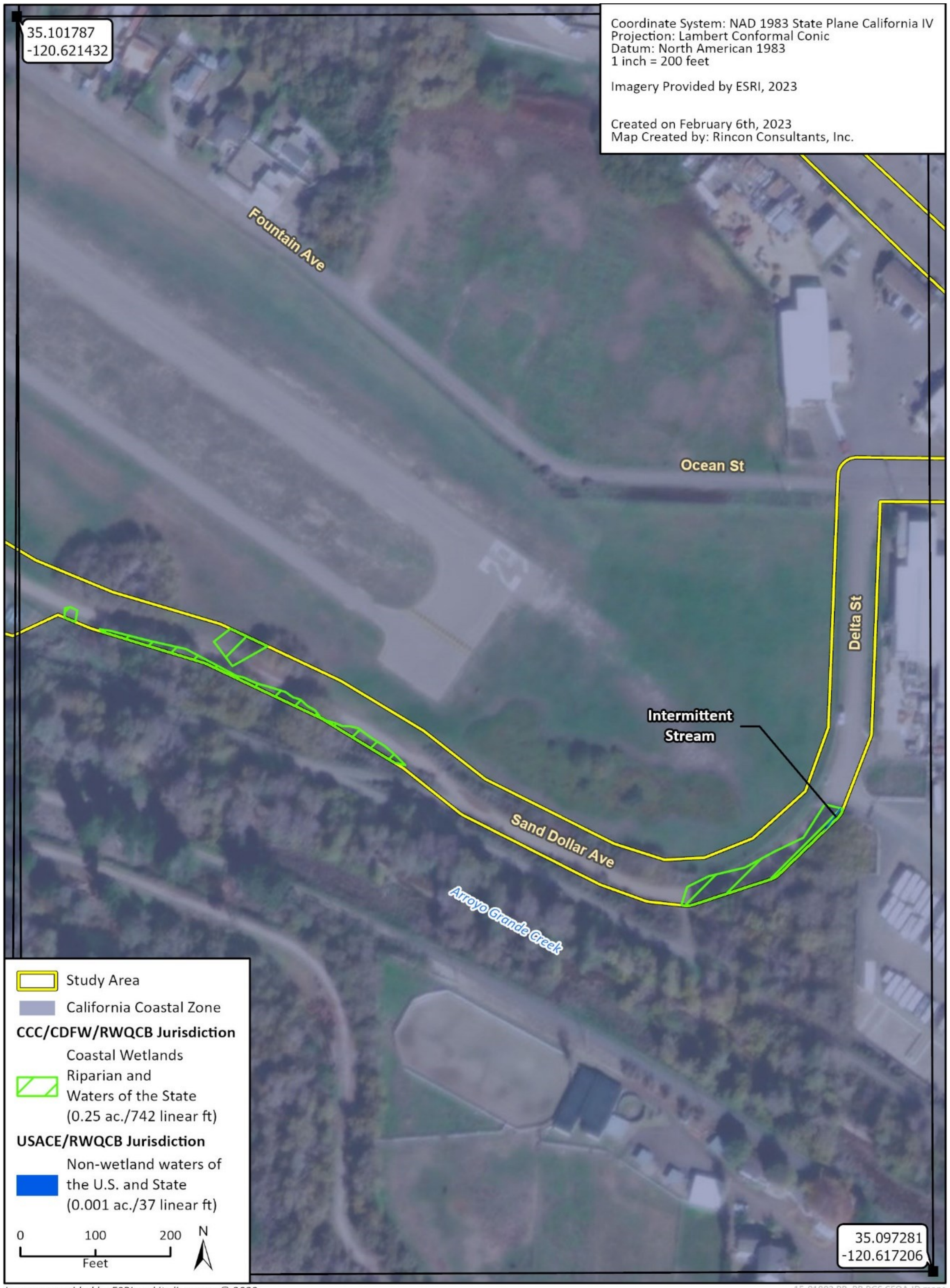
Page 2 of 6

15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 6c Jurisdictional Waters and Wetlands – Intermittent Stream



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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 6d Jurisdictional Waters and Wetlands – Agriculture Ditch 1

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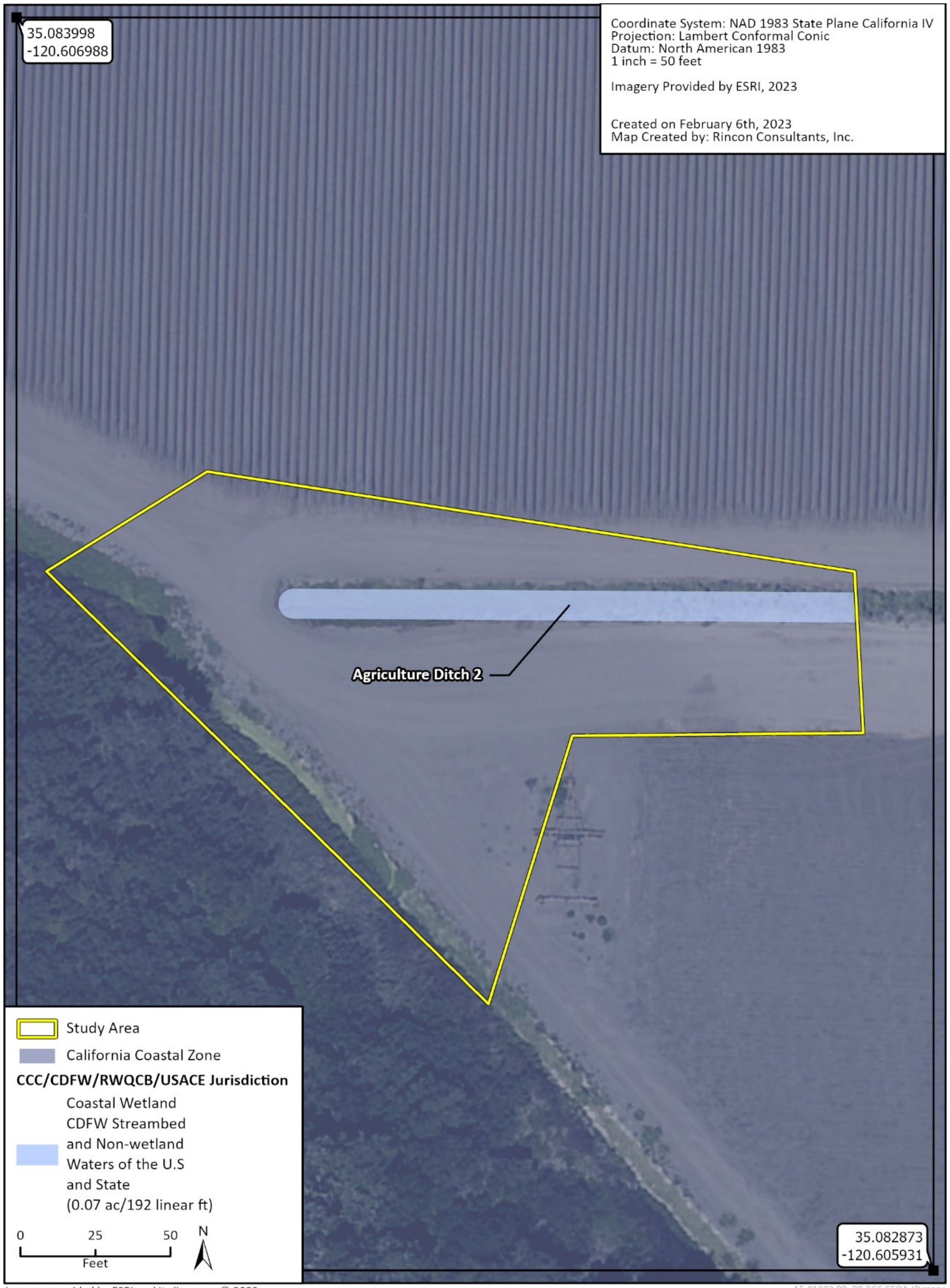
15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 6e Jurisdictional Waters and Wetlands – Agriculture Ditch 2



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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 6f Jurisdictional Waters and Wetlands – Detention Basin 2

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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

serve as migration corridors, wherein animals periodically move away from an area and then subsequently return. Others may be important as dispersal corridors for young animals. A group of habitat linkages in an area can form a wildlife corridor network.

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

Wildlife movement corridors can be both large and small scale. Regionally, the Study Area is not located within an Essential Connectivity Area (ECA) as mapped in the report *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California* (CDFW 2010). ECAs represent principle connections between Natural Landscape Blocks. ECAs are regions in which land conservation and management actions should be prioritized to maintain and enhance ecological connectivity. ECAs are mapped based on coarse ecological condition indicators, rather than the needs of particular species and thus serve the majority of species in each region. Within the Study Area, the arroyo willow riparian habitat provides suitable small-scale corridor for wildlife to travel locally.

4.6 Resources Protected by Local Policies and Ordinances

Any native trees proposed for removal associated within the project site are subject to the permit and approval requirements included in San Luis Obispo County Code (SLOCC) Sections 23.05.060, 23.05.062, and 23.05.060. Native trees including arroyo willow and Monterey cypress can be found within the Study Area. In addition, the County of San Luis Obispo and City of Grover Beach LCPs as well as San Luis Obispo County Coastal Zone Land Use Ordinance include Policies and Ordinances which regulate activities within and adjacent to ESHA (see Section 4.3, *California Coastal Zone and Environmentally Sensitive Habitat Areas*, for a discussion of ESHA). Currently, the City of Grover Beach and County of San Luis Obispo LCPs and associated ordinances require 50-foot and 100-foot setbacks, respectively, from ESHA.[7]

4.7 Habitat Conservation Plans

The Study Area overlaps with a small portion of the Draft Oceano Dunes District Habitat Conservation Plan (HCP) along the pipeline alignment located adjacent to Oceano Lagoon on Norswing Ave; however, this plan has not yet been adopted (California State Parks 2020). Additionally, an HCP for Arroyo Grande Creek between Lopez Dam and the flood control channel is under development; however, this plan does not include any portion of the Study Area and has not yet been adopted (Stetson Engineers, Inc. 2004). No other HCPs, Natural Community Conservation Plans, or other approved local, regional, or state habitat conservation plans cover the Study Area.

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[7] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC.

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5 Impact Analysis and Mitigation Measures

This section discusses the possible impacts to biological resources that may occur from implementation of the proposed project and suggests appropriate avoidance, minimization, and mitigation measures that would reduce those impacts to less-than-significant levels. The criteria used to evaluate potential project-related impacts to biological resources are summarized in Section 2.3, *Guidelines for Determining CEQA Significance*.

5.1 Special Status Species

The proposed project would have a significant effect on biological resources if it would:

a) Have substantial adverse effects, 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 CDFW or USFWS.

Special Status Plants

Three listed special status plant species - marsh sandwort, La Graciosa thistle, and beach spectaclepod - were determined to have a low potential to occur in the Study Area, and four non-listed special status plant species, including Blochman's leafy daisy, crisp monardella, San Luis Obispo monardella and black-flowered figwort, were determined to have a moderate potential to occur within the Study Area. The majority of project impacts would occur on developed or landscaped areas outside the limits of native habitats. However, IW-5A, IW-5B, MW-2D/2E/2F, and MW-5A/5B/5C would be located in close proximity to suitable riparian habitat for black-flowered figwort. Additionally, potentially suitable coastal scrub habitat for La Graciosa thistle, beach spectaclepod, Blochman's leafy daisy, crisp monardella, San Luis Obispo monardella, and black-flowered figwort occurs adjacent to the pipeline alignment along Delta Lane. Potentially suitable marsh habitat for La Graciosa thistle and marsh sandwort also occurs within the Study Area adjacent to MW-2D/2E/2F. No direct impacts to these species are expected to occur during project activities because potentially suitable marsh and coastal scrub habitats for these species will be avoided during construction. Indirect impacts would occur if construction equipment inadvertently transports residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that has not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or alter habitat towards a state that is unsuitable for the survival of special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats through displacement of vital pollinators or through competition with native plants for space, water and light.

The project footprint of the injection wells, monitoring wells and the pipelines would be relatively small, and the impacts associated with construction would be primarily temporary in nature in developed/landscaped land cover. Furthermore, injection wells would be located along edges of larger habitat blocks potentially suitable for these species. Therefore, only a relatively small number of each of these special status plant species, if any, would be impacted in comparison to the population that could inhabit the remaining regionally occurring suitable habitat. Therefore, construction of the injection wells, monitoring wells, and the pipelines would not be expected to remove or degrade habitat for special status plant species to such an extent as to cause a downward trend in the species range-wide or regional/local populations or cause a restriction in the species range that would lead to a federal or state listing. Therefore, impacts to special status plant species from construction and operation of injection wells, monitoring wells, and pipelines would be less than significant, and no mitigation measures are recommended.

Special Status Animals

Tidewater Goby

Arroyo Grande Creek, approximately 50 feet south of known locations of project components, contains suitable habitat for tidewater goby; however, an earthen levee separates the known locations of project components from the creek. Meadow Creek and Oceano Lagoon, located more than 100 feet west and south of the known locations of project components, are also isolated from the known locations of project components due to existing roadways and development. In addition, the project includes monitoring of groundwater levels during construction dewatering at the ATF complex location and implementation of management actions to be protective of surface water levels in Oceano Lagoon such that this activity would not impact this species. Therefore, given the distance and intervening topographical features, no impacts to tidewater goby would occur as a result of the construction and operation of the injection wells, monitoring wells, pipelines, and the ATF complex. No mitigation measures are recommended.

Steelhead - South-Central California Coast DPS

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

Overwintering Population of Monarch Butterfly

The California overwintering population of monarch butterfly has a moderate potential to occur within the Study Area as transient individuals due to the proximity of numerous overwintering sites and presence of potential nectar sources within landscaped areas. The eucalyptus grove located within the ATF complex location could serve as potential monarch overwintering habitat (Xerces Site #3063). However, as discussed in Section 4.1, *Special Status Species*, the last record of overwintering monarchs at this site is from 1989, and no overwintering monarchs were observed at this site during the appropriately-timed field reconnaissance survey. Additionally, the Pismo State Beach Monarch Butterfly Grove (Xerces Site #3060), located approximately 1.4 miles northwest of the ATF complex location, was observed to be occupied by overwintering monarchs during the field reconnaissance survey. This indicates that overwintering monarchs were still present in the region at the time of the field reconnaissance survey but were not utilizing the eucalyptus grove within the ATF complex location (Xerces Site #3063). As such, this site would not currently be considered an ESHA in the context of the California Coastal Act, and no impacts to overwintering monarchs at this site are expected as a result of the proposed removal of this eucalyptus grove if removal occurs prior to the start of the next overwintering period in October 2023. If removal of the eucalyptus grove occurs after the start of the next overwintering period in October 2023, conditions may change, and the area may be used as overwintering habitat by monarchs, in which case removal of the eucalyptus grove could result in direct impacts to monarch butterfly, such as injury/mortality and/or removal of overwintering habitat. In addition, potential indirect impacts to overwintering monarchs due to harassment could occur if they are present within the vicinity of the project during construction, though the likelihood would be low. Given the potential for direct and indirect effects to overwintering monarchs, project impacts to overwintering monarchs would be potentially significant should removal of the eucalyptus tree grove occur after the start of the next overwintering period in October 2023. See *Recommended Mitigation Measures* for measures which include implementation of avoidance and minimization measures for overwintering monarchs during construction activities that would reduce impacts to a less-than-significant level.

California Red-legged Frog

CRLF have the potential to occur in and adjacent to Arroyo Grande Creek and Oceano Lagoon. However, CRLF only have potential to be present within the limits of the IW-5A, IW-5B, MW-5A/5B/5C, pump station, and pipeline locations adjacent to Arroyo Grande Creek. Encounters with CRLF would be limited to dispersing and foraging adults and sub-adults and would be dependent upon favorable weather conditions (e.g., during rain events or other times with elevated moisture levels). No impacts to eggs or tadpoles would occur because all injection well footprints are located in upland areas. If CRLF individuals are present within the project components, potential direct impacts would occur during project construction and/or during ground disturbing maintenance activities if harassment, injury, or mortality of CRLF individuals occurs. Indirect impacts to CRLF would also result from general project-related disturbance and noise in the vicinity of these well locations that may impact normal breeding and dispersal patterns for the species in the area. The project also has potential to result in direct impacts to CRLF upland habitat at the pipelines located within the Oceano County Airport, as currently sited, through removal of riparian vegetation associated with Arroyo Grande Creek. No impacts to breeding habitat would occur because all project components with known locations are located in upland areas. In addition, the project includes monitoring of groundwater levels during construction dewatering at the ATF complex and implementation of management actions to be protective of surface water levels in Oceano Lagoon such that this activity would not impact this species. Given the potential for direct and indirect impacts to CRLF individuals as well as direct impacts to CRLF habitat, impacts to CRLF would be potentially significant. See *Recommended Mitigation Measures* for measures which include avoidance of CRLF habitat and implementation of avoidance and minimization measures for CRLF during construction activities that would reduce impacts to a less-than-significant level.

Northern California Legless Lizard

Northern California legless lizards have the potential to occur in native or non-native vegetation and therefore suitable habitat within the project occurs at the ATF complex, IW-2A, IW-2B, IW-4, MW-3C/3D, MW-4A/4B, MW-4C/4D, MW-5A/5B/5C, and some pipeline alignments. Direct impacts, including mortality, to northern California legless lizard could occur during ground-disturbing construction and maintenance activities (e.g., grading, excavation, and trenching) at pipeline locations containing native or non-native vegetation. Potential indirect impacts include general habitat disturbance or removal and disruption of foraging or breeding activities leading to increased stress and reduced fecundity. Considering the marginal quality of the habitat at the injection well, monitoring well and the pipeline locations as well as the relatively small footprint of the injection wells and monitoring wells and largely temporary nature of impacts associated with construction activities, only a small number of northern California legless lizards, if any, would be directly impacted compared to the size of the regional population in native habitats. Based on these factors, impacts resulting from the proposed project are not expected to cause a downward trend in the species range-wide or regional/local populations or cause a restriction in the species range that would lead to a federal or State listing. Therefore, impacts to northern California legless lizard would be less than significant, and no mitigation measures are recommended.

Southwestern Pond Turtle

Southwestern pond turtle has the potential to occur in and adjacent to Arroyo Grande Creek and Meadow Creek. However, the species only has the potential to be present within the limits of IW-5A, IW-5B, MW-5A/5B/5C, and pump station locations adjacent to Arroyo Grande Creek and portions of the pipeline alignments within 50 feet of Arroyo Grande Creek and Meadow Creek. Potential direct impacts to southwestern pond turtle include destruction of nests as well as harassment, injury, and mortality of individuals if they are present during construction activities. Potential indirect impacts include general habitat disturbance or removal and disruption of foraging or breeding activities leading to increased stress and reduced fecundity. The project includes monitoring of groundwater levels during construction dewatering at the ATF complex location and implementation of management actions to be protective of surface water levels in Oceano Lagoon such that this activity would not impact this species. Due to the potential for impacts to individual turtle nest sites and disruption of breeding activities that could impact the reproductive success of the local and regional population, impacts to southwestern pond turtle from construction of the pipelines would be potentially significant. See *Recommended Mitigation Measures* for avoidance and minimization measures for southwestern pond turtle to be implemented during construction activities, which would reduce impacts to a less-than-significant level.

Southern Sea Otter

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

Nesting Birds and Special Status Birds (Including Tri-colored Blackbird and White-tailed Kite)

In addition to the special status animal species discussed above, several bird species protected by the California Fish and Game Code may also nest in trees and shrubs within or in close proximity to the injection well and monitoring well locations as well as the pipelines and the ATF complex. One State fully protected bird species (white-tailed kite) and one bird species listed as a State Threatened/SSC (tri-colored blackbird) also have the potential to occur at the injection and monitoring well locations and within the pipeline alignments based on the presence of potentially suitable habitat. Impacts to tri-color blackbird are unlikely given that the injection well, monitoring well, pump station, pipeline, and ATF complex locations and immediate surroundings only provide foraging habitat for the species. Therefore, no direct impacts to tri-color blackbird nesting would occur. However, direct impacts to nesting birds of other species, including white-tailed kite, may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds, including the white-tailed kite, from construction of the injection wells, monitoring wells, pipelines and the ATF complex would be potentially significant. See *Recommended Mitigation Measures* for avoidance and minimization measures for nesting birds to be implemented during construction activities, which would reduce impacts to a less-than-significant level.

Groundwater Extraction

The SMGB is adjudicated and, through the adjudication, was separated into three Management Areas, including the Northern Cities Management Area (NCMA). The cities of Arroyo Grande, Grover Beach, and Pismo Beach along with the Oceano Community Services District overlie the urban portion of the NCMA in the SMGB. Groundwater entitlements for the three cities (3,430 AFY) account for approximately 40 percent of these agencies' water supply. However, due to the threat of seawater intrusion during the most recent drought, the NCMA agencies have relied heavily on conservation and surface water supplies to voluntarily reduce their groundwater pumping by over 80 percent.

During Phase I of the proposed project, up to 900 AFY of advanced purified water would be injected into the SMGB, and the NCMA agencies may extract approximately 2,500 AFY (i.e., a net increase of 1,400 AFY over the 2012-2016 average). By extracting more than is injected, local alluvial groundwater levels around Arroyo Grande Creek, Arroyo Grande Creek Lagoon, Meadow Creek, and Meadow Creek Lagoon may lower, resulting in greater percolation (i.e., inflow) of surface waters from Arroyo Grande Creek into the alluvial aquifer of the SMGB. If the rate of percolation is substantially increased as a result of the proposed project, the surface water level of Arroyo Grande Creek may lower, resulting in adverse impacts to habitat for special status amphibian and fish species including CRLF, steelhead, and tidewater goby. However, an analysis prepared by Geoscience Support Services, Inc. (included in Appendix E) determined that Phase I of the proposed project would result in a negligible impact to percolation rates of Arroyo Grande Creek during normal and dry years. In especially wet years (as represented by years 1983, 1995, 1996, 1997, 1998), Phase I of the proposed project would increase streambed percolation rates by approximately 0.2 to 29 AFY compared to the baseline pumping scenario. The driving factor behind the increase in streambed percolation rates is the increase in pressure due to higher stream levels that would push more water into the groundwater basin, rather than a drawdown resulting from the proposed project. In especially wet years, stream levels would be higher than average, which would result in adequate stream flow for aquatic species and riparian habitat despite the minor increase in percolation rates. Under Phase II of the proposed project, either a similar quantity of or more advanced purified water would be injected into the SMGB than extracted; therefore, this phase of the project would not have any adverse impacts on percolation rates and corresponding surface water levels of Arroyo Grande Creek. Furthermore, the proposed project would reduce the Cities' reliance on surface water supplies from Lopez Reservoir, which releases to Arroyo Grande creek. Under the Low Reservoir Response Plan that was recently in place, environmental flows from Lopez Reservoir were curtailed during drought conditions at a more aggressive rate than municipal diversions (San Luis Obispo County Flood Control and Water Conservation District 2014). By diversifying the Cities' reliable water sources, the proposed project has the potential to prevent reduction in flows in Arroyo Grande Creek during dry years that could otherwise result from surface water supply diversions preventing or postponing reductions in Lopez Reservoir releases for environmental flows. Therefore, groundwater extraction facilitated by the proposed project would not substantially alter the hydrology of Arroyo Grande Creek such that adverse impacts to special status aquatic species would occur. Impacts from groundwater extraction would be less than significant.

Recommended Mitigation Measures

The following measures would reduce impacts to special status animal species to a less-than-significant level. It should be noted that the majority of the Study Area is located within the Coastal Zone, where arroyo willow riparian habitat associated with Arroyo Grande Creek, Meadow Creek, and their lagoons would be considered ESHA pursuant to the California Coastal Act, County of San Luis Obispo, and City of Grover Beach LCPs (see Section 4.3, *California Coastal Zone and Environmentally Sensitive Habitat Areas*). The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA pursuant to the Coastal Act, thereby avoiding impacts to species status species and their habitat (see Section 5.2, *Sensitive Plant Communities*, and Section 5.5, *Local Policies and Ordinances*). [8]

Overwintering Monarch Butterfly Impact Avoidance Measures

The ATF complex and associated construction work areas shall be sited outside of monarch butterfly overwintering habitat. If removal of the eucalyptus tree grove occurs after the start of the next overwintering period in October 2023, a survey shall be conducted prior to removal of the grove and during the overwintering period (i.e., October through February) for monarchs in the region to determine if monarchs are utilizing the eucalyptus grove south of 980 Huber Street in Grover Beach for overwintering. A survey shall also be conducted if the eucalyptus grove is not removed and other construction activities at the ATF complex location commence after the start of the next overwintering period in October 2023. If monarch butterflies are confirmed to overwinter within the eucalyptus grove, the grove shall be considered ESHA, and design of the ATF complex shall be modified to incorporate the appropriate setbacks included in the Coastal Act. The limits of construction shall be clearly demarcated by bright orange fencing in order to avoid work within designated setback areas. Areas outside of the limits of construction shall be considered

[8] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the LCPs for the City of Grover Beach and County of San Luis Obispo.

environmentally sensitive, and access and construction shall be restricted. If butterflies are present, all construction adjacent to overwintering habitat shall be conducted outside the overwintering season (i.e., October to February), if feasible. However, if construction must occur during this time period, a pre-construction survey of the monarch overwintering habitat adjacent to the ATF complex location shall be conducted to confirm presence or absence of monarch butterflies. If no butterflies are observed, construction may commence. If butterflies are observed, construction may only commence if a City-approved monarch butterfly expert determines that the construction activities would not adversely impact foraging, roosting, or other behaviors of the species.

California Red-legged Frog Habitat Avoidance

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

California Red-legged Frog Impact Avoidance Measures

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

- A qualified biologist shall survey the project site no more than 48 hours before the start of construction and ground-disturbing maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint, no work shall begin, and consultation with the USFWS shall be initiated. Work shall not begin until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Statement issued by the USFWS for the project are successfully implemented.
- For construction activities occurring during the wet season (October 15 and April 15), daily surveys shall be conducted by a qualified biologist prior to the start of construction activities. If a CRLF is found within the project footprint, work shall halt, and consultation with the USFWS shall be initiated. Work shall not re-commence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion/Incidental Take Statement issued by the USFWS for the project are successfully implemented.
- Before any construction or ground-disturbing maintenance activities begin, a biologist shall conduct a training session for all construction personnel. At a minimum, the training shall include a description of CRLF and its habitat, the specific measures that are being implemented to avoid dispersing CRLF, and the boundaries within which the project may be accomplished. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on hand to answer any questions.
- All vehicles and equipment shall be in good working condition and free of leaks. A spill prevention plan shall be established in the event of a leak or spill.
- Work shall be restricted to daylight hours to the extent feasible. If construction activities occur at night, a biological monitor shall be present. If a CRLF is found within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented.

- Water shall not be impounded in a manner that may attract CRLF.
- All excavations or trenches shall be covered or shall contain earthen ramps sufficient for CRLF to escape when not actively under construction to avoid entrapment of CRLF or other wildlife species.
- Herbicides shall not be used on site during construction.
- No pets shall be permitted on site.
- A biological monitor shall be present during all initial ground-disturbing activities for construction and maintenance activities, including but not limited to grading, excavation, and trenching. If a CRLF is found within the project footprint during active construction, all work shall stop, and the USFWS shall be notified. Work shall not recommence until authorization is provided by the USFWS to continue or applicable measures from a Biological Opinion and Incidental Take Statement or other authorization issued by the USFWS for the project are successfully implemented.
- All construction and ground-disturbing maintenance activities (e.g., grading, excavation, and trenching) conducted at injection well, monitoring well, and pipeline locations within 50 feet of Arroyo Grande Creek and Meadow Creek shall be conducted during dry conditions (i.e., days with less than 0.1 inch of predicted rainfall), outside of the wet season (October 15 through April 30), unless authorization is provided by the USFWS or a Biological Opinion/Incidental Take Statement issued by the USFWS for the project authorizes work during such conditions.

Southwestern Pond Turtle Impact Avoidance and Minimization Measures

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

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

a southwestern pond turtle nest is discovered, construction shall cease immediately upon the discovery, and CDFW shall be notified.

- To the extent feasible, construction activities shall be scheduled outside of the typical nesting season for southwestern pond turtle, which is April through August (Stebbins 2003).

Nesting Bird Avoidance and Minimization Measures

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

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

5.2 Sensitive Plant Communities and Critical Habitat

The proposed project would have a significant effect on biological resources if it would:

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.*

The large majority of the project would not have effects to riparian habitat or other sensitive habitat types. No effects to riparian habitat or other sensitive natural communities, including California bulrush marsh habitats, are anticipated at the injection well, monitoring well, and ATF complex locations. However, construction of the pipelines would directly impact the arroyo willow thicket vegetation community associated with Arroyo Grande Creek and saltgrass flats associated with the emergent wetland through habitat removal on the Oceano County Airport property. The arroyo willow riparian habitat is identified as ESHA under the adopted LCPs for the City of Grover Beach and the County of San Luis Obispo, while the saltgrass flats are a State-designated sensitive natural community. Direct impacts to these habitats could occur through ground disturbance, vegetation removal, and conversion of habitats to developed land uses. Indirect impacts would occur if construction equipment inadvertently transports residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that has not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or convert riparian habitat to non-native habitat. Direct and indirect impacts to sensitive plant communities and ESHA from construction of the pipelines in the Oceano County Airport would be potentially significant.

As discussed in Section 4.2, *Sensitive Plant Communities and Critical Habitat*, federally designated critical habitat for La Graciosa thistle overlaps with the Study Area at MW-NCMA South A/B/C. Project activities at this monitoring well would be restricted to the existing agricultural areas, outside of potentially suitable habitat for La Graciosa thistle. As such, no impacts to critical habitat for La Graciosa thistle would occur as a result of the project.

Recommended Mitigation Measure

The following measure would reduce impacts to sensitive plant communities to a less-than-significant level. It should be noted that the majority of the project components are located within the Coastal Zone, where arroyo willow riparian habitat associated with Arroyo Grande Creek would be considered ESHA pursuant to the California Coastal Act, County of San Luis Obispo LCP, and City of Grover Beach LCP (see Section 4.3, *California Coastal Zone and Environmentally Sensitive Habitat Areas*). The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA pursuant to the Coastal Act (see Section 5.2, *Sensitive Plant Communities*, and Section 5.5, *Local Policies and Ordinances*).[9]

Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

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

- Temporary impact areas to arroyo willow thickets and saltgrass flats habitats shall be restored at a one to one (1:1) ratio (one acre of restoration for each acre of impact) to offset temporary losses in habitat function. Permanent impacts shall be offset through creation, restoration, and/or enhancement of in-kind habitats at a minimum ratio of 2:1 to mitigate unavoidable permanent impacts to these habitats. A Habitat Mitigation and Monitoring Plan (HMMP) shall be prepared by a biologist familiar with restoration and mitigation techniques. The plan shall include, but not be limited to the following components:
    - Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type);
    - Goal(s) of the compensatory mitigation project (type[s] and area[s] of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved);
    - Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values of the compensatory mitigation-site);

[9] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the LCPs for the City of Grover Beach and County of San Luis Obispo.

- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan [including plant species to be used, container sizes, seeding rates, etc.]);
- Maintenance activities during the monitoring period, including weed removal and irrigation as appropriate (activities, responsible parties, schedule);
- Monitoring plan for the compensatory mitigation site, including no less than five years of monitoring with quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports);
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type;
- An adaptive management program and remedial measures to address negative impacts to restoration efforts;
- Notification of completion of compensatory mitigation and agency confirmation; and
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism).

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

5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.*

The majority of the injection wells, monitoring wells, and pipelines as well as the ATF complex are located within the Coastal Zone, and coastal wetlands receive protection from degradation or destruction caused by coastal development under the California Coastal Act. The detention basins, roadway drainages, intermittent stream and their associated arroyo willow riparian habitat within the Study Area would likely be under the jurisdictions of USACE, RWQCB, CCC, and CDFW and the wetlands would likely be under the jurisdictions of the CCC and RWQCB.[10] No impacts to the bed or bank of any potentially jurisdictional drainage would occur. The project includes monitoring of groundwater levels during construction dewatering at the ATF complex and implementation of management actions to be protective of surface water levels in Oceano Lagoon; therefore, no direct or indirect impacts to jurisdictional waters and wetlands would result from this activity. With trenching methods used for pipeline installation within the Oceano Airport property, impacts to jurisdictional wetland waters may occur. Temporary direct impacts to jurisdictional wetland waters

[10] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of local CDP processing by the City of Grover Beach and County of San Luis Obispo.

would occur through temporary displacement of soil and vegetation to accommodate the pipelines within the Oceano Airport property. Direct impacts would include the removal of riparian habitat to accommodate the pipelines within the Oceano County Airport property. Direct impacts would also occur if spills or leaks occur within the arroyo willow riparian habitat during construction at locations within or adjacent to this habitat. Therefore, impacts to jurisdictional waters and wetlands would be potentially significant, and the project would require the issuance of permits by the RWQCB and CDFW as well as the CCC under the Coastal Act.[11] See *Recommended Mitigation Measures*, which include implementation of impact mitigation and best management practices related to drainages and wetlands, which would reduce impacts to a less-than-significant level.

Groundwater Extraction

During Phase I of the proposed project, approximately 900 AFY of advanced purified water would be injected into the SMGB, and the NCMA agencies may extract approximately 2,500 AFY (i.e., a net increase of 1,400 AFY over the 2012-2016 average). By extracting more than is injected, local alluvial groundwater levels around Arroyo Grande Creek may lower, resulting in greater percolation (i.e., inflow) of surface waters from Arroyo Grande Creek into the alluvial aquifer of the SMGB. If the rate of percolation is substantially increased as a result of the proposed project, the surface water level of Arroyo Grande Creek may lower, resulting in hydrological interruption, which could have a substantial adverse effect on state and federally protected wetlands. However, an analysis prepared by Geoscience Support Services, Inc. (included in Appendix F) determined that Phase I of the proposed project would result in a negligible impact to percolation rates of Arroyo Grande Creek during normal and dry years. In especially wet years (as represented by years 1983, 1995, 1996, 1997, 1998), Phase I of the proposed project would increase streambed percolation rates by approximately 0.2 to 29 AFY. The driving factor behind the increase in streambed percolation rates is the increase in pressure due to higher stream levels that would push more water into the groundwater basin, rather than a drawdown resulting from the proposed project. In especially wet years, stream levels would be higher than average, which would result in adequate stream flow for wetlands and riparian habitat. Under Phase II of the proposed project, either a similar quantity of or more advanced purified water would be injected into the SMGB than extracted; therefore, this phase of the project would not have an adverse impact on percolation rates and corresponding surface water levels of Arroyo Grande Creek. Furthermore, the proposed project would reduce the Cities’ reliance on surface water supplies from Lopez Reservoir, which releases to Arroyo Grande creek. Under the Low Reservoir Response Plan that was recently in place, environmental flows from Lopez Reservoir were curtailed during drought conditions at a more aggressive rate than municipal diversions (San Luis Obispo County Flood Control and Water Conservation District 2014). By diversifying the Cities' reliable water sources, the proposed project has the potential to prevent reduction in flows in Arroyo Grande Creek during dry years that could otherwise result from surface water supply diversions preventing or postponing reductions in Lopez Reservoir releases for environmental flows. Therefore, groundwater extraction facilitated by the proposed project would not result in hydrological interruption to state and federally protected wetlands. Impacts from groundwater extraction would be less than significant.

Recommended Mitigation Measure

The following measures would reduce impacts to jurisdictional waters and wetlands to a less-than-significant level. It should be noted that the majority of the project components are located within

[11] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC.

the Coastal Zone, where arroyo willow riparian habitat associated with Arroyo Grande Creek and Meadow Creek would be considered ESHA pursuant to the California Coastal Act (see Section 4.3, *California Coastal Zone and Environmentally Sensitive Habitat Areas*). The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA pursuant to the Coastal Act (see Section 5.2, *Sensitive Plant Communities*, and Section 5.5, *Local Policies and Ordinances*).

Drainages and Wetlands Impact Mitigation

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

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

Drainages and Wetlands Best Management Practices During Construction

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

- Access routes, staging, and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to other federal and State waters, including locating access routes and ancillary construction areas outside of jurisdictional areas.
- To control erosion and sediment runoff during and after project implementation, appropriate erosion control materials shall be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint.
- Project activities within the drainages or wetlands shall occur during the dry season in any given year to the extent practicable. The dry season is typically between May 1 and September 30; however, this timeframe may be extended depending on year-to-year precipitation and drought conditions.
- All topsoil removed within riparian habitat and wetland waters shall be salvaged and replaced following completion of construction activities.
- During construction, no litter or construction debris shall be placed within drainages or wetlands. All such debris and waste shall be picked up daily and properly disposed of at an appropriate site.
- All project-generated debris, building materials, and rubbish shall be removed daily from jurisdictional areas and from areas where such materials could be washed into them.
- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, shall be prevented from contaminating the soil and/or entering drainages or wetlands.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 ft from drainages and wetlands and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan must be in place for prompt and effective response to any accidental spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take should an accidental spill occur.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

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.

The arroyo willow thicket and coyote brush scrub vegetation communities within the Study Area provide suitable small-scale corridors for wildlife to travel locally. However, urban development east and west of SR 1 currently limits wildlife movement throughout the majority of the Study Area, and existing fencing south of IW-5A, IW-5B, and MW-5A/5B/5C, currently prevent wildlife movement to the SSLOCSD WWTP. Although the injection wells include aboveground components, the project footprint at all injection wells will be relatively small and would not preclude wildlife movement. Furthermore, the proposed injection wells, monitoring wells, ATF complex, and pipelines would not create new barriers to an existing corridor since ground movement of wildlife is already constrained by development along the SR 1 corridor. While the eucalyptus grove located immediately south of the ATF complex is expected to provide suitable nesting and roosting habitat for birds and raptors, removal of eucalyptus trees within this grove is not expected to impact regional wildlife movement due to the availability of suitable nesting and roosting habitat in the vicinity of the Study Area. In addition, as discussed in Sections 5.1 and 5.3, groundwater extraction facilitated by the proposed project would not result in significant adverse impacts to surface water levels of Arroyo Grande Creek such that migration or other activities of steelhead and tidewater goby would be impaired. Therefore, the project would not substantially interfere with the movement of native resident or migratory fish or wildlife species, with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and no mitigation measures are recommended.

5.5 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

Trees may be removed to accommodate the proposed injection wells, monitoring wells, ATF complex and pipelines; however, the species and number of trees is not known at this time. Most of the trees that may be removed are landscaped/ornamental trees and are not protected trees. The removal of native trees in unincorporated San Luis Obispo County would be subject to the permit and approval requirements included in SLOCC Sections 23.05.060, 23.05.062, and 23.05.060. If removal of native trees under the proposed project does not occur in accordance with these requirements, impacts would be potentially significant. See *Recommended Mitigation Measures*, which includes a native tree inventory and compliance measures, which would reduce impacts to a less-than-significant level.

The Coastal Act includes development restrictions for the protection of ESHA, as discussed in Section 4.3, *California Coastal Zone and Environmentally Sensitive Habitat Areas* above. The project would be required to comply with the ESHA setback requirements of the Coastal Act. Therefore, the project would not conflict with policies or ordinances protecting ESHA, and no impact would occur.

Recommended Mitigation Measure

The following measure would reduce impacts related to local policies and ordinances to a less-than-significant level.

Native Tree Inventory, Protection, and Replacement

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

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

5.6 Adopted or Approved Plans

The proposed project would have a significant effect on biological resources if it would:

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The project area is not subject to an adopted HCP, NCCP, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur, and no mitigation measures are recommended.

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6 Limitations, Assumptions, and Use Reliance

This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Reconnaissance biological surveys for certain taxa may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, and therefore, cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDB, may vary with regard to accuracy and completeness. In particular, the CNDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the project site include the following:

- United States Army Corps of Engineers (USACE; wetlands and other waters of the United States)
- United States Fish and Wildlife Service (USFWS; federally listed species and migratory birds)
- National Marine Fisheries Service (NMFS; marine wildlife and anadromous fishes)
- Central Coast Regional Water Quality Control Board (RWQCB; waters of the State)
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes; state-listed species; nesting birds, marine resources)
- California Coastal Commission
- County of San Luis Obispo
- City of Grover Beach

United States Army Corps of Engineers

The USACE is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 Code of Federal Regulations (CFR) Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and United States Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges that have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

Waters of the U.S.

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

    i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

    ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

    iii. Which are used or could be used for industrial purpose by industries in interstate commerce;
4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in items 1 through 4 above;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1 through 6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3[e]). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4[c]). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 Federal Register 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2020), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands.
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands.
- **Facultative (FAC).** Occur in wetlands or non-wetlands.
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands.
- **Obligate Upland (UPL).** Almost never occur in wetlands.

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) falls within these categories. Any species not appearing on the USACE's list is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Applicable Case Law and Agency Guidance

The USACE's regulations defining "waters of the United States" have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that USACE's CWA jurisdiction does not extend to ponds that "are not adjacent to open water." In reaching its decision, the Court concluded that the "Migratory Bird Rule," which served as the basis for the USACE's asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines…" The Court was concerned that application of the Migratory Bird Rule resulted in "reading the term 'navigable waters' out of the statute. Highlighting the language of the CWA to determine the statute's jurisdictional reach, the Court stated, "the term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006, the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively "Rapanos"), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions, including the "plurality" opinion authored by Justice Scalia (joined by three other justices) and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum ("Rapanos Guidance Memorandum") in 2008 stating that "regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's standard is satisfied."

According to the plurality opinion in Rapanos, "the waters of the United States include only relatively permanent, standing or flowing bodies of water" and do not include "ordinarily dry channels through which water occasionally or intermittently flows." In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy's opinion, "the USACE's jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase 'navigable waters,' if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.' When, in contrast, wetlands' effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term 'navigable waters.'" Justice Kennedy identified "pollutant trapping, flood control, and runoff storage" as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands' ecological role, "mere adjacency" to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that "a more specific inquiry, based on the significant nexus standard, is therefore necessary."

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,

- Wetlands that directly abut such tributaries.

The USACE and USEPA decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;
- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally do not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom, breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and nine RWQCBs have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by SWRCB for multi-region projects. The process begins when an applicant submits an application to RWQCB and informs USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if RWQCB has not either issued or denied the application for Section 401 Certification, USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected;
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401

Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the state, except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body as compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020) states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

United States Fish and Wildlife Service

The USFWS implements several laws protecting the nation's fish and wildlife resources, including the Endangered Species Act (ESA; 16 United States Code [USC] Sections 153 et seq.), the Migratory Bird Treaty Act (MBTA; 16 USC Sections 703 to 711) and the Bald and Golden Eagle Protection Act (16 USC Section 668).

Endangered Species Act

The USFWS and NMFS share responsibility for implementing the ESA. Generally, the USFWS implements the ESA for terrestrial and freshwater species, while the NMFS implements the ESA for marine and anadromous species. Projects that would result in "take" of any threatened or endangered wildlife species, or a threatened or endangered plant species if occurring on federal land, are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the ESA, depending on the involvement by the federal government in funding, authorizing, or carrying out the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the ESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

Migratory Bird Treaty Act

The MBTA of 1918 implements four international conservation treaties that the U.S. entered into with Canada in 1916, Mexico in 1936, Japan in 1972, and Russia in 1976. It is intended to ensure the sustainability of populations of all protected migratory bird species. The law has been amended with the signing of each treaty, as well as when any of the treaties were amended, such as with Mexico in 1976 and Canada in 1995. The MBTA prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the USFWS.

The list of migratory bird species protected by the law (50 CFR Part 10.13) is primarily based on bird families and species included in the four international treaties. A migratory bird species is included on the list if it meets one or more of the following criteria:

1. It occurs in the United States or U.S. territories as the result of natural biological or ecological processes and is currently, or was previously listed as, a species or part of a family protected by one of the four international treaties or their amendments.
2. Revised taxonomy results in it being newly split from a species that was previously on the list, and the new species occurs in the United States or U.S. territories as the result of natural biological or ecological processes.
3. New evidence exists for its natural occurrence in the United States or U.S. territories resulting from natural distributional changes and the species occurs in a protected family.

In 2004, the Migratory Bird Treaty Reform Act limited the scope of the MBTA by stating the MBTA applies only to migratory bird species that are native to the United States or U.S. territories, and that a native migratory bird species is one that is present as a result of natural biological or ecological processes. The MBTA requires the USFWS to publish a list of all nonnative, human-introduced bird species to which the MBTA does not apply, and an updated list was published in 2020. The 2020 update identifies species belonging to biological families referred to in treaties the MBTA implements but are not protected because their presence in the United States or U.S. territories is solely the result of intentional or unintentional human-assisted introductions.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act prohibits anyone, without a permit issued by the USFWS, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs. The Act provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

“Disturb” means “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior."

In addition to immediate impacts, this definition also covers impacts that result from human-induced alterations initiated around a previously used nest site during a time when eagles are not present, if, upon the eagle's return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death or nest abandonment.

California Department of Fish and Wildlife

The CDFW derives its authority from the California Fish and Game Code (CFGC) and administers several state laws protecting fish and wildlife resources and the habitats upon which they depend.

California Endangered Species Act

The California Endangered Species Act (CESA) (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under CESA is defined as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill" (CFGC Section 86). This definition does not prohibit indirect harm by way of habitat modification, except where such harm is the proximate cause of death of a listed species. Where incidental take would occur during construction or other lawful activities, CESA allows CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated. Unlike the federal ESA, CESA's protections extend to candidate species during the period (typically one year) while the California Fish and Game Commission decides whether the species warrants CESA listing.

Native Plant Protection Act

The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et seq.). The NPPA requires CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare, and prohibits the take of listed plant species. Effective in 2015, CDFW promulgated regulations (14 California Code of Regulations 786.9) under the authority of the NPPA, establishing the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Fully Protected Species Laws

The CDFW enforces CFGC Sections 3511, 4700, 5050, and 5515, which prohibit take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided. The exception is situations where a Natural Community Conservation Plan is in place that authorizes take of the fully protected species.

Avian Protection Laws

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. CFGC Section 3503.5 protects all birds-of-prey and their eggs and nests against take, possession, or destruction of nests or eggs. Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Protection of Lakes and Streambeds

CFGC Section 1602 states it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain a Streambed Alteration Agreement (SAA) from CDFW, which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receipt of a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW, and a final SAA is executed.

The CDFW has not defined the term “stream” for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of CFGC Section 1602** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted CFGC Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM

- **CDFW regulations** defining "stream" for other purposes, including sport fishing (14 California Code of Regulations 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations 722[c][21]), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (California Department of Fish and Game 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse
  - Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
  - Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
  - The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. The importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

City of Grover Beach Local Coastal Plan

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

- **General Policy 3.** The City shall preserve and protect wetland resources including creeks and other seasonal wetland areas in conformance with Coastal Act Sections 30233 and 30236; all adverse impacts to riparian resources from any allowable development within wetlands or streams shall be fully mitigated.

- **General Policy 5.** ESHA shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas.
- **General Policy 6.** ESHA shall be buffered by a minimum of 50 feet. Development in areas adjacent to ESHA shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas.

