

Addendum to the

MORRO BAY WATER RECLAMATION FACILITY PROJECT

Environmental Impact Report (State Clearinghouse No. 2016081027)

Prepared for:
City of Morro Bay
595 Harbor Street
Morro Bay, CA 93442

August 8, 2019



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MORRO BAY WATER RECLAMATION FACILITY PROJECT