County of San Luis Obispo Local Coastal Program

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

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

SLOCC Section 23.07.172 includes requirements for development proposed within or adjacent to (within 100 feet of the upland extent of) a wetland area shown on the Environmentally Sensitive Habitat Maps. The following provisions would be applicable to the proposed project:

- **SLOCC Section 23.07.172 - Wetland Setbacks(d).** New development in areas within the Wetlands combining designation shall be located a minimum of 100 feet from the upland extent of all wetlands, except as provided by subsection d(2). If the biological report determines that such setback will provide an insufficient buffer from the wetland area, and the applicable approval body cannot make the finding, then a greater setback may be required.
  - **Permitted uses within wetland setbacks**: Within the required setback buffer, permitted uses are limited to passive recreation, educational, existing non-structural agricultural development in accordance with best management practices, utility lines, pipelines, drainage and flood control of facilities, bridges and road approaches to bridges to cross a stream and roads when it can be demonstrated that:
    - Alternative routes are infeasible or more environmentally damaging.
    - Adverse environmental effects are mitigated to the maximum extent feasible.
  - **Wetland setback adjustment**: The minimum wetland setback may be adjusted through Minor Use Permit approval (but in no case shall be less than 25 feet), provided that the following findings can be made:
    - The site would be physically unusable for the principal permitted use unless the setback is reduced.

   - The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered.
   - That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to SLOCC Section 23.04.118a.

- **Requirements for wetland setback adjustment:** Setbacks established that are less than 100 feet consistent with this section shall include mitigation measures to ensure wetland protection. Where applicable, they shall include landscaping, screening with native vegetation and drainage controls. The adjustment shall not be approved until the approval body considers the following:
   - Site soil types and their susceptibility to erosion.
   - A review of the topographic features of the site to determine if the project design and site location has taken full advantage of natural terrain features to minimize impacts on the wetland.
   - The biologists report required by SLOCC Section 23.07.170 shall evaluate the setback reduction request and identify the types and amount of vegetation on the site and its value as wildlife habitat in maintaining the functional capacity of the wetland.
   - Type and intensity of proposed development.
   - Lot size and configuration and location of existing development.

SLOCC Section 23.07.174 includes requirements for development proposed within or adjacent to coastal streams and adjacent riparian areas. The following provisions would be applicable to the proposed project:

- **SLOCC Section 23.07.174(d) - Riparian Vegetation Setbacks.** New development shall be setback from the upland edge of riparian vegetation the maximum amount feasible. In the urban areas (inside the urban reserve line [URL]), this setback shall be a minimum of 50 feet. In the rural areas (outside the URL) this setback shall be a minimum of 100 feet.[12] A larger setback will be preferable in both the urban and rural areas depending on parcel configuration, slope, vegetation types, habitat quality, water quality, and any other environmental consideration. These setback requirements do not apply to non-structural agricultural developments that incorporate adopted nest management practices in accordance with LUP Policy 26 for Environmentally Sensitive Habitats.
   - **Permitted uses within the setback:** Permitted uses are limited to those specified in Section 23.07.172d(1) (for wetland setbacks), provided that the findings required by that section can be made. Additional permitted uses that are not required to satisfy those findings include pedestrian and equestrian trails, and non-structural agricultural uses.

     All permitted development in or adjacent to streams, wetlands, and other aquatic habitats shall be designed and/or conditioned to prevent loss or disruption of the habitat, protect water quality, and maintain or enhance (when feasible) biological productivity. Design measures to be provided include, but are not limited to:
      - Flood control and other necessary instream work should be implemented in a manner than minimizes disturbance of natural drainage courses and vegetation.

[12] A URL is a boundary separating urban/suburban land uses and rural land uses. URLs are delineated in the San Luis Obispo County General Plan Land Use Element Frameworks for Planning (County of San Luis Obispo 2015 and 2018).

    - Drainage control methods should be incorporated into projects in a manner that prevents erosion, sedimentation, and the discharge of harmful substances into aquatic habitats during and after construction.

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

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

Appendix B

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Agrostis hooveri Hoover's bent grass	–/– 1B.2	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Valley and foothill grassland. Usually sandy. 6 to 610 meters. Perennial herb. Blooms April through July.	None	No suitable habitat for this species is present within the Study Area.
Aphanisma blitoides aphanisma	–/– 1B.2	Coastal bluff scrub, Coastal dunes, Coastal scrub. Sandy or gravelly. 1 to 305 meters. Annual herb. Blooms February through June.	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, no CNDDB occurrences of this species have been recorded within five miles of the Study Area (CDFW 2023a).
Arctostaphylos luciana Santa Lucia manzanita	–/– 1B.2	Chaparral, Cismontane woodland. Shale. 350 to 850 meters. Perennial evergreen shrub. Blooms December to March.	None	The Study Area is outside the elevation range of the species.
Arctostaphylos pechoensis Pecho manzanita	–/– 1B.2	Closed-cone coniferous forest, Chaparral, Coastal scrub. Siliceous shale. 125 to 850 meters. Perennial evergreen shrub. Blooms November to March.	None	The Study Area is outside the elevation range of the species.
Arctostaphylos pilosula Santa Margarita manzanita	–/– 1B.2	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland. Sometimes sandstone. 75 to 1100 meters. Perennial evergreen shrub. Blooms December to May.	None	The Study Area is outside the elevation range of the species.
Arctostaphylos purissima La Purisima manzanita	–/– 1B.1	Chaparral (sandy), Coastal scrub. 60 to 555 meters. Perennial evergreen shrub. Blooms November to May.	None	The Study Area is outside the elevation range of the species.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Arctostaphylos rudis sand mesa manzanita	–/– 1B.2	Chaparral (maritime), Coastal scrub. Sandy. 25 to 322 meters. Perennial evergreen shrub. Blooms November to February.	Low	Potentially suitable coastal scrub habitat for this species is present within the Study Area. Seven occurrences have been recorded within five miles; however, no manzanita species, which are readily identifiable year-round, were observed during the reconnaissance survey within the Study Area. (CDFW 2023a).
Arenaria paludicola marsh sandwort	FE/SE 1B.1	Marshes and swamps (freshwater or brackish). Sandy, openings. 3 to 170 meters. Perennial stoloniferous herb. Blooms May to August.	Low	Potentially suitable marsh habitat for this species is present within the Study Area. Several CNDDB occurrences have been recorded within five miles of the Study Area; however, several of these populations have been determined to be extirpated, and none overlap with the Study Area (CDFW 2023a). This species was not observed during the 2023 field reconnaissance survey.
Calochortus obispoensis San Luis mariposa lily	–/– 1B.2	Chaparral, Cismontane woodland, Coastal scrub, Valley and foothill grassland. Often serpentinite. 50 to 730 meters. Perennial bulbiferous herb. Blooms May to July.	None	The Study Area is outside the elevation range of the species.
Calochortus simulans La Panza mariposa lily	–/– 1B.3	Chaparral, Cismontane woodland, Lower montane coniferous forest, Valley and foothill grassland. Sandy, often granitic, sometimes serpentinite. 325 to 1150 meters. Perennial bulbiferous herb. Blooms April to June.	None	The Study Area is outside the elevation range of the species.
Carex obispoensis San Luis Obispo sedge	–/– 1B.2	Closed-cone coniferous forest, Chaparral, Coastal prairie, Coastal scrub, Valley and foothill grassland. Often serpentinite seeps, sometimes gabbro; often on clay soils. 10 to 820 meters. Perennial herb. Blooms April to June.	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CDFW 2023a).

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Castilleja densiflora var. *obispoensis* San Luis Obispo owl's-clover	–/– 1B.2	Meadows and seeps, Valley and foothill grassland. Sometimes serpentine. 10 to 430 meters. Annual herb (hemiparasitic). Blooms March to May.	None	No suitable habitat or soils required for this species are present within the Study Area.
Caulanthus californicus California jewelflower	FE/SE 1B.1	Chenopod scrub, Pinyon and juniper woodland, Valley and foothill grassland. Sandy. 61 to 1000 meters. Annual herb. Blooms February to May.	None	The Study Area is outside the elevation and geographical ranges of the species.
Ceanothus impressus var. impressus Santa Barbara ceanothus	–/– 1B.2	Chaparral. Sandy. 40 to 470 meters. Perennial shrub. Blooms February to April.	None	The Study Area is outside the elevation range of the species.
Ceanothus impressus var. *nipomensis* Nipomo Mesa ceanothus	–/– 1B.2	Chaparral. Sandy. 30 to 245 meters. Perennial shrub. Blooms February to April.	None	No suitable habitat for this species is present within the Study Area.
Centromadia parryi ssp. *congdonii* Congdon's tarplant	–/– 1B.1	Valley and foothill grassland (alkaline). 0 to 230 meters. Annual herb. Blooms May to October(November)	None	No suitable habitat for this species is present within the Study Area.
Chenopodium littoreum coastal goosefoot	–/– 1B.2	Coastal dunes. 10 to 30 meters. Annual herb. Blooms April to August.	None	No suitable habitat for this species is present within the Study Area.
Chlorogalum pomeridianum var. *minus* dwarf soaproot	–/– 1B.2	Chaparral (serpentinite). 305 to 1000 meters. Perennial bulbiferous herb. Blooms May to August.	None	The Study Area is outside the elevation range of the species.
Chorizanthe aphanantha Irish Hills spineflower	–/– 1B.1	Chaparral, coastal scrub. Serpentinite, rocky to gravelly. 100 to 370 meters.	None	The Study Area is outside the elevation range of the species.
Chorizanthe breweri Brewer's spineflower	–/– 1B.3	Closed-cone coniferous forest, Chaparral, Cismontane woodland, Coastal scrub. Serpentinite, rocky or gravelly. 45 to 800 meters. Annual herb. Blooms April to August.	None	The Study Area is outside the elevation range of the species.
Cirsium fontinale var. *obispoense* Chorro Creek bog thistle	FE/SCE 1B.2	Perennial herb. Chaparral, cismontane woodland, coastal scrub, valley and foothill grassland. Drainages, seeps, serpentinite. 115 to 1265 feet (35 to 385 meters.) Blooms February to July (August to September).	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CDFW 2023a).

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Cirsium occidentale var. compactum Compact cobwebby thistle	–/– 1B.2	Chaparral, Coastal dunes, Coastal prairie, Coastal scrub. 5 to 150 meters. Perennial herb. Blooms April to June,	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, no CNDDB occurrences have been documented within five miles of the Study Area (CDFW 2023a).
Cirsium rhothophilum Surf thistle	–/ST 1B.2	Coastal bluff scrub, Coastal dunes. 3 to 60 meters. Perennial herb. Blooms April to June,	None	No suitable habitat for this species is present within the Study Area. One historic occurrence overlapping the Study Area has been recorded; however, that occurrence is believed to have been extirpated (CDFW 2023a).
Cirsium scariosum var. *loncholepis* La Graciosa thistle	FE/ST 1B.1	Cismontane woodland, Coastal dunes, Coastal scrub, Marshes and swamps (brackish), Valley and foothill grassland. Mesic, sandy. 4 to 220 meters. Perennial herb. Blooms May to August.	Low	Potentially suitable coastal scrub and marsh habitats for this species are present within the Study Area. Additionally, the Study Area at MW-NCMA South A/B/C overlaps with federally-designated critical habitat for this species. One CNDDB occurrence from 1969 is located approximately 100 feet west of the Study Area along Norswing Ave; however, this population has been extirpated as of 2017. This species was not observed during the 2023 field reconnaissance survey.
Cladium californicum California sawgrass	–/– 2B.2	Meadows and seeps, Marshes and swamps, Alkaline or Freshwater. 60 to 1600 meters. Perennial rhizomatous herb. Blooms June to September.	None	The Study Area is outside the elevation range of the species.
Clarkia speciosa ssp. *immaculata* Pismo clarkia	FE/SR 1B.1	Chaparral (margins, openings), Cismontane woodland, Valley and foothill grassland. Sandy. 25 to 185 meters. Annual herb. Blooms May to July.	None	No suitable habitat for this species is present within the Study Area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Cordylanthus maritimum ssp. *Maritimum* Salt marsh bird's-beak	FE/SE 1B.2	Marshes and swamps, coastal dunes. Limited to the higher zones of salt marsh habitat. 0 to 10 meters. Annual herb (hemiparasitic). Blooms May to October (November).	None	Potentially suitable marsh habitat for this species is present within the Study Area; however, the Study Area is located outside of the known geographic range of this species.
Deinandra increscens ssp. villosa Gaviota tarplant	FE/CE 1B.1	Coastal bluff scrub, Coastal scrub, Valley and foothill grassland. 20 to 430 meters. Annual herb. Blooms May to October.	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, the Study Area is located outside of the known geographic range of this species.
Delphinium parryi ssp. *blochmaniae* dune larkspur	–/– 1B.2	Chaparral (maritime), Coastal dunes. 0 to 200 meters. Perennial herb. Blooms April to June.	None	No suitable habitat for this species is present within the Study Area.
Delphinium parryi ssp. *eastwoodiae* Eastwood's larkspur	–/– 1B.2	Chaparral (openings), Valley and foothill grassland. Serpentinite, coastal. 75 to 500 meters. Perennial herb. Blooms (February)March to March.	None	The Study Area is outside the elevation range of the species.
Delphinium umbraculorum umbrella larkspur	–/– 1B.3	Chaparral, Cismontane woodland. 400 to 1600 meters. Perennial herb. Blooms April to June.	None	The Study Area is outside the elevation range of the species.
Dithyrea maritima beach spectaclepod	–/ST 1B.1	Coastal dunes, Coastal scrub (sandy). 3 to 50 meters. Perennial rhizomatous herb. Blooms March to May.	Low	Limited disturbed coastal scrub habitat is present within the Study Area along Delta Lane, south of the Oceano Airport. Additionally, the only CNDDB occurrence within five miles of the Study Area has been extirpated (CNDDB 2023a). Due to the limited amount of marginally suitable habitat resulting from frequent disturbance associated with the adjacent road, this species has a low potential to occur.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Dudleya abramsii ssp. *bettinae* Betty's dudleya	–/– 1B.2	Chaparral, Coastal scrub, Valley and foothill grassland. Serpentinite, rocky. 20 to 180 meters. Perennial herb. Blooms May to July.	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, the Study Area is located outside of the known geographic range of this species.
Dudleya abramsii ssp. *murina* mouse-gray dudleya	–/– 1B.3	Chaparral, Cismontane woodland, Valley and foothill grassland. Serpentinite. 90 to 525 meters. Perennial leaf succulent. Blooms May to June.	None	The Study Area is outside the elevation range of the species.
Dudleya blochmaniae ssp. *blochmaniae* Blochman's dudleya	–/– 1B.1	Coastal bluff scrub, Chaparral, Coastal scrub, Valley and foothill grassland. Rocky, often clay or serpentinite. 5 to 450 meters. Perennial herb. Blooms April to June.	None	The Study Area is outside the elevation range of the species.
Erigeron blochmaniae Blochman's leafy daisy	–/– 1B.2	Coastal dunes, Coastal scrub. 3 to 45 meters. Perennial rhizomatous herb. Blooms June to August.	Moderate	Potentially suitable coastal scrub habitat for this species is present within the Study Area. Several CNDDB occurrences are known from within five miles of the Study Area, including two occurrences located within one mile of the Oceano Airport (CDFW 2023a). This species was not observed during the 2023 field reconnaissance survey.
Eriodictyon altissimum Indian Knob mountainbalm	FE/SE 1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub. Sandstone. 80 to 270 meters. Perennial evergreen shrub. Blooms March to June.	None	The Study Area is outside the elevation range of the species.
Eryngium aristulatum var. *hooveri* Hoover's button-celery	–/– 1B.1	Vernal pools. 3 to 45 meters. Annual/Perennial herb. Blooms (June) July (August).	None	No suitable habitat for this species is present within the Study Area.
Erythranthe serpentinicola Irish Hills monkeyflower	--/-- 1B.1	Chaparral, Meadows and seeps. Mesic, Openings, Rocky, Serpentinite 60 to 360 meters. Blooms February to May.	None	No suitable habitat for this species is present within the Study Area.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Hesperocyparis macrocarpa Monterey cypress	--/-- 1B.2	Perennial evergreen tree. Closed-cone coniferous forest. Granitic soils. 35 to 100 feet (10 to 30 meters).	Present	This species was detected within the Study Area; however, all individuals were planted as ornamental trees within developed/landscaped portions of the Study Area.
Horkelia cuneata var. *puberula* mesa horkelia	–/– 1B.1	Chaparral (maritime), Cismontane woodland, Coastal scrub. Sandy or gravelly. 70 to 810 meters. Perennial herb. Blooms February to July (September).	None	The Study Area is outside the elevation range of the species.
Horkelia cuneata var. *sericea* Kellogg's horkelia	–/– 1B.1	Closed-cone coniferous forest, Chaparral (maritime), Coastal dunes, Coastal scrub. Sandy or gravelly, openings. 10 to 200 meters. Perennial herb. Blooms April to September.	Low	Potentially suitable coastal scrub habitat for this species is present within the Study Area. Several CNDDB occurrences have been recorded within five miles of the Study Area, the closest of which is from 1930 and is located approximately 2.5 miles east of the Study Area (CNDDB 2023a). This species was not observed during the 2023 field reconnaissance survey.
Layia jonesii Jones' layia	–/– 1B.2	Chaparral, Valley and foothill grassland. Clay or serpentinite. 5 to 400 meters. Annual herb. Blooms March to May.	None	No suitable habitat for this species is present within the Study Area.
Lupinus ludovicianus San Luis Obispo County lupine	–/– 1B.2	Chaparral, Cismontane woodland. Sandstone or sandy. 50 to 525 meters. Perennial herb. Blooms April to July.	None	The Study Area is outside the elevation range of the species.
Lupinus nipomensis Nipomo Mesa lupine	FE/SE 1B.1	Coastal dunes. 10 to 50 meters. Annual herb. Blooms December to May.	None	No suitable habitat for this species is present within the Study Area.
Malacothamnus gracilis slender bush-mallow	–/– 1B.1	Chaparral. Usually rocky. 190 to 575 meters. Perennial deciduous shrub. Blooms May to October.	None	The Study Area is outside the elevation range of the species.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Monardella palmeri Palmer's monardella	--/-- 1B.2	Perennial rhizomatous herb. Chaparral, cismontane woodland. On serpentine, often found associated with Sargent cypress forests. Elevations: 655 to 2,625 feet (200 to 800 meters) Blooms June to August.	None	No suitable habitat for this species is present within the Study Area.
Monardella sinuata ssp. *sinuata* southern curly-leaved monardella	–/– 1B.2	Chaparral, Cismontane woodland, Coastal dunes, Coastal scrub (openings). Sandy. 0 to 300 meters. Annual herb. Blooms April to September.	Low	Potentially suitable coastal scrub habitat for this species is present within the Study Area, and several CNDDB occurrences have been recorded within five miles of the Study Area; however, all CNDDB occurrences within five miles of the Study Area are over 50 years old (CNDDB 2023a). This species was not observed during the 2023 field reconnaissance survey.
Monardella undulata ssp. *crispa* crisp monardella	–/– 1B.2	Coastal dunes, Coastal scrub. 10 to 120 meters. Perennial rhizomatous herb. Blooms April to August (December).	Moderate	Potentially suitable coastal scrub habitat for this species is present within the Study Area. Two CNDDB occurrences have been recorded within five miles of the Study Area, the closest of which is from 2004 and is located less than one mile west of MW-NCMA South A/B/C (CNDDB 2023a). This species was not observed during the 2023 field reconnaissance survey.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Monardella undulata ssp. *undulata* San Luis Obispo monardella	–/– 1B.2	Coastal dunes, Coastal scrub (sandy). 10 to 200 meters. Perennial rhizomatous herb. Blooms May to September.	Moderate	Potentially suitable coastal scrub habitat is present within the Study Area. Several CNDDB occurrences have been recorded within five miles of the Study Area, the closest of which is from 1979 and is located 0.6 mile south of the Study Area (CNDDB 2023a). This species was not observed during the 2023 field reconnaissance survey.
Muhlenbergia utilis aparejo grass	–/– 2B.2	Meadows and seeps, marshes and swamps, chaparral, coastal scrub, cismontane woodland. Sometimes alkaline, sometimes serpentinite. 25 to 2325 meters.	None	Potentially suitable marsh and coastal scrub habitats are present within the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CNDDB 2023a).
Nasturtium gambelii Gambel's water cress	FE/ST 1B.1	Marshes and swamps (freshwater or brackish). 5 to 330 meters. Perennial rhizomatous herb. Blooms April to October.	None	Potentially suitable marsh habitat for this species is present within the Study Area. Several CNDDB occurrences have been recorded within five miles of the Study Area, the closest of which is from 1949 and is located less than one mile east of Oceano Airport. However, this population has since been extirpated (CNDDB 2023a).
Navarretia fossalis spreading navarretia	FT/– 1B.1	Vernal pools, chenopod scrub, marshes and swamps, playas. San Diego hardpan and San Diego clay pan vernal pools; in swales and vernal pools, often surrounded by other habitat types. 15 to 850 meters. Annual herb. Blooms April to June.	None	Potentially suitable marsh habitat for this species is present within the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CNDDB 2023a).
Nemacaulis denudata var. *denudata* coast woolly-heads	–/– 1B.2	Coastal dunes. 0 to 100 meters. Annual herb. Blooms April to September.	None	No suitable habitat for this species is present within the Study Area.
Nemacladus secundiflorus var. *robbinsii* Robbins' nemacladus	–/– 1B.2	Chaparral, Valley and foothill grassland. openings. 350 to 1700 meters. Annual herb. Blooms April to June.	None	The Study Area is outside the elevation range of the species.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
Scrophularia atrata black-flowered figwort	–/– 1B.2	Closed-cone coniferous forest, Chaparral, Coastal dunes, Coastal scrub, Riparian scrub. 10 to 500 meters. Perennial herb. Blooms March to July.	Moderate	Potentially suitable coastal scrub and riparian scrub habitats are present within the Study Area. Several CNDDB occurrences have been recorded within five miles of the Study Area, the closest of which is from 2012 and is located approximately 1.2 miles north of the Study Area (CDFW 2023a). This species was not observed during the 2023 field reconnaissance survey.
Senecio aphanactis chaparral ragwort	–/– 2B.2	Chaparral, Cismontane woodland, Coastal scrub. sometimes alkaline. 15 to 800 meters. Annual herb. Blooms January to April (May).	None	Potentially suitable coastal scrub habitat for this species is present within the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CDFW 2023a).
Symphyotrichum defoliatum San Bernardino aster	–/– 1B.2	Cismontane woodland, Coastal scrub, Lower montane coniferous forest, Meadows and seeps, Marshes and swamps, Valley and foothill grassland (vernally mesic). near ditches, streams, springs. 2 to 2040 meters. Perennial rhizomatous herb. Blooms July to November (December).	None	Potentially suitable coastal scrub and marsh habitats are present within the Study Area. One CNDDB occurrence from 1993 is located less than one mile east of MW-NCMA South A/B/C; however, CNDDB notes that this identification may have been incorrect because it seems to be well outside of this species' range.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale

Regional Vicinity refers to within an 8-quad search radius of site.

FESA = Federal Endangered Species Act; CESA = California Endangered Species Act; CRPR = California Rare Plant Rank (as determined by the California Native Plant Society); CNDDB = California Natural Diversity Database; CDFW; California Department of Fish and Wildlife; ssp. = subspecies; var. = variety

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR

1A = Presumed Extinct in California

1B = Rare, Threatened, or Endangered in California and elsewhere

2A = Plants presumed extirpated in California, but more common elsewhere

2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

.1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)

.2 = Fairly endangered in California (20 to 80 percent occurrences threatened)

.3 = Not very endangered in California (less than 20 percent of occurrences threatened)

Source: CDFW 2023a

Special Status Animal Species in the Regional Vicinity of the Study Area

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Invertebrates				
Bombus occidentalis western bumble bee	–/SC	Once common and widespread, species has declined precipitously from central California to southern British Columbia, perhaps from disease.	None	Abundant floral resources are required to provide suitable habitat for this species. Due to a number of threats, including urbanization, fragmentation, and declines due to disease, populations are thought to be limited to high elevations in the Sierra Nevada since 2012 (Xerces Society et al. 2018).
Branchinecta lynchi vernal pool fairy shrimp	FT/–	Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	None	Vernal pool habitat required by the species is not present within the Study Area. No occurrences have been recorded in the Study Area (CDFW 2019a). The species is not expected to occur.
Danaus plexippus pop. 1 Monarch – California overwintering population	FC/--	Roosts in eucalyptus, Monterey pine, and cypress groves along the coast from Mendocino to Baja California, Mexico. Must have water and nectar sources nearby.	Moderate	Potentially suitable overwintering habitat is present within the Study Area. Several known overwintering sites, including Xerces Sites #2031, 3082, and 3061 occur within one mile of the Study Area (Xerces Society 2023). Xerces Site #3063 overlaps with the ATF complex location; however, the last record of overwintering monarchs at this site is from 1989 (CFDW 2023a). No overwintering monarchs were observed during the 2022 field survey. Overwintering monarchs have a moderate potential to occur as transient individuals within the Study Area.
Fish				
Eucyclogobius newberryi tidewater goby	FE/– SSC	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still, but not stagnant, water and high oxygen levels.	Low	No suitable habitat occurs within the Study Area. Arroyo Grande Creek, approximately 50 feet south of Study Area, contains suitable habitat for the species; however, an earthen levee separates the Study Area from the creek. Meadow Creek and Oceano Lagoon, located more than 100 feet west and south of the Study Area, are also isolated from the Study Area due to existing roadways and

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
				development. The species is not expected to occur in the Study Area.
Gila orcuttii arroyo chub	–/– SSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mojave and San Diego River basins. Slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	None	No suitable habitat occurs within the Study Area. Arroyo Grande Creek, located approximately 50 feet south of Study Area, contains suitable habitat for the species; however, an earthen levee separates the Study Area from the creek. The species is not expected to occur.
Oncorhynchus mykiss irideus pop. 9 steelhead - south-central California coast DPS	FT/–	Federal listing refers to runs in coastal basins from the Pajaro River south to, but not including, the Santa Maria River.	Low	No suitable spawning or freshwater migration habitat occurs within the Study Area. Arroyo Grande Creek, located approximately 50 feet south of Study Area, contains suitable habitat for the species; however, an earthen levee separates the Study Area from the creek. Meadow Creek and Oceano Lagoon, located more than 100 feet west and south of the Study Area, are also isolated from the Study Area due to existing roadways and development. The species is only expected to occur near the discharge point of the existing ocean outfall pipeline during migration.
Amphibians				
Ambystoma californiense California tiger salamander	FT/ST	The Central Valley Distinct Population Segment is federally listed as threatened. Santa Barbara and Sonoma counties Distinct Population Segment is federally listed as endangered. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	None	The Study Area is located well outside the known geographic range of the species.
Rana boylii foothill yellow-legged frog	–/SC SSC	Partly-shaded, shallow streams and riffles with a rocky substrate in a variety of habitats. Needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	None	No suitable habitat for this species occurs within the Study Area. No occurrences have been recorded within five miles of the Study Area (CDFW 2023a).

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Rana draytonii California red-legged frog	FT/– SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	Low	No suitable habitat occurs within the Study Area. However, suitable aquatic habitat is present within Arroyo Grande Creek approximately 50 feet south of the Study Area, where there are documented occurrences (CDFW 2023a), and within Meadow Creek/Oceano Lagoon located to the west and south of the Study Area. This species has a low potential to occur within the Study Area as a transient individual if migrating between suitable aquatic sites.
Spea hammondii western spadefoot	–/– SSC	Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying.	None	No suitable habitat is present within the Study Area. No occurrences of the species have been documented within five miles of the Study Area (CDFW 2023a).
Taricha torosa Coast Range newt	–/– SSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over one kilometer to breed in ponds, reservoirs, and slow-moving streams.	None	No suitable aquatic habitat occurs within the Study Area. No occurrences have been documented within five miles of the Study Area (CDFW 2023a).
Reptiles				
Anniella pulchra northern California legless lizard	–/– SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Moderate	Suitable sandy and sparsely vegetated habitat is present within the Study Area. Numerous CNDDB occurrences of this species have been recorded within five miles of the Study Area, the closest of which is from 2015 and is located approximately 0.4 mile south of the Oceano Airport (CDFW 2023a).
Emys marmorata southwestern pond turtle	–/– SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 kilometer from water for egg-laying.	Low	Marginally suitable aquatic habitat in the form of agricultural ditches and marshes occurs within the Study Area; additionally, suitable habitat is present within Arroyo Grande Creek approximately 50 feet south of the Study Area and Meadow Creek within 100 feet west of the Study Area. Several CNDDB occurrences of this species have been recorded within five miles of the Study Area, the closest of which is from

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
				2003 and is located approximately 2.5 miles northeast of the Study Area (CDFW 2023a).
Phrynosoma blainvillii coast horned lizard	–/– SSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.	None	No suitable sandy wash habitat or scattered low bushes with little ground cover is present within the Study Area. Additionally, no abundant supply of ants was observed during the reconnaissance survey.
Thamnophis hammondii two-striped gartersnake	–/– SSC	Coastal California from the vicinity of Salinas to northwest Baja California. From sea to about 7,000 feet elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.	None	No suitable habitat is present within the Study Area. No occurrences of the species have been documented within five miles of the Study Area (CDFW 2023a).
Birds				
Agelaius tricolor tricolored blackbird	–/ST SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	Moderate	The riparian habitat adjacent to the Arroyo Grande Creek and Meadow Creek within the Study Area may provide suitable nesting habitat. No occurrences of the species have been documented within five miles of the Study Area in CNDDB (CDFW 2023a); however, numerous occurrences of the species have been documented in eBird within one mile of the Study Area (eBird 2023).
Athene cunicularia burrowing owl	–/– SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	None	No suitable mammal burrows required by the species are present within the Study Area. No occurrences of the species have been documented within five miles of the Study Area (CDFW 2023a), and the species was not observed during the reconnaissance survey.
Brachyramphus marmoratus marbled murrelet	FT/SE	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz. Nests in old-growth redwood-dominated forests, up to six miles inland, often in Douglas-fir.	None	No suitable nesting habitat occurs within the Study Area. No occurrences of the species have been documented within five miles of the Study Area (CDFW 2023a).

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Buteo swainsoni Swainson's hawk	–/ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	None	The Study Area is located well outside the known geographic range of the species.
Charadrius alexandrinus nivosus western snowy plover	FT/– SSC	Sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	None	No suitable habitat for this species is present within the Study Area.
Coccyzus americanus occidentalis western yellow-billed cuckoo	FT/SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape.	None	The riparian habitat within the Study Area lacks the structural diversity and contiguous habitat required by the species. The Study Area is located outside the current breeding range of this species. The only documented CNDDB occurrence in the Study Area is from 1932 and is believed to have been extirpated (CDFW 2023a). There have been no documented breeding records in the County since that date. The species breeds further south in Ventura County and overwinters in Mexico. This species is not expected to occur.
Elanus leucurus white-tailed kite	–/– FP	Rolling foothills and valley margins with scattered oaks & river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low	No suitable nesting habitat is present within the Study Area. Potential foraging habitat may occur west of the Study Area near Meadow Creek. No occurrences of the species have been documented within five miles of the Study Area (CDFW 2023a).
Empidonax traillii extimus southwestern willow flycatcher	FE/SE	Riparian woodlands in Southern California. For nesting, requires dense riparian habitats (cottonwood/willow and tamarisk vegetation) with microclimatic conditions dictated by the local surroundings. Saturated soils, standing water, or nearby streams and pools is a component of nesting habitat that also influences the microclimate and density vegetation component. Habitat not suitable for nesting may be used for migration and foraging.	None	The riparian habitat within the Study Area lacks the structural diversity and contiguous habitat required by the species. The Study Area is located outside the current breeding range of this species No occurrence of the species has been documented within five miles of the Study Area (CDFW 2023a). The species breeds further south in Santa Barbara County and overwinters in Mexico. This species is not expected to occur.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Falco peregrinus anatum American peregrine falcon	–/– FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	None	Potentially suitable habitat for this species is present in the vicinity of the Study Area; however, no CNDDB occurrences have been recorded within five miles of the Study Area (CDFW 2023a).
Gymnogyps californianus California condor	FE/SE FP	Require vast expanses of open savannah, grasslands, and foothill chaparral in mountain ranges of moderate altitude. Deep canyons containing clefts in the rocky walls provide nesting sites. Forages up to 100 miles from roost/nest.	None	No suitable habitat for this species is present within the Study Area. No CNDDB occurrences have been recorded within five miles of the Study Area (CDFW 2023a).
Laterallus jamaicensis coturniculus California black rail	–/ST FP	Inhabits freshwater marshes, wet meadows and shallow margins of saltwater marshes bordering larger bays. Needs water depths of about one inch that do not fluctuate during the year and dense vegetation for nesting habitat.	None	Potentially suitable marsh habitat is present within the Study Area; however, only one CNDDB occurrence of this species from 1966 has been recorded within five miles of the Study Area (CDFW 2023a). Additionally, no eBird occurrences have been documented in the vicinity of the Study Area (eBird 2023).
Rallus obsoletus California Ridgway's rail	FE/SE FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed but feeds away from cover on invertebrates from mud-bottomed sloughs.	None	The Study Area is located outside the San Francisco Bay and lacks a pickleweed community. No occurrences have been recorded in the Study Area (CDFW 2023a). This species is not expected to occur.
Sternula antillarum browni California least tern	FE/SE FP	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates such as sand beaches, alkali flats, landfills, or paved areas.	None	No suitable nesting habitat is present within the Study Area. The two documented occurrences of the species within five miles of the Study Area are within coastal dune habitat (CDFW 2023a).
Vireo bellii pusillus least Bell's vireo	FE/SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, *Baccharis*, mesquite.	None	The riparian habitat within the Study Area lacks the structural diversity and contiguous habitat required by the species. No occurrences have been recorded in the Study Area (CDFW 2023a).

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Mammals				
Corynorhinus townsendii Townsend's big-eared bat	–/– SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	None	The Study Area is located within a heavily developed area where human disturbance is high.
Dipodomys ingens giant kangaroo rat	FE/SE	Annual grasslands on the western side of the San Joaquin Valley, marginal habitat in alkali scrub. Need level terrain and sandy loam soils for burrowing.	None	The Study Area is located outside the current range of the species.
Enhydra lutris nereis southern sea otter	FT/– SSC	Nearshore marine environments from about Ano Nuevo, San Mateo county to Point Sal, Santa Barbara county. Needs canopies of giant kelp and bull kelp for rafting & feeding. Prefers rocky substrates with abundant invertebrates.	Low	No giant kelp forests or rocky substrate occurs at the discharge point of the existing ocean outfall pipeline; therefore, this species is only expected to migrate through this area between feeding locations.
Taxidea taxus American badger	–/– SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	None	No suitable friable soils with sufficient food base, or dry open stages of suitable habitat is present within the Study Area.

Regional Vicinity refers to within an 8-quad search radius of site.

FESA = Federal Endangered Species Act; CESA = California Endangered Species Act; CDFW; California Department of Fish and Wildlife; CNDDB = California Natural Diversity Database; ssp. = subspecies; var. = variety

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate

SSC = CDFW Species of Special Concern FP = State Fully Protected

Source: CDFW 2019a

Table 3 Special Status Natural Communities in the Regional Vicinity of the Study Area

Plant Community	Potential for Impact	Rationale
Central Dune Scrub	None	No central dune scrub habitat present within the Study Area.
Central Foredunes	None	No central foredune habitat present within the Study Area.
Central Maritime Chaparral	None	No chaparral habitat present within the Study Area.
Coastal and Valley Freshwater Marsh	None	No coastal and valley freshwater marsh habitat present within the Study Area.
Southern Vernal Pool	None	No vernal pool habitat is present within the Study Area.
Valley Needlegrass Grassland	None	No valley needlegrass grassland habitat is present within the Study Area.

Source: CDFW 2023a

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Appendix C

Site Photographs

Photograph 1. IW-1: Developed/landscaped. Photo taken facing northwest. January 20, 2023.

Photograph 2. IW-2A and 2B: Wild oats and annual brome grassland. Photo taken facing south. January 20, 2023.

Photograph 3. IW-3: Developed/landscaped. January 20, 2023.

Photograph 4. IW-4 (Alternate): Developed/landscaped within existing public park. Photo taken facing northwest. January 20, 2023.

Photograph 5. IW-5A: Developed area within the South San Luis Obispo County Sanitation District Wastewater Treatment Plant. Photo taken facing north. January 20, 2023.

Photograph 6. IW-5B: Developed area within the South San Luis Obispo County Sanitation District Wastewater Treatment Plant. Photo taken facing northeast. January 20, 2023.

Photograph 7. MW-1A/1B: Developed/landscaped. Photo taken facing northeast. January 20, 2023.

Photograph 8. MW-1C/1D: Developed/landscaped. Photo taken facing south. January 20, 2023.

Photograph 9. MW-2A/2B/2C: Developed/landscaped. Photo taken facing south. January 20, 2023.

Photograph 10. MW-2D/2E/2F: Developed/landscaped with adjacent eucalyptus. Photo taken facing south. January 20, 2023.

Photograph 11. MW-4A/4B: Landscaped public park. Photo taken facing northwest. January 20, 2023.

Photograph 12. MW-5A/5B/5C: Ruderal area within South San Luis Obispo County Sanitation District Wastewater Treatment Plant. Photo taken facing southeast. January 20, 2023.

Photograph 13. MW-5D/5E/5F: Developed area with adjacent eucalyptus. Photo taken facing southeast. January 20, 2023.

Photograph 14. PB-23: Developed area. Photo taken facing southeast. January 20, 2023.

Photograph 15. MW-NCMA North A/B/C: Agricultural staging area. Photo taken facing southeast. January 20, 2023.

Photograph 16. Staging/Laydown Yard: Wild Oats and Annual Brome Grassland. Photo taken facing southeast. January 20, 2023.

Photograph 17. Staging/Laydown Yard: Developed/landscaped area. Photo taken facing northwest. January 20, 2023.

Photograph 17. Coyote Brush (*Baccharis pilularis*) scrub along Delta Lane, south of the Oceano Airport. Photo taken facing northwest. January 20, 2023.

Photograph 18. Arroyo willow (*Salix lasiolepis*) thicket outside of South San Luis Obispo County Sanitation District Wastewater Treatment Plant entrance. Photo taken facing northeast. January 20, 2023.

Photograph 19. *Eucalyptus* spp. Woodland Semi-Natural Alliance within ATF complex location (Xerces Site #3063). Photo taken facing east. January 20, 2023.

Photograph 20. Saltgrass (*Distichlis spicata*) flats along southern border of Oceano Airport. Photo taken facing southeast. January 20, 2023.

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Appendix D

Floral and Faunal Compendium

Plant Species Observed Within the Study Area on January 20, 2023

Scientific Name	Common Name	Native/Introduced/ Invasive Rating	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/Landscaped	Ruderal	Iceplant Mats	Wild Oats and Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Ambrosia psilostachya	Western ragweed	Native	FACU	Herb			X						
Avena spp.	Wild oats	Introduced; Moderate	UPL	Herb					X				
Baccharis pilularis	Coyote brush	Native	UPL	Shrub	X								
Brassica nigra	Black mustard	Introduced; Moderate	UPL	Herb			X						
Bromus diandrus	Ripgut brome	Introduced; Moderate	UPL	Herb	X		X		X	X			
Carpobrotus edulis	Iceplant	Introduced; High	UPL	Herb		X	X	X					
Conium maculatum	Poison hemlock	Introduced; Moderate	FACW	Herb			X					X	
Cynodon dactylon	Bermuda grass	Introduced; Moderate	FACU	Herb		X			X		X		
Cyperus eragrostis	Tall flatsedge	Native	FACW	Herb									X
Dimorphotheca sinuata	African daisy	Introduced	UPL	Herb		X							
Distichilis spicata	Saltgrass	Native	FAC	Herb							X		X
Eleocharis rostellata	Beaked spikerush	Native	OBL	Herb							X		
Eschscholzia californica	California poppy	Native	UPL	Herb		X							
Equisetum spp.	Horsetail	Native	FAC	Fern		X							
Eucalyptus globulus	Blue gum	Introduced; Limited	UPL	Tree		X				X			
Eucalyptus sideroxylon	Red ironbark	Introduced	UPL	Tree		X							
Foeniculum vulgare	Fennel	Introduced; Moderate	UPL	Herb			X						
Hedera helix	English ivy	Introduced; High	UPL	Shrub								X	
Helminthotheca echioides	Bristly ox-tongue	Introduced; Limited	FAC	Herb			X						
Hesperocyparis macrocarpa	Monterey cypress	Native	UPL	Tree		X							
Heterotheca grandiflora	Telegraphweed	Native	UPL	Herb									
Hirschfeldia incana	Short-podded mustard	Introduced; Moderate	UPL	Herb	X		X						
Hordeum murinum	Foxtail barley	Introduced; Moderate	FACU	Herb			X						
Jaumea carnosa	Fleshy jaumea	Native	OBL	Herb							X		
Datura stramonium	Jimson weed	Introduced	UPL	Herb			X						
Lactuca serriola	Prickly lettuce	Introduced	FACU	Herb			X					X	
Malva parviflora	Cheeseweed mallow	Introduced	UPL	Herb			X			X			
Melilotus indicus	Annual yellow sweetclover	Introduced	FACU	Herb			X		X				
Oxalis pes-caprae	Sourgrass	Introduced; Moderate		Herb								X	
Pinus radiata	Monterey pine	Introduced; Limited	UPL	Tree		X							
Plantago coronopus	Buckhorn plantain	Introduced	FAC	Herb			X		X				
Plantago lanceolata	English plantain	Introduced; Limited	FAC	Herb			X		X				
Plantago major	Common plantain	Introduced	FAC	Herb			X		X				
Polygonum aviculare	Prostrate knotweed	Introduced	FAC	Herb			X						
Raphanus sativus	Wild radish	Introduced; Limited	UPL	Herb			X		X				
Rubus ursinus	California blackberry	Native	FAC	Shrub	X							X	
Salix laevigata	Red willow	Native	FACW	Tree								X	
Salix lasiolepis	Arroyo willow	Native	FACW	Tree								X	
Sambucus nigra ssp. *caerulea*	Blue elderberry	Native	FACU	Tree				X					
Schoenoplectus californicus	California bulrush	Native	OBL	Herb									X
Silybum marianum	Milk thistle	Introduced; Limited	UPL	Herb	X				X				
Sonchus oleraceus	Common sow thistle	Introduced	UPL	Herb					X				
Stipa miliacea	Smilo grass	Introduced	UPL	Herb			X					X	
Toxicodendron diversilobum	Poison oak	Native	FACU	Shrub	X							X	

Scientific Name	Common Name	Native/Introduced/ Invasive Rating	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/Landscaped	Ruderal	Iceplant Mats	Wild Oats and Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Urtica dioica	Stinging nettle	Native	FAC	Herb		X	X					X	
Urtica urens	Annual stinging nettle	Introduced	UPL	Herb			X						
Vicia villosa	Hairy vetch	Introduced	UPL	Herb					X				
Vinca major	Greater periwinkle	Introduced; Moderate	UPL	Herb								X	

Animal Species Observed Within the Study Area on January 20, 2023

Scientific Name	Common Name	Status	Native, Introduced, or Domesticated
Birds			
Ardea herodias	Great Blue Heron	Common	Native
Calypte anna	Anna's Hummingbird	Common	Native
Cathartes aura	Turkey Vulture	Common	Native
Chamaea fasciata	Wrentit	Common	Native
Charadrius vociferus	Killdeer	Common	Native
Corvus brachyrhynchos	American Crow	Common	Native
Haemorhous mexicanus	House Finch	Common	Native
Larus californicus	California Gull	Common	Native
Sayornis nigricans	Black Phoebe	Common	Native
Spinus psaltria	Lesser Goldfinch	Common	Native
Zenaida macroura	Mourning Dove	Common	Native
Mammals			
Canis latrans	Coyote (tracks)	Common	Native
Otospermophilus beecheyi	California ground squirrel	Common	Native
Procyon lotor	Raccoon (tracks)	Common	Native

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Appendix E

Jurisdictional Delineation

Central Coast Blue

Jurisdictional Waters and Wetlands Delineation

prepared for

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

prepared by

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April 2023

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Executive Summary

This Jurisdictional Delineation (JD) Report has been prepared by Rincon Consultants, Inc. to assist the City of Pismo Beach with project planning for the Central Coast Blue Project located in the city of Grover Beach and the unincorporated community of Oceano in San Luis Obispo County, California. This JD Report has been prepared and is suitable for use by the United States Army Corps of Engineers (USACE) to confirm extent of potential jurisdiction under Section 404 of the Clean Water Act (CWA), the Central Coast Regional Water Quality Control Board (RWQCB) to confirm extent of potential jurisdiction pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, the California Department of Fish and Wildlife (CDFW) to confirm jurisdiction pursuant to California Fish and Game Code Section 1600 et seq., and the California Coastal Commission (CCC) to confirm extent of potential jurisdiction pursuant to the California Coastal Act.[1]

This JD identified two detention basins, two wetlands, one roadway drainage, one intermittent stream, two agriculture ditches, and riparian vegetation within the Study Area that are potentially subject to USACE, RWQCB, CDFW, and/or CCC jurisdictions should these features be impacted.

[1] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a jurisdictional waters and wetlands delineation for the Central Coast Blue Project (project) in Oceano and Grover Beach, San Luis Obispo County, California. The delineation was conducted to determine the location and extent of waters and wetlands within the project site that are potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC).

Proposed development in areas identified as jurisdictional waters and/or wetlands may be subject to the permit requirements of USACE under Section 404 of the Clean Water Act (CWA), RWQCB under Section 401 of the CWA and Porter-Cologne Water Quality Control Act, CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC), and CCC pursuant to the California Coastal Act (CCA).[2] Actual jurisdictional areas are determined by state and federal authorities at the time regulatory permits are requested.

1.1 Project Location

Project components are located in Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano (Figure 1). The project is regionally accessible from U.S. Highway 101 and locally accessible from State Route (SR) 1. The project components are located within the *Oceano*, *California* United States Geological Survey (USGS) 7.5-minute topographical quadrangle within Township 32 South, Range 13 East, Sections 30 and 31, Mount Diablo baseline and meridian (USGS 2023a). The majority of project components are located within the California Coastal Zone (Figure 2). The Study Area analyzed herein is comprised of the footprints of project components as well as associated buffers around those features in order to capture potential direct and indirect impacts (Figure 2). Buffer sizes vary between project components. A 25-foot buffer on either side of sewer and water distribution pipelines was evaluated to account for the fact that pipelines would be located within the public right-of-way with exact locations dependent on existing utilities and other factors. Buffers varying between 0.1 and 2.5 acres were evaluated for the remaining project components, including injection and monitoring wells, based on topography, surrounding land uses, and biological resources present. The northern extent of the Study Area is located at 35.120928°N, -120.628666°W and the southern extent of the Study Area is located at 35.083430°N, -120.606831°W (Figure 2).

[2] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

Figure 1 Regional Location

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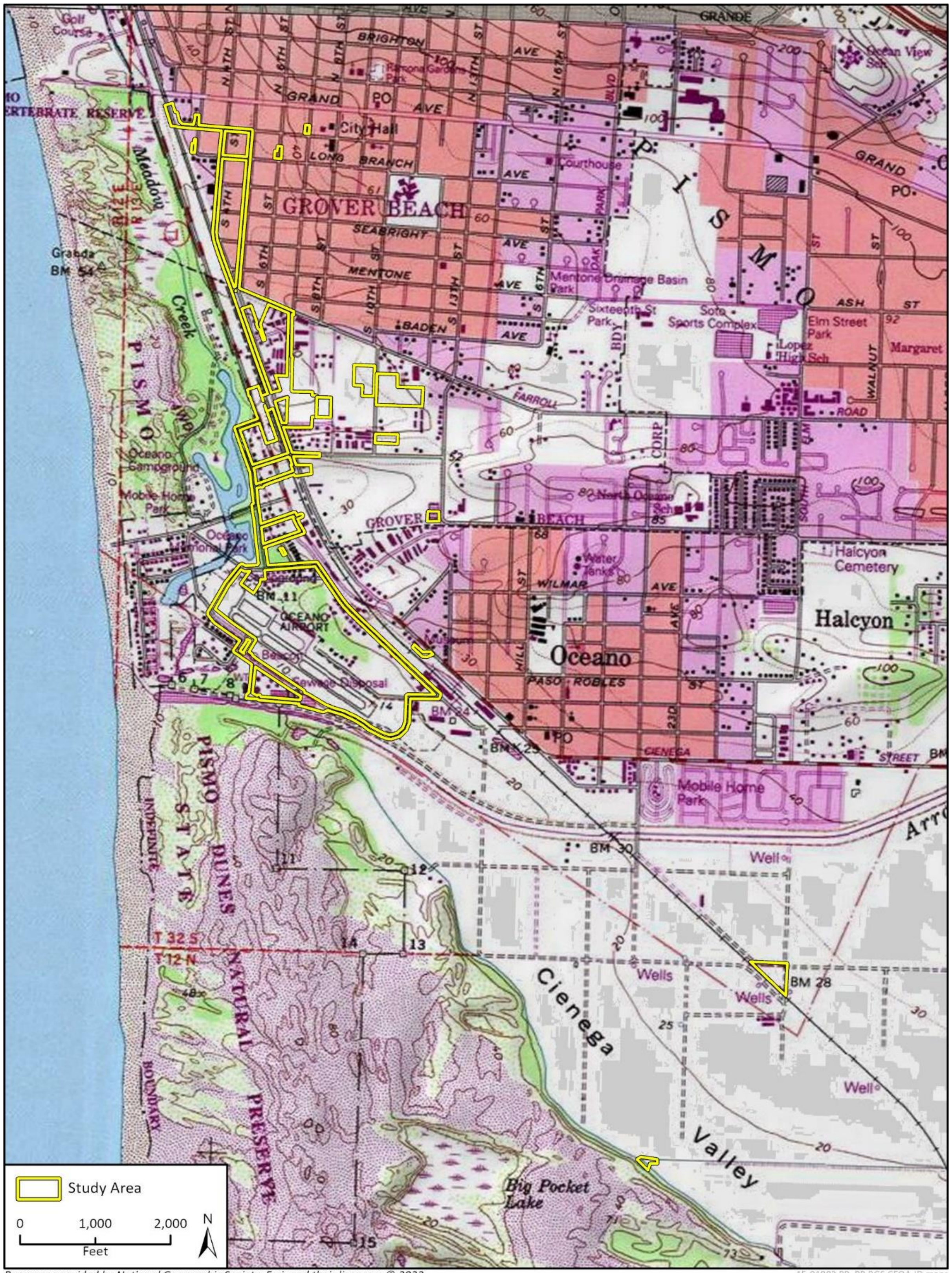
Fig 5 Modified Project Components

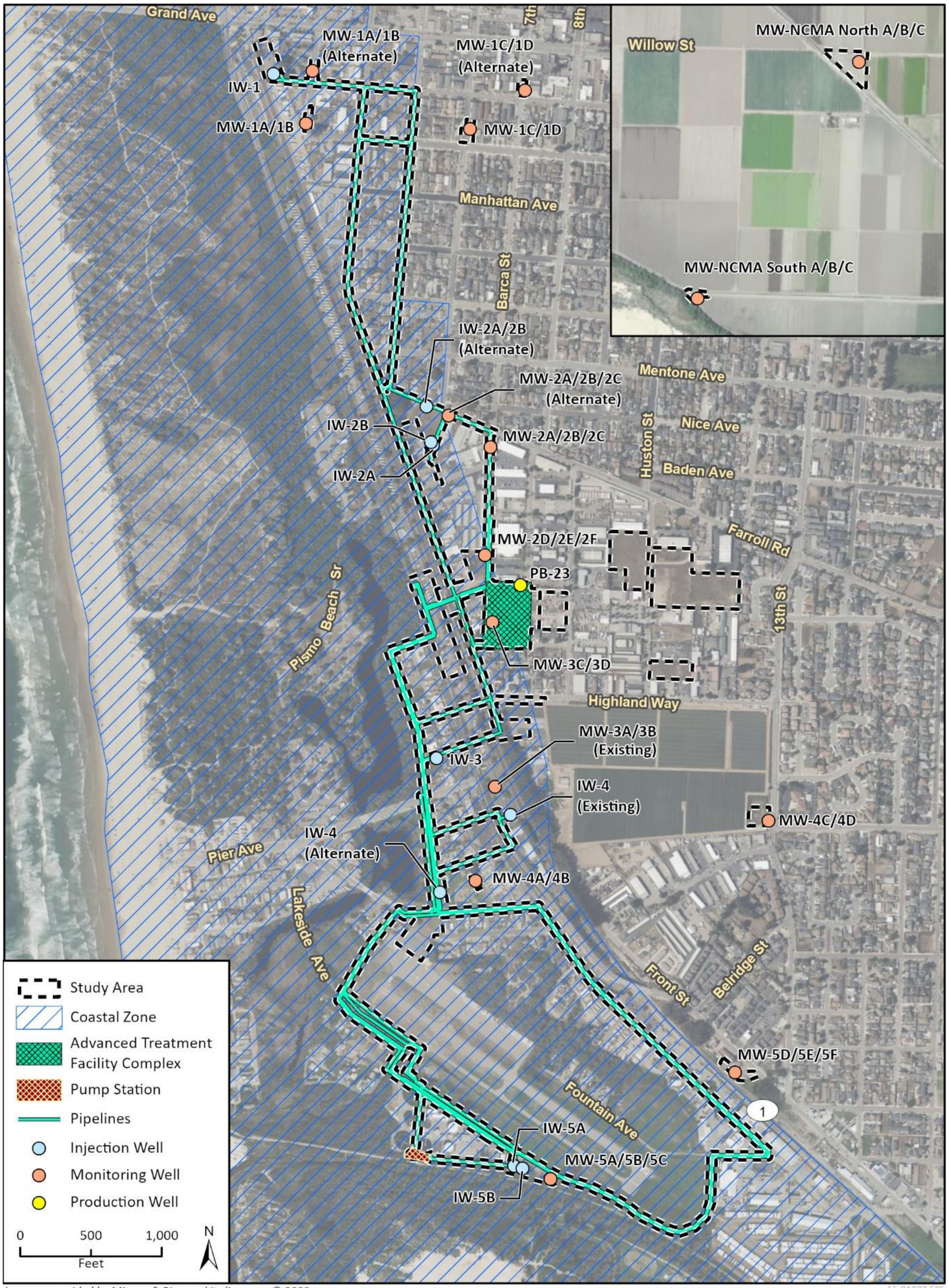
Figure 2 Topographic Map of the Project Location



Basemap provided by National Geographic Society, Esri, and their licensors © 2023.

15-01882 PB, PB RGS CEQA JD maps
Fig X JD Topo

Figure 3 Project Location – Focused Extent



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

1.2 Project Description

The proposed project is a regional advanced purified water project intended to enhance supply reliability by reducing the Santa Maria Groundwater Basin's vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the City of Pismo Beach, Grover Beach and Arroyo Grande and the South San Luis Obispo County Sanitation District (SSLOCSD). The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization basin, monitoring well, and new production well), pipelines, injection wells, monitoring wells, and a pump station. The project would also involve recharge of the Santa Maria Groundwater Basin with advanced purified water via injection wells installed at various locations. Water for the project would be sourced from two of the region's wastewater treatment facilities, the Pismo Beach Wastewater Treatment Plant (WWTP) and the SSLOCSD WWTP. The project would alter the pumping regime of existing, operational production wells in the project area and would also include construction of one new production well (PB-23) at the ATF complex to replace an existing well that is failing. Water distribution pipelines would be located within the public rights-of-way along the majority of the pipeline alignments.

1.3 Environmental Setting

The weather in San Luis Obispo County is typical of a Mediterranean climate. Summers are warm and dry, while winters are cool and wet with most of the precipitation falling between November and March. The Study Area is located within the Central Coast geographic subregion of California (Baldwin et al. 2012) and is situated in an urban landscape. The Pacific Ocean and city of Pismo Beach are located just west of the Study Area with a coastal marine climate typical of the coastline in this region. Arroyo Grande Creek is located south of the majority of the Study Area, and a small component of the Study Area is located in the Cienega Valley, south of Arroyo Grande Creek. The overall topography is relatively flat throughout the Study Area. The land use within and surrounding the Study Area is predominately developed and comprised of residential buildings, commercial buildings, recreational areas, roadways, the Oceano Airport, and the SSLOCSD WWTP.

2 Methodology

2.1 Regulatory Guidance

Within the limits of the Study Area, waters and wetlands potentially subject to USACE, RWQCB, CDFW and CCC jurisdictions were delineated in accordance with the following methodologies.

Non-Wetland Waters of the U.S.

The lateral limits of USACE jurisdiction for non-wetland waters is determined by the presence of physical characteristics indicative of the Ordinary High Water Mark (OHWM). The OHWM is identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4), Regulatory Guidance Letter 05-05 (USACE 2005), and various relevant technical publications, including, but not limited to, A *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a) and *Review of Ordinary High-Water Mark Indicators for Delineating Arid Streams in the Southwest United States* (USACE 2004). These regulations are also reviewed in the determination of non-jurisdictional features (e.g., roadway ditches excavated in uplands).

Wetland Waters of the U.S.

Potential wetland features were evaluated for the presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedures within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b). The USACE Arid West 2020 Regional Wetland Plant List was used to determine the indicator status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL) (Lichvar et al. 2020). Representative sample points were taken in areas most likely to exhibit wetland characteristics (i.e., the prevalence of hydrophytic vegetation and suitable landform) and examined in the field for potential wetland indicators. Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the landform would not support wetland features. USACE Wetland Determination Datasheets (USACE 2010) completed at wetland sample points are provided in Appendix A.

CDFW Streambeds and Riparian Habitat

The extent of potential streambeds, streambanks, and riparian habitat subject to CDFW jurisdiction under Section 1600 et seq. of the CFGC is delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features.

Waters of the State and Wetland Waters of the State

The limits of non-wetland "waters of the State," as defined under the Porter-Cologne Water Quality Control Act, were conservatively determined to be coterminous with the potential CDFW-jurisdictional streambeds and riparian habitat previously described based on current interpretation of jurisdiction by the Central Coast RWQCB. Therefore, the lateral extent of delineated boundaries includes all streambanks and/or riparian vegetation, whichever is greater.

The potential wetland waters of the State were evaluated pursuant to *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board [SWRCB] 2019), which acknowledges that “wetland waters of the State” should be delineated using the standard USACE wetland delineation procedures and proclaims the SWRCB takes jurisdiction over isolated wetlands. The SWRCB and Central Coast RWQCB have jurisdiction over wetland waters of the State.

Coastal Wetlands

In accordance with the CCA, the CCC defines coastal wetlands as generally extending seaward to the State’s outer limit of jurisdiction (i.e., three nautical miles from the Mean High Tide Line [MHTL] and inland generally 1,000 yards from the MHTL) (CCC 2011). In contrast to wetland waters of the U.S., potential coastal wetland features are defined by the presence of one of the three USACE wetland parameters (California Code of Regulations Title 14 [14 CCR]). The one parameter definition, in which the CCC defines a wetland, is as follows:

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577)

The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project under the CCA rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

2.2 Literature Review

Prior to the field survey, Rincon reviewed aerial imagery (Google Earth 2023) of the Study Area, the *Oceano, California* USGS 7.5-minute topographic quadrangle (USGS 2023a), the Web Soil Survey (United States Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2023a), the National Hydric Soils List by State: California (USDA, NRCS 2023b), and Pismo Beach, California weather history[3] (Western Regional Climate Center 2023). These resources were reviewed to better characterize the Study Area and its surroundings from a hydrologic, geologic, and topographic perspective and to determine if any soil units mapped in the Study Area are classified as hydric.

Additionally, the National Wetlands Inventory (NWI; United States Fish and Wildlife Service [USFWS] 2023), the National Hydrography Dataset (USGS 2023b), and a previous Biological Resources

[3] No climate data was available for Oceano, California; therefore, the closest location for which climate data is available (Pismo Beach) was utilized.

Assessment prepared by Rincon Consultants, Inc. (2021) were reviewed to determine if any wetlands and/or other waters were previously documented in or near the Study Area.

2.3 Field Survey

On January 20 and 25, 2023, Rincon Biologists Carolynn Honeycutt and Frances Glaser surveyed the Study Area on foot where accessible for potential wetland and non-wetland features. For areas where foot access was inaccessible, aerial photographs were reviewed (Google Earth 2023). Current federal and State policies, methods, and guidelines were used to identify and delineate aquatic features, as summarized under *Regulatory Guidance*. Further detail on regulatory jurisdiction is provided in Appendix B.

During the field delineation, general site characteristics were noted, vegetation present on site was documented (Appendix C), and photographs of aquatic features and the surrounding areas were taken (Appendix D). Data collection was focused on potential jurisdictional features and was focused on areas that served as a best representation of the conditions of that feature.

The extent of aquatic features, wetland sample points, and vegetation community boundaries were collected in the field using a Trimble Global Positioning System unit with sub-meter accuracy and were subsequently transferred to Rincon's Geographic Information Systems software program (i.e., ArcGIS Pro) to produce a delineation figure.

A significant rain event occurred between January 9 to 14, 2023, the week prior to the field survey, in which the San Luis Obispo Regional Airport Station recorded an accumulation of five inches of rain (Weather Underground 2023). Because the rain event accumulated more water than typically documented for the area, more surface water was observed than normal.

3 Delineation Results

3.1 Soils

The Study Area is located in the *San Luis Obispo County, California, Coastal Part* soil survey area. The USDA, NRCS Web Soil Survey delineates three soil map units within the Study Area: Mocho variant fine sandy loam, Mocho fine sandy loam (0 to 2 percent slopes, major land resource area 14), Oceano sand (0 to 9 percent slopes), Marimel sandy clay loam (occasionally flooded), Dune land, and Psamments and Fluvents (wet) (USDA, NRCS 2023a). Site-specific soil observations are consistent with those mapped by the USDA, NRCS *Web Soil Survey*. Soil distribution within 100 feet of the locations of project components is depicted in Figure 4, and each soil map unit is described below. All soils except Oceano sand are included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water, resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Mocho Variant Fine Sandy Loam

Mocho variant fine sandy loam is a well-drained soil that occurs on alluvial fans and alluvial flats. It is formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 15 inches, very fine sandy loam between 15 and 33 inches, and stratified gravelly sand from 33 to 64 inches. Available water storage is low (about 5.9 inches), and the runoff class is very low. This soil map unit is moderately alkaline.

Mocho Fine Sandy Loam, 0 to 2 Percent Slopes, Major Land Resource Area 14

Mocho fine sandy loam soils are well-drained soils that occur on alluvial fans and flats. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 18 inches, silty clay loam between 18 and 45 inches, and stratified sand to gravelly sand between 45 and 60 inches. For Mocho fine sandy loam, 0 to 2 percent slopes, available water storage is moderate (about 6.5 inches), and the runoff class is low. This soil map unit is moderately alkaline.

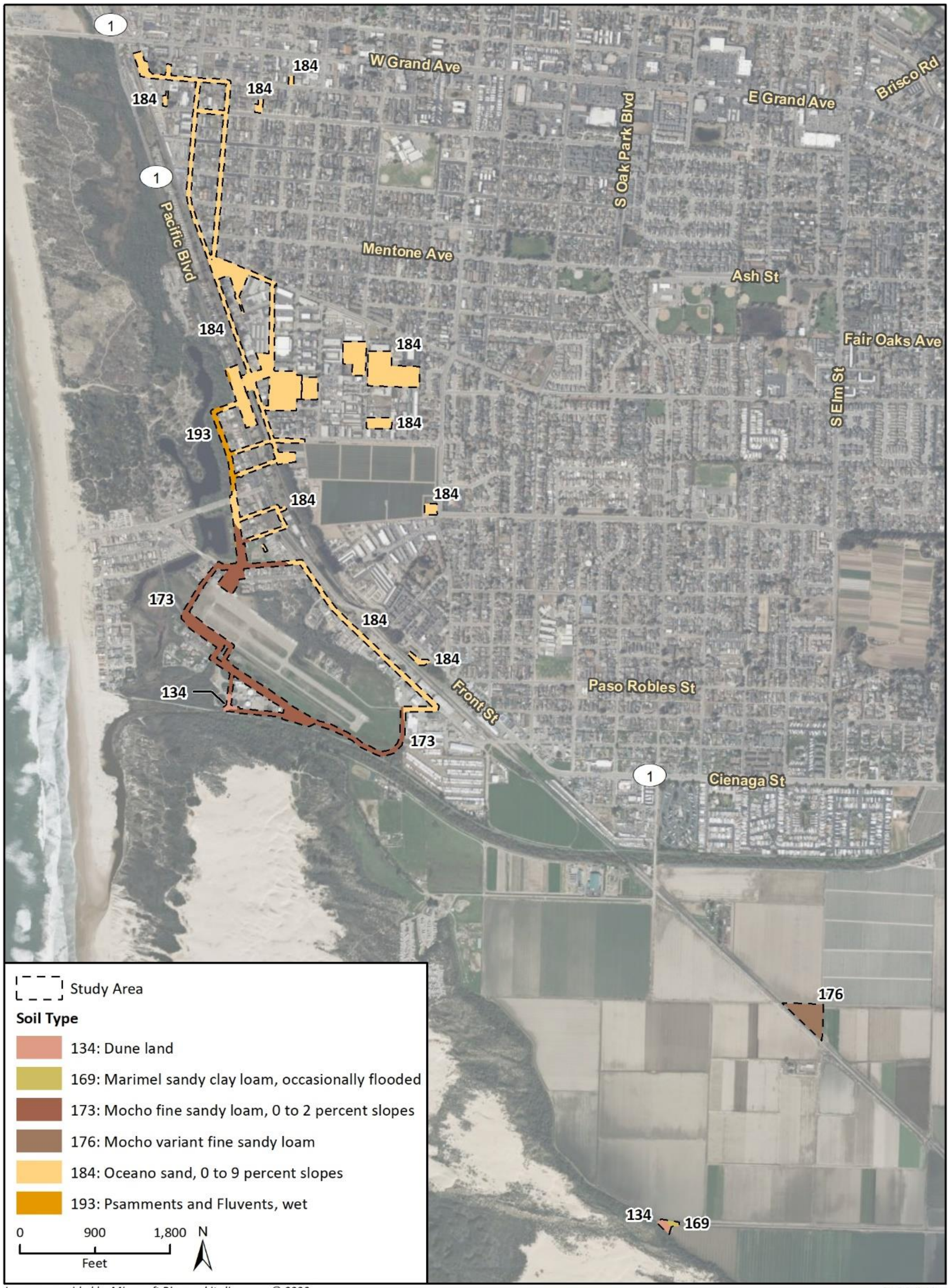
Oceano Sand, 0 to 9 Percent Slopes

Oceano sand soils are deep, excessively-drained soils that formed in material weathered from sandy eolian deposits. They are present on rolling dune-like topography near the ocean. Available water storage is low (2.75 inches) with very slow runoff and rapid permeability. A typical soil profile consists of sandy textures up to 60 inches.

Marimel Sandy Clay Loam, Occasionally Flooded

Marimel sandy clay loam soils are somewhat poorly drained soils that occur in alluvial fans, flood plains, and valleys. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of sandy clay loam to a depth of 16 inches and stratified loam to clay loam to silty clay loam from 16 to 60 inches. For Marimel sandy clay loam, occasionally flooded, available water storage is high (10.2 inches), and the runoff class is high.

Figure 4 Soils in the Study Area



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Additional data provided by USDA NRCS SSURGO 2022.

Dune Land

Dune land is excessively drained soil that occurs on beach dunes. It consists of 90 percent dune land soils and nine percent other minor components. A typical profile consists of fine sand to a depth of 60 inches. Available water storage is low, and the runoff class is low.

Psamments and Fluvents, Wet

Psamments and fluvents are entisols, which have no diagnostic horizons. In the Study Area, they are found on floodplains that receive frequent deposits of alluvium. Fluvents are freely-drained and formed in recent water-deposited sediments along rivers and small streams. They are frequently flooded. Psamments are unconsolidated sandy deposits common in dune habitat. In the Study Area, these mixed entisols are found on and near permanently wet areas, such as ponds and vegetated wetlands.

3.2 Vegetation Communities and Land Cover Types

Ten vegetation communities and land cover types were observed in the Study Area. Brief descriptions of the vegetation communities and land cover types are provided in the subsections below. Table 1 lists each documented vegetation community and land cover type and provides their approximate acreage and the percent area coverage in the Study Area. Figure 5 depicts the locations of each vegetation community and land cover type in the Study Area.

The vegetation classification system used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009). The land cover types that are not described in the MCV2 were classified using conventional naming practices (e.g., developed/disturbed).

Table 1 Summary of Vegetation Communities and Land Cover Types within the Study Area

Type	Approximate Acreage (acres)	Approximate Percent Area
Agriculture	3.31	5%
Arroyo Willow Thickets	2.45	4%
California Bulrush Marshes	0.06	<1%
Coyote Brush Scrub	0.31	<1%
Developed/Landscaped	37.75	62%
Eucalyptus Grove	3.56	6%
Iceplant Mats	0.20	<1%
Ruderal	10.53	17%
Saltgrass Flats	0.62	1%
Wild Oats and Annual Brome Grassland	1.78	3%
Total	**60.5**	**100.00%**

Figure 5 Vegetation Communities and Land Cover in Study Area

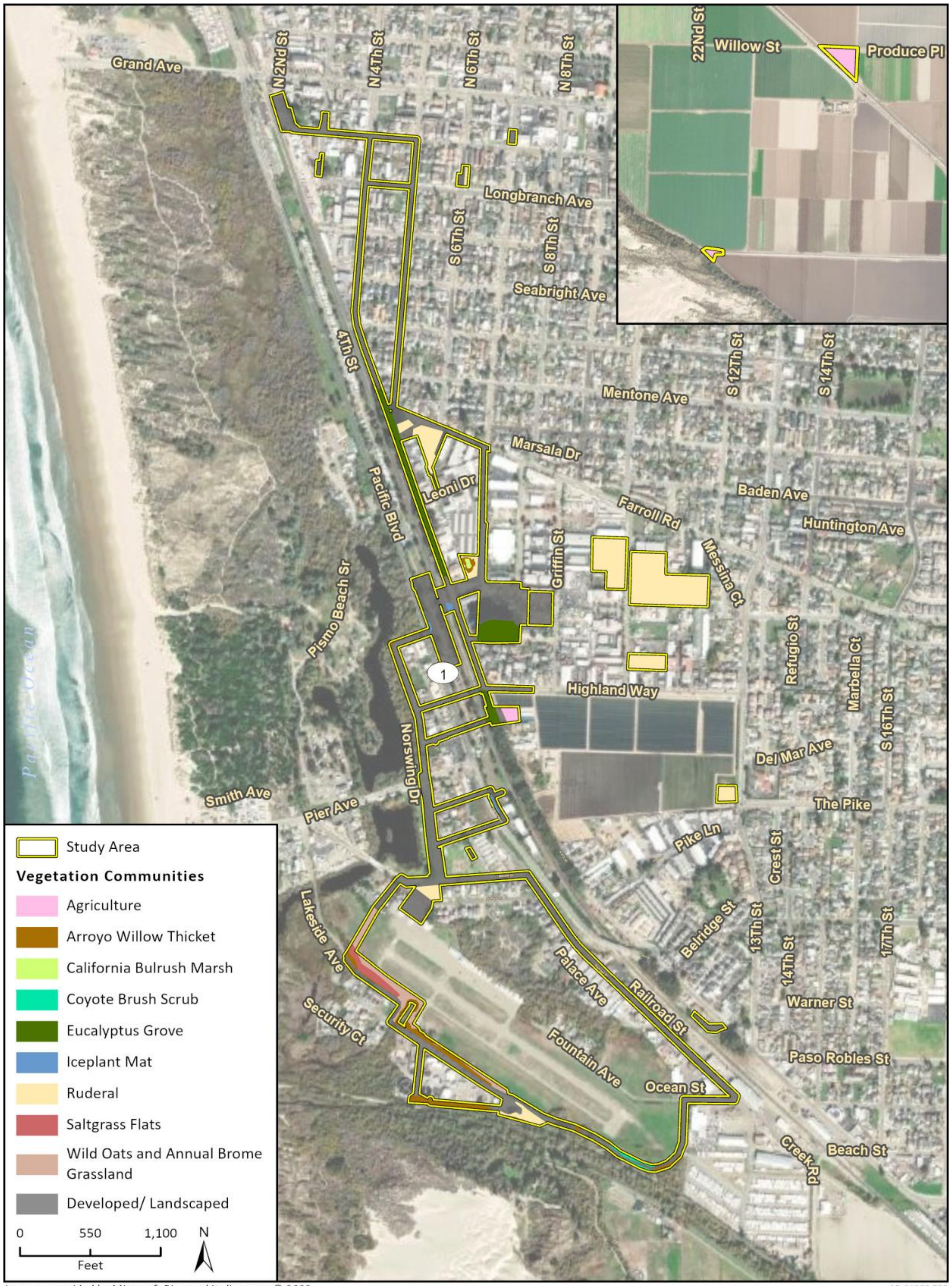

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Fig 4 Vegetation Communities

Agriculture

The agriculture land cover type covers approximately 3.31 acres of the Study Area. This land cover type includes active agriculture operations, including heavily disturbed bare ground areas and row crops such as strawberries. Sparse vegetation is present in portions of this land cover type, including non-native cheeseweed mallow (*Malva parviflora,* UPL), prostrate knotweed (*Polygonum aviculare*, FAC) and annual stinging nettle (*Urtica urens,* FAC).

Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance)

The arroyo willow thickets vegetation community is typically found between 0 to 9,186 feet (0 to 2,800 meters) in elevation within stream banks and benches and slope seeps as well as along drainages with sediment depositions. Arroyo willow (*Salix lasiolepis*, FACW) contributes to at least 50 percent relative cover of the tree or shrub canopy.

Within the Study Area, this community is found associated with Arroyo Grande Creek, Meadow Creek, roadway drainages and intermittent streams. Vegetation consists of a canopy of mature arroyo willow and red willow (*Salix laevigata*, FACW) trees with a dense understory dominated by California blackberry (*Rubus ursinus,* FAC), coyote brush (*Baccharis pilularis,* UPL), stinging nettle, poison oak (*Toxicodendron diversilobum,* FACU) and English ivy (*Hedera helix*, UPL). Arroyo willow thickets cover approximately 2.45 acres of the Study Area.

California Bulrush Marshes (*Schoenoplectus* [*Acutus*, *Californicus*] Herbaceous Alliance)

California bulrush marshes are an herbaceous emergent wetland vegetation community that occurs in brackish to freshwater marshes, estuaries, sloughs, ponds, and swamps as well as along stream shores. The soils have a high organic content and are poorly aerated. Hardstem bulrush (*Schoenoplectus acutus*, OBL) and/or California bulrush (*Schoenoplectus californicus*, OBL) are dominant or co-dominant where either species must have greater than 50 percent relative cover. Common associates include a variety of other freshwater wetland perennial species such as cattails (*Typha* spp., OBL) and alkali bulrush (*Bolboschoenus maritimus*, OBL). Emergent trees and shrubs may be present at low cover. This vegetation community is typically less than 15 feet tall, and the cover is intermittent to continuous. This is a CDFW-designated sensitive vegetation community (CDFW 2023).

Within the Study Area, this community occurs adjacent to the pipeline alignment along Railroad Street and in the vicinity of MW-2D/2E/2F, covering approximately 0.06 acre of the Study Area. This vegetation type is comprised of a dense herbaceous layer of California bulrush with tall flatsedge (*Cyperus eragrostis,* FACW) and saltgrass (*Distichlis spicata*, FAC) also present.

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance)

Coyote brush scrub is a coastal scrub vegetation community that occurs on coastal bluffs, terraces, stabilized dunes, stream sides, and other similar areas. The soils are variable and contain sandy to relatively heavy clay. Coyote brush is dominant to co-dominant in the shrub canopy where it must have greater than 50 percent absolute cover in the shrub canopy. Common co-dominants and associates include California coffeeberry (*Frangula californica*, UPL), coast silk tassel (*Garrya elliptica*, UPL), California sagebrush (*Artemisia californica*, UPL), California buckwheat (*Eriogonum fasciculatum*, UPL), and other similar coastal scrub and riparian shrub species. Emergent trees (i.e., coast live oak [*Quercus agrifolia*, UPL]) may be present at low cover. This vegetation community is typically less than three meters tall, the shrub canopy is variable, and the herbaceous layer is variable.

Within the Study Area, this community occurs along the southwestern portion of the Oceano Airport and covers approximately 0.31 acre. The shrub layer of this vegetation community is dominated by coyote brush and California blackberry with stinging nettle, ripgut brome (*Bromus diandrus,* UPL), and short-podded mustard (*Hirschfeldia incana,* UPL) also present.

Developed/Landscaped

Developed/Landscaped land cover is the largest land cover type in the Study Area, occupying approximately 37.75 acres. This land cover consists of areas that have been previously developed or otherwise physically modified to the extent that they no longer contain normal soil conditions and no longer support most vegetation. Developed land in the Study Area is characterized by the presence of permanent or semi-permanent structures including residential and commercial buildings, campgrounds, gravel lots, pavement including parking lots and roadways, or hardscape. This land cover type may also contain areas that are sparsely vegetated, primarily with non-native species. Landscaped land refers to vegetated areas associated with development, specifically planted for aesthetic beautification. Landscaped plants in the Study Area include Monterey cypress (*Hesperocyparis macrocarpa,* UPL), Monterey pine (*Pinus radiata,* UPL), and African daisy (*Dimorphotheca sinuate,* UPL). This land cover type is not officially identified in MCV2 (Sawyer et al. 2009).

Eucalyptus Grove *(Eucalyptus* spp. Woodland Semi-Natural Alliance)

Eucalyptus grove is found planted as trees, groves, and windbreaks as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from 0 to 1,900 meters in elevation. Eucalyptus species consist of over 80 percent cover within the tree layer. Eucalyptus has a California Invasive Plant Council (Cal-IPC) rating of “Moderate” for its invasive tendencies (Cal-IPC 2023). The Study Area contains 3.56 acres of this vegetation community.

Within the Study Area, this community is dominated by blue gum eucalyptus (*Eucalyptus globulus,* UPL) as the sole tree species. The herbaceous layer is sparse and primarily consists of weedy non-native species such as black mustard (*Brassica nigra,* UPL). This community is found within the northwest portion of the Study Area, where it appears to have been planted as a windbreak, and immediately north of Calvin Court within the ATF complex location.

Iceplant Mats (*Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance)

Iceplant mats (*Mesembryanthemum spp.* – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance) are typically found on bluffs, disturbed land, and sand dunes of the immediate coastline from sea level to 330 feet (100 meters) in elevation. Iceplant (*Carpobrotus edulis*, UPL), common iceplant (*Mesembryanthemum crystallinum*, UPL), or other iceplant provide at least 80 percent absolute cover close to the coast or provide at least 50 percent relative cover on bluffs, dunes, or disturbed lands.

Iceplant is a non-native invasive species, originally planted in the 1940s and 1950s for landscaping and dune stabilization (Cal-IPC 2023). These perennial ground-hugging succulents form large monospecific mats (Sawyer et al. 2009). Iceplant has a Cal-IPC rating of “High” for its invasive tendencies (Cal-IPC 2023). This hardy species spreads readily from landscaped areas into dune and scrub habitats, outcompeting native species for space, nutrients, and moisture. Within the Study Area, this community is associated with development and occurs along existing roadways. Iceplant is the dominant species, with non-native cheeseweed mallow and native blue elderberry (*Sambucas nigra* ssp*. caerulea,* FACU) also present. Iceplant mat covers approximately 0.20 acre of the Study Area.

Ruderal

Ruderal vegetation is associated with and adjacent to areas of active disturbance within the Study Area. This vegetation community occurs where ground has previously been disturbed and is currently not in active use. The ruderal vegetation is dominated by cheeseweed mallow, black mustard, short-podded mustard, telegraphweed (*Heterotheca grandiflora,* UPL), and wild radish (*Raphanus sativus,* UPL), with non-native grasses and forbs also present. Ruderal vegetation covers approximately 10.53 acres of the Study Area, the second largest community in the Study Area.

Saltgrass Flats (*Distichlis spicata* Herbaceous Alliance)

Saltgrass flats is a low growing herbaceous vegetation community that occurs in costal salt marshes, playas, swales and terraces along washes that are intermittently flooded from 0 to 1,500 meters. It is most often associated with alkaline or saline soils that are poorly drained. Saltgrass, spiny rush (*Juncus acutus*, FACW) or Cooper's rush (*Juncus cooperi*, FACW) are dominate species with greater than 50 percent relative cover.

Within the Study Area, this community is associated with the freshwater emergent wetland located along the southern portion of the Oceano Airport and covers approximately 0.62 acre. This vegetation community is dominated by saltgrass and fleshy jaumea (*Jaumea carnosa,* OBL) with non-native Bermuda grass (*Cynodon dactylon,* FACU) and beaked spikerush (*Eleocharis rostellata,* OBL) also present.

Wild Oats and Annual Brome Grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance)

Wild oats and annual brome grassland is an open-to-dense naturalized vegetation community that is dominated or co-dominated by non-native, often invasive, annual grasses (e.g., wild oats [*Avena* spp., UPL], ripgut brome, and foxtail barley [*Hordeum murinum*, FACU]). This vegetation community is often interspersed with native and non-native forbs. Emergent trees and shrubs may be present but at low cover.

This vegetation community forms an almost continuous cover over approximately 1.78 acres of the Study Area. This vegetation type is dominated by ripgut brome and wild oats, with Bermuda grass, English plantain (*Plantago lanceolata,* FAC), cheeseweed mallow, common sowthistle (*Sonchus oleraceus,* UPL), hairy vetch (*Vicia villosa,* UPL), black mustard, and short-podded mustard also present. This vegetation community is located surrounding the saltgrass flats within the southern portion of the Oceano Airport within the Study Area. Signs of active mowing were observed within the Oceano Airport.

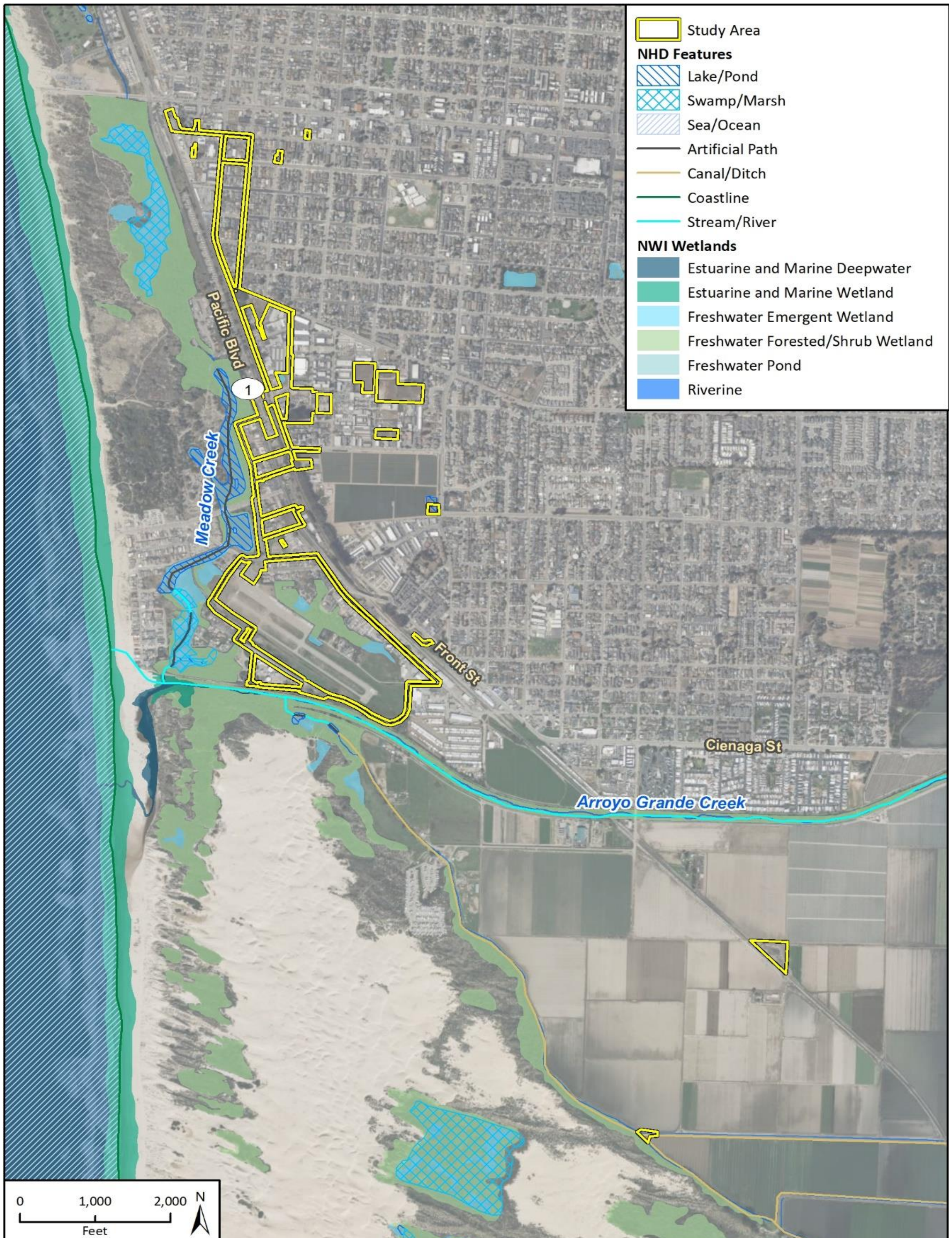
3.3 Hydrology

The Study Area is located within the Meadow Creek-Frontal Pacific Ocean subwatershed (Hydrologic Unit Code 12 – 180600060705) and Lower Arroyo Grande Creek subwatershed (Hydrologic Unit Code 180600060605) (USGS 2023b). The majority of the Study Area is within the Meadow Creek-Frontal Pacific Ocean Subwatershed (HUC 12-180600060705) and contains most of the developed portion of the Study Area. Stormwater within the Study Area typically flows through roadway drainages or along roadways into the City of Grover Beach's storm drain system or the County of San Luis Obispo's storm drain system that eventually flow into the Pacific Ocean.

No portions of Arroyo Grande Creek or Meadow Creek are located within the Study Area. One National Hydrography Dataset (NHD) flowline and one NHD waterbody are documented within the Study Area - a canal ditch located in the vicinity of NCMA South A/B/C and a pond at the intersection of South 13th street and The Pike in the vicinity of MW-4C/4D (Figure 6). (The mapped pond is a City-owned stormwater detention basin that is part of the City's storm drainage system.) The NWI depicts a Freshwater Emergent Wetland within 100 feet of MW-2C/2D/2E, Freshwater Forested Shrub/Wetland areas occurring within the Oceano Airport, and Forested Shrub/Wetland and Riverine Habitat areas occurring at or within 100 feet of MW-NCMA South A/B/C. Additionally, the NWI depicts Freshwater Forested/Shrub Wetland areas associated with Meadow Creek and Arroyo Grande Creek occurring at or within 100 feet of some of the proposed injection well, monitoring well, and water distribution pipeline locations. The drainages and wetlands mapped by the NWI are generally consistent with the observations made during the field reconnaissance survey.

A significant rain event occurred between January 9 to 14, 2023, the week prior to the field survey, in which the San Luis Obispo Regional Airport Station recorded an accumulation of five inches of rain (Weather Underground 2023). Because the rain event accumulated more water than typically documented for the area, more surface water was observed than normal.

Figure 6 NWI and NHD within the Study Area Vicinity



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Additioanl data provided by U.S. Geological Survey National Hydrography Dataset. 2022 and U.S. Fish & Wildlife Service National Wetlands Inventory, 2022.

4 Assessment of Jurisdictional Waters and Wetlands

Based on the field delineation, two detention basins, two wetlands, a roadway drainage, an intermittent stream, and two agriculture ditches potentially subject to the jurisdictions of USACE, RWQCB, CDFW and/or CCC are present within the Study Area (Figure 7a through Figure 7g). Descriptions of these potentially jurisdictional features are provided below, and their locations and the locations of their respective sample points are depicted in Figure 7c. Completed Arid West Wetland Determination Data Sheets are provided for each sample point in Appendix A, and representative photographs are included in Appendix D. The acquisition of regulatory permits from USACE, RWQCB, CDFW, and CCC would only be required if project activities impact the identified features.

Detention Basins

Two detention basins were observed within the Study Area. Both detention basins were observed with standing water due to a recent precipitation event prior to the survey. Both basins were excavated by the City of Grover Beach to be part of the City of Grover Beach Stormwater Management Program (City of Grover Beach 2010).

An approximately 0.06-acre detention basin was observed west of Barca Street (Figure 7a; Appendix D, Photograph 1) near MW-2D/2E/2F. In the NWI, this basin is defined as an excavated emergent “seasonally flooded” (PEM1Cx) wetland (USFWS 2023). This detention basin is surrounded by development, and several outfall pipes were observed along the banks of the basin. The basin floor was dominated by California bulrush with the banks dominated by arroyo willow and non-native grasses, including ripgut brome. Standing water was also observed during the survey at the bottom of the basin. In review of historical aerial imagery (Google Earth 2023), this basin does contain water following average precipitation events, and vegetation within the basin and along its banks depicted in historical imagery were consistent with observations during the survey. Due to inaccessibility, no wetland sample points were collected at this location; however, it is assumed this seasonally wet depression contains all three wetland parameters. The limits of each vegetation community within the basin were mapped digitally using aerial imagery.

A second detention basin was observed adjacent to South 13th Street, at MW-4C/4D (Figure 7g). In the NHD, this basin is defined as a lake/pond feature (USGS 2023b). The approximately 0.10-acre detention basin is surrounded by active agriculture operations, roadways, and residential buildings. The basin contained non-native, upland vegetation including iceplant along the banks, and surface water was observed at the time of the survey (Appendix D, Photograph 2). Based on historical aerials, this basin typically does not hold water for an extended period of time (Google Earth 2023). The limits of the basin surface water at the time of the survey were mapped digitally using aerial photography. Due to inaccessibility, no wetland sample points were collected at this location; however, based on the nature of this basin for stormwater collection, it is assumed to be a seasonal wetland with all three wetland parameters.

Detention Basin 1 and Detention Basin 2 are excavated in uplands, have no connectivity to any drainages or streams and are specifically excluded from CWA jurisdiction by definition as a non-jurisdictional water under 33 CFR 328.3(b)10. As such, they are likely not under the jurisdiction of the USACE or RWQCB pursuant to the CWA. The detention basins also would not likely be considered under jurisdiction of CDFW because they lack a streambed and an associated riparian corridor. However, these detention basins are likely considered waters of the State under the jurisdiction of RWQCB pursuant to the Porter-Cologne Water Quality Control Act. In addition, a portion of Detention Basin 1 is located within the Coastal Zone and meets the definition of a coastal wetland. As a result, this portion of Detention Basin 1 is likely regulated by the CCC pursuant to the CCA.

Wetlands

Two wetlands were observed within the Oceano Airport within the Study Area (Figure 7c). Both areas are topographic low points that likely accumulate stormwater runoff from the airport. A total of 0.49 acre of emergent wetlands occurs within the Study Area at locations where water distribution pipelines are proposed.

Wetland 1 was observed within the southwestern portion of Oceano Airport. The area is a low depressional area that collects stormwater runoff from the airport (Appendix D, Photograph 3). Due to its location within the Oceano Airport, the area is routinely disturbed by active airport maintenance, including mowing. The wetland is approximately 37 feet at its largest width and approximately 540 feet in length, totaling approximately 0.31 acre. The area is surrounded by wild oat and annual grassland vegetation community with arroyo willows to the north and northwest.

A wetland sample point (SP) and an upland SP were investigated. SP-1 was excavated where vegetation began to transition to upland species and topography began to elevate from the depression. Vegetation at SP-1 was dominated by saltgrass with ripgut brome. Although SP-1 passed the dominance test for hydrophytic vegetation, no hydric soils or wetland hydrology was observed; therefore, SP-1 was determined to be located outside of a wetland. SP-2 was taken in an area most representative of the wetland feature. Although the vegetation community at SP-2 is best described as saltgrass flats based on MCV2 (Sawyer et al. 2009), it is dominated by fleshy jaumea with beaked sedge and saltgrass. Because the dominate species in this area contains an OBL indicator status, SP-2 passed the dominance test and is therefore considered to contain hydrophytic vegetation. The soil pit was excavated to a depth of 12 inches. The soil profile was uniform and comprised of loam with a dark surface color of 2.5Y 3/2. Redox was limited at two percent. Standard hydric soil indicators were not observed, but problematic soils were indicated with moderately alkaline soils. Primary wetland hydrology indicators were observed, including a high water table and surface water averaging approximately four inches in depth, which exceeded the typical hydrology due to the significant rain event that occurred a week prior to the survey. Wetland 1 thus meets the definition of a wetland with all three wetland parameters.

Wetland 2 was observed within the southeastern side of the Oceano Airport property (Appendix D, Photograph 4). The area is a low depressional area that collects stormwater runoff from the airport and the adjacent SSLOCSD WWTP. Due to its location within the Oceano Airport, the area is routinely disturbed by active airport maintenance, including mowing. The depressional area spans approximately two feet in width and approximately 190 feet in length, totaling approximately 0.18 acre. The area is surrounded by wild oat and annual grassland vegetation community. SP-3 was collected adjacent to standing water. The area was dominated by ripgut brome and wild oats; however, the vegetation parameter is considered problematic because the area is routinely disturbed by airport maintenance activities. A soil sample was excavated, and soils were synonymous to SP-1, including problematic hydric soils due to moderately alkaline soils. Standing water, a primary wetland hydrology indicator, was observed averaging six inches in depth and about two feet in width, and a high water table was observed, likely due to the significant rain event prior to the survey. Although vegetation and soils indicators were problematic, they were assumed present along with wetland hydrology. As a result, SP-3 meets the definition of a three-parameter wetland. SP-4 was collected where wetland hydrology was absent and was determined to be upland.

Wetland 1 and Wetland 2 are considered isolated. As such, they do not meet the definition of adjacent wetlands under 33 CFR 328.3 and will not likely be under the jurisdiction of the USACE. These wetlands also would not likely be considered under jurisdiction of CDFW because they lack a streambed and/or associated riparian corridor. However, these wetlands are considered to be wetland waters of the State and subject to RWQCB jurisdiction under *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (2019). These wetlands are also in the Coastal Zone within the original jurisdiction of the CCC and meet the definition of a coastal wetland.[4] Therefore, the wetlands are likely regulated by the CCC pursuant to the CCA.

Roadway Drainage

A roadway drainage was observed adjacent to Aloha Place that conveys water south towards Meadow Creek through a 24-inch culvert with a concrete apron (Figure 7c; Appendix D, Photograph 5). The drainage begins within arroyo willow thicket comprised of arroyo willows and red willows. The roadway drainage is a swale-like feature with no defined bed, lacks a defined OHWM, and is vegetated with ripgut brome, prickly lettuce (*Lactuca serriola,* FACU), English plantain, and Bermuda grass. The top of bank spans approximately four feet in width, and the arroyo willow thicket extends approximately three feet beyond the top of bank. The drainage likely receives water runoff from the airport, including a swale feature observed to the east within the arroyo willow thickets. The drainage likely conveys flowing water only during precipitation events or immediately thereafter. However, due to the significant rain event prior to the survey and a high water table in the area, standing water was observed within the drainage at a depth of approximately three inches. Approximately 0.01 acre of the roadway drainage is located within the Study Area.

Since the roadway drainage is an ephemeral feature that is specifically excluded by definition as a non-jurisdictional water under 33 CFR 328.3(b)3, it will not likely be under the jurisdiction of USACE or RWQCB pursuant to the CWA. However, the drainage will likely be considered a water of the State regulated by the Central Coast RWQCB pursuant to the Porter-Cologne Water Quality Control Act and a CDFW streambed and riparian habitat pursuant to CDFW jurisdiction under the CFGC. The roadway drainage is also in the Coastal Zone within the original jurisdiction of the CCC and meets the definition of a coastal wetland. Therefore, the roadway drainage is likely regulated by the CCC pursuant to the CCA.

Intermittent Stream

An intermittent stream was observed east of Delta Lane (Figure 7d; Appendix D, Photograph 6). The intermittent stream has direct connectivity to Arroyo Grande Creek through large culverts south of the Study Area. The intermittent stream contained positive indicators for an OHWM with a defined bed and bank and was approximately three feet in width with banks approximately three feet in height. The stream is surrounded by arroyo willow thicket that recently experienced understory vegetation clearing and tree trimming. The arroyo willow vegetation extends from the access

[4] The Coastal Commission retains coastal permitting jurisdiction over certain lands in the Coastal Zone, such as tidal lands and public trust lands. Its jurisdiction over these areas is known as “original” or “retained” jurisdiction. Local agencies with adopted LCPs do not have permitting authority over development in these areas.

roadway to the SSLOCSD WWTP to approximately 20 feet from the OHWM. During the time of the survey, water was observed within the stream flowing from Arroyo Grande Creek through a culvert. This channel is likely overflow from the Arroyo Grande Creek during precipitation events or is tidally influenced by proximity to the Pacific Ocean. It also directs roadway drainage from Delta Lane and the Oceano Airport. Approximately 0.001 acre of intermittent stream is located within the Study Area.

The intermittent stream is a relatively permanent water that is a non-navigable tributary to a traditional navigable water and meets the criteria required to be considered a water of the U.S. and State. Therefore, it is likely to be considered jurisdictional by the USACE and RWQCB pursuant to the CWA. The stream and its associated riparian corridor are also likely under CDFW jurisdiction pursuant to the CFGC. The intermittent stream is also in the Coastal Zone within the original jurisdiction of the CCC and meets the definition of a coastal wetland. Therefore, the intermittent stream is likely regulated by the CCC pursuant to the CCA.

Agriculture Ditches

Two agriculture ditches were observed within the Study Area (Figure 7e and Figure 7f). These ditches are located adjacent to active agricultural lands and predominantly receive water from irrigation discharges. These ditches are routinely modified and maintained for agriculture operations.

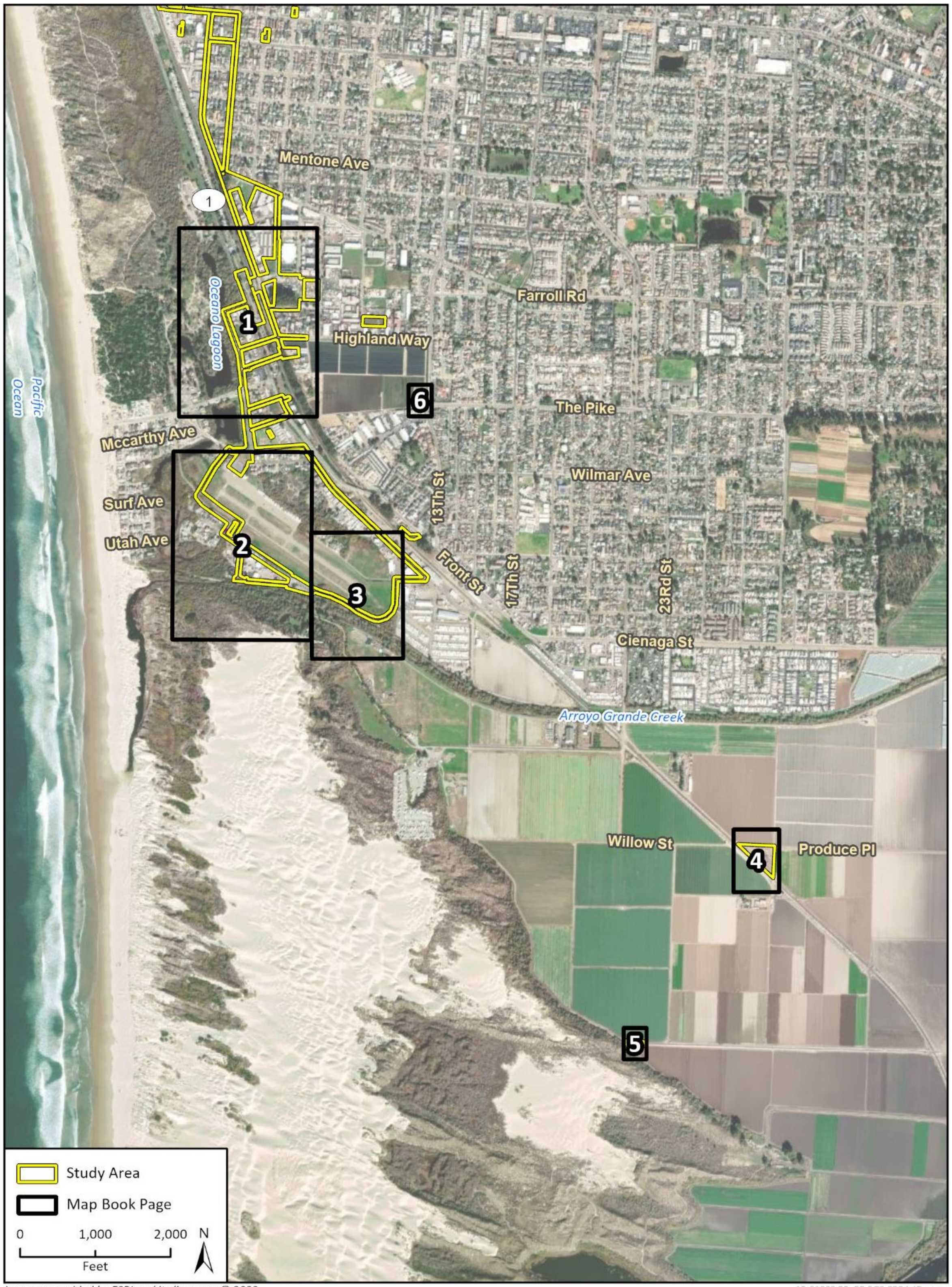
Agriculture Ditch 1 is located west of the intersection of Produce Place and 26th Street, near MW-North A/B/C (Appendix D, Photograph 7). The ditch passes through a 12-inch pipe culvert under an access roadway and flows west, meandering between the piles that support railroad tracks. The ditch had been recently modified through excavation and is unvegetated. An OHWM was identified by the presence of a defined bed and bank, with the top of bank spanning approximately six feet wide. No water was observed within the agriculture ditch during the survey. Agriculture Ditch 1 is an artificially irrigated area that would revert back to upland should irrigation water cease and is specifically excluded by definition as a non-jurisdictional water under 33 CFR 328.3. As a result, this feature will not likely be under the jurisdiction of the USACE or RWQCB pursuant to the CWA. However, the ditch will likely be considered a water of the State regulated by the Central Coast RWQCB pursuant to the Porter-Cologne Water Quality Control Act. This agriculture ditch would not likely be considered under jurisdiction of CDFW. In addition, this ditch is not located within the Coastal Zone and therefore would not be regulated by the CCC pursuant to the CCA.

Agriculture Ditch 2 is located approximately 0.57 mile southwest of Agriculture Ditch 1, east of Big Pocket Lake, and adjacent to Produce Place near MW-NCMA South A/B/C. Due to inaccessibility, the ditch was delineated using aerial imagery, the NWI, and the NHD. The NHD depicts a Canal/Ditch that originates from Los Berros Creek, travels within 25 feet of MW-NCMA South A/B/C, and connects to a canal/ditch that eventually terminates into Arroyo Grande Creek (USGS 2023b). The NWI depicts Agriculture Ditch 2 as a seasonally flooded, excavated stream bed (R4SBCx) that originates in the agriculture fields approximately 0.77 mile to the east of MW-NCMA South A/B/C and a temporarily flooded forested broad-leaved wetland (PFO1A) to the west of MW-NCMA South A/B/C (USFWS 2023). Through aerial imagery review, Agriculture Ditch 2 appears to receive water primarily from irrigation input. However, consistent with the NHD, water may enter from Los Berros Creek during precipitation events. No adjacent riparian vegetation was observed in aerial imagery, and jurisdiction of the ditch is likely bound between the banks. Agriculture Ditch 2 may be a relatively permanent water that is a tributary to a traditional navigable water (i.e., the Pacific Ocean via Arroyo Grande Creek). Therefore, this ditch meets the criteria required to be considered a water of the U.S. and State potentially under the jurisdiction of the USACE and RWQCB pursuant to the CWA. The ditch likely also falls under potential CDFW jurisdiction pursuant the CFGC. In addition, this ditch is in the Coastal Zone and meets the definition of a coastal wetland. As such, this ditch is likely regulated by the CCC pursuant to the CCA.

Riparian Forest

Adjacent to Arroyo Grande Creek and Meadow Creek, arroyo willow thicket riparian habitat was observed (Appendix D, Photograph 8). This habitat extends beyond the tops of banks of these creeks and is restricted due to development associated with the SSLOCSD WWTP and Aloha Place. As previously discussed under *Vegetation Communities and Land Cover Types*, this community includes hydrophytic vegetation associated with a stream and is defined as a riparian corridor. The riparian corridor provides habitat for plants and wildlife; therefore, it is within the boundary of the riparian limits regulated by CDFW pursuant to the CFGC and within potential jurisdiction of RWQCB pursuant to the Porter-Cologne Water Quality Control Act. In addition, riparian habitats associated with Meadow Creek and Arroyo Grande Creek are in the Coastal Zone within the original jurisdiction of the CCC and would be regulated by the CCC pursuant to the CCA.

Figure 7a Jurisdictional Delineation – Overview Map



Imagery provided by ESRI and its licensors © 2023.

Figure 7b Jurisdictional Delineation – Detention Basin 1 and Riparian Forest

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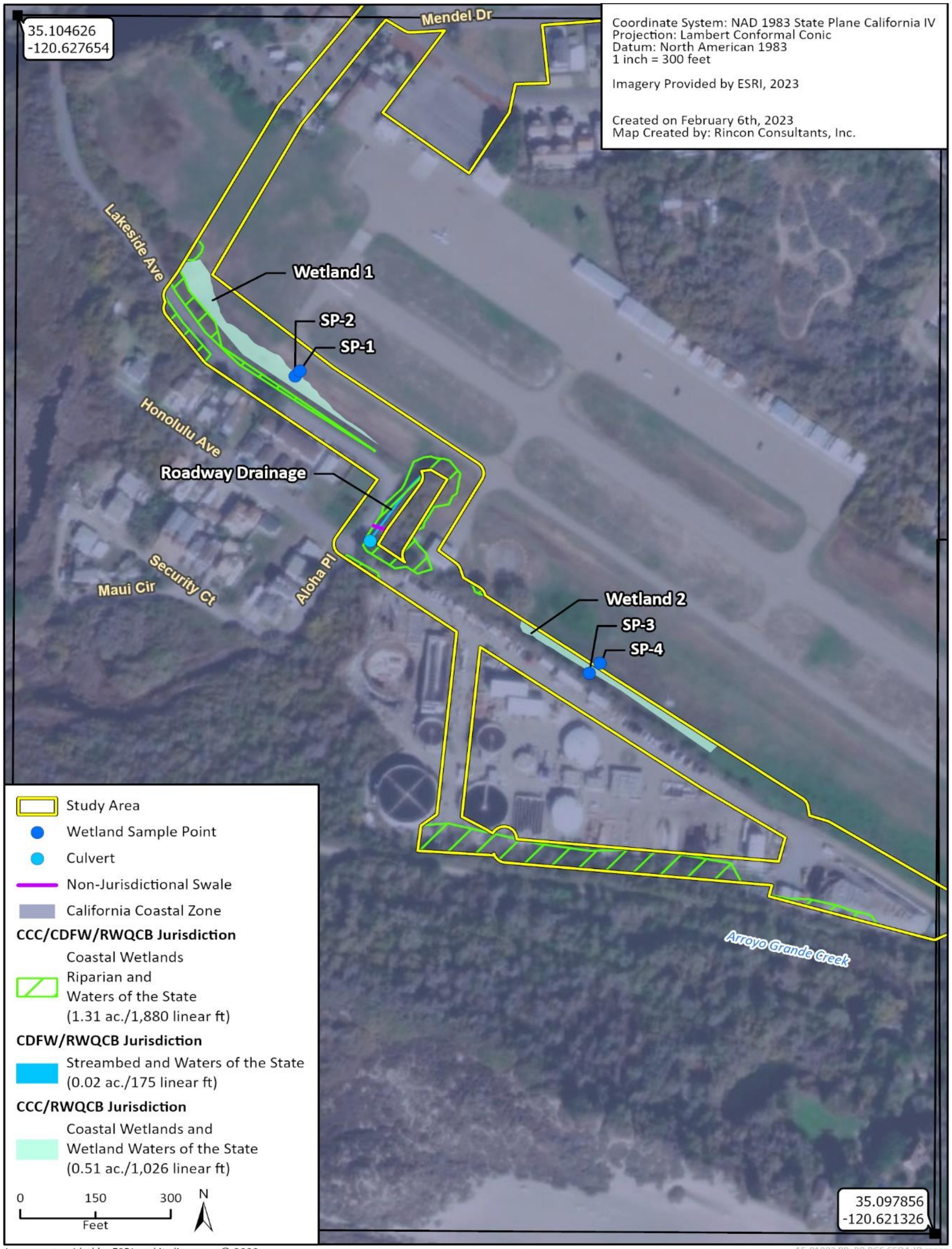
15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 7c Jurisdictional Delineation – Wetlands 1 and 2, Roadside Drainage, and Riparian Forest



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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 7d Jurisdictional Delineation – Intermittent Stream and Riparian Forest

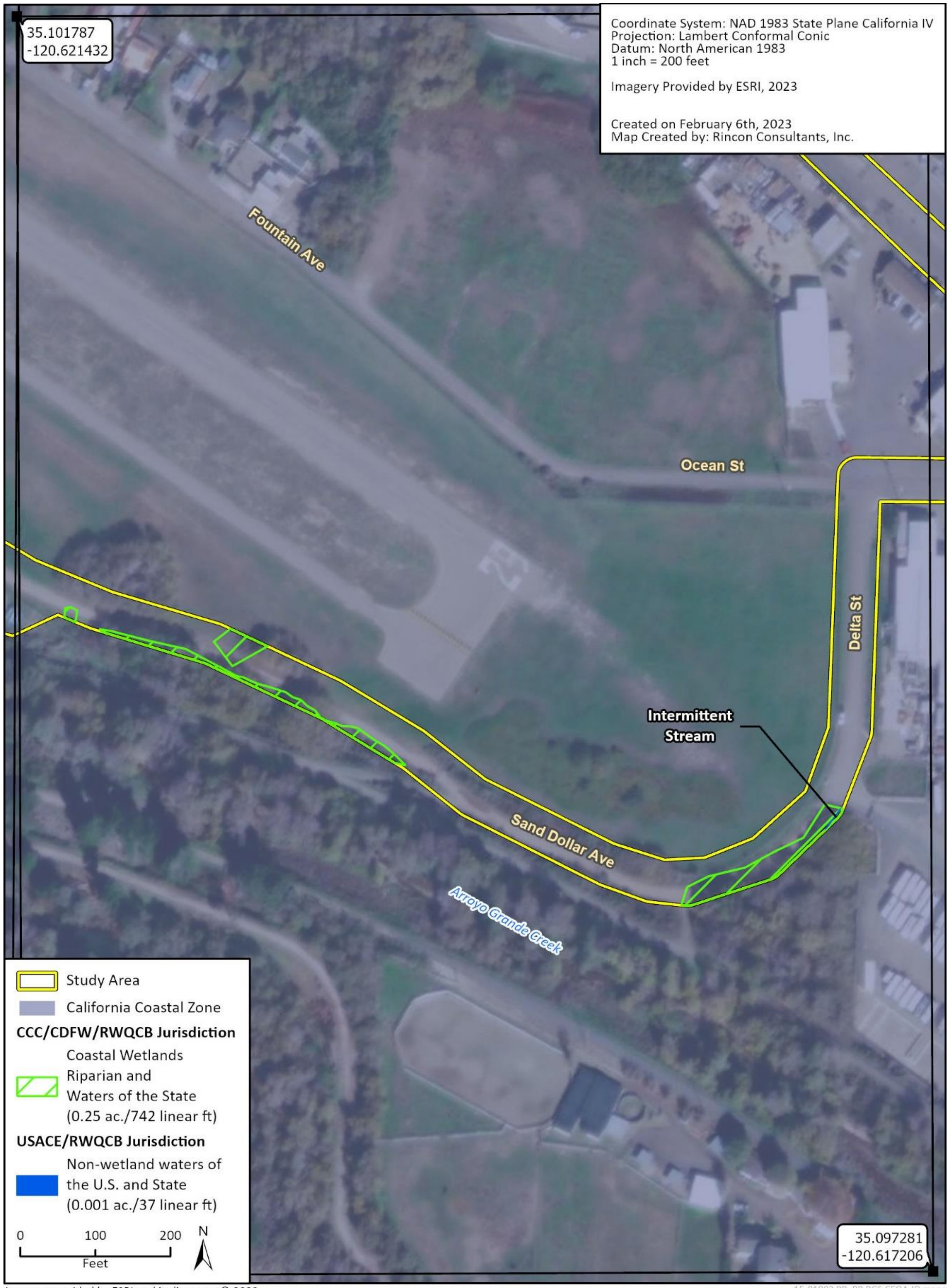

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Figure 7e Jurisdictional Delineation – Agriculture Ditch 1

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FigX Jurisdictional Delineation

Figure 7f Jurisdictional Delineation – Agriculture Ditch 2

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Figure 7g Jurisdictional Delineation – Detention Basin 2

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FigX Jurisdictional Delineation

Table 2 USACE, RWQCB, CDFW, and CCC Jurisdictional Areas

	USACE Jurisdiction		RWQCB Jurisdiction		CDFW Jurisdiction	CCC/City of Grover Beach/San Luis Obispo County Jurisdiction
Jurisdictional Area	Non-Wetland Waters of the U.S.[1] (ac./lin. ft.)	Wetland Waters of the U.S. (ac.)	Non-wetland Waters of the State[2] (ac. / lin. ft.)	Wetland Waters of the State (ac.)	CDFW Jurisdictional Streambed[3] (ac. / lin. ft.)	CCC Wetland (ac.)
Detention Basin 1	--/--	--	0.20/125	--	--/--	0.20
Detention Basin 2	--/--	--	--/--	0.11	--/--	--
Wetland 1	--/--	--	--/--	0.31	--/--	0.31
Wetland 2	--/--	--	--/--	0.20	--/--	0.18
Roadway Drainage	--/--	--	0.02/175	--	0.32/175	0.32
Intermittent Stream	0.001/37	--	0.001/37	--	0.13/245	0.13
Agriculture Ditch 1	--/--	--	0.09/380	--	--	--
Agriculture Ditch 2	0.07/192	--	0.07/192	--	0.07/192	0.07
Arroyo Willow Riparian	--/--	--	1.81/3,539	--	1.81/3,539	1.48
Total	**0.07/229**	**--**	**2.19/4,448**	**0.60**	**2.33/4,151**	**2.69**

USACE = United States Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; CCC = California Coastal Commission; ac. = acre; lin. ft. = linear feet

[1] Includes culverted waters of the U.S.

[2] Section 401 of the CWA and Porter-Cologne Water Quality Act waters of the State, calculated to top of bank or edge of riparian.

[3] Streambed calculated to top of bank or edge of riparian, whichever is greater

4.1 USACE Jurisdiction

The Study Area contains approximately 0.07 acre (229 linear feet) of potential non-wetland waters of the U.S., which consist of an intermittent stream and an agriculture ditch, both of which have direct connection to the Pacific Ocean.

4.2 RWQCB Jurisdiction

The Study Area contains approximately 2.19 acres (4,448 linear feet) of potential waters of the State and approximately 0.60 acre of potential wetland waters of the State. These potential State waters consist of detention basins, roadway drainages, intermittent streams, agriculture ditches, and wetlands. Riparian vegetation is also conservatively included based on Rincon's understanding of the current jurisdiction of the Central Coast RWQCB.

4.3 CDFW Jurisdiction

The Study Area contains approximately 2.33 acres (4,151 linear feet) of potential CDFW streambed jurisdiction. Waters included in potential CDFW streambed jurisdiction consist of a roadway drainage, intermittent stream, an agriculture ditch, and associated riparian vegetation.

4.4 CCC Jurisdiction

The majority of the Study Area is located within the Coastal Zone and contains approximately 2.69 acres of potential CCC wetlands pursuant to the CCA.[5] These CCC wetlands contain characteristics of at least one wetland parameter and consist of a detention basin, wetlands, roadway drainage, intermittent stream, agriculture ditch, and associated riparian vegetation.

[5] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

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Appendix A

Wetland Determination Datasheets (January 2023)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-1
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	1	No	OBL
Distichlis spicata	95	Yes	FAC
Geranium molle	1	No	UPL
Bromus diandrus	5	No	UPL
	102% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Remarks: Mowed 3 months prior to survey. Dominated by DISSPI, mostly senescent.

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- ☑ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	98	5YR 5/8	2	C	PL	Sandy clay loam	Rocks within soil throughout sample. Damp.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although small amounts of redox concentrations along roots within top 6 inches are present, not indicators were met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-2
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Dominated by hydrophytic vegetation and standing water with hydric soils of redox dark surfaces.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	80	Yes	OBL
Distichlis spicata	5	No	FAC
Eleocharis rostellata	15	No	OBL
Cynodon dactylon	3	No	FACU
	103% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	95	x 1 = 95
FACW species	0	x 2 = 0
FAC species	5	x 3 = 15
FACU species	3	x 4 = 7
UPL species	0	x 5 = 0
Column Totals:	103 (A)	117 (B)

Prevalence Index = B/A = 1.13

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☑ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Vegetation dense and dominated by Jaumea with dispersed beaked spikerush.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	95	5YR 4/6	2	CS	M	Loam	Saturated. Very little redox observed around sand grains

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil with little redox observed surrounding sand grains. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☑ Surface Water (A1)
☑ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4
Water Table Present? Yes ☑ No ☐ Depth (inches): 2
Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): 0

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-3
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.100963, -120.623696	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Standing water present with problematic moderately alkaline soils and problematic vegetation that is routinely mowed.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Bromus diandrus	80	Yes	UPL
Distichlis spicata	2	No	FAC
Avena spp.	15	No	UPL
Cynodon dactylon	3	No	FACU
	100% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	2	x 3 = 10
FACU species	3	x 4 = 7
UPL species	95	x 5 = 475
Column Totals:	100 (A)	485 (B)

Prevalence Index = B/A = 4.85

Hydrophytic Vegetation Indicators:

☐Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Problematic vegetation due to routine mowing in the area. The area has concave surface (depression) that likely ponds water.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	100					Loam	Saturated.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil no redox. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☑ Surface Water (A1)
☑ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4
Water Table Present? Yes ☑ No ☐ Depth (inches): 2
Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-4
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.101027, -120.623669	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are “Normal Circumstances” present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Cynodon dactylon	5	No	FACU
Avena spp.	15	Yes	UPL
Geranium molle	1	No	UPL
Bromus diandrus	85	No	UPL
	106% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: Dense vegetation dominated by upland species.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	100					Sandy clay loam	Damp soil

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although soil is moderately alkaline, sand component in the soil likely does not allow for ponding. No redox observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):

Water Table Present? Yes ☐ No ☐ Depth (inches):

Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

Appendix B

Regulatory Framework

Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of jurisdictional features. Agencies with the responsibility for protection of jurisdictional features within the project site include:

- United States Army Corps of Engineers (USACE; non-wetland waters and wetlands of the United States)
- Regional Water Quality Control Board (RWQCB; waters of the State)
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes)
- California Coastal Commission (CCC; coastal wetlands)

United States Army Corps of Engineers Jurisdiction

The USACE is responsible for administering several federal programs related to ensuring the quality and navigability of the nation’s waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) “to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.” Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as “waters of the United States, including the territorial seas.” “Waters of the United States” are broadly defined at 33 Code of Federal Regulations (CFR) Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and United States Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining “waters of the United States” (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges that have invalidated the updated regulations. Thus, the agencies’ longstanding definition of “waters of the United States,” which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

Waters of the U.S.

In summary, USACE and USEPA regulations define “waters of the United States” as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or

natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in items 1 through 4 above;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1 through 6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3[e]). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4[c]). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 Federal Register 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2020), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands.
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands.
- **Facultative (FAC).** Occur in wetlands or non-wetlands.
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands.
- **Obligate Upland (UPL).** Almost never occur in wetlands.

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) falls within these categories. Any species not appearing on the National Wetlands Plant List is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Applicable Case Law and Agency Guidance

The USACE’s regulations defining “waters of the United States” have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that USACE’s CWA jurisdiction does not extend to ponds that “are not adjacent to open water.” In reaching its decision, the Court concluded that the “Migratory Bird Rule,” which served as the basis for the USACE’s asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines…” The Court was concerned that application of the Migratory Bird Rule resulted in "reading the term 'navigable waters' out of the statute. Highlighting the language of the

CWA to determine the statute's jurisdictional reach, the Court stated, “the term ‘navigable’ has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made.” This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006, the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively “Rapanos”), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions, including the “plurality” opinion authored by Justice Scalia (joined by three other justices) and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum (“Rapanos Guidance Memorandum”) in 2008 stating that “regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's standard is satisfied.”

According to the plurality opinion in Rapanos, “the waters of the United States include only relatively permanent, standing or flowing bodies of water” and do not include “ordinarily dry channels through which water occasionally or intermittently flows.” In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy’s opinion, “the USACE’s jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase ‘navigable waters,’ if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as ‘navigable.’ When, in contrast, wetlands’ effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term ‘navigable waters.’” Justice Kennedy identified "pollutant trapping, flood control, and runoff storage" as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands’ ecological role, ”mere adjacency” to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that “a more specific inquiry, based on the significant nexus standard, is therefore necessary.”

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

The USACE and USEPA decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;

- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally do not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom, breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board Jurisdiction

The SWRCB and nine RWQCBs have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by SWRCB for multi-region projects. The process begins when an applicant submits an application to RWQCB and informs USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if RWQCB has not either issued or denied the application for Section 401 Certification, USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected;
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the state, except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body as compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;

(ii) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and

(iii) The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020) states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Department of Fish and Wildlife Jurisdiction

California Fish and Game Code Section 1602 states it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain a Streambed Alteration Agreement (SAA) from CDFW, which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receipt of a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW, and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of the California Fish and Game Code** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted California Fish and Game Code Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM
- **CDFW regulations** defining “stream” for other purposes, including sport fishing (14 California Code of Regulations 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations 722[c][21]), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (California Department of Fish and Game 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse

- Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
- Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
- The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. The importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

California Coastal Commission Jurisdiction

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

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

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

In accordance with the CCA, the CCC defines coastal wetlands as generally extending seaward to the State’s outer limit of jurisdiction (i.e., three nautical miles from the Mean Hight Tide Line (MHTL) and inland generally 1,000 yards from the MHTL (CCC 2011). In contrast to wetland waters of the U.S., potential coastal wetland features are defined by the presence of one of the three USACE wetland indicators (California Code of Regulations Title 14). The one parameter definition as follows:

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly

developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 California Code of Regulations Section 13577).

Appendix C

Flora Compendium (January 2023)

Plant Species Observed within the Study Area on January 20 and 24, 2023

Scientific Name	Common Name	Native/Introduced/ Invasive Rating[1]	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/ Landscaped	Ruderal	Iceplant Mats	Wild Oats & Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Ambrosia psilostachya	Western ragweed	Native	FACU	Herb			X						
Avena spp.	Wild oats	Introduced; Moderate	UPL	Herb					X				
Baccharis pilularis	Coyote brush	Native	UPL	Shrub	X								
Brassica nigra	Black mustard	Introduced; Moderate	UPL	Herb			X						
Bromus diandrus	Ripgut brome	Introduced; Moderate	UPL	Herb	X		X		X	X			
Carpobrotus edulis	Iceplant	Introduced; High	UPL	Herb		X	X	X					
Conium maculatum	Poison hemlock	Introduced; Moderate	FACW	Herb			X					X	
Cynodon dactylon	Bermuda grass	Introduced; Moderate	FACU	Herb		X			X		X		
Cyperus eragrostis	Tall flatsedge	Native	FACW	Herb									X
Dimorphotheca sinuata	African daisy	Introduced	UPL	Herb		X							
Distichilis spicata	Saltgrass	Native	FAC	Herb							X		X
Eleocharis rostellata	Beaked spikerush	Native	OBL	Herb							X		
Eschscholzia californica	California poppy	Native	UPL	Herb		X							
Equisetum spp.	Horsetail	Native	FAC	Fern		X							
Eucalyptus globulus	Blue gum	Introduced; Limited	UPL	Tree		X				X			
Eucalyptus sideroxylon	Red ironbark	Introduced	UPL	Tree		X							
Foeniculum vulgare	Fennel	Introduced; Moderate	UPL	Herb			X						
Hedera helix	English ivy	Introduced; High	UPL	Shrub								X	
Helminthotheca echioides	Bristly ox-tongue	Introduced; Limited	FAC	Herb			X						
Hesperocyparis macrocarpa	Monterey cypress	Native	UPL	Tree		X							
Heterotheca grandiflora	Telegraphweed	Native	UPL	Herb									
Hirschfeldia incana	Short-podded mustard	Introduced; Moderate	UPL	Herb	X		X						
Hordeum murinum	Foxtail barley	Introduced; Moderate	FACU	Herb			X						
Jaumea carnosa	Fleshy jaumea	Native	OBL	Herb							X		
Datura stramonium	Jimson weed	Introduced	UPL	Herb			X						
Lactuca serriola	Prickly lettuce	Introduced	FACU	Herb			X					X	
Malva parviflora	Cheeseweed mallow	Introduced	UPL	Herb			X			X			
Melilotus indicus	Annual yellow sweetclover	Introduced	FACU	Herb			X		X				
Oxalis pes-caprae	Sourgrass	Introduced; Moderate		Herb								X	
Pinus radiata	Monterey pine	Introduced; Limited	UPL	Tree		X							
Plantago coronopus	Buckhorn plantain	Introduced	FAC	Herb			X		X				
Plantago lanceolata	English plantain	Introduced; Limited	FAC	Herb			X		X				
Plantago major	Common plantain	Introduced	FAC	Herb			X		X				
Polygonum aviculare	Prostrate knotweed	Introduced	FAC	Herb			X						
Raphanus sativus	Wild radish	Introduced; Limited	UPL	Herb			X		X				
Rubus ursinus	California blackberry	Native	FAC	Shrub	X							X	
Salix laevigata	Red willow	Native	FACW	Tree								X	

Scientific Name	Common Name	Native/Introduced/ Invasive Rating[1]	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/ Landscaped	Ruderal	Iceplant Mats	Wild Oats & Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Salix lasiolepis	Arroyo willow	Native	FACW	Tree								X	
Sambucus nigra ssp. caerulea	Blue elderberry	Native	FACU	Tree				X					
Schoenoplectus californicus	California bulrush	Native	OBL	Herb									X
Silybum marianum	Milk thistle	Introduced; Limited	UPL	Herb	X				X				
Sonchus oleraceus	Common sow thistle	Introduced	UPL	Herb					X				
Stipa miliacea	Smilo grass	Introduced	UPL	Herb			X					X	
Toxicodendron diversilobum	Poison oak	Native	FACU	Shrub	X							X	
Urtica dioica	Stinging nettle	Native	FAC	Herb		X	X					X	
Urtica urens	Annual stinging nettle	Introduced	UPL	Herb			X						
Vicia villosa	Hairy vetch	Introduced	UPL	Herb					X				
Vinca major	Greater periwinkle	Introduced; Moderate	UPL	Herb								X	

References: Jepson 2023, USACE 2020

Appendix D

Representative Photographs (January 2023)

Photograph 1. Overview of Detention Basin 1 with California bulrush surrounded by arroyo willows, facing northwest. January 20, 2023.

Photograph 2. Overview of Detention Basin 2 with surface water surrounded by iceplant and ruderal vegetation, facing northwest. January 20, 2023.

Photograph 3. Overview of Wetland 1 within Oceano Airport, facing southeast. January 20, 2023.

Photograph 4. Overview of Wetland 2 within Oceano Airport, facing southeast. January 20, 2023.

Photograph 5. Overview of roadway drainage with vegetated bed and adjacent arroyo willow thicket, facing northeast. January 20, 2023.

Photograph 6. Overview of intermittent stream with defined bed and banks and associated riparian corridor, facing south. January 20, 2023.

Photograph 7. Overview of Agriculture Ditch 1, recently excavated and unvegetated, facing east. January 20, 2023.

Photograph 8. Overview of arroyo willow thicket associated with Arroyo Grande Creek south of the Study Area, facing west. January 20, 2023.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-1
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	1	No	OBL
Distichlis spicata	95	Yes	FAC
Geranium molle	1	No	UPL
Bromus diandrus	5	No	UPL
	102% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Mowed 3 months prior to survey. Dominated by DISSPI, mostly senescent.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	98	5YR 5/8	2	C	PL	Sandy clay loam	Rocks within soil throughout sample. Damp.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although small amounts of redox concentrations along roots within top 6 inches are present, not indicators were met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-2
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Dominated by hydrophytic vegetation and standing water with hydric soils of redox dark surfaces.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	80	Yes	OBL
Distichlis spicata	5	No	FAC
Eleocharis rostellata	15	No	OBL
Cynodon dactylon	3	No	FACU
	103% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	95	x 1 = 95
FACW species	0	x 2 = 0
FAC species	5	x 3 = 15
FACU species	3	x 4 = 7
UPL species	0	x 5 = 0
Column Totals:	103 (A)	117 (B)

Prevalence Index = B/A = 1.13

Hydrophytic Vegetation Indicators:

- ☑ Dominance Test is >50%
- ☑ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Vegetation dense and dominated by Jaumea with dispersed beaked spikerush.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	95	5YR 4/6	2	CS	M	Loam	Saturated. Very little redox observed around sand grains

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil with little redox observed surrounding sand grains. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☑ Surface Water (A1)
☑ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4
Water Table Present? Yes ☑ No ☐ Depth (inches): 2
Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-3
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.100963, -120.623696	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are “Normal Circumstances” present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Standing water present with problematic moderately alkaline soils and problematic vegetation that is routinely mowed.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Bromus diandrus	80	Yes	UPL
Distichlis spicata	2	No	FAC
Avena spp.	15	No	UPL
Cynodon dactylon	3	No	FACU
	100% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	2	x 3 = 10
FACU species	3	x 4 = 7
UPL species	95	x 5 = 475
Column Totals:	100 (A)	485 (B)

Prevalence Index = B/A = 4.85

Hydrophytic Vegetation Indicators:

☐Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Problematic vegetation due to routine mowing in the area. The area has concave surface (depression) that likely ponds water.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	100					Loam	Saturated.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil no redox. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☑ Surface Water (A1)
☑ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4
Water Table Present? Yes ☑ No ☐ Depth (inches): 2
Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-4
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.101027, -120.623669	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Cynodon dactylon	5	No	FACU
Avena spp.	15	Yes	UPL
Geranium molle	1	No	UPL
Bromus diandrus	85	No	UPL
	106% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: Dense vegetation dominated by upland species.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	100					Sandy clay loam	Damp soil

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although soil is moderately alkaline, sand component in the soil likely does not allow for ponding. No redox observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

Appendix F

Streambed Percolation Analysis

Technical Memorandum

GEOSCIENCE
The First Name in Groundwater

To:	Mr. Daniel Heimel, MS, PE Water Systems Consulting, Inc. 805 Aerovista Place, Suite 201 San Luis Obispo, California 93401	
From:	Johnson Yeh, Ph.D., PG, CHG Principal Geohydrologist GEOSCIENCE Support Services, Inc.	Lauren Wicks, PG Project Geohydrologist GEOSCIENCE Support Services, Inc.
Date:	January 19, 2021	
Subject:	**Pismo Beach Phase 1B EIR Support – Streambed Percolation Analysis**	

1.0 INTRODUCTION

Central Coast Blue (CCB) is a regional recycled water project that will reduce the risk of seawater intrusion and improve water supply sustainability in northwestern Santa Maria River Valley Groundwater Basin (Basin). The project will use advanced-treated recycled water from the City of Pismo Beach and the South San Luis Obispo County Sanitation District (SSLOCSD) Wastewater Treatment Plants (WWTPs) as an injection water source. This water will be injected in the Arroyo Grande-Tri-Cities Mesa portion of the Basin to establish a seawater intrusion barrier and improve the reliability of groundwater supplies in the region.

As part of the Phase 1B Hydrogeologic Evaluation, GEOSCIENCE Support Services, Inc. (GEOSCIENCE) was tasked with expanding the previous Regional Groundwater Sustainability Project (RGSP) Phase 1A Model to include an evaluation of injection and extraction scenarios with flows from the SSLOCSD and City of Pismo Beach WWTPs. This evaluation was included in the draft Environmental Impact Report (EIR), summarizing the proposed project's potential environmental impacts. Comments received on the draft EIR included questions from the California State Parks about potential impacts of CCB on streambed percolation. This technical memorandum (TM) was developed in response to these questions.

2.0 PHASE 1B MODEL

The CCB Phase 1B Model was developed for the unconsolidated to semi-consolidated water-bearing sediments within the Northern Cities Management Area (NCMA), Nipomo Mesa Management Area (NMMA), and portion of the Santa Maria Valley Management Area (SMVMA) (Figure 1). SEAWAT, a block-centered, finite-difference groundwater flow code developed by the United States Geologic Survey (USGS; Guo and Langevin, 2002), represents the model code used for model development (refer to GEOSCIENCE, 2019a and 2019c for detailed model description and discussion). The main water-bearing formations are the Paso Robles Formation and the Careaga Sand, which constitute the deeper aquifer, and the dune sand, terrace deposits, and quaternary alluvium, which constitute the shallow aquifer (LSCE, 2017). The low-yield formations which underlie and generally flank the main groundwater basin are considered impermeable and are not part of the modeled groundwater flow system.

2.1 Model Calibration in the Shallow Aquifer

The method of calibration used for the Phase 1B Model was the industry standard "history matching" technique, which involves adjusting model parameters to produce the best-fit between simulated and observed groundwater system responses. During the process of calibration, model parameters are adjusted using reasonable anticipated values until model-generated water levels and concentrations match historical observations. In addition, the model was calibrated in a multi-step process involving external review of initial calibration results by the Technical Advisory Committee (TAC)[1] and implementation of revisions to the model as part of subsequent calibration efforts.

The transient calibration period used for model calibration was from 1977 through 2016 using monthly stress periods. Calibration results for wells completed in the Shallow Aquifer along Arroyo Grande Creek are shown on Figure 2. Calibration in these wells shows a good correlation and model-calculated water levels reflect the general pattern and long- and short-term temporal trends in groundwater observations.

[1] The Phase 1B Model development represented a collaborative process by which the model development and calibration was modified based on feedback from the Technical Advisory Committee (TAC). Members of the TAC included representatives of the Nipomo Mesa Management Area Technical Group (NMMA TG), GSI (representing the NCMA), and Water Systems Consulting, Inc. (WSC). Comments during the process were provided during routine progress meetings as well as in response to a series of technical memorandums (TMs) that were issued throughout the process of developing the model and running project scenarios to document the work.

2.2 Model-Calculated Streambed Percolation

2.2.1 Streamflow Routing Package

Streams are simulated in the Phase 1B Model by the Streamflow Routing Package. Surface water runoff and interflow estimated by the surface water model are routed downstream by the sequential numbering of reaches and segments. A stream reach is a section of the stream that is associated with a particular finite-difference cell. The reaches are numbered in a downstream order to represent the direction of flow. Reaches can be grouped into segments that represent lengths of the stream between connections with another stream or tributary, lake, or watershed boundary. The streambed locations modeled in the Phase 1B Model are indicated on Figure 3.

Inflows to a stream reach include user-specified inflow to the first reach of a stream segment, inflows from upstream reaches, precipitation directly onto the stream channel, surface runoff and interflow from adjacent watershed areas, and groundwater discharge to the streambed. Outflows include diversions, evaporation, downward leakage across the streambed, and stream outflow. The downward leakage or streambed percolation is calculated as a function of the hydraulic conductivity of the streambed, the wetted perimeter of the streambed, the length of the stream reach, the underlying groundwater head, the stream stage, and the streambed thickness.

In the Phase 1B Model, streambed elevation was determined from Digital Elevation Models (DEMs) for the 7.5" topographic quadrangles in the model area. DEMs consist of a sampled array of elevations for a number of ground positions at regularly spaced intervals. These digital cartographic/geographic data files are produced by the USGS as part of the National Mapping Program.

2.2.2 Mechanisms of Percolation

A stream gains or loses water depending on the relative head in the stream and in the underlying aquifer. This interchange of water between the stream and the aquifer (e.g., Dune Sand or alluvium) varies spatially and temporally, and is influenced most by changes in the height of the nearby groundwater table and by changes in the hydraulic conductivity of the streambed deposits. To explore this further, we can consider three different theoretical scenarios with different groundwater level positions. In the first case, the water table, or groundwater head, is below the bottom of the streambed and the stream loses water to the aquifer – as shown in the figure below.

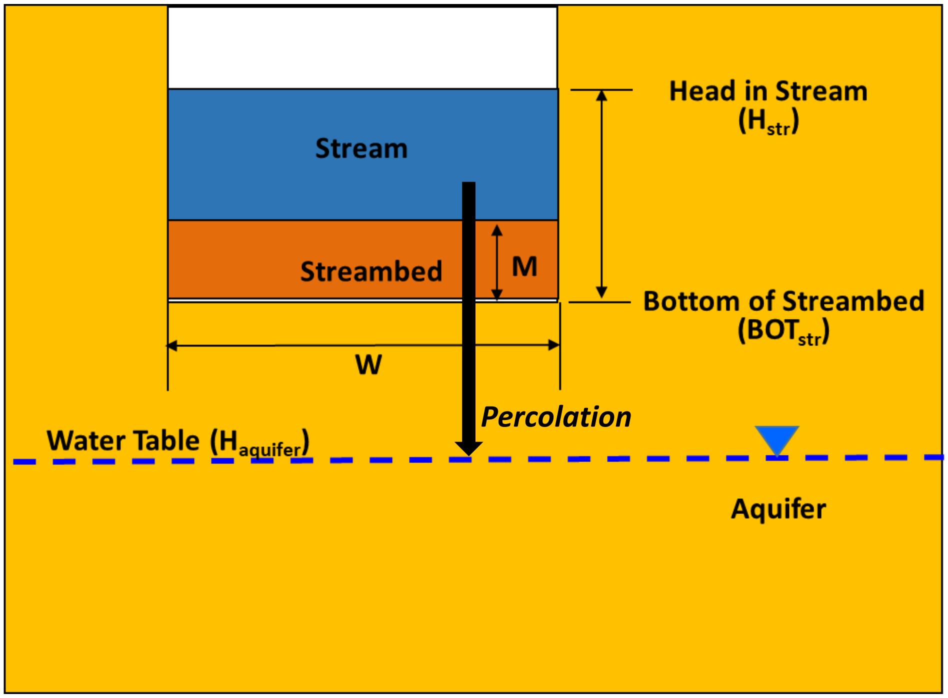


Figure A. Surface Water and Groundwater Interaction – Water Table below Bottom of Streambed

Under these conditions, streambed percolation can be described through the following equation:

When $BOT_{str} > H_{aquifer}$,

$$\text{Streambed Percolation} = C_{str}\,(H_{str} - BOT_{str}) \qquad \text{Eqn. (1)}$$

$$C_{str} = K_{str} \times W \times L \times M \qquad \text{Eqn. (2)}$$

Where

BOT_{str}	=	Bottom of streambed,
$H_{aquifer}$	=	Water table or groundwater surface,
C_{str}	=	Streambed conductance,
H_{str}	=	Head in stream,
K_{str}	=	Hydraulic conductivity of streambed sediments,
W	=	Width of streambed,
L	=	Length of streambed segment, and
M	=	Streambed sediment thickness.

As indicated by Eqn (1), the streambed percolation under these conditions (i.e., water table below the bottom of the streambed) is only a function of the streambed conductance and the stream head. Percolating water is therefore in freefall condition below the stream and the groundwater level relative to the streambed has no impact on percolation until the water table rises high enough to come in contact with the streambed. Under this second case, let us consider a water table that is positioned above the bottom of the streambed but below the head in the stream – as shown below.

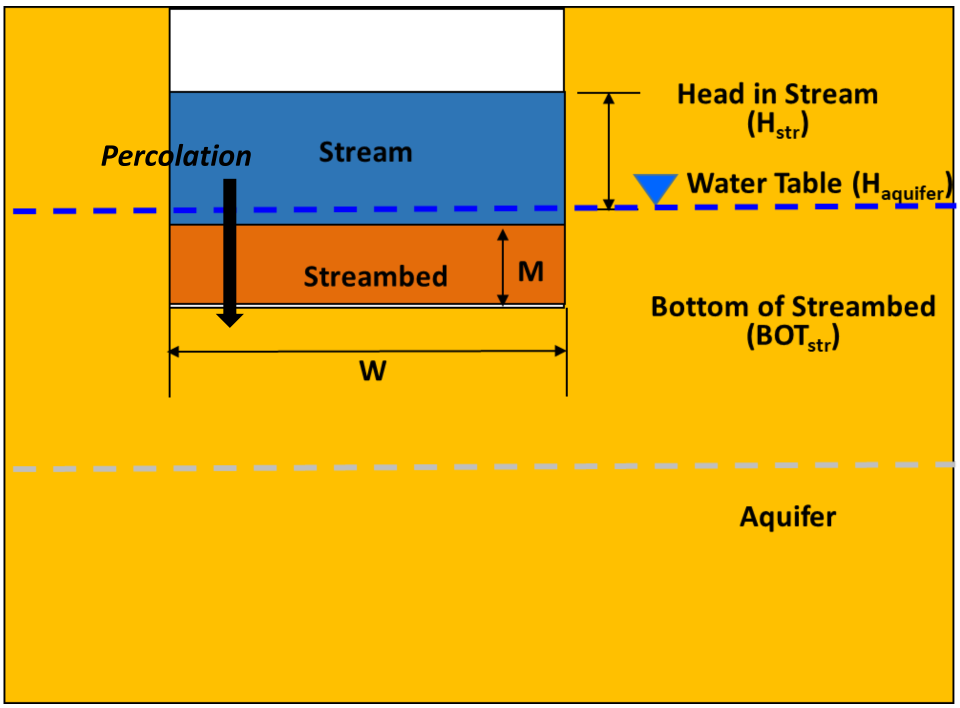


Figure B. Surface Water and Groundwater Interaction – Water Table above Bottom of Streambed but below Head in Stream

Under these conditions, the stream is still losing water to the aquifer. Streambed percolation can be described using the following equation:

When $H_{str} > H_{aquifer} > BOT_{str}$,

$$\text{Streambed Percolation} = C_{str}\,(H_{str} - H_{aquifer}) \qquad \text{Eqn. (3)}$$

Eqn. (3) indicates that under these conditions (i.e., water table that is positioned above the bottom of the streambed but below the head in the stream), streambed percolation is a function of the streambed conductance, stream head, and groundwater level elevation. Therefore, fluctuation of the groundwater surface within this range will affect how much streambed percolation occurs (the greater the difference in head, the more percolation will occur). However, if the head in the aquifer rises above the head in the stream, the stream will become a gaining stream and gain water from the aquifer. This third case is illustrated below.

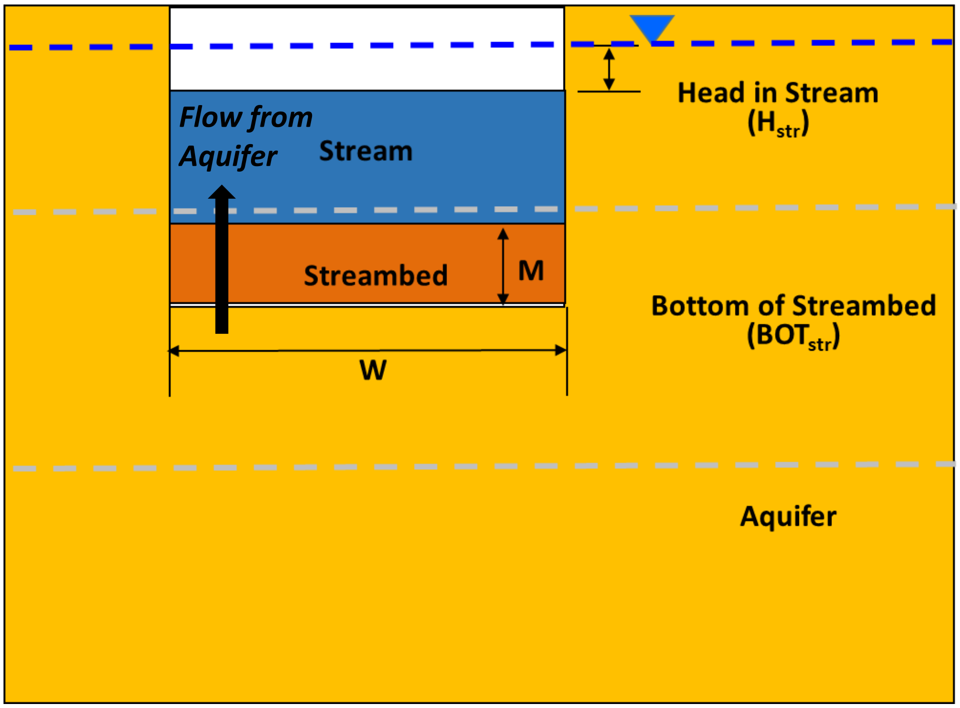


Figure C. Surface Water and Groundwater Interaction – Water Table above Head in Stream

Under these conditions, streambed percolation can be described using the following equation:

When $H_{aquifer} > H_{str}$,

$$\text{Groundwater Flow to Stream} = C_{str}\,(H_{aquifer} - H_{str}) \qquad \text{Eqn. (4)}$$

Eqn. (4) indicates that when the water table is positioned above the head in the stream, the groundwater flow from the aquifer system to the stream is a function of the streambed conductance, groundwater level elevation, and stream head. As with the previous case, fluctuation of the groundwater surface above the stream head stage will affect how much flow from the aquifer occurs (the greater the difference in head, the more gaining streamflow will occur).

2.2.3 Scenario Results

Streamflow into the model area in the Arroyo Grande and Los Berros Creek was based on USGS gaged streamflow from the Arroyo Grande at Arroyo Grande Gage (Site No. 11141500) and Los Berros Creek near Nipomo CA Gage (Site No. 11141600), respectively. Surface runoff within the model area also contributed to streamflow and was calculated based on land use type (with industrialized land use having less permeability and more potential for runoff).

The development of streambed conductivity values was conceptual and aided by previous studies. During model calibration, conductivity values were adjusted to match observed water level conditions and are within published ranges of typical conductivity values. With limited reliable streamflow data available to assess model simulation of flow and streambed percolation, the accuracy of the magnitude of model-calculated streambed percolation may be limited. However, it is reasonable and industry standard to use the model to estimate the relative changes between a baseline and scenario runs – thereby isolating potential project effects.

A baseline and six project scenarios were made with the Phase 1B model using MODFLOW groundwater flow model code. The results are presented in GEOSCIENCE (2019b). For the purpose of this discussion, only results from Scenario 2 are provided, as Scenario 2 represents the first phase of the project and was identified by State Parks as being of particular concern. Major assumptions for the Baseline scenario and Scenario 2 are summarized in the following table.

Table 2-1. Model Scenario Assumptions

Model Scenario	Hydrology	Groundwater Pumping			CCB Implementation
		Agricultural	NMMA	NCMA	
Baseline	Historical (1977-2016)	Based on 2016 Crop Distribution and Historical Rainfall	Average of Last 5 Years (2012-2016) (5,663 AFY)	Average of Last 5 Years for Municipal (1,080 AFY) and Small Purveyors	None
2	Historical (1977-2016)	Based on 2016 Crop Distribution and Historical Rainfall	Average of Last 5 Years (5,663 AFY)	Municipal Extraction of 2,500 AFY	Phase 1 (900 AFY)

For the purpose of this evaluation, streambed percolation was analyzed in two areas of the Arroyo Grande Creek: Part 1 and Part 2 (see Figure 3). The relative difference in streambed percolation between the Baseline scenario and Scenario 2 (Scenario 2 minus Baseline) is presented in attached Table 1. As shown, the proposed project is not anticipated to affect streambed percolation in Part 2 of the Arroyo Grande

Creek. Streambed conductance in this area is lower than in Part 1 (conceptually, lower stream reaches typically have greater concentrations of fine-grained sediments which reduce the ease with which water can percolate through the streambed) and water levels tend to fluctuate less closer to the coast due to the influence of the ocean (constant head). Since streambed percolation is a function of streambed conductance and head (both in the surrounding aquifer system and stream), low conductance and less change in head lead to overall lower percolation rates.

In Part 1, streambed percolation shows predicted increases in five of the 40 years included in the model simulation period. These five years reflect hydrological conditions from 1983, 1995, 1996, 1997, and 1998 – all with above average rainfall. During these wet years, water levels in the surrounding aquifer system rise, creating conditions similar to those shown in Figures 2-2 and 2-3 above. Under these conditions, groundwater elevation affects the amount of streambed percolation, and that is why slight differences are seen between baseline (no project) conditions and CCB Scenario 2 project conditions. In other years, groundwater conditions are likely similar to those shown in Figure 2-1, and the fluctuation of groundwater elevation does not affect streambed percolation. However, the predicted increased streambed percolation (leading to a corresponding reduction in streamflow) under Scenario 2 conditions is minimal – ranging from 0.2 acre-ft/yr in 1996 to 29.0 acre-ft/yr in 1998, occurring in wet years during which streamflow is higher than average conditions. Therefore, under Scenario 2 conditions, the proposed CCB project is not anticipated to significantly impact streambed percolation or surface flow in Arroyo Grande Creek.

3.0 REFERENCES

GEOSCIENCE, 2019a. City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation – Technical Memorandum No. 3: Model Calibration. Prepared for Water Systems Consulting, Inc. Dated May 14.

GEOSCIENCE, 2019b. City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation – Technical Memorandum No. 4: Model Scenario Evaluation. Prepared for Water Systems Consulting, Inc. Dated May 14.

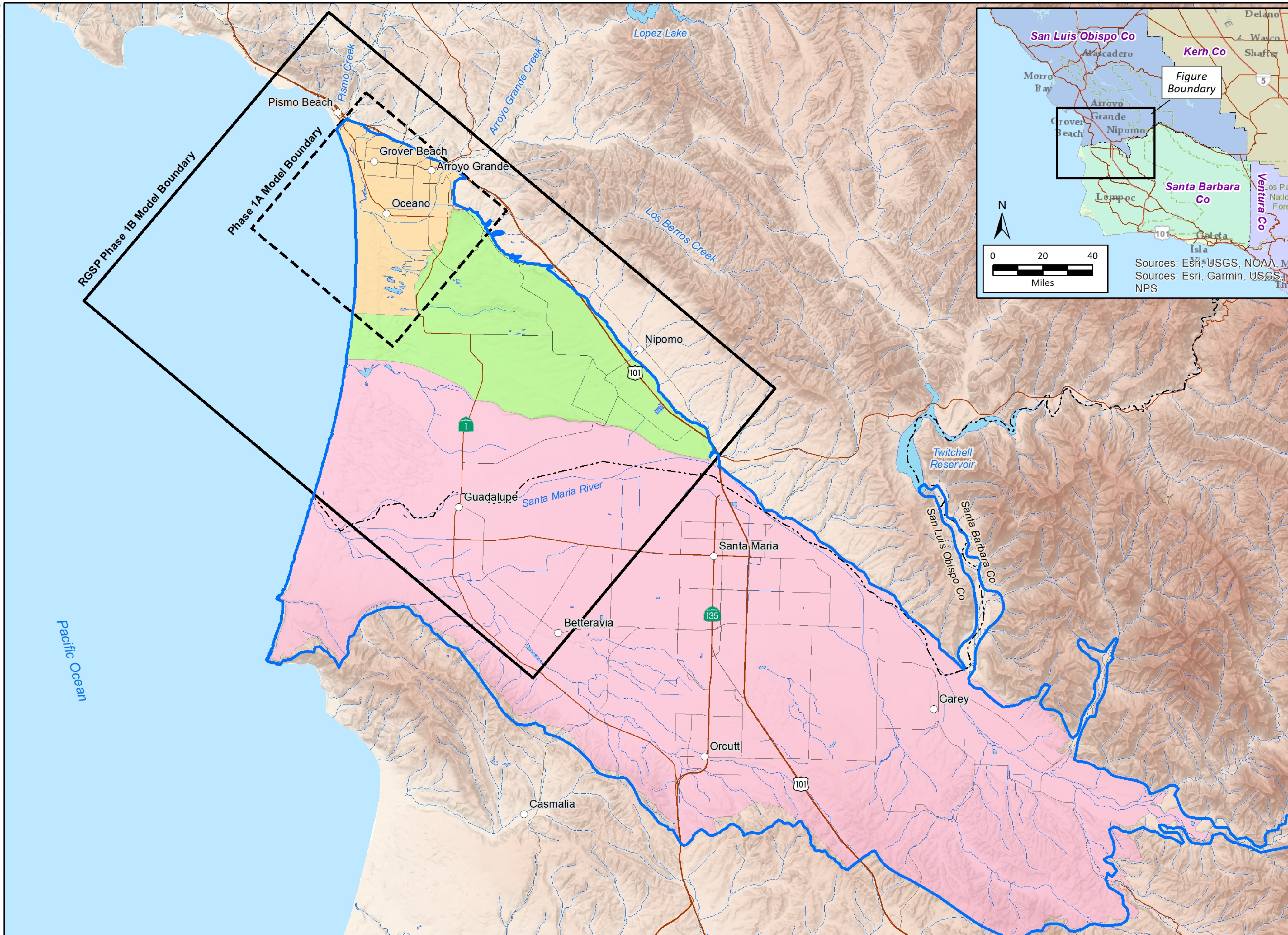
GEOSCIENCE, 2019c. City of Pismo Beach and South San Luis Obispo County Sanitation District Central Coast Blue Phase 1B Hydrogeologic Evaluation – Executive Summary. Prepared for Water Systems Consulting, Inc. Dated November 25.

Guo, W., and C.D. Langevin, 2002. User's Guide to SEAWAT: A Computer Program for Simulation of Three-Dimensional Variable-Density Ground-Water Flow. U.S. Geological Survey Techniques of Water-Resources Investigations 6-A7.

LSCE (Luhdorff & Scalmanini Consulting Engineers), 2017. 2016 Annual Report of Hydrogeologic Conditions, Water Requirements, Supplies and Disposition – Santa Maria Valley Management Area. Dated April.

FIGURES

GEOSCIENCE



EXPLANATION

- Phase 1A Model Boundary
- CCB Phase 1B Model Boundary

Management Areas

- Nipomo Mesa
- Northern Cities
- Santa Maria Valley
- Santa Maria Groundwater Basin (DWR, 2020)
- County Boundary

N

0 3 6

Miles

GENERAL PROJECT LOCATION

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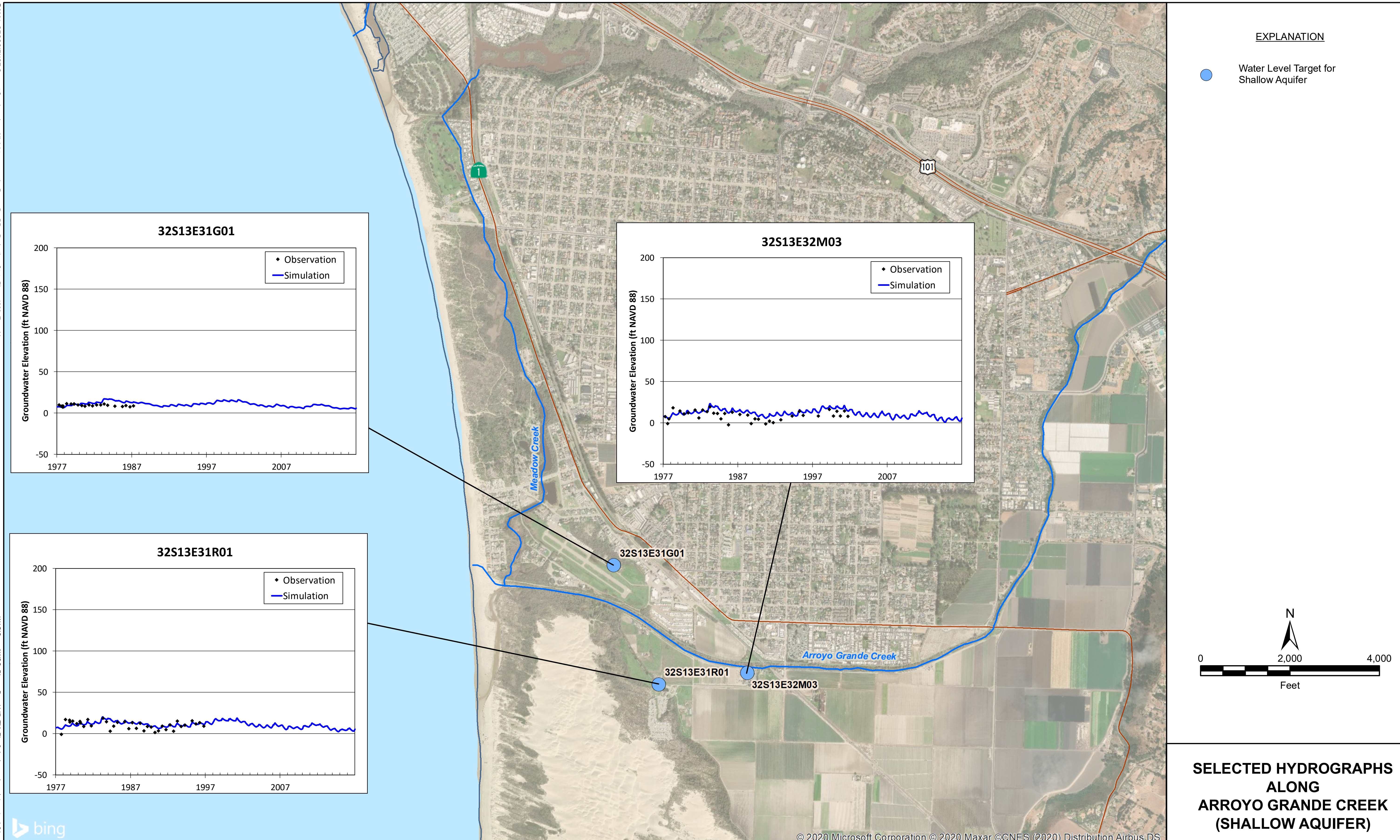
Jan-21

WATER SYSTEMS CONSULTING, INC.

FIGURE 1

PISMO BEACH PHASE 1B EIR SUPPORT – STREAMBED PERCOLATION ANALYSIS

GEOSCIENCE



SELECTED HYDROGRAPHS ALONG ARROYO GRANDE CREEK (SHALLOW AQUIFER)

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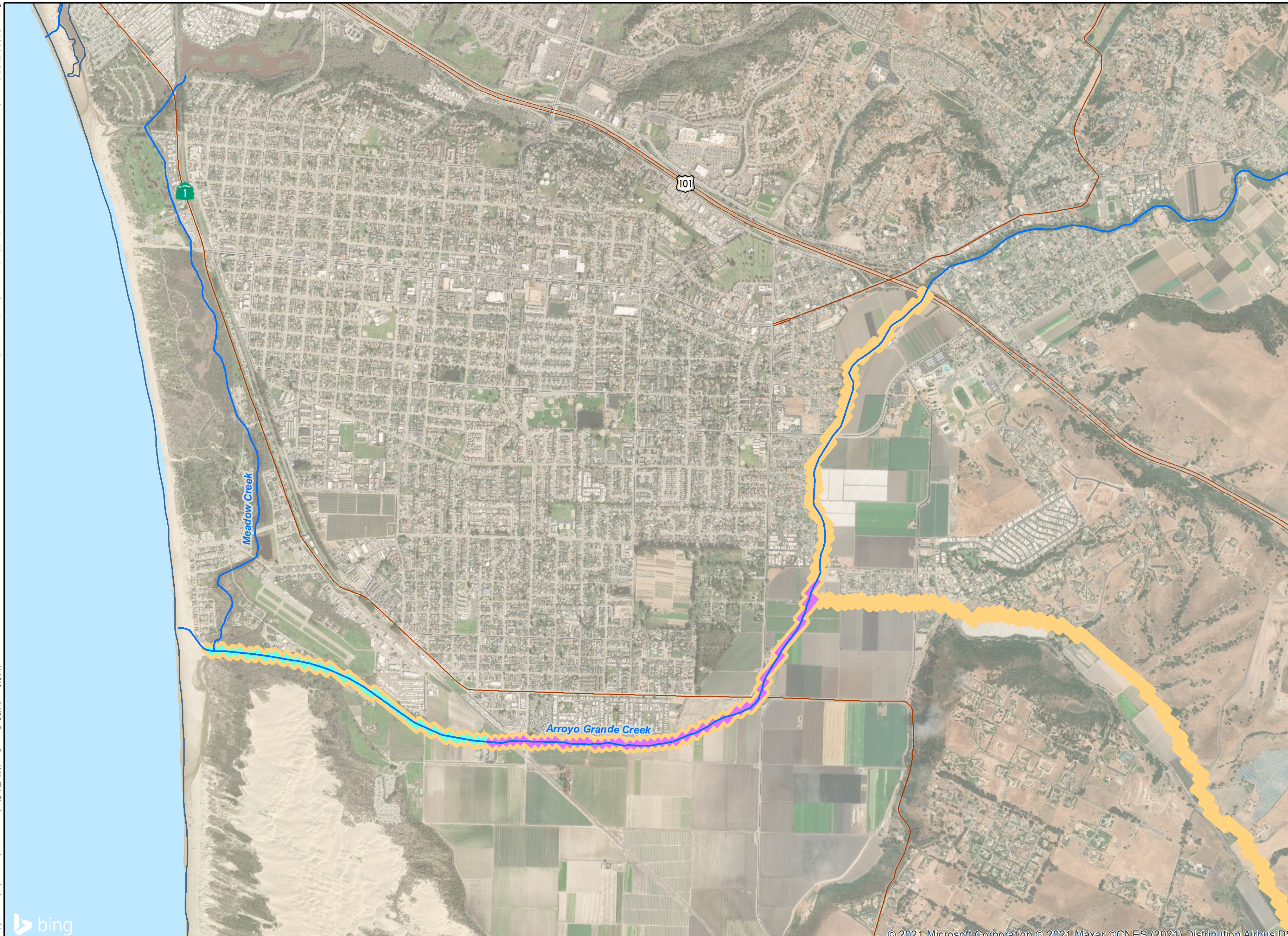
FIGURE 2

WATER SYSTEMS CONSULTING, INC.

PISMO BEACH PHASE 1B EIR SUPPORT – STREAMBED PERCOLATION ANALYSIS

GEOSCIENCE



EXPLANATION

Model Cells Used to Simulate Streambed Percolation

Selected Model Cells Used for Streambed Percolation Analysis

Part 1

Part 2

N

0 2,000 4,000

Feet

LOCATION OF STREAMBED PERCOLATION

W:\GIS_proj\WSC_Pismo_Beach\47_TM_Fig_3_veg_wetlands_streambed_perc_1-21.mxd

Jan-21

WATER SYSTEMS CONSULTING, INC.

FIGURE 3

PISMO BEACH PHASE 1B EIR SUPPORT – STREAMBED PERCOLATION ANALYSIS

GEOSCIENCE

TABLE

GEOSCIENCE

Streambed Percolation along Arroyo Grande Creek (1977 - 2016)

Year	Scenario 2 minus Baseline	
	Part 1	Part 2
	acre-ft/yr	acre-ft/yr
1977	0.0	0.0
1978	0.0	0.0
1979	0.0	0.0
1980	0.0	0.0
1981	0.0	0.0
1982	0.0	0.0
1983	**25.3**	0.0
1984	0.0	0.0
1985	0.0	0.0
1986	0.0	0.0
1987	0.0	0.0
1988	0.0	0.0
1989	0.0	0.0
1990	0.0	0.0
1991	0.0	0.0
1992	0.0	0.0
1993	0.0	0.0
1994	0.0	0.0
1995	**5.7**	0.0
1996	**0.2**	0.0
1997	**13.6**	0.0
1998	**29.0**	0.0
1999	0.0	0.0
2000	0.0	0.0
2001	0.0	0.0
2002	0.0	0.0
2003	0.0	0.0
2004	0.0	0.0
2005	0.0	0.0
2006	0.0	0.0
2007	0.0	0.0
2008	0.0	0.0
2009	0.0	0.0
2010	0.0	0.0
2011	0.0	0.0
2012	0.0	0.0
2013	0.0	0.0
2014	0.0	0.0
2015	0.0	0.0
2016	0.0	0.0
Average	**1.8**	**0.0**

Appendix C

Jurisdictional Delineation

Central Coast Blue

Jurisdictional Waters and Wetlands Delineation

prepared for

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

prepared by

Rincon Consultants, Inc.
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April 2023

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RINCON CONSULTANTS, INC.
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Executive Summary

This Jurisdictional Delineation (JD) Report has been prepared by Rincon Consultants, Inc. to assist the City of Pismo Beach with project planning for the Central Coast Blue Project located in the city of Grover Beach and the unincorporated community of Oceano in San Luis Obispo County, California. This JD Report has been prepared and is suitable for use by the United States Army Corps of Engineers (USACE) to confirm extent of potential jurisdiction under Section 404 of the Clean Water Act (CWA), the Central Coast Regional Water Quality Control Board (RWQCB) to confirm extent of potential jurisdiction pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act, the California Department of Fish and Wildlife (CDFW) to confirm jurisdiction pursuant to California Fish and Game Code Section 1600 et seq., and the California Coastal Commission (CCC) to confirm extent of potential jurisdiction pursuant to the California Coastal Act.[1]

This JD identified two detention basins, two wetlands, one roadway drainage, one intermittent stream, two agriculture ditches, and riparian vegetation within the Study Area that are potentially subject to USACE, RWQCB, CDFW, and/or CCC jurisdictions should these features be impacted.

[1] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a jurisdictional waters and wetlands delineation for the Central Coast Blue Project (project) in Oceano and Grover Beach, San Luis Obispo County, California. The delineation was conducted to determine the location and extent of waters and wetlands within the project site that are potentially subject to the jurisdiction of the United States Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), California Department of Fish and Wildlife (CDFW), and California Coastal Commission (CCC).

Proposed development in areas identified as jurisdictional waters and/or wetlands may be subject to the permit requirements of USACE under Section 404 of the Clean Water Act (CWA), RWQCB under Section 401 of the CWA and Porter-Cologne Water Quality Control Act, CDFW pursuant to Section 1600 et seq. of the California Fish and Game Code (CFGC), and CCC pursuant to the California Coastal Act (CCA).[2] Actual jurisdictional areas are determined by state and federal authorities at the time regulatory permits are requested.

1.1 Project Location

Project components are located in Grover Beach and portions of unincorporated San Luis Obispo County, including the community of Oceano (Figure 1). The project is regionally accessible from U.S. Highway 101 and locally accessible from State Route (SR) 1. The project components are located within the *Oceano*, *California* United States Geological Survey (USGS) 7.5-minute topographical quadrangle within Township 32 South, Range 13 East, Sections 30 and 31, Mount Diablo baseline and meridian (USGS 2023a). The majority of project components are located within the California Coastal Zone (Figure 2). The Study Area analyzed herein is comprised of the footprints of project components as well as associated buffers around those features in order to capture potential direct and indirect impacts (Figure 2). Buffer sizes vary between project components. A 25-foot buffer on either side of sewer and water distribution pipelines was evaluated to account for the fact that pipelines would be located within the public right-of-way with exact locations dependent on existing utilities and other factors. Buffers varying between 0.1 and 2.5 acres were evaluated for the remaining project components, including injection and monitoring wells, based on topography, surrounding land uses, and biological resources present. The northern extent of the Study Area is located at 35.120928°N, -120.628666°W and the southern extent of the Study Area is located at 35.083430°N, -120.606831°W (Figure 2).

[2] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

Figure 1 Regional Location

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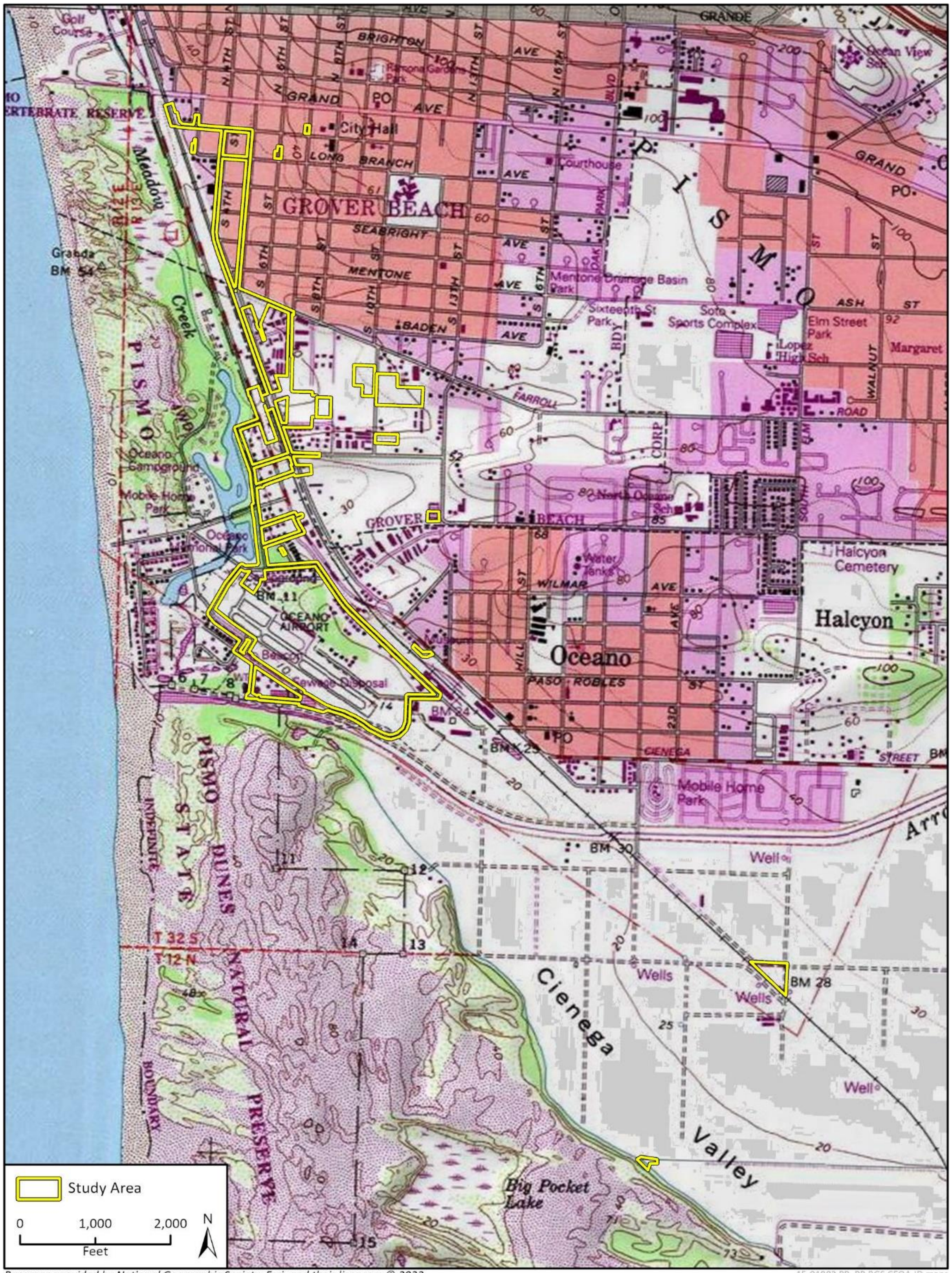
Fig 5 Modified Project Components

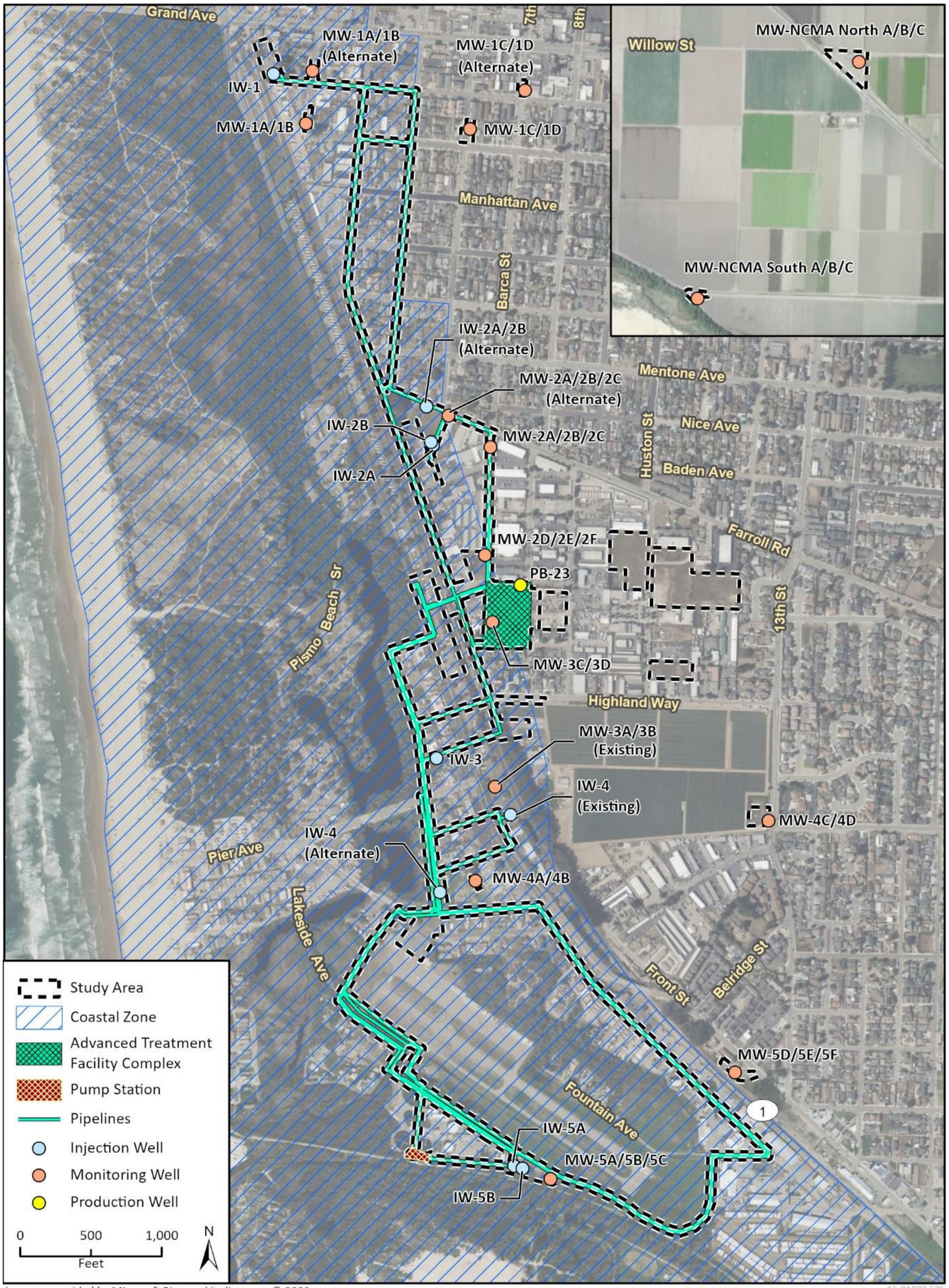
Figure 2 Topographic Map of the Project Location



Basemap provided by National Geographic Society, Esri, and their licensors © 2023.

15-01882 PB, PB RGS CEQA JD maps
Fig X JD Topo

Figure 3 Project Location – Focused Extent



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

1.2 Project Description

The proposed project is a regional advanced purified water project intended to enhance supply reliability by reducing the Santa Maria Groundwater Basin's vulnerability to drought and seawater intrusion. The project is a multi-agency collaboration between the City of Pismo Beach, Grover Beach and Arroyo Grande and the South San Luis Obispo County Sanitation District (SSLOCSD). The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization basin, monitoring well, and new production well), pipelines, injection wells, monitoring wells, and a pump station. The project would also involve recharge of the Santa Maria Groundwater Basin with advanced purified water via injection wells installed at various locations. Water for the project would be sourced from two of the region's wastewater treatment facilities, the Pismo Beach Wastewater Treatment Plant (WWTP) and the SSLOCSD WWTP. The project would alter the pumping regime of existing, operational production wells in the project area and would also include construction of one new production well (PB-23) at the ATF complex to replace an existing well that is failing. Water distribution pipelines would be located within the public rights-of-way along the majority of the pipeline alignments.

1.3 Environmental Setting

The weather in San Luis Obispo County is typical of a Mediterranean climate. Summers are warm and dry, while winters are cool and wet with most of the precipitation falling between November and March. The Study Area is located within the Central Coast geographic subregion of California (Baldwin et al. 2012) and is situated in an urban landscape. The Pacific Ocean and city of Pismo Beach are located just west of the Study Area with a coastal marine climate typical of the coastline in this region. Arroyo Grande Creek is located south of the majority of the Study Area, and a small component of the Study Area is located in the Cienega Valley, south of Arroyo Grande Creek. The overall topography is relatively flat throughout the Study Area. The land use within and surrounding the Study Area is predominately developed and comprised of residential buildings, commercial buildings, recreational areas, roadways, the Oceano Airport, and the SSLOCSD WWTP.

2 Methodology

2.1 Regulatory Guidance

Within the limits of the Study Area, waters and wetlands potentially subject to USACE, RWQCB, CDFW and CCC jurisdictions were delineated in accordance with the following methodologies.

Non-Wetland Waters of the U.S.

The lateral limits of USACE jurisdiction for non-wetland waters is determined by the presence of physical characteristics indicative of the Ordinary High Water Mark (OHWM). The OHWM is identified in accordance with the applicable Code of Federal Regulations (CFR) sections (33 CFR 328.3 and 33 CFR 328.4), Regulatory Guidance Letter 05-05 (USACE 2005), and various relevant technical publications, including, but not limited to, A *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (USACE 2008a) and *Review of Ordinary High-Water Mark Indicators for Delineating Arid Streams in the Southwest United States* (USACE 2004). These regulations are also reviewed in the determination of non-jurisdictional features (e.g., roadway ditches excavated in uplands).

Wetland Waters of the U.S.

Potential wetland features were evaluated for the presence of wetland indicators; specifically, hydrophytic vegetation, hydric soils, and wetland hydrology, according to routine delineation procedures within the *Wetlands Delineation Manual* (USACE 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (USACE 2008b). The USACE Arid West 2020 Regional Wetland Plant List was used to determine the indicator status of the examined vegetation by the following indicator status categories: Upland (UPL), Facultative Upland (FACU), Facultative (FAC), Facultative Wetland (FACW), and Obligate Wetland (OBL) (Lichvar et al. 2020). Representative sample points were taken in areas most likely to exhibit wetland characteristics (i.e., the prevalence of hydrophytic vegetation and suitable landform) and examined in the field for potential wetland indicators. Sample points were not conducted in areas with an obvious prevalence of upland vegetation or in areas where the landform would not support wetland features. USACE Wetland Determination Datasheets (USACE 2010) completed at wetland sample points are provided in Appendix A.

CDFW Streambeds and Riparian Habitat

The extent of potential streambeds, streambanks, and riparian habitat subject to CDFW jurisdiction under Section 1600 et seq. of the CFGC is delineated by reviewing the topography and morphology of potentially jurisdictional features to determine the outer limit of riparian vegetation, where present, or the tops of banks for stream features.

Waters of the State and Wetland Waters of the State

The limits of non-wetland “waters of the State,” as defined under the Porter-Cologne Water Quality Control Act, were conservatively determined to be coterminous with the potential CDFW-jurisdictional streambeds and riparian habitat previously described based on current interpretation of jurisdiction by the Central Coast RWQCB. Therefore, the lateral extent of delineated boundaries includes all streambanks and/or riparian vegetation, whichever is greater.

The potential wetland waters of the State were evaluated pursuant to *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board [SWRCB] 2019), which acknowledges that "wetland waters of the State" should be delineated using the standard USACE wetland delineation procedures and proclaims the SWRCB takes jurisdiction over isolated wetlands. The SWRCB and Central Coast RWQCB have jurisdiction over wetland waters of the State.

Coastal Wetlands

In accordance with the CCA, the CCC defines coastal wetlands as generally extending seaward to the State's outer limit of jurisdiction (i.e., three nautical miles from the Mean High Tide Line [MHTL] and inland generally 1,000 yards from the MHTL) (CCC 2011). In contrast to wetland waters of the U.S., potential coastal wetland features are defined by the presence of one of the three USACE wetland parameters (California Code of Regulations Title 14 [14 CCR]). The one parameter definition, in which the CCC defines a wetland, is as follows:

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 CCR Section 13577)

The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project under the CCA rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

2.2 Literature Review

Prior to the field survey, Rincon reviewed aerial imagery (Google Earth 2023) of the Study Area, the *Oceano, California* USGS 7.5-minute topographic quadrangle (USGS 2023a), the Web Soil Survey (United States Department of Agriculture, Natural Resources Conservation Service [USDA, NRCS] 2023a), the National Hydric Soils List by State: California (USDA, NRCS 2023b), and Pismo Beach, California weather history[3] (Western Regional Climate Center 2023). These resources were reviewed to better characterize the Study Area and its surroundings from a hydrologic, geologic, and topographic perspective and to determine if any soil units mapped in the Study Area are classified as hydric.

Additionally, the National Wetlands Inventory (NWI; United States Fish and Wildlife Service [USFWS] 2023), the National Hydrography Dataset (USGS 2023b), and a previous Biological Resources

[3] No climate data was available for Oceano, California; therefore, the closest location for which climate data is available (Pismo Beach) was utilized.

Assessment prepared by Rincon Consultants, Inc. (2021) were reviewed to determine if any wetlands and/or other waters were previously documented in or near the Study Area.

2.3 Field Survey

On January 20 and 25, 2023, Rincon Biologists Carolynn Honeycutt and Frances Glaser surveyed the Study Area on foot where accessible for potential wetland and non-wetland features. For areas where foot access was inaccessible, aerial photographs were reviewed (Google Earth 2023). Current federal and State policies, methods, and guidelines were used to identify and delineate aquatic features, as summarized under *Regulatory Guidance*. Further detail on regulatory jurisdiction is provided in Appendix B.

During the field delineation, general site characteristics were noted, vegetation present on site was documented (Appendix C), and photographs of aquatic features and the surrounding areas were taken (Appendix D). Data collection was focused on potential jurisdictional features and was focused on areas that served as a best representation of the conditions of that feature.

The extent of aquatic features, wetland sample points, and vegetation community boundaries were collected in the field using a Trimble Global Positioning System unit with sub-meter accuracy and were subsequently transferred to Rincon's Geographic Information Systems software program (i.e., ArcGIS Pro) to produce a delineation figure.

A significant rain event occurred between January 9 to 14, 2023, the week prior to the field survey, in which the San Luis Obispo Regional Airport Station recorded an accumulation of five inches of rain (Weather Underground 2023). Because the rain event accumulated more water than typically documented for the area, more surface water was observed than normal.

3 Delineation Results

3.1 Soils

The Study Area is located in the *San Luis Obispo County, California, Coastal Part* soil survey area. The USDA, NRCS Web Soil Survey delineates three soil map units within the Study Area: Mocho variant fine sandy loam, Mocho fine sandy loam (0 to 2 percent slopes, major land resource area 14), Oceano sand (0 to 9 percent slopes), Marimel sandy clay loam (occasionally flooded), Dune land, and Psamments and Fluvents (wet) (USDA, NRCS 2023a). Site-specific soil observations are consistent with those mapped by the USDA, NRCS *Web Soil Survey*. Soil distribution within 100 feet of the locations of project components is depicted in Figure 4, and each soil map unit is described below. All soils except Oceano sand are included on the *National Hydric Soil*s *List*, which lists soils that are permanently or seasonally saturated by water, resulting in anaerobic conditions typically found in wetlands (USDA, NRCS 2023b).

Mocho Variant Fine Sandy Loam

Mocho variant fine sandy loam is a well-drained soil that occurs on alluvial fans and alluvial flats. It is formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 15 inches, very fine sandy loam between 15 and 33 inches, and stratified gravelly sand from 33 to 64 inches. Available water storage is low (about 5.9 inches), and the runoff class is very low. This soil map unit is moderately alkaline.

Mocho Fine Sandy Loam, 0 to 2 Percent Slopes, Major Land Resource Area 14

Mocho fine sandy loam soils are well-drained soils that occur on alluvial fans and flats. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of fine sandy loam to a depth of 18 inches, silty clay loam between 18 and 45 inches, and stratified sand to gravelly sand between 45 and 60 inches. For Mocho fine sandy loam, 0 to 2 percent slopes, available water storage is moderate (about 6.5 inches), and the runoff class is low. This soil map unit is moderately alkaline.

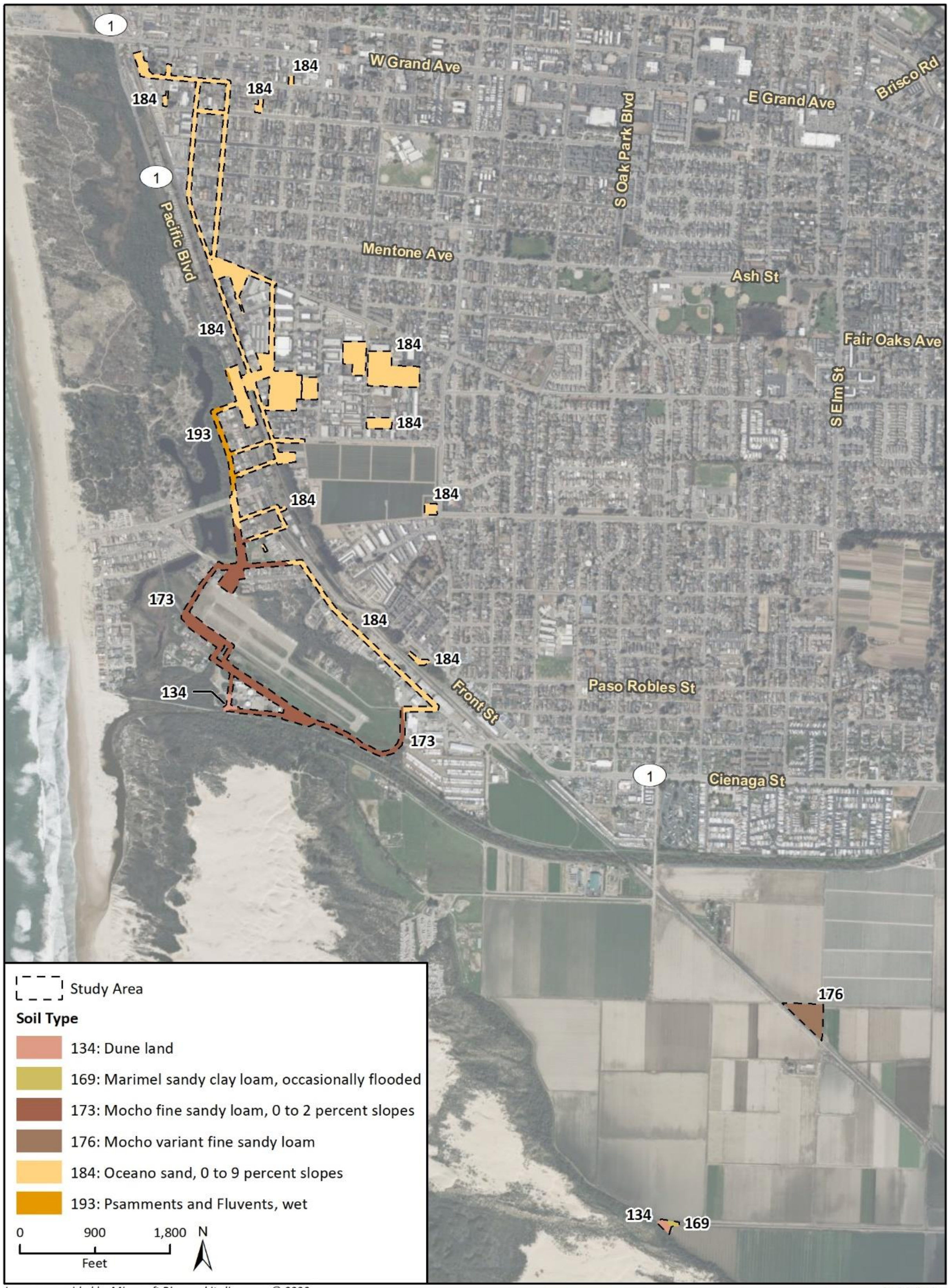
Oceano Sand, 0 to 9 Percent Slopes

Oceano sand soils are deep, excessively-drained soils that formed in material weathered from sandy eolian deposits. They are present on rolling dune-like topography near the ocean. Available water storage is low (2.75 inches) with very slow runoff and rapid permeability. A typical soil profile consists of sandy textures up to 60 inches.

Marimel Sandy Clay Loam, Occasionally Flooded

Marimel sandy clay loam soils are somewhat poorly drained soils that occur in alluvial fans, flood plains, and valleys. They are formed in alluvium derived from sedimentary rock. A typical soil profile consists of sandy clay loam to a depth of 16 inches and stratified loam to clay loam to silty clay loam from 16 to 60 inches. For Marimel sandy clay loam, occasionally flooded, available water storage is high (10.2 inches), and the runoff class is high.

Figure 4 Soils in the Study Area



Imagery provided by Microsoft Bing and its licensors © 2023.
Additional data provided by USDA NRCS SSURGO 2022.

Dune Land

Dune land is excessively drained soil that occurs on beach dunes. It consists of 90 percent dune land soils and nine percent other minor components. A typical profile consists of fine sand to a depth of 60 inches. Available water storage is low, and the runoff class is low.

Psamments and Fluvents, Wet

Psamments and fluvents are entisols, which have no diagnostic horizons. In the Study Area, they are found on floodplains that receive frequent deposits of alluvium. Fluvents are freely-drained and formed in recent water-deposited sediments along rivers and small streams. They are frequently flooded. Psamments are unconsolidated sandy deposits common in dune habitat. In the Study Area, these mixed entisols are found on and near permanently wet areas, such as ponds and vegetated wetlands.

3.2 Vegetation Communities and Land Cover Types

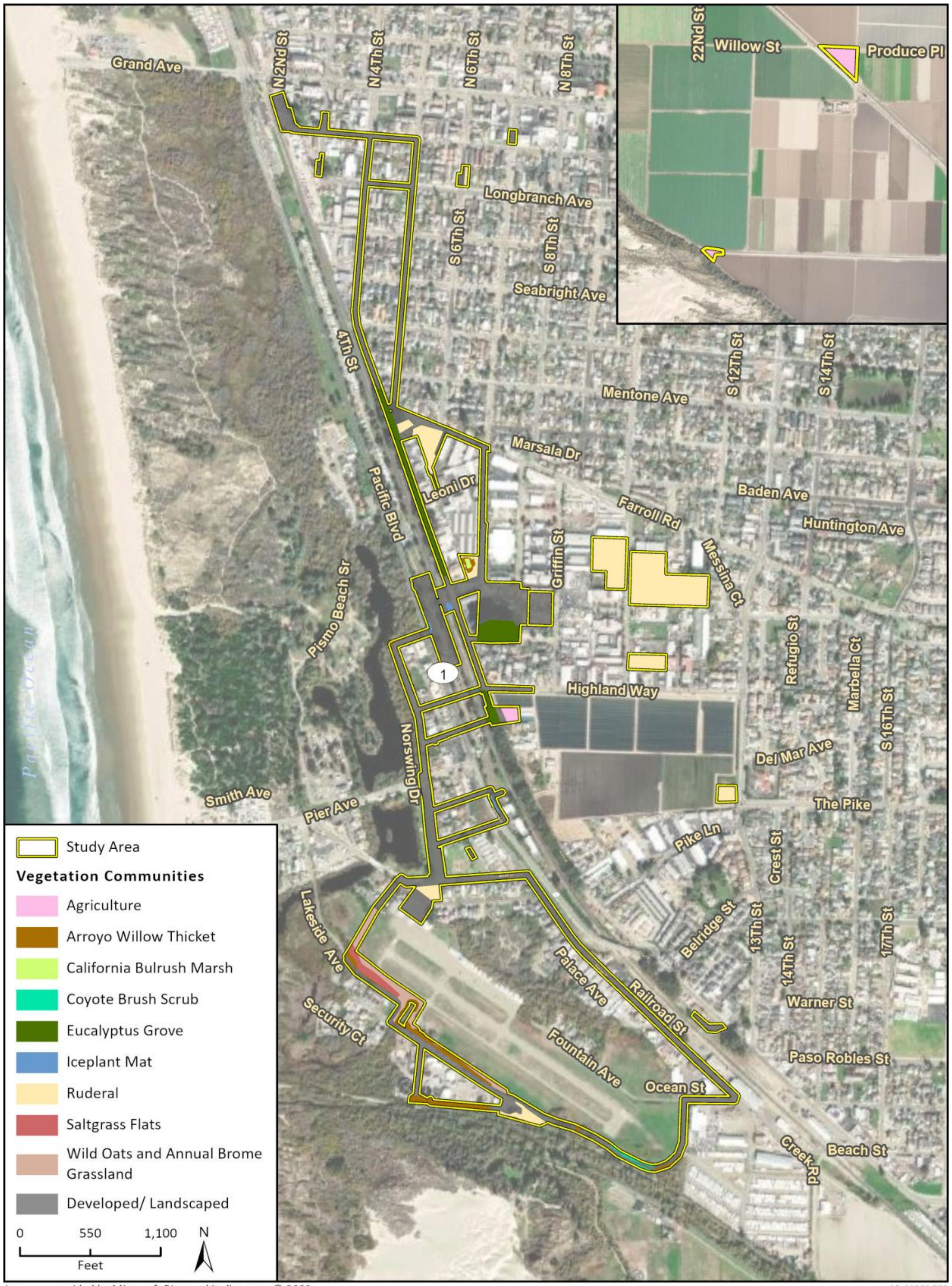
Ten vegetation communities and land cover types were observed in the Study Area. Brief descriptions of the vegetation communities and land cover types are provided in the subsections below. Table 1 lists each documented vegetation community and land cover type and provides their approximate acreage and the percent area coverage in the Study Area. Figure 5 depicts the locations of each vegetation community and land cover type in the Study Area.

The vegetation classification system used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009). The land cover types that are not described in the MCV2 were classified using conventional naming practices (e.g., developed/disturbed).

Table 1 Summary of Vegetation Communities and Land Cover Types within the Study Area

Type	Approximate Acreage (acres)	Approximate Percent Area
Agriculture	3.31	5%
Arroyo Willow Thickets	2.45	4%
California Bulrush Marshes	0.06	<1%
Coyote Brush Scrub	0.31	<1%
Developed/Landscaped	37.75	62%
Eucalyptus Grove	3.56	6%
Iceplant Mats	0.20	<1%
Ruderal	10.53	17%
Saltgrass Flats	0.62	1%
Wild Oats and Annual Brome Grassland	1.78	3%
Total	**60.5**	**100.00%**

Figure 5 Vegetation Communities and Land Cover in Study Area



Imagery provided by Microsoft Bing and its licensors © 2023.

15-01882 EPS
Fig 4 Vegetation Communities

Agriculture

The agriculture land cover type covers approximately 3.31 acres of the Study Area. This land cover type includes active agriculture operations, including heavily disturbed bare ground areas and row crops such as strawberries. Sparse vegetation is present in portions of this land cover type, including non-native cheeseweed mallow (*Malva parviflora,* UPL), prostrate knotweed (*Polygonum aviculare*, FAC) and annual stinging nettle (*Urtica urens,* FAC).

Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance)

The arroyo willow thickets vegetation community is typically found between 0 to 9,186 feet (0 to 2,800 meters) in elevation within stream banks and benches and slope seeps as well as along drainages with sediment depositions. Arroyo willow (*Salix lasiolepis*, FACW) contributes to at least 50 percent relative cover of the tree or shrub canopy.

Within the Study Area, this community is found associated with Arroyo Grande Creek, Meadow Creek, roadway drainages and intermittent streams. Vegetation consists of a canopy of mature arroyo willow and red willow (*Salix laevigata*, FACW) trees with a dense understory dominated by California blackberry (*Rubus ursinus,* FAC), coyote brush (*Baccharis pilularis,* UPL), stinging nettle, poison oak (*Toxicodendron diversilobum,* FACU) and English ivy (*Hedera helix*, UPL). Arroyo willow thickets cover approximately 2.45 acres of the Study Area.

California Bulrush Marshes (*Schoenoplectus* [*Acutus*, *Californicus*] Herbaceous Alliance)

California bulrush marshes are an herbaceous emergent wetland vegetation community that occurs in brackish to freshwater marshes, estuaries, sloughs, ponds, and swamps as well as along stream shores. The soils have a high organic content and are poorly aerated. Hardstem bulrush (*Schoenoplectus acutus*, OBL) and/or California bulrush (*Schoenoplectus californicus*, OBL) are dominant or co-dominant where either species must have greater than 50 percent relative cover. Common associates include a variety of other freshwater wetland perennial species such as cattails (*Typha* spp., OBL) and alkali bulrush (*Bolboschoenus maritimus*, OBL). Emergent trees and shrubs may be present at low cover. This vegetation community is typically less than 15 feet tall, and the cover is intermittent to continuous. This is a CDFW-designated sensitive vegetation community (CDFW 2023).

Within the Study Area, this community occurs adjacent to the pipeline alignment along Railroad Street and in the vicinity of MW-2D/2E/2F, covering approximately 0.06 acre of the Study Area. This vegetation type is comprised of a dense herbaceous layer of California bulrush with tall flatsedge (*Cyperus eragrostis,* FACW) and saltgrass (*Distichlis spicata*, FAC) also present.

Coyote Brush Scrub (*Baccharis pilularis* Shrubland Alliance)

Coyote brush scrub is a coastal scrub vegetation community that occurs on coastal bluffs, terraces, stabilized dunes, stream sides, and other similar areas. The soils are variable and contain sandy to relatively heavy clay. Coyote brush is dominant to co-dominant in the shrub canopy where it must have greater than 50 percent absolute cover in the shrub canopy. Common co-dominants and associates include California coffeeberry (*Frangula californica*, UPL), coast silk tassel (*Garrya elliptica*, UPL), California sagebrush (*Artemisia californica*, UPL), California buckwheat (*Eriogonum fasciculatum*, UPL), and other similar coastal scrub and riparian shrub species. Emergent trees (i.e., coast live oak [*Quercus agrifolia*, UPL]) may be present at low cover. This vegetation community is typically less than three meters tall, the shrub canopy is variable, and the herbaceous layer is variable.

Within the Study Area, this community occurs along the southwestern portion of the Oceano Airport and covers approximately 0.31 acre. The shrub layer of this vegetation community is dominated by coyote brush and California blackberry with stinging nettle, ripgut brome (*Bromus diandrus,* UPL), and short-podded mustard (*Hirschfeldia incana,* UPL) also present.

Developed/Landscaped

Developed/Landscaped land cover is the largest land cover type in the Study Area, occupying approximately 37.75 acres. This land cover consists of areas that have been previously developed or otherwise physically modified to the extent that they no longer contain normal soil conditions and no longer support most vegetation. Developed land in the Study Area is characterized by the presence of permanent or semi-permanent structures including residential and commercial buildings, campgrounds, gravel lots, pavement including parking lots and roadways, or hardscape. This land cover type may also contain areas that are sparsely vegetated, primarily with non-native species. Landscaped land refers to vegetated areas associated with development, specifically planted for aesthetic beautification. Landscaped plants in the Study Area include Monterey cypress (*Hesperocyparis macrocarpa,* UPL), Monterey pine (*Pinus radiata,* UPL), and African daisy (*Dimorphotheca sinuate,* UPL). This land cover type is not officially identified in MCV2 (Sawyer et al. 2009).

Eucalyptus Grove *(Eucalyptus* spp. Woodland Semi-Natural Alliance)

Eucalyptus grove is found planted as trees, groves, and windbreaks as well as in settings where it has become naturalized on uplands or bottomlands and adjacent to stream courses, lakes, or levees from 0 to 1,900 meters in elevation. Eucalyptus species consist of over 80 percent cover within the tree layer. Eucalyptus has a California Invasive Plant Council (Cal-IPC) rating of “Moderate” for its invasive tendencies (Cal-IPC 2023). The Study Area contains 3.56 acres of this vegetation community.

Within the Study Area, this community is dominated by blue gum eucalyptus (*Eucalyptus globulus,* UPL) as the sole tree species. The herbaceous layer is sparse and primarily consists of weedy non-native species such as black mustard (*Brassica nigra,* UPL). This community is found within the northwest portion of the Study Area, where it appears to have been planted as a windbreak, and immediately north of Calvin Court within the ATF complex location.

Iceplant Mats (*Mesembryanthemum* spp. – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance)

Iceplant mats (*Mesembryanthemum spp.* – *Carpobrotus* spp. Herbaceous Semi-Natural Alliance) are typically found on bluffs, disturbed land, and sand dunes of the immediate coastline from sea level to 330 feet (100 meters) in elevation. Iceplant (*Carpobrotus edulis*, UPL), common iceplant (*Mesembryanthemum crystallinum*, UPL), or other iceplant provide at least 80 percent absolute cover close to the coast or provide at least 50 percent relative cover on bluffs, dunes, or disturbed lands.

Iceplant is a non-native invasive species, originally planted in the 1940s and 1950s for landscaping and dune stabilization (Cal-IPC 2023). These perennial ground-hugging succulents form large monospecific mats (Sawyer et al. 2009). Iceplant has a Cal-IPC rating of “High” for its invasive tendencies (Cal-IPC 2023). This hardy species spreads readily from landscaped areas into dune and scrub habitats, outcompeting native species for space, nutrients, and moisture. Within the Study Area, this community is associated with development and occurs along existing roadways. Iceplant is the dominant species, with non-native cheeseweed mallow and native blue elderberry (*Sambucas nigra* ssp*. caerulea,* FACU) also present. Iceplant mat covers approximately 0.20 acre of the Study Area.

Ruderal

Ruderal vegetation is associated with and adjacent to areas of active disturbance within the Study Area. This vegetation community occurs where ground has previously been disturbed and is currently not in active use. The ruderal vegetation is dominated by cheeseweed mallow, black mustard, short-podded mustard, telegraphweed (*Heterotheca grandiflora,* UPL), and wild radish (*Raphanus sativus,* UPL), with non-native grasses and forbs also present. Ruderal vegetation covers approximately 10.53 acres of the Study Area, the second largest community in the Study Area.

Saltgrass Flats (*Distichlis spicata* Herbaceous Alliance)

Saltgrass flats is a low growing herbaceous vegetation community that occurs in costal salt marshes, playas, swales and terraces along washes that are intermittently flooded from 0 to 1,500 meters. It is most often associated with alkaline or saline soils that are poorly drained. Saltgrass, spiny rush (*Juncus acutus*, FACW) or Cooper's rush (*Juncus cooperi*, FACW) are dominate species with greater than 50 percent relative cover.

Within the Study Area, this community is associated with the freshwater emergent wetland located along the southern portion of the Oceano Airport and covers approximately 0.62 acre. This vegetation community is dominated by saltgrass and fleshy jaumea (*Jaumea carnosa,* OBL) with non-native Bermuda grass (*Cynodon dactylon,* FACU) and beaked spikerush (*Eleocharis rostellata,* OBL) also present.

Wild Oats and Annual Brome Grassland (*Avena* spp. – *Bromus* spp. Herbaceous Semi-Natural Alliance)

Wild oats and annual brome grassland is an open-to-dense naturalized vegetation community that is dominated or co-dominated by non-native, often invasive, annual grasses (e.g., wild oats [*Avena* spp., UPL], ripgut brome, and foxtail barley [*Hordeum murinum*, FACU]). This vegetation community is often interspersed with native and non-native forbs. Emergent trees and shrubs may be present but at low cover.

This vegetation community forms an almost continuous cover over approximately 1.78 acres of the Study Area. This vegetation type is dominated by ripgut brome and wild oats, with Bermuda grass, English plantain (*Plantago lanceolata,* FAC), cheeseweed mallow, common sowthistle (*Sonchus oleraceus,* UPL), hairy vetch (*Vicia villosa,* UPL), black mustard, and short-podded mustard also present. This vegetation community is located surrounding the saltgrass flats within the southern portion of the Oceano Airport within the Study Area. Signs of active mowing were observed within the Oceano Airport.

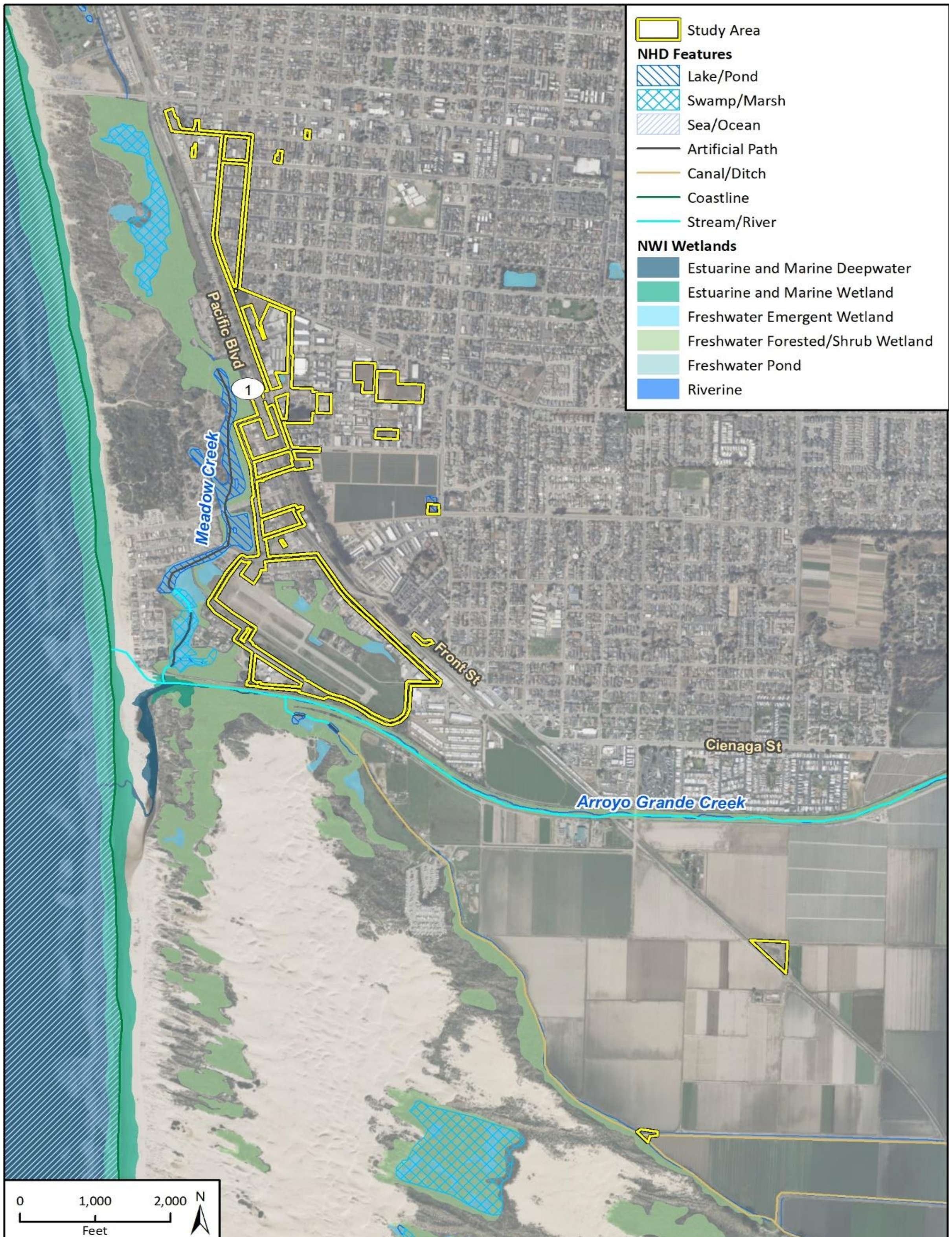
3.3 Hydrology

The Study Area is located within the Meadow Creek-Frontal Pacific Ocean subwatershed (Hydrologic Unit Code 12 – 180600060705) and Lower Arroyo Grande Creek subwatershed (Hydrologic Unit Code 180600060605) (USGS 2023b). The majority of the Study Area is within the Meadow Creek-Frontal Pacific Ocean Subwatershed (HUC 12-180600060705) and contains most of the developed portion of the Study Area. Stormwater within the Study Area typically flows through roadway drainages or along roadways into the City of Grover Beach's storm drain system or the County of San Luis Obispo's storm drain system that eventually flow into the Pacific Ocean.

No portions of Arroyo Grande Creek or Meadow Creek are located within the Study Area. One National Hydrography Dataset (NHD) flowline and one NHD waterbody are documented within the Study Area - a canal ditch located in the vicinity of NCMA South A/B/C and a pond at the intersection of South 13th street and The Pike in the vicinity of MW-4C/4D (Figure 6). (The mapped pond is a City-owned stormwater detention basin that is part of the City's storm drainage system.) The NWI depicts a Freshwater Emergent Wetland within 100 feet of MW-2C/2D/2E, Freshwater Forested Shrub/Wetland areas occurring within the Oceano Airport, and Forested Shrub/Wetland and Riverine Habitat areas occurring at or within 100 feet of MW-NCMA South A/B/C. Additionally, the NWI depicts Freshwater Forested/Shrub Wetland areas associated with Meadow Creek and Arroyo Grande Creek occurring at or within 100 feet of some of the proposed injection well, monitoring well, and water distribution pipeline locations. The drainages and wetlands mapped by the NWI are generally consistent with the observations made during the field reconnaissance survey.

A significant rain event occurred between January 9 to 14, 2023, the week prior to the field survey, in which the San Luis Obispo Regional Airport Station recorded an accumulation of five inches of rain (Weather Underground 2023). Because the rain event accumulated more water than typically documented for the area, more surface water was observed than normal.

Figure 6 NWI and NHD within the Study Area Vicinity



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Additioanl data provided by U.S. Geological Survey National Hydrography Dataset. 2022 and U.S. Fish & Wildlife Service National Wetlands Inventory, 2022.

4 Assessment of Jurisdictional Waters and Wetlands

Based on the field delineation, two detention basins, two wetlands, a roadway drainage, an intermittent stream, and two agriculture ditches potentially subject to the jurisdictions of USACE, RWQCB, CDFW and/or CCC are present within the Study Area (Figure 7a through Figure 7g). Descriptions of these potentially jurisdictional features are provided below, and their locations and the locations of their respective sample points are depicted in Figure 7c. Completed Arid West Wetland Determination Data Sheets are provided for each sample point in Appendix A, and representative photographs are included in Appendix D. The acquisition of regulatory permits from USACE, RWQCB, CDFW, and CCC would only be required if project activities impact the identified features.

Detention Basins

Two detention basins were observed within the Study Area. Both detention basins were observed with standing water due to a recent precipitation event prior to the survey. Both basins were excavated by the City of Grover Beach to be part of the City of Grover Beach Stormwater Management Program (City of Grover Beach 2010).

An approximately 0.06-acre detention basin was observed west of Barca Street (Figure 7a; Appendix D, Photograph 1) near MW-2D/2E/2F. In the NWI, this basin is defined as an excavated emergent “seasonally flooded” (PEM1Cx) wetland (USFWS 2023). This detention basin is surrounded by development, and several outfall pipes were observed along the banks of the basin. The basin floor was dominated by California bulrush with the banks dominated by arroyo willow and non-native grasses, including ripgut brome. Standing water was also observed during the survey at the bottom of the basin. In review of historical aerial imagery (Google Earth 2023), this basin does contain water following average precipitation events, and vegetation within the basin and along its banks depicted in historical imagery were consistent with observations during the survey. Due to inaccessibility, no wetland sample points were collected at this location; however, it is assumed this seasonally wet depression contains all three wetland parameters. The limits of each vegetation community within the basin were mapped digitally using aerial imagery.

A second detention basin was observed adjacent to South 13th Street, at MW-4C/4D (Figure 7g). In the NHD, this basin is defined as a lake/pond feature (USGS 2023b). The approximately 0.10-acre detention basin is surrounded by active agriculture operations, roadways, and residential buildings. The basin contained non-native, upland vegetation including iceplant along the banks, and surface water was observed at the time of the survey (Appendix D, Photograph 2). Based on historical aerials, this basin typically does not hold water for an extended period of time (Google Earth 2023). The limits of the basin surface water at the time of the survey were mapped digitally using aerial photography. Due to inaccessibility, no wetland sample points were collected at this location; however, based on the nature of this basin for stormwater collection, it is assumed to be a seasonal wetland with all three wetland parameters.

Detention Basin 1 and Detention Basin 2 are excavated in uplands, have no connectivity to any drainages or streams and are specifically excluded from CWA jurisdiction by definition as a non-jurisdictional water under 33 CFR 328.3(b)10. As such, they are likely not under the jurisdiction of the USACE or RWQCB pursuant to the CWA. The detention basins also would not likely be considered under jurisdiction of CDFW because they lack a streambed and an associated riparian corridor. However, these detention basins are likely considered waters of the State under the jurisdiction of RWQCB pursuant to the Porter-Cologne Water Quality Control Act. In addition, a portion of Detention Basin 1 is located within the Coastal Zone and meets the definition of a coastal wetland. As a result, this portion of Detention Basin 1 is likely regulated by the CCC pursuant to the CCA.

Wetlands

Two wetlands were observed within the Oceano Airport within the Study Area (Figure 7c). Both areas are topographic low points that likely accumulate stormwater runoff from the airport. A total of 0.49 acre of emergent wetlands occurs within the Study Area at locations where water distribution pipelines are proposed.

Wetland 1 was observed within the southwestern portion of Oceano Airport. The area is a low depressional area that collects stormwater runoff from the airport (Appendix D, Photograph 3). Due to its location within the Oceano Airport, the area is routinely disturbed by active airport maintenance, including mowing. The wetland is approximately 37 feet at its largest width and approximately 540 feet in length, totaling approximately 0.31 acre. The area is surrounded by wild oat and annual grassland vegetation community with arroyo willows to the north and northwest.

A wetland sample point (SP) and an upland SP were investigated. SP-1 was excavated where vegetation began to transition to upland species and topography began to elevate from the depression. Vegetation at SP-1 was dominated by saltgrass with ripgut brome. Although SP-1 passed the dominance test for hydrophytic vegetation, no hydric soils or wetland hydrology was observed; therefore, SP-1 was determined to be located outside of a wetland. SP-2 was taken in an area most representative of the wetland feature. Although the vegetation community at SP-2 is best described as saltgrass flats based on MCV2 (Sawyer et al. 2009), it is dominated by fleshy jaumea with beaked sedge and saltgrass. Because the dominate species in this area contains an OBL indicator status, SP-2 passed the dominance test and is therefore considered to contain hydrophytic vegetation. The soil pit was excavated to a depth of 12 inches. The soil profile was uniform and comprised of loam with a dark surface color of 2.5Y 3/2. Redox was limited at two percent. Standard hydric soil indicators were not observed, but problematic soils were indicated with moderately alkaline soils. Primary wetland hydrology indicators were observed, including a high water table and surface water averaging approximately four inches in depth, which exceeded the typical hydrology due to the significant rain event that occurred a week prior to the survey. Wetland 1 thus meets the definition of a wetland with all three wetland parameters.

Wetland 2 was observed within the southeastern side of the Oceano Airport property (Appendix D, Photograph 4). The area is a low depressional area that collects stormwater runoff from the airport and the adjacent SSLOCSD WWTP. Due to its location within the Oceano Airport, the area is routinely disturbed by active airport maintenance, including mowing. The depressional area spans approximately two feet in width and approximately 190 feet in length, totaling approximately 0.18 acre. The area is surrounded by wild oat and annual grassland vegetation community. SP-3 was collected adjacent to standing water. The area was dominated by ripgut brome and wild oats; however, the vegetation parameter is considered problematic because the area is routinely disturbed by airport maintenance activities. A soil sample was excavated, and soils were synonymous to SP-1, including problematic hydric soils due to moderately alkaline soils. Standing water, a primary wetland hydrology indicator, was observed averaging six inches in depth and about two feet in width, and a high water table was observed, likely due to the significant rain event prior to the survey. Although vegetation and soils indicators were problematic, they were assumed present along with wetland hydrology. As a result, SP-3 meets the definition of a three-parameter wetland. SP-4 was collected where wetland hydrology was absent and was determined to be upland.

Wetland 1 and Wetland 2 are considered isolated. As such, they do not meet the definition of adjacent wetlands under 33 CFR 328.3 and will not likely be under the jurisdiction of the USACE. These wetlands also would not likely be considered under jurisdiction of CDFW because they lack a streambed and/or associated riparian corridor. However, these wetlands are considered to be wetland waters of the State and subject to RWQCB jurisdiction under *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (2019). These wetlands are also in the Coastal Zone within the original jurisdiction of the CCC and meet the definition of a coastal wetland.[4] Therefore, the wetlands are likely regulated by the CCC pursuant to the CCA.

Roadway Drainage

A roadway drainage was observed adjacent to Aloha Place that conveys water south towards Meadow Creek through a 24-inch culvert with a concrete apron (Figure 7c; Appendix D, Photograph 5). The drainage begins within arroyo willow thicket comprised of arroyo willows and red willows. The roadway drainage is a swale-like feature with no defined bed, lacks a defined OHWM, and is vegetated with ripgut brome, prickly lettuce (*Lactuca serriola,* FACU), English plantain, and Bermuda grass. The top of bank spans approximately four feet in width, and the arroyo willow thicket extends approximately three feet beyond the top of bank. The drainage likely receives water runoff from the airport, including a swale feature observed to the east within the arroyo willow thickets. The drainage likely conveys flowing water only during precipitation events or immediately thereafter. However, due to the significant rain event prior to the survey and a high water table in the area, standing water was observed within the drainage at a depth of approximately three inches. Approximately 0.01 acre of the roadway drainage is located within the Study Area.

Since the roadway drainage is an ephemeral feature that is specifically excluded by definition as a non-jurisdictional water under 33 CFR 328.3(b)3, it will not likely be under the jurisdiction of USACE or RWQCB pursuant to the CWA. However, the drainage will likely be considered a water of the State regulated by the Central Coast RWQCB pursuant to the Porter-Cologne Water Quality Control Act and a CDFW streambed and riparian habitat pursuant to CDFW jurisdiction under the CFGC. The roadway drainage is also in the Coastal Zone within the original jurisdiction of the CCC and meets the definition of a coastal wetland. Therefore, the roadway drainage is likely regulated by the CCC pursuant to the CCA.

Intermittent Stream

An intermittent stream was observed east of Delta Lane (Figure 7d; Appendix D, Photograph 6). The intermittent stream has direct connectivity to Arroyo Grande Creek through large culverts south of the Study Area. The intermittent stream contained positive indicators for an OHWM with a defined bed and bank and was approximately three feet in width with banks approximately three feet in height. The stream is surrounded by arroyo willow thicket that recently experienced understory vegetation clearing and tree trimming. The arroyo willow vegetation extends from the access

[4] The Coastal Commission retains coastal permitting jurisdiction over certain lands in the Coastal Zone, such as tidal lands and public trust lands. Its jurisdiction over these areas is known as "original" or "retained" jurisdiction. Local agencies with adopted LCPs do not have permitting authority over development in these areas.

roadway to the SSLOCSD WWTP to approximately 20 feet from the OHWM. During the time of the survey, water was observed within the stream flowing from Arroyo Grande Creek through a culvert. This channel is likely overflow from the Arroyo Grande Creek during precipitation events or is tidally influenced by proximity to the Pacific Ocean. It also directs roadway drainage from Delta Lane and the Oceano Airport. Approximately 0.001 acre of intermittent stream is located within the Study Area.

The intermittent stream is a relatively permanent water that is a non-navigable tributary to a traditional navigable water and meets the criteria required to be considered a water of the U.S. and State. Therefore, it is likely to be considered jurisdictional by the USACE and RWQCB pursuant to the CWA. The stream and its associated riparian corridor are also likely under CDFW jurisdiction pursuant to the CFGC. The intermittent stream is also in the Coastal Zone within the original jurisdiction of the CCC and meets the definition of a coastal wetland. Therefore, the intermittent stream is likely regulated by the CCC pursuant to the CCA.

Agriculture Ditches

Two agriculture ditches were observed within the Study Area (Figure 7e and Figure 7f). These ditches are located adjacent to active agricultural lands and predominantly receive water from irrigation discharges. These ditches are routinely modified and maintained for agriculture operations.

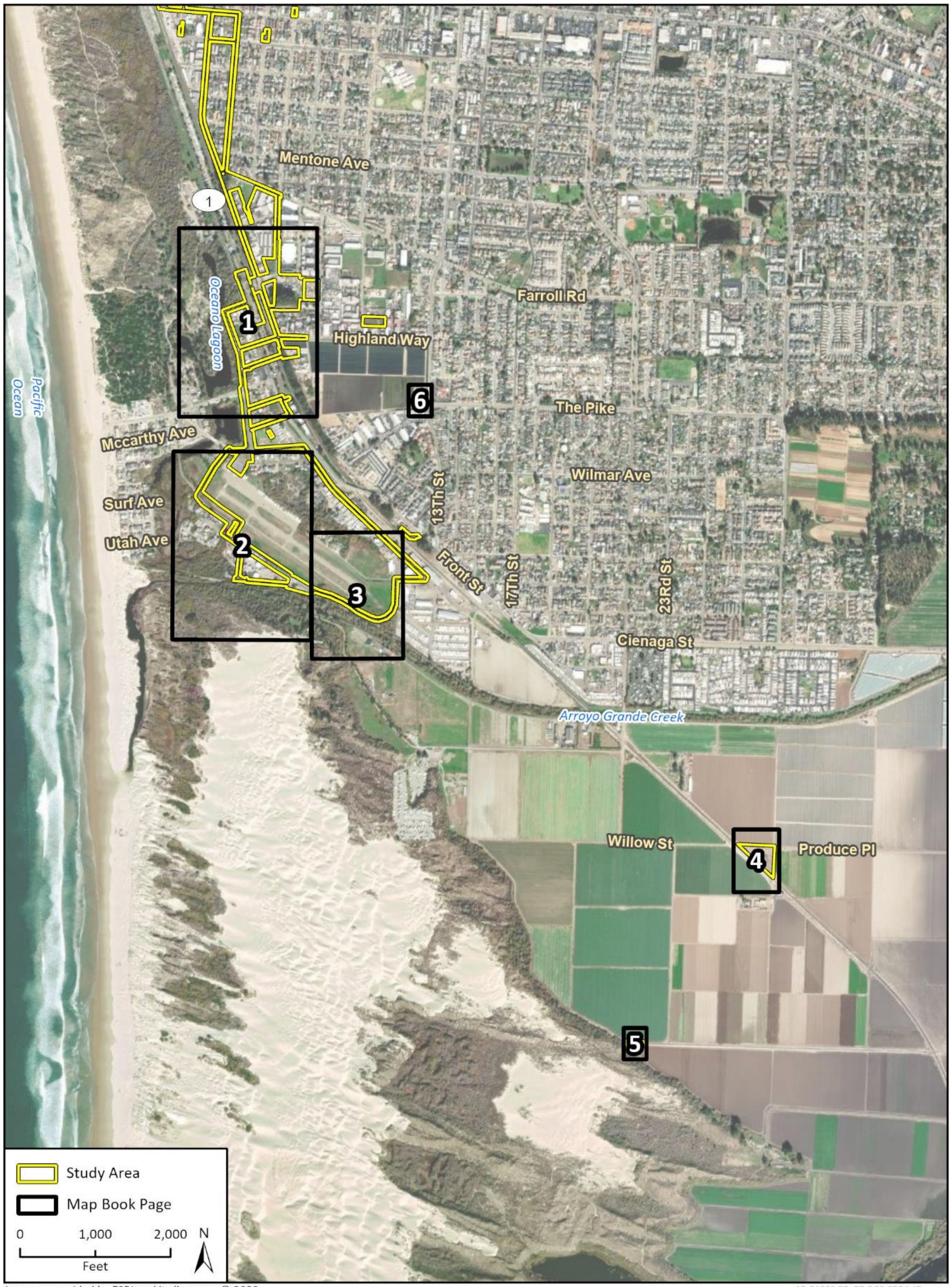
Agriculture Ditch 1 is located west of the intersection of Produce Place and 26th Street, near MW-North A/B/C (Appendix D, Photograph 7). The ditch passes through a 12-inch pipe culvert under an access roadway and flows west, meandering between the piles that support railroad tracks. The ditch had been recently modified through excavation and is unvegetated. An OHWM was identified by the presence of a defined bed and bank, with the top of bank spanning approximately six feet wide. No water was observed within the agriculture ditch during the survey. Agriculture Ditch 1 is an artificially irrigated area that would revert back to upland should irrigation water cease and is specifically excluded by definition as a non-jurisdictional water under 33 CFR 328.3. As a result, this feature will not likely be under the jurisdiction of the USACE or RWQCB pursuant to the CWA. However, the ditch will likely be considered a water of the State regulated by the Central Coast RWQCB pursuant to the Porter-Cologne Water Quality Control Act. This agriculture ditch would not likely be considered under jurisdiction of CDFW. In addition, this ditch is not located within the Coastal Zone and therefore would not be regulated by the CCC pursuant to the CCA.

Agriculture Ditch 2 is located approximately 0.57 mile southwest of Agriculture Ditch 1, east of Big Pocket Lake, and adjacent to Produce Place near MW-NCMA South A/B/C. Due to inaccessibility, the ditch was delineated using aerial imagery, the NWI, and the NHD. The NHD depicts a Canal/Ditch that originates from Los Berros Creek, travels within 25 feet of MW-NCMA South A/B/C, and connects to a canal/ditch that eventually terminates into Arroyo Grande Creek (USGS 2023b). The NWI depicts Agriculture Ditch 2 as a seasonally flooded, excavated stream bed (R4SBCx) that originates in the agriculture fields approximately 0.77 mile to the east of MW-NCMA South A/B/C and a temporarily flooded forested broad-leaved wetland (PFO1A) to the west of MW-NCMA South A/B/C (USFWS 2023). Through aerial imagery review, Agriculture Ditch 2 appears to receive water primarily from irrigation input. However, consistent with the NHD, water may enter from Los Berros Creek during precipitation events. No adjacent riparian vegetation was observed in aerial imagery, and jurisdiction of the ditch is likely bound between the banks. Agriculture Ditch 2 may be a relatively permanent water that is a tributary to a traditional navigable water (i.e., the Pacific Ocean via Arroyo Grande Creek). Therefore, this ditch meets the criteria required to be considered a water of the U.S. and State potentially under the jurisdiction of the USACE and RWQCB pursuant to the CWA. The ditch likely also falls under potential CDFW jurisdiction pursuant the CFGC. In addition, this ditch is in the Coastal Zone and meets the definition of a coastal wetland. As such, this ditch is likely regulated by the CCC pursuant to the CCA.

Riparian Forest

Adjacent to Arroyo Grande Creek and Meadow Creek, arroyo willow thicket riparian habitat was observed (Appendix D, Photograph 8). This habitat extends beyond the tops of banks of these creeks and is restricted due to development associated with the SSLOCSD WWTP and Aloha Place. As previously discussed under *Vegetation Communities and Land Cover Types*, this community includes hydrophytic vegetation associated with a stream and is defined as a riparian corridor. The riparian corridor provides habitat for plants and wildlife; therefore, it is within the boundary of the riparian limits regulated by CDFW pursuant to the CFGC and within potential jurisdiction of RWQCB pursuant to the Porter-Cologne Water Quality Control Act. In addition, riparian habitats associated with Meadow Creek and Arroyo Grande Creek are in the Coastal Zone within the original jurisdiction of the CCC and would be regulated by the CCC pursuant to the CCA.

Figure 7a Jurisdictional Delineation – Overview Map



Imagery provided by ESRI and its licensors © 2023.

15-01882 PB, PB RGS CEQA JD maps
Jurisdictional Delineation Overview

Figure 7b Jurisdictional Delineation – Detention Basin 1 and Riparian Forest

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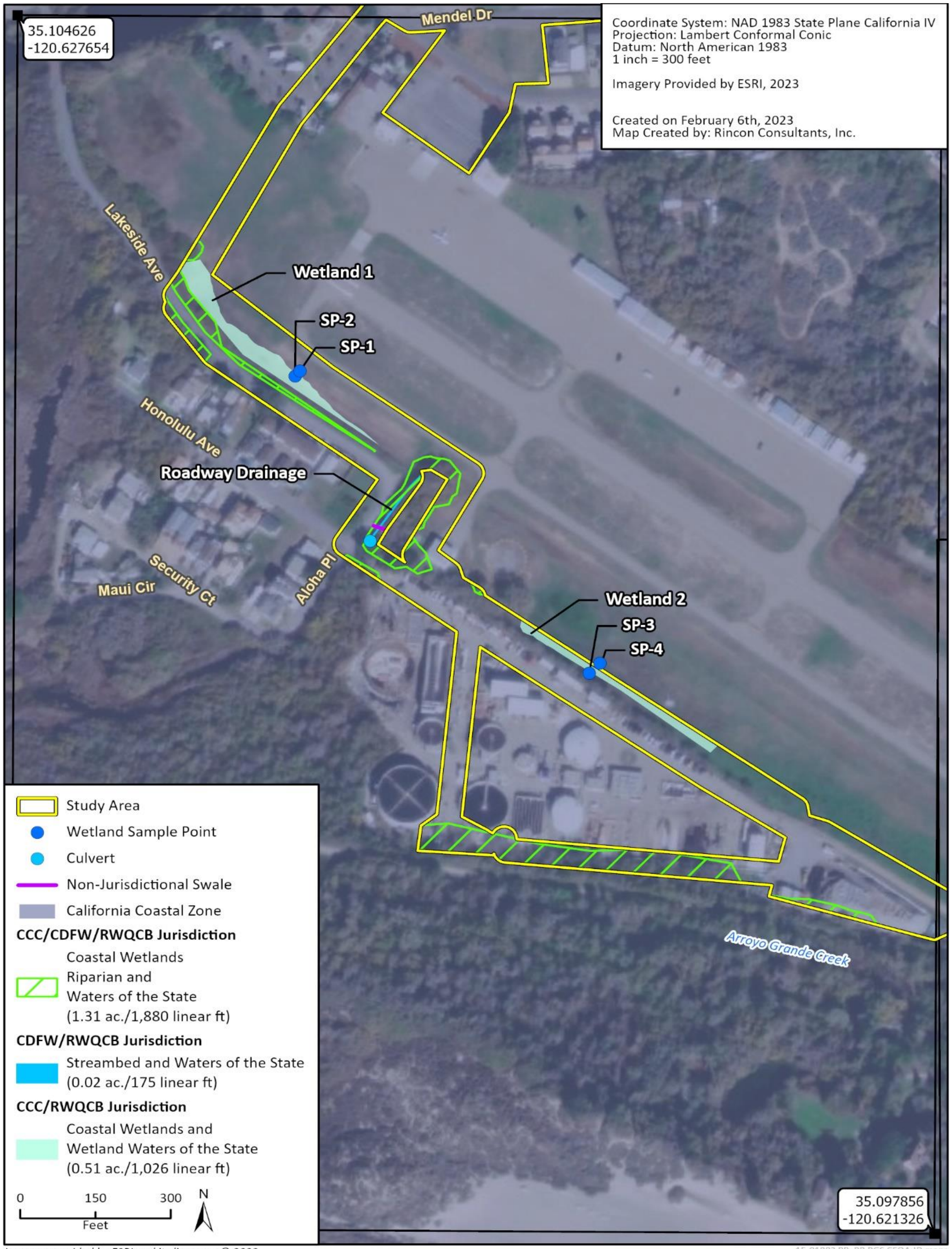
15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 7c Jurisdictional Delineation – Wetlands 1 and 2, Roadside Drainage, and Riparian Forest



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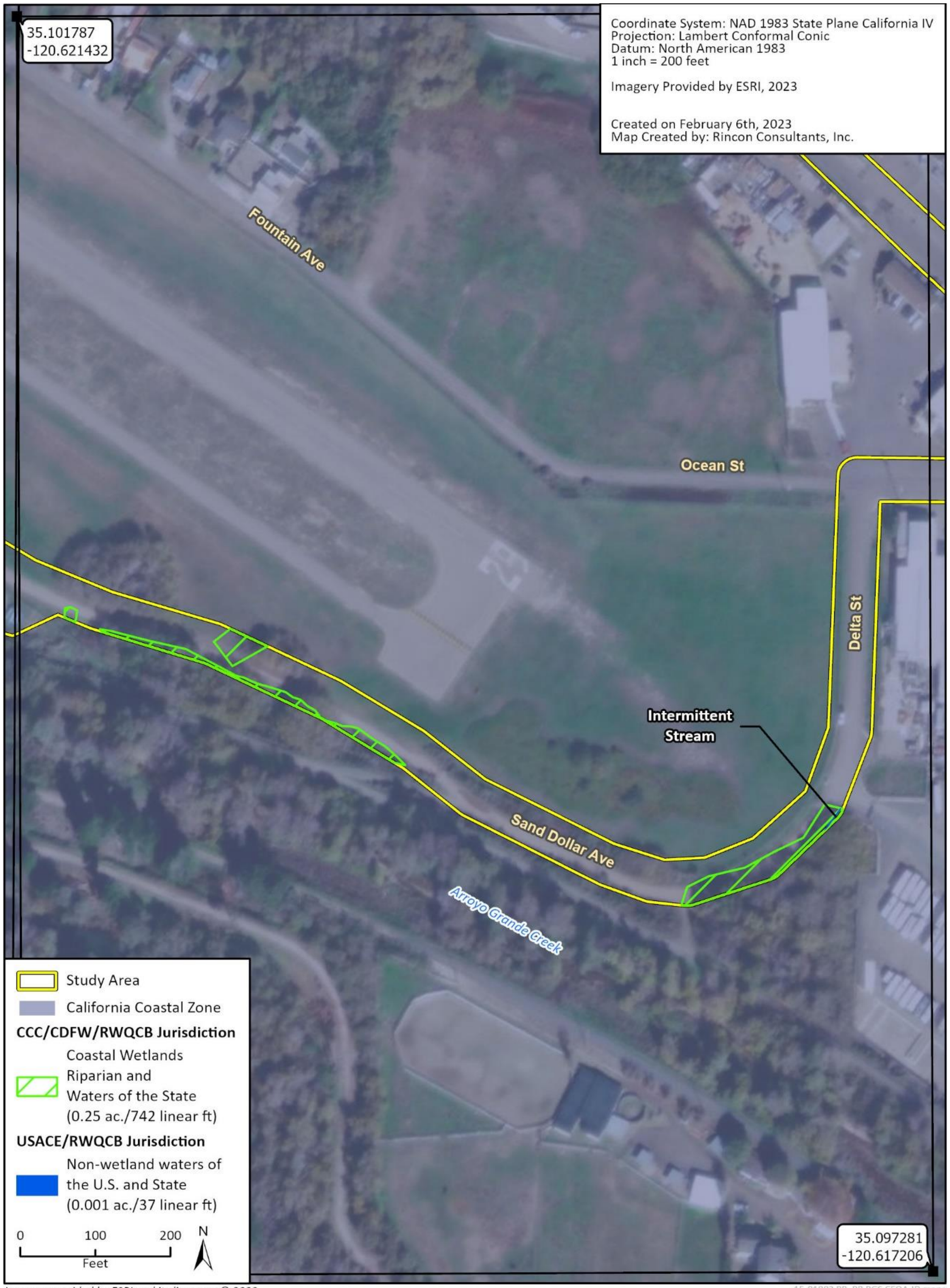
15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 7d Jurisdictional Delineation – Intermittent Stream and Riparian Forest



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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Figure 7e Jurisdictional Delineation – Agriculture Ditch 1

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FigX Jurisdictional Delineation

Figure 7f Jurisdictional Delineation – Agriculture Ditch 2

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FigX Jurisdictional Delineation

Figure 7g Jurisdictional Delineation – Detention Basin 2

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15-01882 PB, PB RGS CEQA JD maps
FigX Jurisdictional Delineation

Table 2 USACE, RWQCB, CDFW, and CCC Jurisdictional Areas

	USACE Jurisdiction		RWQCB Jurisdiction		CDFW Jurisdiction	CCC/City of Grover Beach/San Luis Obispo County Jurisdiction
Jurisdictional Area	Non-Wetland Waters of the U.S.[1] (ac./lin. ft.)	Wetland Waters of the U.S. (ac.)	Non-wetland Waters of the State[2] (ac. / lin. ft.)	Wetland Waters of the State (ac.)	CDFW Jurisdictional Streambed[3] (ac. / lin. ft.)	CCC Wetland (ac.)
Detention Basin 1	--/--	--	0.20/125	--	--/--	0.20
Detention Basin 2	--/--	--	--/--	0.11	--/--	--
Wetland 1	--/--	--	--/--	0.31	--/--	0.31
Wetland 2	--/--	--	--/--	0.20	--/--	0.18
Roadway Drainage	--/--	--	0.02/175	--	0.32/175	0.32
Intermittent Stream	0.001/37	--	0.001/37	--	0.13/245	0.13
Agriculture Ditch 1	--/--	--	0.09/380	--	--	--
Agriculture Ditch 2	0.07/192	--	0.07/192	--	0.07/192	0.07
Arroyo Willow Riparian	--/--	--	1.81/3,539	--	1.81/3,539	1.48
Total	**0.07/229**	**--**	**2.19/4,448**	**0.60**	**2.33/4,151**	**2.69**

USACE = United States Army Corps of Engineers; CDFW = California Department of Fish and Wildlife; RWQCB = Regional Water Quality Control Board; CCC = California Coastal Commission; ac. = acre; lin. ft. = linear feet

[1] Includes culverted waters of the U.S.

[2] Section 401 of the CWA and Porter-Cologne Water Quality Act waters of the State, calculated to top of bank or edge of riparian.

[3] Streambed calculated to top of bank or edge of riparian, whichever is greater

4.1 USACE Jurisdiction

The Study Area contains approximately 0.07 acre (229 linear feet) of potential non-wetland waters of the U.S., which consist of an intermittent stream and an agriculture ditch, both of which have direct connection to the Pacific Ocean.

4.2 RWQCB Jurisdiction

The Study Area contains approximately 2.19 acres (4,448 linear feet) of potential waters of the State and approximately 0.60 acre of potential wetland waters of the State. These potential State waters consist of detention basins, roadway drainages, intermittent streams, agriculture ditches, and wetlands. Riparian vegetation is also conservatively included based on Rincon's understanding of the current jurisdiction of the Central Coast RWQCB.

4.3 CDFW Jurisdiction

The Study Area contains approximately 2.33 acres (4,151 linear feet) of potential CDFW streambed jurisdiction. Waters included in potential CDFW streambed jurisdiction consist of a roadway drainage, intermittent stream, an agriculture ditch, and associated riparian vegetation.

4.4 CCC Jurisdiction

The majority of the Study Area is located within the Coastal Zone and contains approximately 2.69 acres of potential CCC wetlands pursuant to the CCA.[5] These CCC wetlands contain characteristics of at least one wetland parameter and consist of a detention basin, wetlands, roadway drainage, intermittent stream, agriculture ditch, and associated riparian vegetation.

[5] The City of Pismo Beach is currently pursuing acquisition of a consolidated coastal development permit from the CCC for the project rather than separate coastal development permits from the City of Grover Beach, County of San Luis Obispo, and CCC. Therefore, the project is not expected to be subject to the requirements of the Local Coastal Programs for the City of Grover Beach and County of San Luis Obispo.

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Appendix A

Wetland Determination Datasheets (January 2023)

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-1
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are “Normal Circumstances” present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	1	No	OBL
Distichlis spicata	95	Yes	FAC
Geranium molle	1	No	UPL
Bromus diandrus	5	No	UPL
	102% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Mowed 3 months prior to survey. Dominated by DISSPI, mostly senescent.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	98	5YR 5/8	2	C	PL	Sandy clay loam	Rocks within soil throughout sample. Damp.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although small amounts of redox concentrations along roots within top 6 inches are present, not indicators were met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-2
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Dominated by hydrophytic vegetation and standing water with hydric soils of redox dark surfaces.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	80	Yes	OBL
Distichlis spicata	5	No	FAC
Eleocharis rostellata	15	No	OBL
Cynodon dactylon	3	No	FACU
	103% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	95	x 1 = 95
FACW species	0	x 2 = 0
FAC species	5	x 3 = 15
FACU species	3	x 4 = 7
UPL species	0	x 5 = 0
Column Totals:	103 (A)	117 (B)

Prevalence Index = B/A = 1.13

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☑ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Vegetation dense and dominated by Jaumea with dispersed beaked spikerush.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	95	5YR 4/6	2	CS	M	Loam	Saturated. Very little redox observed around sand grains

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil with little redox observed surrounding sand grains. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4

Water Table Present? Yes ☑ No ☐ Depth (inches): 2

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches): 0

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-3
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.100963, -120.623696	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Standing water present with problematic moderately alkaline soils and problematic vegetation that is routinely mowed.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Bromus diandrus	80	Yes	UPL
Distichlis spicata	2	No	FAC
Avena spp.	15	No	UPL
Cynodon dactylon	3	No	FACU
	100% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	2	x 3 = 10
FACU species	3	x 4 = 7
UPL species	95	x 5 = 475
Column Totals:	100 (A)	485 (B)

Prevalence Index = B/A = 4.85

Hydrophytic Vegetation Indicators:

☐Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Problematic vegetation due to routine mowing in the area. The area has concave surface (depression) that likely ponds water.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	100					Loam	Saturated.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:
Depth (inches):

Hydric Soil Present? Yes ☑ **No** ☐

Remarks: Dark loam soil no redox. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☑ Surface Water (A1)
☑ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4
Water Table Present? Yes ☑ No ☐ Depth (inches): 2
Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-4
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.101027, -120.623669	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Cynodon dactylon	5	No	FACU
Avena spp.	15	Yes	UPL
Geranium molle	1	No	UPL
Bromus diandrus	85	No	UPL
	106% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

- ☑ Dominance Test is >50%
- ☐ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: Dense vegetation dominated by upland species.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	100					Sandy clay loam	Damp soil

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although soil is moderately alkaline, sand component in the soil likely does not allow for ponding. No redox observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):

Water Table Present? Yes ☐ No ☐ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

Appendix B

Regulatory Framework

Regulatory Framework

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of jurisdictional features. Agencies with the responsibility for protection of jurisdictional features within the project site include:

- United States Army Corps of Engineers (USACE; non-wetland waters and wetlands of the United States)
- Regional Water Quality Control Board (RWQCB; waters of the State)
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes)
- California Coastal Commission (CCC; coastal wetlands)

United States Army Corps of Engineers Jurisdiction

The USACE is responsible for administering several federal programs related to ensuring the quality and navigability of the nation's waters.

Clean Water Act Section 404

Congress enacted the Clean Water Act (CWA) "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Section 404 of the CWA authorizes the Secretary of the Army, acting through USACE, to issue permits regulating the discharge of dredged or fill materials into the "navigable waters at specified disposal sites."

Section 502 of the CWA further defines "navigable waters" as "waters of the United States, including the territorial seas." "Waters of the United States" are broadly defined at 33 Code of Federal Regulations (CFR) Part 328.3 to include navigable waters, perennial and intermittent streams, lakes, rivers, ponds, as well as wetlands, marshes, and wet meadows. In recent years the USACE and United States Environmental Protection Agency (USEPA) have undertaken several efforts to modernize their regulations defining "waters of the United States" (e.g., the 2015 Clean Water Rule and 2020 Navigable Waters Protection Rule), but these efforts have been frustrated by legal challenges that have invalidated the updated regulations. Thus, the agencies' longstanding definition of "waters of the United States," which dates from 1986, remains in effect albeit with supplemental guidance interpreting applicable court decisions as described below.

Waters of the U.S.

In summary, USACE and USEPA regulations define "waters of the United States" as follows:

1. All waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
2. All interstate waters including interstate wetlands;
3. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or

natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce including any such waters:

i. Which are or could be used by interstate or foreign travelers for recreational or other purposes; or

ii. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or

iii. Which are used or could be used for industrial purpose by industries in interstate commerce;

4. All impoundments of waters otherwise defined as waters of the United States;
5. Tributaries of waters identified in items 1 through 4 above;
6. The territorial sea;
7. Wetlands adjacent to waters (other than waters that are themselves wetlands) identified in items 1 through 6 above.

Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA are not waters of the United States.

The lateral limits of USACE jurisdiction in non-tidal waters are defined by the "ordinary high-water mark" (OHWM) unless adjacent wetlands are present. The OHWM is a line on the shore or edge of a channel established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed upon the bank, shelving, changes in the character of soil, destruction of vegetation, or the presence of debris (33 CFR 328.3[e]). As such, waters are recognized in the field by the presence of a defined watercourse with appropriate physical and topographic features. If wetlands occur within, or adjacent to, waters of the United States, the lateral limits of USACE jurisdiction extend beyond the OHWM to the outer edge of the wetlands (33 CFR 328.4[c]). The upstream limit of jurisdiction in the absence of adjacent wetlands is the point beyond which the OHWM is no longer perceptible (33 CFR 328.4; see also 51 Federal Register 41217).

Wetlands

The USACE defines wetlands as “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions” (33 CFR 328.3). The USACE’s delineation procedures identify wetlands in the field based on indicators of three wetland parameters: hydrophytic vegetation, hydric soils, and wetland hydrology. The following is a discussion of each of these parameters.

Hydrophytic Vegetation

Hydrophytic vegetation dominates areas where frequency and duration of inundation or soil saturation exerts a controlling influence on the plant species present. Plant species are assigned wetland indicator status according to the probability of their occurring in wetlands. More than fifty percent of the dominant plant species must have a wetland indicator status to meet the hydrophytic vegetation criterion. The USACE published the National Wetland Plant List (USACE 2020), which separates vascular plants into the following four basic categories based on plant species frequency of occurrence in wetlands:

- **Obligate Wetland (OBL).** Almost always occur in wetlands.
- **Facultative Wetland (FACW).** Usually occur in wetlands, but occasionally found in non-wetlands.
- **Facultative (FAC).** Occur in wetlands or non-wetlands.
- **Facultative Upland (FACU).** Usually occur in non-wetlands, but may occur in wetlands.
- **Obligate Upland (UPL).** Almost never occur in wetlands.

The USACE considers OBL, FACW and FAC species to be indicators of wetlands. An area is considered to have hydrophytic vegetation when greater than 50 percent of the dominant species in each vegetative stratum (tree, shrub, and herb) falls within these categories. Any species not appearing on the National Wetlands Plant List is assumed to be an upland species, almost never occurring in wetlands. In addition, an area needs to contain at least 5 percent vegetative cover to be considered as a vegetated wetland.

Hydric Soils

Hydric soils are saturated or inundated for a sufficient duration during the growing season to develop anaerobic or reducing conditions that favor the growth and regeneration of hydrophytic vegetation. Field indicators of wetland soils include observations of ponding, inundation, saturation, dark (low chroma) soil colors, bright mottles (concentrations of oxidized minerals such as iron), gleying (indicates reducing conditions by a blue-grey color), or accumulation of organic material. Additional supporting information includes documentation of soil as hydric or reference to wet conditions in the local soils survey, both of which must be verified in the field.

Wetland Hydrology

Wetland hydrology is inundation or soil saturation with a frequency and duration long enough to cause the development of hydric soils and plant communities dominated by hydrophytic vegetation. If direct observation of wetland hydrology is not possible (as in seasonal wetlands), or records of wetland hydrology are not available (such as stream gauges), assessment of wetland hydrology is frequently supported by field indicators, such as water marks, drift lines, sediment deposits, or drainage patterns in wetlands.

Applicable Case Law and Agency Guidance

The USACE’s regulations defining “waters of the United States” have been subject to legal interpretation, and two influential Supreme Court decisions have narrowed the definition to exclude certain classes of waters that bear an insufficient connection to navigable waters. In *Solid Waste Agency of Northern Cook County v. Army Corps of Engineers* (2001), the United States Supreme Court stated that USACE’s CWA jurisdiction does not extend to ponds that “are not adjacent to open water.” In reaching its decision, the Court concluded that the “Migratory Bird Rule,” which served as the basis for the USACE’s asserted jurisdiction, was not supported by the CWA. The Migratory Bird Rule extended CWA jurisdiction to intrastate waters "which are or would be used as habitat by birds protected by Migratory Bird Treaties or which are or would be used as habitat by other migratory birds which cross state lines…” The Court was concerned that application of the Migratory Bird Rule resulted in "reading the term 'navigable waters' out of the statute. Highlighting the language of the

CWA to determine the statute's jurisdictional reach, the Court stated, "the term 'navigable' has at least the import of showing us what Congress had in mind as its authority for enacting the CWA: its traditional jurisdiction over waters that were or had been navigable in fact or which could reasonably be so made." This decision stands for the proposition that non-navigable isolated, intrastate waters are not waters of the United States and thus are not jurisdictional under the CWA.

In 2006, the United States Supreme Court decided *Rapanos v. United States* and *Carabell v. United States* (collectively "Rapanos"), which were consolidated cases determining the extent of CWA jurisdiction over waters that carry only an infrequent surface flow. The court issued no majority opinion in Rapanos. Instead, the justices authored five separate opinions, including the "plurality" opinion authored by Justice Scalia (joined by three other justices) and a concurring opinion by Justice Kennedy. To guide implementation of the decision, the USACE and USEPA issued a joint guidance memorandum ("Rapanos Guidance Memorandum") in 2008 stating that "regulatory jurisdiction under the CWA exists over a water body if either the plurality's or Justice Kennedy's standard is satisfied."

According to the plurality opinion in Rapanos, "the waters of the United States include only relatively permanent, standing or flowing bodies of water" and do not include "ordinarily dry channels through which water occasionally or intermittently flows." In addition, while all wetlands that meet the USACE definition are considered adjacent wetlands, only those adjacent wetlands that have a continuous surface connection because they directly abut the tributary (e.g., they are not separated by uplands, a berm, dike, or similar feature) are considered jurisdictional under the plurality standard.

Under Justice Kennedy's opinion, "the USACE's jurisdiction over wetlands depends upon the existence of a significant nexus between the wetlands in question and navigable waters in the traditional sense. Wetlands possess the requisite nexus, and thus come within the statutory phrase 'navigable waters,' if the wetlands, either alone or in combination with similarly situated lands in the region, significantly affect the chemical, physical, and biological integrity of other covered waters more readily understood as 'navigable.' When, in contrast, wetlands' effects on water quality are speculative or insubstantial, they fall outside the zone fairly encompassed by the statutory term 'navigable waters.'" Justice Kennedy identified "pollutant trapping, flood control, and runoff storage" as some of the critical functions wetlands can perform relative to other waters. He concluded that, given wetlands' ecological role, "mere adjacency" to a non-navigable tributary was insufficient to establish CWA jurisdiction, and that "a more specific inquiry, based on the significant nexus standard, is therefore necessary."

Interpreting these decisions, and according to the Rapanos Guidance Memorandum, the USACE and USEPA assert jurisdiction over the following waters:

- Traditional navigable waters;
- Wetlands adjacent to traditional navigable waters;
- Non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months); and,
- Wetlands that directly abut such tributaries.

The USACE and USEPA decide jurisdiction over the following waters based on a fact-specific analysis to determine whether they have a significant nexus with a traditional navigable water:

- Non-navigable tributaries that are not relatively permanent;

- Wetlands adjacent to non-navigable tributaries that are not relatively permanent; and,
- Wetlands adjacent to but that do not directly abut a relatively permanent non-navigable tributary.

Where a significant nexus analysis is required, the USACE and USEPA apply the significant nexus standard as follows:

- A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by all wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical and biological integrity of downstream traditional navigable waters; and,
- Significant nexus includes consideration of hydrologic and ecologic factors.

The USACE and USEPA generally do not assert jurisdiction over the following features:

- Swales or erosional features (e.g., gullies, small washes characterized by low volume, infrequent, or short duration flow); and,
- Ditches (including roadside ditches) excavated wholly in and draining only uplands and that do not carry a relatively permanent flow of water.

Rivers and Harbors Act Section 10

Section 10 of the Rivers and Harbors Act of 1899 requires authorization from USACE for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a navigable water of the United States and applies to all structures and work. It further includes, without limitation, any wharf, dolphin, weir, boom, breakwater, jetty, groin, bank protection (e.g., riprap, revetment, bulkhead), mooring structures such as pilings, aerial or subaqueous power transmission lines, intake or outfall pipes, permanently moored floating vessel, tunnel, artificial canal, boat ramp, aids to navigation, and any other permanent, or semi-permanent obstacle or obstruction. It is important to note that Section 10 applies only to navigable waters and thus does not apply to work in non-navigable wetlands or tributaries. In some cases, Section 10 authorization is issued by the USACE concurrently with CWA Section 404 authorization, such as when certain Nationwide Permits are used.

Regional Water Quality Control Board Jurisdiction

The SWRCB and nine RWQCBs have jurisdiction over “waters of the State,” which are defined as any surface water or groundwater, including saline waters, within the boundaries of the state (California Water Code Section 13050[e]). These agencies also have responsibilities for administering portions of the CWA.

Clean Water Act Section 401

Section 401 of the CWA requires an applicant requesting a federal license or permit for an activity that may result in any discharge into navigable waters (such as a Section 404 Permit) to provide state certification that the proposed activity will not violate state and federal water quality standards. In California, CWA Section 401 Water Quality Certification (Section 401 Certification) is issued by the RWQCBs and by SWRCB for multi-region projects. The process begins when an applicant submits an application to RWQCB and informs USACE (or the applicable agency from which a license or permit was requested) that an application has been submitted. The USACE will then determine a "reasonable period of time" for RWQCB to act on the application; this is typically 60 days for routine projects and longer for complex projects but may not exceed one year. When the period has elapsed, if RWQCB has not either issued or denied the application for Section 401 Certification, USACE may determine that Certification has been waived and issue the requested permit. If a Section 401 Certification is issued it may include binding conditions, imposed either through the Certification itself or through the requested federal license or permit.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et seq.), the policy of the State is as follows:

- The quality of all the waters of the State shall be protected;
- All activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason; and
- The State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation.

The Porter-Cologne Act established nine RWQCBs (based on watershed boundaries) and SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint-source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Section 13260 of the Porter-Cologne Act requires any person discharging or proposing to discharge waste that could affect the quality of waters of the State to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCB may then authorize the discharge, subject to conditions, by issuing Waste Discharge Requirements (WDRs). While this requirement was historically applied primarily to outfalls and similar point source discharges, the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State*, effective May 2020, make it clear that the agency will apply the Porter-Cologne Act's requirements to discharges of dredge and fill material as well. The *Procedures* state they are to be used in issuing CWA Section 401 Certifications and WDRs and largely mirror the existing review requirements for CWA Section 404 Permits and Section 401 Certifications, incorporating most elements of the USEPA's *Section 404(b)(1) Guidelines*. Following issuance of the *Procedures*, the SWRCB produced a consolidated application form for dredge/fill discharges that can be used to obtain a CWA Section 401 Water Quality Certification, WDRs, or both.

Non-Wetland Waters of the State

The SWRCB and RWQCBs have not currently established regulations for field determinations of waters of the state, except for wetlands. In many cases, the RWQCBs interpret the limits of waters of the State to be bounded by the OHWM unless isolated conditions or ephemeral waters are present. However, in the absence of statewide guidance, each RWQCB may interpret jurisdictional boundaries within their region, and SWRCB has encouraged applicants to confirm jurisdictional limits with their RWQCB before submitting applications. As determined by RWQCB, waters of the State may include riparian areas or other locations outside the OHWM, leading to a larger jurisdictional area over a given water body as compared to the USACE.

Wetland Waters of the State

Procedures for defining wetland waters of the State pursuant to the SWRCB's *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* went into effect May 28, 2020. The SWRCB defines an area as wetland if, under normal circumstances:

(i) The area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both;
(ii) The duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and
(iii) The area's vegetation is dominated by hydrophytes or the area lacks vegetation.

The SWRCB's *Implementation Guidance for the Wetland Definition and Procedures for Discharges of Dredge and Fill Material to Waters of the State* (2020) states that waters of the U.S. and waters of the State should be delineated using the standard USACE delineation procedures, taking into consideration that the methods shall be modified only to allow for the fact that a lack of vegetation does not preclude an area from meeting the definition of a wetland.

California Department of Fish and Wildlife Jurisdiction

California Fish and Game Code Section 1602 states it is unlawful for any person to "substantially divert or obstruct the natural flow of, or substantially change or use any material from the bed, channel, or bank of, any river, stream, or lake" without first notifying CDFW of that activity. Thereafter, if CDFW determines and informs the entity that the activity will not substantially adversely affect any existing fish or wildlife resources, the entity may commence the activity. If, however, CDFW determines the activity may substantially adversely affect an existing fish or wildlife resource, the entity may be required to obtain a Streambed Alteration Agreement (SAA) from CDFW, which will include reasonable measures necessary to protect the affected resource(s), before the entity may conduct the activity described in the notification. Upon receipt of a complete Notification of Lake/Streambed Alteration, CDFW has 60 days to present the entity with a Draft SAA. Upon review of the Draft SAA by the applicant, any problematic terms are negotiated with CDFW, and a final SAA is executed.

The CDFW has not defined the term "stream" for the purposes of implementing its regulatory program under Section 1602, and the agency has not promulgated regulations directing how jurisdictional streambeds may be identified, or how their limits should be delineated. However, four relevant sources of information offer insight as to the appropriate limits of CDFW jurisdiction as discussed below.

- **The plain language of Section 1602 of the California Fish and Game Code** establishes the following general concepts:
  - References “river,” “stream,” and “lake”
  - References “natural flow”
  - References “bed,” “bank,” and “channel”
- **Applicable court decisions**, in particular *Rutherford v. State of California* (188 Cal App. 3d 1276 (1987), which interpreted California Fish and Game Code Section 1602’s use of “stream” to be as defined in common law. The Court indicated that a “stream” is commonly understood to:
  - Have a source and a terminus
  - Have banks and a channel
  - Convey flow at least periodically, but need not flow continuously and may at times appear outwardly dry
  - Represent the depression between the banks worn by the regular and usual flow of the water
  - Include the area between the opposing banks measured from the foot of the banks from the top of the water at its ordinary stage, including intervening sand bars
  - Include the land that is covered by the water in its ordinary low stage
  - Include lands below the OHWM
- **CDFW regulations** defining “stream” for other purposes, including sport fishing (14 California Code of Regulations 1.72) and streambed alterations associated with cannabis production (14 California Code of Regulations 722[c][21]), which indicate that a stream:
  - Flows at least periodically or intermittently
  - Flows through a bed or channel having banks
  - Supports fish or aquatic life
  - Can be dry for a period of time
  - Includes watercourses where surface or subsurface flow supports or has supported riparian vegetation
- **Guidance documents**, *including A Field Guide to Lake and Streambed Alteration Agreements* (California Department of Fish and Game 1994) and *Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-Scale Solar Power Plants* (Brady and Vyverberg 2013), which suggest the following:
  - A stream may flow perennially or episodically
  - A stream is defined by the course in which water currently flows, or has flowed during the historic hydrologic course regime (approximately the last 200 years)
  - Width of a stream course can reasonably be identified by physical or biological indicators
  - A stream may have one or more channels (single thread vs. compound form)
  - Features such as braided channels, low-flow channels, active channels, banks associated with secondary channels, floodplains, islands, and stream-associated vegetation, are interconnected parts of the watercourse

- Canals, aqueducts, irrigation ditches, and other means of water conveyance can be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife
- Biologic components of a stream may include aquatic and riparian vegetation, all aquatic animals including fish, amphibians, reptiles, invertebrates, and terrestrial species which derive benefits from the stream system
- The lateral extent of a stream can be measured in different ways depending on the particular situation and the type of fish or wildlife resource at risk

The tenets listed above, among others, are applied to establish the boundaries of streambeds in various environments. The importance of each factor may be weighted based on site-specific considerations and the applicability of the indicators to the streambed at hand.

California Coastal Commission Jurisdiction

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

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

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

In accordance with the CCA, the CCC defines coastal wetlands as generally extending seaward to the State's outer limit of jurisdiction (i.e., three nautical miles from the Mean Hight Tide Line (MHTL) and inland generally 1,000 yards from the MHTL (CCC 2011). In contrast to wetland waters of the U.S., potential coastal wetland features are defined by the presence of one of the three USACE wetland indicators (California Code of Regulations Title 14). The one parameter definition as follows:

> Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly

developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats. (14 California Code of Regulations Section 13577).

Appendix C

Flora Compendium (January 2023)

Plant Species Observed within the Study Area on January 20 and 24, 2023

Scientific Name	Common Name	Native/Introduced/ Invasive Rating[1]	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/ Landscaped	Ruderal	Iceplant Mats	Wild Oats & Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Ambrosia psilostachya	Western ragweed	Native	FACU	Herb			X						
Avena spp.	Wild oats	Introduced; Moderate	UPL	Herb					X				
Baccharis pilularis	Coyote brush	Native	UPL	Shrub	X								
Brassica nigra	Black mustard	Introduced; Moderate	UPL	Herb			X						
Bromus diandrus	Ripgut brome	Introduced; Moderate	UPL	Herb	X		X		X	X			
Carpobrotus edulis	Iceplant	Introduced; High	UPL	Herb		X	X	X					
Conium maculatum	Poison hemlock	Introduced; Moderate	FACW	Herb			X					X	
Cynodon dactylon	Bermuda grass	Introduced; Moderate	FACU	Herb		X			X		X		
Cyperus eragrostis	Tall flatsedge	Native	FACW	Herb									X
Dimorphotheca sinuata	African daisy	Introduced	UPL	Herb		X							
Distichilis spicata	Saltgrass	Native	FAC	Herb							X		X
Eleocharis rostellata	Beaked spikerush	Native	OBL	Herb							X		
Eschscholzia californica	California poppy	Native	UPL	Herb		X							
Equisetum spp.	Horsetail	Native	FAC	Fern		X							
Eucalyptus globulus	Blue gum	Introduced; Limited	UPL	Tree		X				X			
Eucalyptus sideroxylon	Red ironbark	Introduced	UPL	Tree		X							
Foeniculum vulgare	Fennel	Introduced; Moderate	UPL	Herb			X						
Hedera helix	English ivy	Introduced; High	UPL	Shrub								X	
Helminthotheca echioides	Bristly ox-tongue	Introduced; Limited	FAC	Herb			X						
Hesperocyparis macrocarpa	Monterey cypress	Native	UPL	Tree		X							
Heterotheca grandiflora	Telegraphweed	Native	UPL	Herb									
Hirschfeldia incana	Short-podded mustard	Introduced; Moderate	UPL	Herb	X		X						
Hordeum murinum	Foxtail barley	Introduced; Moderate	FACU	Herb			X						
Jaumea carnosa	Fleshy jaumea	Native	OBL	Herb							X		
Datura stramonium	Jimson weed	Introduced	UPL	Herb			X						
Lactuca serriola	Prickly lettuce	Introduced	FACU	Herb			X					X	
Malva parviflora	Cheeseweed mallow	Introduced	UPL	Herb			X			X			
Melilotus indicus	Annual yellow sweetclover	Introduced	FACU	Herb			X		X				
Oxalis pes-caprae	Sourgrass	Introduced; Moderate		Herb								X	
Pinus radiata	Monterey pine	Introduced; Limited	UPL	Tree		X							
Plantago coronopus	Buckhorn plantain	Introduced	FAC	Herb			X		X				
Plantago lanceolata	English plantain	Introduced; Limited	FAC	Herb			X		X				
Plantago major	Common plantain	Introduced	FAC	Herb			X		X				
Polygonum aviculare	Prostrate knotweed	Introduced	FAC	Herb			X						
Raphanus sativus	Wild radish	Introduced; Limited	UPL	Herb			X		X				
Rubus ursinus	California blackberry	Native	FAC	Shrub	X							X	
Salix laevigata	Red willow	Native	FACW	Tree								X	

Scientific Name	Common Name	Native/Introduced/ Invasive Rating[1]	Wetland Indicator Status	Life Form (e.g., Tree, Shrub, Herbaceous)	Coyote Brush Scrub	Developed/ Landscaped	Ruderal	Iceplant Mats	Wild Oats & Annual Brome Grassland	Eucalyptus Grove	Saltgrass Flats	Arroyo Willow Thicket	California Bulrush Marshes
Salix lasiolepis	Arroyo willow	Native	FACW	Tree								X	
Sambucus nigra ssp. caerulea	Blue elderberry	Native	FACU	Tree				X					
Schoenoplectus californicus	California bulrush	Native	OBL	Herb									X
Silybum marianum	Milk thistle	Introduced; Limited	UPL	Herb	X				X				
Sonchus oleraceus	Common sow thistle	Introduced	UPL	Herb					X				
Stipa miliacea	Smilo grass	Introduced	UPL	Herb			X					X	
Toxicodendron diversilobum	Poison oak	Native	FACU	Shrub	X							X	
Urtica dioica	Stinging nettle	Native	FAC	Herb		X	X					X	
Urtica urens	Annual stinging nettle	Introduced	UPL	Herb			X						
Vicia villosa	Hairy vetch	Introduced	UPL	Herb					X				
Vinca major	Greater periwinkle	Introduced; Moderate	UPL	Herb								X	

References: Jepson 2023, USACE 2020

Appendix D

Representative Photographs (January 2023)

Photograph 1. Overview of Detention Basin 1 with California bulrush surrounded by arroyo willows, facing northwest. January 20, 2023.

Photograph 2. Overview of Detention Basin 2 with surface water surrounded by iceplant and ruderal vegetation, facing northwest. January 20, 2023.

Photograph 3. Overview of Wetland 1 within Oceano Airport, facing southeast. January 20, 2023.

Photograph 4. Overview of Wetland 2 within Oceano Airport, facing southeast. January 20, 2023.

Photograph 5. Overview of roadway drainage with vegetated bed and adjacent arroyo willow thicket, facing northeast. January 20, 2023.

Photograph 6. Overview of intermittent stream with defined bed and banks and associated riparian corridor, facing south. January 20, 2023.

Photograph 7. Overview of Agriculture Ditch 1, recently excavated and unvegetated, facing east. January 20, 2023.

Photograph 8. Overview of arroyo willow thicket associated with Arroyo Grande Creek south of the Study Area, facing west. January 20, 2023.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-1
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none	Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are “Normal Circumstances” present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	1	No	OBL
Distichlis spicata	95	Yes	FAC
Geranium molle	1	No	UPL
Bromus diandrus	5	No	UPL
	102% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Mowed 3 months prior to survey. Dominated by DISSPI, mostly senescent.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	98	5YR 5/8	2	C	PL	Sandy clay loam	Rocks within soil throughout sample. Damp.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although small amounts of redox concentrations along roots within top 6 inches are present, not indicators were met.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):
Water Table Present? Yes ☐ No ☐ Depth (inches):
Saturation Present? Yes ☐ No ☐ Depth (inches):
(includes capillary fringe)

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-2
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.1026, -120.6255	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Dominated by hydrophytic vegetation and standing water with hydric soils of redox dark surfaces.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Jaumea carnosa	80	Yes	OBL
Distichlis spicata	5	No	FAC
Eleocharis rostellata	15	No	OBL
Cynodon dactylon	3	No	FACU
	103% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	95	x 1 = 95
FACW species	0	x 2 = 0
FAC species	5	x 3 = 15
FACU species	3	x 4 = 7
UPL species	0	x 5 = 0
Column Totals:	103 (A)	117 (B)

Prevalence Index = B/A = 1.13

Hydrophytic Vegetation Indicators:

- ☑ Dominance Test is >50%
- ☑ Prevalence Index is ≤3.0[1]
- ☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Vegetation dense and dominated by Jaumea with dispersed beaked spikerush.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

	Matrix		Redox Features					
Depth (inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	95	5YR 4/6	2	CS	M	Loam	Saturated. Very little redox observed around sand grains

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☑ No ☐

Remarks: Dark loam soil with little redox observed surrounding sand grains. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4

Water Table Present? Yes ☑ No ☐ Depth (inches): 2

Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ No ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach	Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach	State: California	Sampling Point: SP-3
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E	
Landform (hillslope, terrace, etc): Depression	Local relief (concave, convex, none): Concave	Slope (%): 0
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.100963, -120.623696	Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2 % slope, MLRA 14	NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ☑ No ☐ Hydric Soil Present? Yes ☑ No ☐ Wetland Hydrology Present? Yes ☑ No ☐	Is the Sampled Area within a Wetland? Yes ☑ No ☐
Remarks: The landscape setting likely collected and concentrates water due to its convex nature. Standing water present with problematic moderately alkaline soils and problematic vegetation that is routinely mowed.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Bromus diandrus	80	Yes	UPL
Distichlis spicata	2	No	FAC
Avena spp.	15	No	UPL
Cynodon dactylon	3	No	FACU
	100% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
0 % Bare Ground in Herb Stratum:	0 % Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	2	x 3 = 10
FACU species	3	x 4 = 7
UPL species	95	x 5 = 475
Column Totals:	100 (A)	485 (B)

Prevalence Index = B/A = 4.85

Hydrophytic Vegetation Indicators:

☐Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☑ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☑ No ☐

Remarks: Problematic vegetation due to routine mowing in the area. The area has concave surface (depression) that likely ponds water.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox %	Type[1]	Loc[2]	Texture	Remarks
0-12	2.5Y 3/2	100					Loam	Saturated.

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5) (LRR C)
- ☐ 1 cm Muck (A9) (LRR D)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Mucky Mineral (S1)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ☐ 1 cm Muck (A9) (LRR C)
- ☐ 2 cm Muck (A10) (LRR B)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☑ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☑ **No** ☐

Remarks: Dark loam soil no redox. Problematic soils observed due to moderately alkaline soils; therefore, identifiable redox do not readily form. Soils saturated and waited for drying of soil to identify redox.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ☑ Surface Water (A1)
- ☑ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1) (**Nonriverine**)
- ☐ Sediment Deposits (B2) (**Nonriverine**)
- ☐ Drift Deposits (B3) (**Nonriverine**)
- ☐ Surface Soil Cracks (B6)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Water-Stained Leaves (B9)
- ☐ Salt Crust (B11)
- ☐ Biotic Crust (B12)
- ☐ Aquatic Invertebrates (B13)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres along Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

- ☐ Water Marks (B1) (**Riverine**)
- ☐ Sediment Deposits (B2) (**Riverine**)
- ☐ Drift Deposits (B3) (**Riverine**)
- ☐ Drainage Patterns (B10)
- ☐ Dry-Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Shallow Aquitard (D3)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☑ No ☐ Depth (inches): 4

Water Table Present? Yes ☑ No ☐ Depth (inches): 2

Saturation Present? Yes ☐ No ☐ Depth (inches): 0
(includes capillary fringe)

Wetland Hydrology Present? Yes ☑ **No** ☐

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Standing water observed with depths up to 4 inches. Water table very high observed in soil pit. Large rain event brining 7+ inches of precipitation saturated the water table in this area.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Central Coast Blue	City/County: Grover Beach		Sampling Date: January 20, 2023
Applicant/Owner: City of Pismo Beach		State: California	Sampling Point: SP-4
Investigators(s): Carolynn Honeycutt and Frances Glaser	Section, Township, Range: S31, T32S, R13E		
Landform (hillslope, terrace, etc): Slope	Local relief (concave, convex, none): none		Slope (%): 1
Subregion (LRR): C- Mediterranean California	Lat/Long: 35.101027, -120.623669		Datum: WGS84
Soil Map Unit Name: Mocho fine sandy loam, 0 to 2% slope, MLRA 14		NWI classification: N/A	

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ☐ No ☑ (If no, explain in Remarks)

Are Vegetation ☑ , Soil ☐ , or Hydrology ☐ significantly disturbed? (If needed, explain any answers in Remarks.)

Are "Normal Circumstances" present? Yes ☑ No ☐

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ naturally problematic?

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes☐ No ☑ Hydric Soil Present? Yes ☐ No ☑ Wetland Hydrology Present? Yes ☐ No ☑	Is the Sampled Area within a Wetland? Yes ☐ No ☑
Remarks: Point collected upslope, higher elevatiom than wetland. No hydrology observed, no hydric soils, hydrophytic vegetation dominance present but not prevalent.	

VEGETATION – Use scientific names of plants.

Stratum/Species	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size:)			
	% = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
	% = Total Cover		
Herb Stratum (Plot size:)			
Cynodon dactylon	5	No	FACU
Avena spp.	15	Yes	UPL
Geranium molle	1	No	UPL
Bromus diandrus	85	No	UPL
	106% = Total Cover		
Woody Vine Stratum (Plot size:)			
	% = Total Cover		
% Bare Ground in Herb Stratum:	% Cover of Biotic Crust:		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:
OBL species	1	x 1 = 1
FACW species	0	x 2 = 0
FAC species	98	x 3 = 294
FACU species	0	x 4 = 0
UPL species	6	x 5 = 30
Column Totals:	105 (A)	325 (B)

Prevalence Index = B/A = 3.1

Hydrophytic Vegetation Indicators:

☑ Dominance Test is >50%

☐ Prevalence Index is ≤3.0[1]

☐ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

☐ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ☐ No ☑

Remarks: Dense vegetation dominated by upland species.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix: Color (moist)	Matrix: %	Redox Features: Color (moist)	Redox Features: %	Redox Features: Type[1]	Redox Features: Loc[2]	Texture	Remarks
0-11	2.5Y 3/1	100					Sandy clay loam	Damp soil

[1]Type: C = Concentration, D – Depletion, RM = Reduced Matrix, CS = Covered or Coated Sand Grains. [2]Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5) (LRR C)
☐ 1 cm Muck (A9) (LRR D)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)
☐ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

☐ 1 cm Muck (A9) (LRR C)
☐ 2 cm Muck (A10) (LRR B)
☐ Reduced Vertic (F18)
☐ Red Parent Material (TF2)
☐ Other (Explain in Remarks)

Restrictive Layer (if present):

Type:

Depth (inches):

Hydric Soil Present? Yes ☐ No ☑

Remarks: Although soil is moderately alkaline, sand component in the soil likely does not allow for ponding. No redox observed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1) (**Nonriverine**)
☐ Sediment Deposits (B2) (**Nonriverine**)
☐ Drift Deposits (B3) (**Nonriverine**)
☐ Surface Soil Cracks (B6)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Water-Stained Leaves (B9)
☐ Salt Crust (B11)
☐ Biotic Crust (B12)
☐ Aquatic Invertebrates (B13)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres along Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Other (Explain in Remarks)

Indicators for Problematic Hydric Soils

☐ Water Marks (B1) (**Riverine**)
☐ Sediment Deposits (B2) (**Riverine**)
☐ Drift Deposits (B3) (**Riverine**)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Shallow Aquitard (D3)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☐ Depth (inches):

Water Table Present? Yes ☐ No ☐ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ☐ No ☐ Depth (inches):

Wetland Hydrology Present? Yes ☐ No ☑

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: No wetland hydrology indicators observed.

Appendix D

2023 Supplemental Cultural Resources Assessment (CONFIDENTIAL)

Appendix E

Noise Modeling

Barrier Calculations - IW-1

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	75	100	10	17	5	15.18	69	54.00

Barrier Calculations - IW-2A, IW-2B (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	13	5	8.64	63	54.52

Barrier Calculations - IW-2A Alternate, IW-3, MW-2A/2B/2C, and MW-4A/4B (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	75	100	10	17	5	15.18	69	54.00

Barrier Calculations - IW-4 Alternate (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	24	5	19.27	63	43.89

Barrier Calculations - MW-1A/1B, MW-1A/1B Alternate, MW-1C/1D Alternate (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	75	100	10	17	5	15.18	69	54.00

Barrier Calculations - MW-2A/2B/2C (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	75	100	10	17	5	15.18	69	54.00

Barrier Calculations - MW-2D/2E/2F (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	375	400	10	10	5	5.03	57	52.10

Barrier Calculations - MW-3C/3D (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
15	55	70	10	17	5	16.89	72	55.39

Barrier Calculations -MW-NMCA North A/B/C (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	375	400	10	17	5	13.23	57	43.91

Barrier Calculations -MW-NCMA South A/B/C (Well Drilling)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	2175	2200	10	10	5	5.00	42	37.33

Barrier Calculations - New Production Well (PB-23)

Input Variables	
Reference Noise Level (dBA)	75.2
Reference Distance (ft)	50
Site Conditions *(Choice: Hard or Soft)*	Hard

Output Calculations

Distance from Barrier to Source (ft)	Distance from Barrier to Receiver (ft)	Distance from Source to Receiver (ft)	Height of Source (ft)	Height of Wall (ft)	Height of Receiver (ft)	Noise Level Reduction (dBA)	Unabated Noise Level (dBA)	Resultant Noise Level (dBA)
25	175	200	10	13	5	8.64	63	54.52

Appendix F

2023 Paleontological Resources Assessment

Central Coast Blue Project

Paleontological Resources Assessment – Update #1

prepared for

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2023. *Central Coast Blue Project Paleontological Resources Assessment Report – Update #1*. Rincon Consultants Project No. 15-01882. Report on file with City of Pismo Beach Planning Division.

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Executive Summary

Purpose and Scope

Rincon Consultants, Inc. was retained by the City of Pismo Beach to conduct a paleontological resources assessment for the Central Coast Blue Project (herein referred to as "project") located in San Luis Obispo County, California. The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization tank, monitoring well, and new production well); pipelines; injection wells; monitoring wells; and a pump station. As the Lead Agency under the California Environmental Quality Act (CEQA), the City of Pismo Beach is required to evaluate the potential for negative impacts to paleontological resources that may be caused by implementation of the project. This study has been completed in accordance with the requirements of a CEQA-Plus investigation and includes compliance with federal and state regulations in the case a federal nexus is established during the course of project execution. This updated report evaluates the potential paleontological resources impacts of several modifications to the layout of project facilities that have occurred during evolution of the design process, resulting in new project impact areas beyond those identified and evaluated in the original paleontological resources assessment (Rincon Consultants, Inc. 2020). This technical report presents the results of the paleontological resources assessment following the Society of Vertebrate Paleontology (SVP) paleontological sensitivity classification (SVP 2010), discusses potential impacts to known or unknown paleontological resources, and provides recommended mitigation measures to reduce potential impacts to paleontological resources to less-than-significant levels, pursuant to federal, state, and local, regulations.

Results of Investigation

The footprint of project components with known locations contains two geologic units mapped at the surface: Holocene-aged alluvial floodplain deposits and Pleistocene-aged old eolian deposits (Holland 2013). Holocene-aged alluvial flood-plain deposits are likely too young (i.e., less than 5,000 years old) to contain paleontological resources (SVP 2010) and thus have low paleontological sensitivity. Pleistocene-aged old eolian deposits very rarely produce fossils in California (Jefferson 2010), and eolian (i.e., wind-blown) sediments generally do not preserve paleontological resources. Therefore, old eolian deposits also have low paleontological sensitivity.

Impacts Assessment and Recommendations

The footprint of project components with known locations is underlain by two geologic units with low paleontological sensitivity. Ground-disturbing activities in sediments with low paleontological sensitivity are not anticipated to result in significant impacts to paleontological resources. Excavations for pipelines and the ATF complex are anticipated to reach approximately 16 to 25 feet below the surface, respectively. Therefore, ground disturbance associated with these activities will be confined to the same low-sensitivity geologic units mapped at the surface. Conversely, the injection, monitoring, and production wells are anticipated to reach up to 680 feet below the surface. Hall (1973) estimated the surficial alluvial and eolian sediments in the region extend to approximately 100 feet in depth. The nature of geologic units below 100 feet is unknown and, based on the regional geology, these rocks could range from high to no paleontological sensitivity (Holland 2013; Wiegers

2021). Therefore, rocks more than 100 feet below the surface have undetermined paleontological sensitivity. However, due to the small diameter of the boreholes for these wells (14 inches or less), paleontological monitoring of these activities is not effective because any encountered paleontological resources would be pulverized by drilling equipment before the spoils reach the surface, such that it is not possible to know whether a paleontological resource is significantly impacted. Therefore, well drilling activities are unlikely to result in destruction, damage, or loss of scientifically important paleontological resources and thus would not result in a significant impact.

With adherence to Policy CO-6 in the City of Pismo Beach's General Plan and Local Coastal Program (2014), which specifies management protocols for unanticipated paleontological resources, significant impacts to paleontological resources are not expected. Further paleontological resources mitigation is not recommended at this time.

1 Introduction

Rincon Consultants, Inc. (Rincon) was retained by the City of Pismo Beach (City) to conduct a paleontological resources assessment for the Central Coast Blue Project (herein referred to as "project") located in San Luis Obispo County, California (Figure 1). The paleontological resources assessment consisted of a desktop analysis of geologic maps, a review of published literature and online fossil locality databases, and review of museum locality records. As the Lead Agency under the California Environmental Quality Act (CEQA), the City is required to evaluate the potential for negative impacts to paleontological resources that may be caused by the implementation of the project. This study has been completed in accordance with the requirements of a CEQA-Plus investigation and includes compliance with federal and state regulations in the case a federal nexus is established during the course of project execution. This technical report presents the results of the paleontological resources assessment, discusses potential impacts to known or unknown paleontological resources, and provides recommended mitigation measures to reduce potential impacts to paleontological resources to less-than-significant levels, pursuant to federal, state, and local regulations.

1.1 Project Location

The project area is situated approximately seven miles south of the city of San Luis Obispo and is regionally accessible from U.S. Highway 101 and locally accessible from California State Route (SR) 1. The project area extends from West Grand Avenue in Grover Beach in the north to unincorporated San Luis Obispo County, including Oceano, in the south. The total project area measures approximately 3.5 miles north to south. See Figure 1 for a map of the project location in a regional context.

1.2 Project Description

The proposed project consists of an advanced treatment facility (ATF) complex (including an equalization tank, a monitoring well, and a new production well), pipelines, injection wells, monitoring wells, and a pump station. The project would also alter the pumping regime of existing, operational production wells in the project area. See Figure 1 for a map of the project area in a regional context and Figure 2 for a map of the locations of project components. Each of the project components is described below.

Advanced Treatment Facility Complex

The ATF complex would purify secondary treated wastewater flows from the Pismo Beach and the South San Luis Obispo County Sanitation District (SSLOCSD) Wastewater Treatment Plants (WWTPs). Treatment steps would include microfiltration/ultrafiltration, reverse osmosis, and ultraviolet disinfection with advanced oxidation. The ATF complex would include outdoor chemical storage and staff support facilities that may include office space, a locker room, restrooms, file storage, a break room and kitchen, chemical storage and feed facilities, and an emergency power generator.

Figure 1 Regional Location

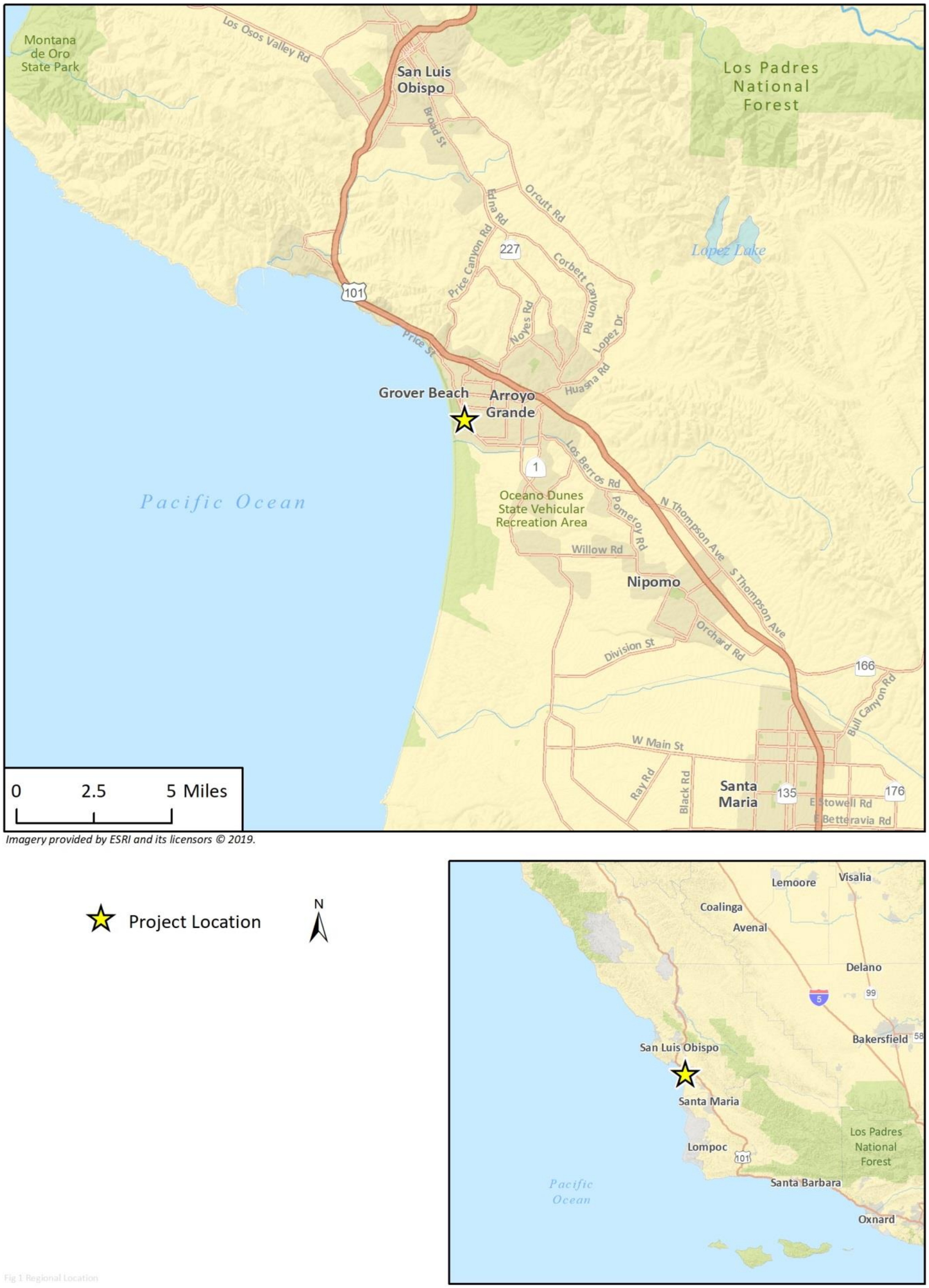

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Figure 2 Project Component Locations

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Fig 5 Modified Project Components

Several appurtenant structures would be constructed as part of the ATF complex to support the ATF processes. An equalization storage basin would be constructed to provide greater capacity and operational flexibility to the ATF by addressing fluctuations in flow from the WWTPs without impacting the flow rate to the ATF. The storage basin would occupy approximately 7,500 square feet of area. A new production well (PB-23) and a monitoring well (MW-3C/3D) would also be installed at the ATF complex. Ground disturbance at the ATF complex is expected to reach 25 feet in depth for general grading and excavation and 675 feet in depth for installation of the monitoring and production wells.

Pipelines

Pipelines would be installed along the potential alignments shown in Figure 2.[1] These pipelines would accomplish five purposes: 1) convey secondary treated effluent discharged by the Pismo Beach WWTP from the existing ocean outfall pipeline to the proposed ATF; 2) convey secondary treated effluent from the SSLOCSD WWTP to the proposed ATF; 3) convey advanced purified water from the proposed ATF to the injection wells; 4) convey concentrate from the proposed ATF to the existing ocean outfall pipeline; and 5) convey backwash water from certain injection wells and sanitary sewer waste streams from the ATF complex to the sanitary sewer system. The pipelines would range in size from approximately 6 to 24 inches. Ground disturbance associated with the pipelines is expected to reach six feet in depth with the exception of the trenchless crossing of the railroad tracks, which would reach up to approximately 16 feet in depth.

Groundwater Injection and Monitoring Wells

Seven injection wells would be installed at five of the potential locations shown in Figure 2.[2] The injection wells would be located generally within one-half mile of the coast and would each require approximately 4,000 square feet of land.[3] Each injection well would be capable of injecting approximately 500 acre-feet per year (AFY). The advanced purified water would be injected at a depth of approximately 160 to 680 feet below ground surface. The injection well network would be accompanied by a network of nested monitoring wells, each approximately five square feet in size, at up to eleven locations throughout the project area.[4] Monitoring wells would be designed to facilitate measurements and monitoring of water level and water quality. Equipment associated with injection wells (e.g., piping and infrastructure such as electrical panels, control panels, storage facilities, and water storage tanks) would have a mix of aboveground and belowground facilities, the location of which would depend on the site, space constraints, and surrounding land uses. Monitoring wells would be flush-mounted. The diameters of the injection and monitoring wells would be approximately 20 inches to 48 inches (depending on the depth).

Monitoring well MW-3A/3B and a test injection well were constructed in 2021 in the southern portion of the County of San Luis Obispo's Coastal Dunes RV Park as part of a preliminary hydrogeological investigation of the physical and technological constraints and opportunities in the project area. These wells were determined by the City to be categorically exempt from CEQA under CEQA

[1] Due to ongoing siting and design efforts, several alternative pipeline alignments are included in the Modified Project to provide flexibility in ultimate siting.
[2] Due to ongoing siting and design efforts, several alternative injection well locations are included in the Modified Project to provide flexibility in ultimate siting.
[3] This is a conservative assumption of the footprint of each injection well.
[4] Due to ongoing siting and design efforts, several alternative monitoring well locations are included in the Modified Project to provide flexibility in ultimate siting.

Guidelines Section 15306. MW-3A/3B would continue to operate as a monitoring well under the proposed project. The test injection well has the potential to be converted to an operational injection well and serve as part of the project's injection well network. However, conversion of the test injection well to an operational injection well would require an amendment to the County of San Luis Obispo's Local Coastal Program, which is not proposed at this time. Therefore, an alternative location for IW-4 has been identified and is considered in this report as part of the proposed project, and the test injection well is now considered a back-up alternate location for IW-4. Because the test injection well remains as an alternate location for IW-4, this report assumes this well may be utilized as an operational injection well for the purposes of CEQA, pending completion of a Local Coastal Program amendment.

Production Wells

Several existing production wells would be available for extraction of the injected advanced purified water. The project would involve increased pumping at these wells but would not involve modification of these existing production wells or any associated ground disturbance. As indicated previously, one new production well (referred to herein as PB-23) would be constructed and operated at the ATF complex to replace an existing well that is failing.

Construction Activities

Project construction would occur in two main phases. Phase I would include construction of four injection wells (IW-1, IW-2A, IW-3, and IW-5A), up to nine monitoring wells, pipelines, and the ATF complex with its initial capacity designed to treat flows from the Pismo Beach WWTP. Phase II would include construction of the remaining three injection wells (IW-2B, IW-4, and IW-5B), the remaining two monitoring wells, installation of purified water pipelines to connect the new wells to the existing purified water distribution system, installation of the pipeline and pump station conveying SSLOCSD WWTP effluent to the ATF, and expansion upgrades to equipment within the ATF complex to accommodate flows from the SSLOCSD WWTP. Construction of the project components is anticipated to last a total of approximately 24 months for Phase I and approximately 15 months for Phase II.

Earthwork activities associated with the project would include drilling, trenching, grading, and excavation to various depths up to 25 feet. Wells would be drilled up to a depth of approximately 680 feet. Construction methods for the proposed pipelines would predominantly involve open trenching, with trenchless methods used as needed (e.g., to cross the Union Pacific Railroad tracks). Trenches would be excavated to approximately six feet in depth and would be backfilled after pipeline installation, and installation of the trenchless pipeline under the Union Pacific Railroad tracks would involve ground disturbance up to 16 feet in depth. To accommodate the ATF complex, the existing pavement and fencing at the location of the ATF complex would be removed. In addition, the location of the ATF complex would likely need to be graded to provide a level base for the ATF and appurtenant structures, to provide site access, and to provide appropriate stormwater drainage. It is assumed a moderate amount of existing soil would be excavated and exported and a moderate amount of clean engineered fill or another suitable substrate would be imported to provide geotechnical stability for the ATF complex. Excavation depth is not anticipated to exceed 25 feet at any locations other than the injection, monitoring, and production wells, which would be drilled to depths of up to 680 feet.

2 Regulations

This study has been completed in accordance with the requirements of CEQA and includes compliance with federal and state regulations in the case a federal nexus is established during the course of project execution. A federal nexus may be established if federal funding is acquired and/or federal permitting is necessary. Compliance with both sets of regulations allows the lead agency to apply the results of this technical study should a federal nexus be established at a later time. Federal, state, and local regulations applicable to potential paleontological resources in the project area are summarized below.

2.1 Federal

A variety of federal statutes address paleontological resources specifically. They are applicable to all projects occurring on federal lands and may be applicable to specific projects if the project involves a federal agency license, permit, approval, or funding.

National Environmental Policy Act

The National Environmental Policy Act (United States Code Section 4321 et seq.; 40 Code of Federal Regulations Section 1502.25), as amended, directs federal agencies to "preserve important historic, cultural, and natural aspects of our national heritage (Section 101[b][(4])." The current interpretation of this language includes scientifically important paleontological resources among those resources that may require preservation.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011 Subtitle D). The PRPA directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. The PRPA prohibits the removal of paleontological resources from federal land without a permit, establishes penalties for violations, and establishes a program to increase public awareness about such resources. While specific to activity that occurs on federal lands, some federal agencies may require adherence to the directives outlined in the PRPA for projects on non-federal lands if federal funding is involved or if the project includes federal oversight.

2.2 State

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states in part that a project will "normally" have a significant effect on the environment if it, among other things, will directly or indirectly destroy a unique paleontological resource or site or unique geologic feature (Section VII[f] of Appendix G of the State CEQA Guidelines).

CEQA does not define "a unique paleontological resource or site." However, the Society of Vertebrate Paleontology (SVP) has defined a "significant paleontological resource" in the context of environmental review as follows:

> Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information. Paleontological resources are considered to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years). (SVP 2010)

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA. The CEQA lead agency is responsible for ensuring that impacts to paleontological resources are mitigated, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

Section 5097.5 of the Public Resources Code states:

> No person shall knowingly and willfully excavate upon, or remove, destroy, injure or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here "public lands" means those owned by, or under the jurisdiction of, the state or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance activities, and for permit actions undertaken by others (e.g., encroachment and land use permits).

2.3 Regional and Local

County of San Luis Obispo

The County of San Luis Obispo General Plan Conservation and Open Space Element (County of San Luis Obispo 2010) contains one goal, one policy, and two implementation strategies pertaining to paleontological mitigation. They are as follows:

- **Goal CR 4:** The county's known and potential Native American, archaeological and paleontological resources will be preserved and protected.
  - **Policy CR 4.5.** Protect paleontological resources from the effects of development by avoiding disturbance where feasible.
    - **Implementation Strategy CR 4.5.1 Paleontological Studies.** Require a paleontological resource assessment and mitigation plan to 1) identify the extent and potential significance of the resources that may exist within the proposed development and 2) provide mitigation measures to reduce potential impacts when existing information indicates that a site proposed for development may contain biological, paleontological, or other scientific resources.

- **Implementation Strategy CR 4.5.2 Paleontological Monitoring.** Require a paleontologist and/or registered geologist to monitor site-grading activities when paleontological resources are known or likely to occur. The monitor will have the authority to halt grading to determine the appropriate protection or mitigation measures. Measures may include collection of paleontological resources, curation of any resources collected with an appropriate repository, and documentation with the County.

Additionally, Section 11.04.060(b) of the San Luis Obispo County Code (2014) states that it is unlawful for any person to engage in the following acts within any county park or facility without prior written authorization from the director or designee:

1) Remove, cut, dig, or disfigure any soil, rock, or fossil
2) Dig up, pick, remove, mutilate, injure, or collect any historical or archaeological artifact or object
3) Disturb, deface, disfigure, mark on, or destroy any cave, rock formation, or any other naturally occurring feature
4) Deposit any earth, sand, rock, stone, or other substance or dig such materials from any area

City of Pismo Beach

Although project construction activities would occur in Grover Beach and Oceano, the City, as the lead agency and one of the project sponsors, and its contractor(s) would abide by its own policies related to paleontological resources. The City's General Plan and Local Coastal Program (2014) contains the following policy pertaining to paleontological resources:

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

City of Grover Beach

The City of Grover Beach General Plan (2010) does not contain policies applicable to the preservation or mitigation of paleontological resources. The City of Grover Beach Local Coastal Program (2014) contains one policy recommendation pertaining to paleontological resources:

- **Policy:** Where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer, reasonable mitigation measures shall be required by the City Planning Commission and/or City Council.

3 Resource Assessment Guidelines

3.1 Significance Criteria

Fossils represent the only direct evidence of past life from Earth's history. Fossils are thus a foundational data source for research on a wide variety of topics that fall under the broad umbrella of "evolutionary pattern and process" including taphonomy, phylogeny, paleoecology, stratigraphy, biochronology, taxonomy, and cladistics.

Significant paleontological resources are determined to be fossils or assemblages of fossils that meet one or more of the following criteria:

- Unique;
- Unusual;
- Rare;
- Diagnostically important;
- Common but have the potential to provide valuable scientific information for evaluating evolutionary patterns and processes; and/or
- Could improve our understanding of paleochronology, paleoecology, paleophylogeography, or depositional histories.

New or unique specimens can provide new insights into evolutionary history; however, additional specimens of even well represented lineages can be equally important for studying evolutionary pattern and process, evolutionary rates, and paleophylogeography. Even unidentifiable material can provide useful data for dating geologic units if radiometric dating is possible. As such, common fossils (especially vertebrates) may be scientifically important and therefore considered significant.

3.2 Paleontological Sensitivity Criteria

The SVP (2010) describes sedimentary rock units as having high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units in which significant fossils have been determined by previous studies to be present or likely to be present. While these standards were written specifically to protect vertebrate paleontological resources, all fields of paleontology have adopted these guidelines, which are given here verbatim:

I. **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than the Holocene epoch, including deposits associated with nests or middens, and areas which may contain new vertebrate deposits, traces, or trackways are also classified as significant.

II. **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic, phylogenetic species and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations. However, as excavation for construction gets underway it is possible that significant and unanticipated paleontological resources might be encountered and require a change of classification from Low to High Potential and, thus, require monitoring and mitigation if the resources are found to be significant.

III. **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.

IV. **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources.

4 Methods

Rincon evaluated the paleontological sensitivity of the geologic units which underlie the footprint of project components with known locations using the results of the museum locality search and review of existing information in the scientific literature concerning known fossils in those geologic units. Rincon submitted a request to the Natural History Museum of Los Angeles County (NHMLAC) for a list of known fossil localities from the project area and immediate vicinity (i.e., localities recorded on the United States Geological Survey *Oceano*, California 7.5-minute topographic quadrangle), reviewed geologic maps, and reviewed primary literature and online databases.

Rincon assigned paleontological sensitivities to the geologic units in the footprint of project components with known locations. The potential for impacts to significant paleontological resources is based on the potential for ground disturbance to directly impact paleontologically-sensitive geologic units.

This updated report evaluates the potential paleontological resources impacts of several modifications to the layout of project facilities that have occurred during evolution of the design process, resulting in new project impact areas beyond those identified and evaluated in the original paleontological resources assessment (Rincon Consultants, Inc. 2020).

5 Description of Resources

5.1 Geologic Setting

The project area is situated in the Coast Ranges, one of eleven major geomorphic provinces in California (California Geological Survey 2002). A geomorphic province is a region of unique topography and geology that is distinguished from other regions based on its landforms and geologic history. The Coast Ranges extend about 600 miles from the Oregon border south to the Santa Ynez River in Santa Barbara County and are characterized by numerous north-south–trending mountain ranges and valleys (Norris and Webb 1990). Prominent geologic features near the project area include the San Luis Range, Guadalupe-Nipomo Dunes, Arroyo Grande Creek, the Oceano fault, and the Nine Sisters Miocene volcanic peaks (Holland 2013; Lettis et al. 1994; Surdham and Stanley 1984).

The basement rocks of the Coast Ranges include the plutonic Salinian Block and the Jurassic to Cretaceous metasedimentary and metavolcanic rocks of the Franciscan Complex. During the Mesozoic Era and into the Cenozoic Era, the area of the present-day Coast Ranges was covered by seawater and thick deposits of marine sedimentary rocks accumulated on the Franciscan basement rock (Bartow and Nilsen 1990; Graymer et al. 1996). Starting in the late Miocene epoch, the mountains of the Coast Ranges began to rise, and terrestrial sedimentary rocks were deposited (Norris and Webb 1990), with the Pleistocene marked by glacially-controlled sea level fluctuations and tectonic uplift during which the shoreline advanced and retreated as much as 30 miles across the continental shelf (Hall 2007).

As shown in Figure 3, the footprint of project components with known locations includes two geologic units mapped at the surface: Holocene-aged alluvial flood-plain deposits and Pleistocene-aged old eolian deposits (Holland 2013). The distribution, lithology, and paleontology, of these geologic units are discussed below.

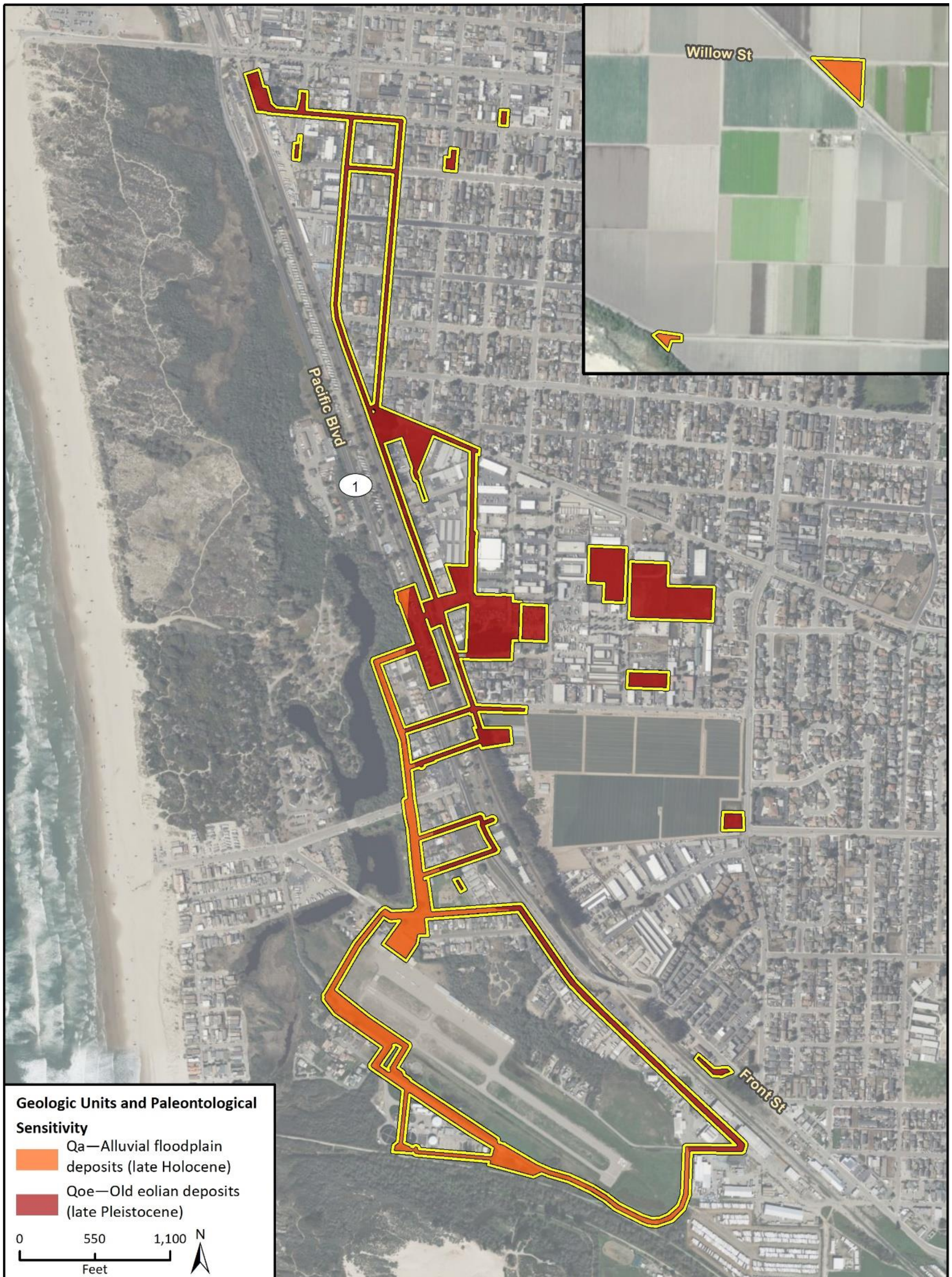
Alluvial Floodplain Deposits (Qa)

Holocene-aged alluvial floodplain deposits underlie some of the western and southern project components (Figure 3). Holocene-aged alluvial floodplain deposits consist of active and recently active flood-plain deposits composed of unconsolidated sandy, silty, and clay-bearing alluvium (Holland 2013). Alluvial floodplain deposits are found underlying project components west of SR 1. According to Hall (1973), the maximum thickness of these alluvial deposits is approximately 90 feet. Holocene-aged alluvial floodplain deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources and therefore have low paleontological sensitivity.

Old Eolian Deposits (Qoe)

Pleistocene-aged old eolian deposits underlie most of the eastern and northern project components (Figure 3). Old eolian deposits consist of well-sorted, dissected, red to brown windblown sand with weak soil development (Holland 2013). Old eolian deposits are mapped in the more eastern (inland) parts of the footprint of project components with known locations. Hall (1973) combines old eolian deposits with young eolian deposits and suggests the combined maximum thickness of the young and old eolian deposits is approximately 100 feet. Coastal eolian deposits very rarely preserve fossils

Figure 3 Geologic Map of Project Components



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Additional data provided by Holland, 2013.

Fig X Geologic Map of Project Area 2022

in California (Jefferson 2010), and eolian (i.e., wind-deposited) sediments generally do not preserve paleontological resources. Therefore, old eolian deposits have low paleontological sensitivity.

5.2 Paleontological Setting

Rincon received the results of a paleontological records search from the Natural History Museum of Los Angeles County on December 24, 2019 (McLeod 2019). According to the results of the museum records search, no paleontological resources have been recorded within the footprint of project components with known locations. The closest fossil locality to the footprint of project components with known locations from Pleistocene-age deposits is LACM 4089, approximately nine miles to the southeast in Nipomo, which yielded a fossil mammoth (*Mammuthus columbi*). The depth of this fossil locality was not stated (McLeod 2019).

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

In accordance with SVP (2010) guidelines, Rincon determined the paleontological sensitivity of the footprint of project components with known locations based on a review of geologic maps, published literature and online databases, and museum records. The results of this paleontological assessment indicate the two geologic units mapped at the surface within the footprint of project components with known locations - Holocene-aged alluvial floodplain deposits and Pleistocene-aged old eolian deposits - have low paleontological sensitivity.

6.2 Impacts

All known project components are located in areas mapped as sediments with low paleontological sensitivity (Figure 3). Ground-disturbing activities associated with the proposed project include trenching and trenchless boring for pipelines; drilling for groundwater injection, monitoring, and production wells; and excavations for the ATF complex. Excavations for the pipelines and the ATF complex are expected to reach up to 16 and 25 feet below the surface, respectively. Therefore, these excavations are not anticipated to have a significant impact on paleontological resources because they would be confined to geologic units with low paleontological sensitivity.

Drilling for groundwater injection, monitoring, and production wells is anticipated to reach up to 680 feet below the surface. The low-sensitivity geologic units mapped at the surface in the footprint of project components with known locations are estimated to be up to 100 feet thick (Hall 1973), meaning that drilling would impact geologic units not mapped at the surface. Based on the regional geology, these geologic units could represent Cenozoic sedimentary rocks (e.g., Pismo Formation or Monterey Formation), Cenozoic igneous rocks (Obispo Formation), or Mesozoic sedimentary, metasedimentary, or metavolcanic rocks (Franciscan Complex or Salinian Block) (Holland 2013; Wiegers 2021). These rocks could range from having no paleontological sensitivity (e.g., igneous or metavolcanic rocks) to high paleontological sensitivity (e.g., Cenozoic sedimentary rocks). The nature of the rocks more than 100 feet below the surface is unknown; therefore, they are considered to have an undetermined paleontological sensitivity. Paleontological monitoring of boreholes is typically conducted by examining spoils brought up during the drilling process for any contained fossil remains. However, due to the proposed well drilling method for depths greater than 100 feet, any encountered paleontological resources would be pulverized by drilling equipment before the spoils reach the surface such that it would not be possible to know whether a paleontological resource is significantly impacted by drilling activities. No known paleontological resources would be impacted and the level of potential impacts to undiscovered resources is unknowable; therefore, well drilling activities would be unlikely to result in destruction, damage, or loss of scientifically important paleontological resources. As a result, impacts to paleontological resources would be less than significant.

6.3 Recommendations

Further paleontological resources work is not recommended at this time. The City would abide by Policy CO-6 in its General Plan and Local Coastal Program (2014), which requires suspension of construction activity in the event that a paleontological resource is disclosed and retention of a qualified archaeologist/paleontologist to examine the site. Construction would not resume until mitigation measures have been developed and carried out to address the impacts of the project on these resources.

7 References

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8 List of Preparers

Resumes for all preparers are included in Appendix A.

Rincon Consultants, Inc.

Primary Authors

- Andrew McGrath, PhD, Paleontologist

Senior Review

- Jennifer DiCenzo, BA, Paleontological Program Manager

Principal Review

- Nichole Jordan, MA, Principal

Appendix A

Staff Resumes

Nichole Jordan, RPA

Cultural Resources Principal

EDUCATION

MA, Applied Anthropology, California State University, East Bay (2009)

BA, Anthropology, California State University, Sacramento (2005)

AA, Social Science, Los Rios Community College, Sacramento (2003)

CERTIFICATIONS/ REGISTRATIONS

Register of Professional Archaeologists

California Council for the Promotion of History

Society for American Archaeology

Society for California Archaeology, Legislative Committee

Section 106 for Experienced Practitioners

Section 4(f) for Historic Properties

CEQA for Advanced Practitioners

YEARS OF EXPERIENCE

16

EXPERIENCE

Rincon Consultants, Inc. (2020 to present)

Ms. Jordan is a Cultural Resources Principal with Rincon Consultants. She is a Registered Professional Archaeologist (#989208) and meets the Secretary of the Interior's Standards Professional Qualification Standards for prehistoric and historical archaeology and the Society for California Archaeology's professional qualification standards for Principal Investigator. Ms. Jordan has 19 years of experience in cultural resources management, including project management, personnel management, Native American consultation, archival research, laboratory analysis, ethnographic and historical research, field survey, archaeological excavation, laboratory analysis, collections management, and GIS applications. She has experience with cultural and tribal cultural resources issues as they relate to the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). She directs the preparation of cultural resources technical studies compliant with Section 106 of the National Historic Preservation Act (NHPA), CEQA, and agreement documents. These include studies documenting research, survey, testing, excavation, monitoring and evaluation for inclusion in the National Register of Historic Places (National Register) and California Register of Historical Resources (California Register).

SELECT PROJECT EXPERIENCE

Contract Manager, Pacific Gas and Electric Company - Access Roads Management Program (North Region), Various COunties
Pacific Gas and Electric Company's (PG&E) Access Roads Management Program manages PG&E's network of access roads to electrical transmission and certain distribution infrastructure throughout PG&E's service territory. Ms. Jordan's team provided land planner support, resource agency permitting, resource constraints analyses, resource inventories, and general environmental services to support the Access Road Management program in the North Region.

Project Manager, Southwest Gas – North Shore Drive Gas Line Replacement Project, San Bernardino County
Southwest Gas proposed the North Shore Drive project in Big Bear Lake in San Bernardino County. The United States Forest Service is the Section 106 lead on the project for which several archaeological and built environment cultural resources are being evaluated for inclusion in the National Register and California Register. The project's potential to affect resources will be assessed and Environmentally Sensitive Area Fencing will be placed, as appropriate.

Project Manager, North Star Solar – North Star Generation Tie Line, Switching Station, and Related Facilities, Fresno County
North Star Solar proposed the North Star Generation Tie Line, Switching Station, and Related Facilities Project as part of the continuing development and expansion of its North Star solar generating facility near Mendota in Fresno County. This CEQA-compliant cultural resources study evaluated three built environment resources and identified three historic-period archaeological resources eligible for inclusion in the California Register. During project construction, pre-construction meetings were held with the construction crew, and archaeological monitoring was conducted at archaeological resource locations, which was documented in the archaeological monitoring report.

SELECT PROJECT EXPERIENCE (CONTINUED)

Principal Investigator, California Department of Transportation – Kilburn Road Bridge Replacement Project, Stanislaus County
The County of Stanislaus, in coordination with the California Department of Transportation (Caltrans), as assigned by the Federal Highway Administration, proposed the Kilburn Road Bridge Replacement Project near Crows Landing. Kilburn Road Bridge (No. 38C0168) is a National Register–eligible resource that required a Finding of Effect, Environmentally Sensitive Area Action Plan, and Memorandum of Agreement. This project also required a Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR) and Area of Potential Effects (APE) map.

Principal Investigator, City of Elk Grove – Kammerer Road Extension Project, Elk Grove
The County of Sacramento and the City of Elk Grove, in coordination with Caltrans with funding administered through the Federal Highway Administration, proposed to extend Kammerer Road between Highway 99 and Interstate 5. Ms. Jordan directed the cultural resources technical studies, which resulted in a finding of no historic properties affected with standard conditions. The scope of work included an HPSR, ASR, APE, Historical Resources Evaluation Report, Management Plan, Programmatic Agreement, and Memorandum of Understanding. Fourteen built environment cultural resources were recommended not eligible for inclusion in the National Register and California Register, and one prehistoric archaeological resource was assumed eligible for both registers for the purposes of the project. Consulting tribes were invited to be concurring parties on the Programmatic Agreement prepared for the project because they identified the prehistoric archaeological resource as a tribal cultural resource within the APE.

Principal Investigator, Caltrans – North County Corridor New State Route 108 Project, Stanislaus County
The North County Corridor Transportation Expressway Authority, in conjunction with Caltrans, as assigned by the Federal Highway Administration, proposed the North County Corridor New State Route 108 project. The project will relocate the existing State Route 108, which currently runs through the cities of Riverbank and Oakdale, to the south and would increase roadway capacity to accommodate existing and future traffic volumes. Ms. Jordan directed the preparation of the Historical Resources Evaluation Report, which evaluated 141 properties, recommending four eligible for inclusion in the National Register and 137 properties not eligible for inclusion.

Principal Investigator, City of Rancho Cordova – Folsom Boulevard Complete Streets Project, Rancho Cordova
The City of Rancho Cordova, in conjunction with Caltrans, proposed to construct sidewalks, bike lanes, medians, safety fencing, and street and pedestrian lighting along Folsom Boulevard between Rod Beaudry Drive and Horn Road at the western end of the city. Ms. Jordan managed the cultural resources subconsultants that prepared an ASR, HPSR, and Extended Phase I Study to determine if this project had the potential to affect a previously identified archaeological resource adjacent to the APE. The State Office of Historic Preservation concurred with the recommendation of no historic properties affected.

Task Manager, City of Elk Grove – Big Horn Boulevard and Bilby Road Extension Projects, Elk Grove
Ms. Jordan managed the completion of the cultural resources identification and evaluation study required for the project's compliance with Section 106 of the NHPA. Ms. Jordan directed the preparation of the study, delineation of the APE, interested parties consultation, a built environment survey, and built environment resources evaluations for inclusion in the National Register with one resource recommended eligible.

Task Manager, City of South San Francisco – Community Civic Campus Project, South San Francisco
Ms. Jordan directed the preparation of a cultural resources letter report summarizing the methods and results of an intensive-level cultural resources field survey, records search, and two California Register evaluations. The intent of the field survey, records search, and California Register evaluations was to determine the presence of any historical resources (archaeological and built environment) within or adjacent to the project area that may be directly impacted by the project. Based on the results of this study, the project does not have the potential to impact known cultural resources; however, sensitivity for encountering prehistoric and historic period archaeological resources is very high. Mitigation measures included a pre-construction meeting, construction monitoring, construction cessation if archaeological resources are identified, and adherence to California Health and Safety Code Section 7050.5.

EDUCATION

BA, Anthropology, Minor in Geology, San Diego State University, San Diego, California

YEARS OF EXPERIENCE

10+

EXPERIENCE

Rincon Consultants, Inc. (2021 to present)

Red Tail Environmental, Inc. (2018 to 2021)

Paleo Solutions, Inc. (2012 to 2018)

Jennifer DiCenzo

Paleontological Program Manager

Ms. DiCenzo has over 10 years of fieldwork and consulting experience in California paleontology and archaeology. She received her B.A. degree in anthropology with a focus in archaeology and a minor in geology with a focus on paleontology at San Diego State University in 2012. She has made substantial contributions supervising field staff, surveying, construction mitigation monitoring, conducting data recovery, salvaging fossils, preparing fossils in laboratory settings, writing technical assessments, developing and administering monitoring and mitigation plans, and managing projects. Ms. DiCenzo has coordinated compliance monitoring on a range of projects including renewable energy, housing and commercial development, transportation, and utility projects. She has written or supervised the preparation of numerous technical documents including paleontological resources assessments and technical reports, impact analyses, paleontological mitigation and monitoring plans, paleontological sections of Environmental Impact Reports, Environmental Assessment, Initial Study-Mitigated Negative Declarations, paleontological monitoring reports, and paleontological survey reports.

SELECT PROJECT EXPERIENCE

Senior Paleontologist/Project Manager, County of San Luis Obispo - San Luis Obispo County Paso Basin Land Use Management Area Planting Ordinance Program Environmental Impact Report, San Luis Obispo County
Ms. DiCenzo was responsible for overseeing the paleontological study for incorporation into the Program Environmental Impact Report for this project. The study consisted of reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and recommending measures to mitigate impacts to fossil resources.

Senior Paleontologist, City of San Luis Obispo Utilities Department – Water Resource Recovery Facility Project, San Luis Obispo County
Ms. DiCenzo was responsible for providing oversight and coordination of paleontological fieldwork for this ongoing mass excavation into Quaternary older alluvial deposits.

Senior Paleontologist/Project Manager, City of Port Hueneme – Bubbling Springs Routine Maintenance Agreement Project, Ventura County
Ms. DiCenzo oversaw preparation of the paleontological resources section of the Initial Study-Negative Declaration for the project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and providing measures to mitigate impacts to fossil resources.

Senior Paleontologist/Project Manager, Santa Clarita Valley Water Agency – South Wells PFAS Groundwater Treatment Facility Project, Ventura County
Ms. DiCenzo oversaw preparation of the paleontological resources section for the Initial Study-Mitigated Negative Declaration for this project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity ratings and providing measures to mitigate impacts to fossil resources during construction.

SELECT PROJECT EXPERIENCE (CONTINUED)

Principal Investigator/Project Manager, Casitas Municipal Water District – Ventura-Santa Barbara Intertie Project, Ventura County
Ms. DiCenzo is responsible for managing paleontological consulting, monitoring, and reporting for several ongoing projects related the Ventura-Santa Barbara Intertie Project. Ms. DiCenzo supervises and coordinates paleontological field personnel and provides guidance related to handling of paleontological resource localities during excavations into multiple geologic units with a range of sensitivities.

Senior Paleontologist/Project Manager, Southern California Edison – Valle Substation Project, Ventura County
Ms. DiCenzo was responsible for providing oversight and coordination of all fieldwork and prepared a summary of findings for a paleontological survey of this proposed utility improvements project.

Senior Paleontologist, Southern California Edison – Valley South Subtransmission Line Project, Riverside County
Ms. DiCenzo was responsible for leading a crew of eight team members through 17 miles of a proposed linear transmission line alignment. All survey work was incorporated into the Proponent's Environmental Assessment (PEA) for Southern California Edison. This included proper Bureau of Land Management authorization and permitting to conduct surveying and a research design for field reconnaissance related to the PEA, Environmental Impact Statement/Environmental Impact Report documentation for the transmission line.

Paleontologist, California Department of Transportation District 8 – French Valley Parkway/Interstate 15 Project, Riverside County
Ms. DiCenzo was one of two paleontologists responsible for surveying, planning, construction mitigation monitoring, and writing the paleontological technical sections of the final survey and monitoring reports for excavations into the highly sensitive Pauba Formation in a complex area of the project requiring work on a busy freeway and city streets.

Project Manager/Senior Paleontologist, Greystar/City of San Diego – Sixth and Olive Project, San Diego County
Ms. DiCenzo was responsible for recovering 70 fossil specimens from nine localities for a mass excavation 70+ feet into San Diego Formation near Balboa Park in eastern Downtown San Diego. She drafted the budget, prepared the proposal, attended preconstruction meetings with the City of San Diego, provided record search and literature review results, then applied cross-trained archaeological and paleontological field and technical support during the project, provided project management/scheduling, salvaged fossil specimens, prepared fossil specimens in the laboratory, curated the fossil collection, and wrote the final paleontological monitoring report.

Project Manager/Paleontologist, City of San Diego – Courthouse Commons South Block Project, San Diego County
Ms. DiCenzo attended preconstruction meetings with City of San Diego and provided record search and literature review. Ms. DiCenzo provided paleontological technical expertise, monitoring, salvaging, and project management/scheduling for a mass excavation into very old paralic deposits.

Project Manager/Field Paleontologist/Report Author, City of San Diego – Ashley Falls Large Scale Storm Flow Storage Lid Project, San Diego County
Ms. DiCenzo estimated project budget and prepared proposal, performed preliminary record search and literature review of project area, attended the preconstruction meeting, delivered the Worker Environmental Awareness Program (WEAP) training, created a WEAP training tri-fold, scheduled monitoring personnel, monitored, and wrote the report for a storm flow drain in Rancho Santa Fe.

Project Manager/Field Paleontologist, United States General Services Administration – San Ysidro Land Port of Entry Phase 3 Project, San Diego County
Ms. DiCenzo scheduled personnel and delivered WEAP training for a re-routing, re-aligning, widening, and expansion of the inspection areas and parking facility at Mexico's El Chaparral facility at the United States/Mexico border at San Ysidro.

EDUCATION

PhD, Earth Science, University of California, Santa Barbara (2021)

Certificate in College and University Teaching, University of California, Santa Barbara (2021)

BA, Biology &
BA, Evolutionary Biology, summa cum laude, Case Western Reserve University, Cleveland, Ohio (2016)

YEARS OF EXPERIENCE

1

Andrew J. McGrath, PhD

Paleontologist/Assistant Project Manager

Dr. McGrath has nine years of paleontological research experience, including fieldwork in California and Bolivia, presentations at research conferences, and four first-author publications.

Dr. McGrath earned a PhD in Earth Science in 2021 from the University of California, Santa Barbara. In his dissertation, Dr. McGrath described South American native ungulate and rodent fossils and analyzed their phylogeny, biochronology, and locomotor ecology.

Since joining Rincon in July 2021, Dr. McGrath has conducted paleontological monitoring, paleontological field surveys, and desktop analyses, and prepared technical documents (e.g., environmental impact reports, initial studies, construction compliance monitoring reports, and paleontological mitigation plans).

SELECT PROJECT EXPERIENCE

Paleontologist, State Route 46 Corridor Improvement Project (Cholame Section) – Caltrans, San Luis Obispo County, California (2022-present)

The State Route (SR) 46 Corridor Improvement Project (Cholame Section) involves the construction of a new alignment for SR 46 near Cholame, California. Dr. McGrath was the primary author of the project's Paleontological Mitigation Plan and conducted paleontological construction monitoring to ensure environmental compliance.

Paleontologist, California High Speed Rail – CP1D North Extension Project, Madera County, California (2022-present)

The CP1D North Extension project involves the construction of part of California's high-speed rail system. Dr. McGrath was responsible for scheduling paleontological and archaeological monitors, reaching out to Native American tribes for cultural resource monitoring and surveying, and drafting monthly monitoring reports.

Paleontologist, Blythe Mesa Solar, LLC – Blythe Mesa Solar II Project, Blythe, Riverside County, California (2021-2022)

The Blythe Mesa Solar II project involved the construction of several large solar photovoltaic arrays. Dr. McGrath was responsible for scheduling paleontological monitors, cataloging fossil discoveries, and ensuring environmental compliance for paleontological monitoring on private and federal lands. Dr. McGrath also drafted monitoring reports which summarized the monitoring efforts on federal and non-federal lands.

Paleontologist, Southern California Edison Company – Cal City Substation 115 kV Upgrade Project, Kern and San Bernardino Counties, California (2021-2022)

The Cal City Substation 115 kV Upgrade project analyzed several proposed routes for new and upgraded utility lines near California City, California. Dr. McGrath assisted in the field survey and was the primary author of the resulting Paleontological Resources Technical Report.

OTHER PROJECT EXPERIENCE

Paleontological/Cultural Resource Monitor Scheduling and Support

- East and West Ojai Avenue Pipeline Replacement Project (Ventura Co.)

Paleontological Mitigation Programs

- Campus Pointe Phase Mitigation Compliance Project (San Diego Co.)
- Lugo-Victorville Remedial Action Scheme Project (San Bernardino Co. and BLM)
- Coptic Orthodox Church Project (San Bernardino Co.)
- Lake Mathews Valve Storage Project (Riverside Co.)
- Country Club Well Mitigation Project (Santa Cruz Co.)

Environmental Review Documents

- Heritage Ranch Water Resources Recovery Facility Project (Paleontological Resources Analysis) (San Luis Obispo Co.)
- California City Cannabis Cultivation Project (Initial Study) (Kern Co.)
- City of Pleasant Hill Housing Element Update (Initial Study) (Contra Costa Co.)
- Chowchilla High School Sports Complex Project (Initial Study) (Madera Co.)
- El Camino Real Affordable Housing Project (Initial Study) (Santa Clara Co.)
- City of American Canyon General Plan Update (Environmental Impact Report) (Napa Co.)
- Ukiah General Plan Update (Environmental Impact Report) (Mendocino Co.)
- Moss Landing Wastewater Treatment Facility (Paleontological Resource Analysis-CEQA Plus) (Monterey Co.)
- Town of Moraga Comprehensive Advanced Planning Initiative (Environmental Impact Report) (Contra Costa Co.)
- Slover/Banana Warehouse Project (Initial Study) (San Bernardino County)
- Watson Lane Annexation Project (Environmental Impact Report) (Napa Co.)
- Valor Elementary School Project (Initial Study) (Los Angeles Co.)
- Washington Street Sewer Bypass Project (Paleontological Resources Analysis-CEQA Plus) (Monterey Co.)
- Ventura-Santa Barbara Counties Intertie Project (Initial Study) (Ventura & Santa Barbara Cos.)
- 32051 Coast Highway Project (Paleontological Resources Analysis) (Orange Co.)
- Los Altos Housing Element Update (Initial Study) (Santa Clara Co.)
- San Ramon Housing Element Update (Initial Study) (Contra Costa Co.)
- 101 N Fremont St Hotel Project (Environmental Impact Report (Monterey Co.)
- Coastal Rail Trail, Segments 8-9 Project (Environmental Impact Report (Santa Cruz Co.)
- Laguna Rd HDPE Pipeline Project (Initial Study) (Ventura Co.)
- Overland Drive Widening Project (Initial Study) (Riverside Co.)
- Bell Oasis Apartments Project (Initial Study) (Orange Co.)
- Ausonio Apartments Project (Environmental Impact Report) (Monterey Co.)
- Fontana-Foothill Apartments Project (Initial Study) (San Bernardino Co.)
- 150 Vista del Sol Project (Paleontological Resources Analysis) (Orange Co.)
- 1290 Embarcadero Rd Battery Energy Storage System Project (Paleontological Resources Analysis) (San Luis Obispo Co.)
- 660 University Mixed Use Project (Environmental Impact Report) (Santa Clara Co.)
- Berkeley Housing Element Update (Environmental Impact Report) (Alameda Co.)

- Orinda Downtown Precise Plan (Environmental Impact Report) (Contra Costa Co.)
- Del Valle Substation Project (Add. to Paleontological Resources Analysis) (Los Angeles & Ventura Cos.)
- Slover and Cherry Logistics Facility Project (Initial Study) (San Bernardino Co.)
- Phase 2 Foster Park Fish Passage Improvement (Initial Study) (Ventura Co.)
- Charolais Ranch Subdivision Project (Environmental Impact Report) (Monterey Co.)
- Lugo-Victorville Remedial Action Scheme Project (Add. to Paleontological Resource Analysis) (San Bernardino Co.)
- Mesa Tanks Replacement Project (Initial Study) (Ventura Co.)
- Rohnert Park 2040 General Plan Update (Environmental Impact Report) (Sonoma Co.)
- City of Millbrae General Plan Update and Specific Plan Update (Environmental Impact Report) (San Mateo Co.)
- Lee Subdivision Project (Environmental Impact Report) (San Benito Co.)
- Trinity County General Plan Update (Background Report) (Trinity Co.)
- SoCalGas Pipeline Safety Enhancement Program (Draft Environmental Reports) (various)
- 1265 Montecito Avenue Residential Project (Initial Study) (Santa Clara Co.)
- 200 Portage Road Condominium Project (Environmental Impact Report) (Santa Clara Co.)
- Coarsegold Water Treatment – Cultural Study (Paleontological Resources Assessment) (Fresno Co.)
- 325 Hampshire Road Project (Environmental Impact Report) (Ventura Co.)
- 2022 Tulare County RTP/SCS Project (Environmental Impact Report) (Tulare Co.)
- City of Piedmont Housing Element Update (Environmental Impact Report) (Alameda Co.)
- Key Energy Storage Project (Paleontological Resources Assessment) (Fresno Co.)
- James Irrigation District Solar Project (Initial Study) (Fresno Co.)
- South Livermore Sewer Expansion Project (Initial Study) (Alameda Co.)
- Cornfield Arroyo Seco Specific Plan Update (Environmental Impact Report) (Los Angeles Co.)
- San Pablo Dam Road Self-Storage Project (Initial Study) (Contra Costa Co.)
- Bubbling Springs Natural Channel Vegetation Removal Project (Initial Study) (Ventura Co.)

Paleontological Surveying

- Del Valle Substation Project (Field Survey) (Los Angeles & Ventura Cos.)
- Cal City Substation 115 kV Upgrade Project (Field Survey) (Kern & San Bernardino Cos.)

Paleontological Monitoring

- Blythe Mesa Solar II Project (Riverside Co. and BLM)
- West Ojai Pipeline Replacement Project (Ventura Co.)
- Running Ridge Pipeline Replacement Project (Ventura Co.)
- Grand Ave and Lion St Pipeline Replacement Project (Ventura Co.)
- Bluffs at Ridgemark Environmental Compliance Project (San Benito Co.)

RESEARCH EXPERIENCE

PhD Dissertation (Sept. 2016 – present)

- Phylogenetic analysis of proterotheriid litoptern mammals and description of Miocene Chilean litoptern fossils
- Description of Miocene Bolivian litopterns and diversity and body size analysis of litopterns through Cenozoic
- Relationships of Miocene Patagonian rodent communities and description of Miocene Chilean rodent fossils
- Locomotory structure of Miocene South American native ungulate community analysis of tarsal bones

Field Volunteer, Santa Barbara Museum of Natural History (Aug. 2018)

Excavation of fossil sea cow from Santa Rosa Island (CA) team of volunteers, museum staff, and Channel Islands National Park staff led by Dr. Jonathan Hoffman

Undergraduate Researcher, Case Western Reserve University (2012 – 2016)

- Projects:
  - Dietary reconstruction of Miocene notoungulate mammals using low-magnification enamel microwear
  - Description of Miocene Bolivian macraucheniid litopterns and comparative analysis of body mass estimation methods
- Fieldwork:
  - May 2015 and 2016: Quebrada Honda, Bolivia. Collection of paleosol, paleomagnetic, and palynological samples and vertebrate fossils. Fossil curation.

PUBLICATIONS

McGrath, A.J., Chick, J., Croft, D.A., Dodson, H.E., Flynn, J.J., & Wyss, A.R. 2022. Cavioids, chinchilloids, and erethizontoids (Hystricognathi, Rodentia, Mammalia) of the early Miocene Pampa Castillo Fauna, Chile. *American Museum Novitates*, 3984: 1–46.

McGrath, A.J., Anaya, F., & Croft, D.A. 2020. New proterotheriids (Litopterna, Mammalia) from the middle Miocene of Quebrada Honda, Bolivia, and trends in diversity and body size of proterotheriid and macraucheniid litopterns. *Ameghiniana*, 57(2): 159–188.

McGrath, A.J., Flynn, J.J., & Wyss, A.R. 2020. Proterotheriids and macraucheniids (Litopterna: Mammalia) from the Pampa Castillo fauna, Chile (early Miocene, Santacrucian SALMA) and a new phylogeny of Proterotheriidae. *Journal of Systematic Palaeontology,* 18(9), 717–738.

McGrath, A.J., Anaya, F., & Croft, D.A. 2018. Two new macraucheniids (Mammalia: Litopterna) from the late middle Miocene (Laventan South American Land Mammal Age) of Quebrada Honda, Bolivia. *Journal of Vertebrate Paleontology*, 38(3), e1461632.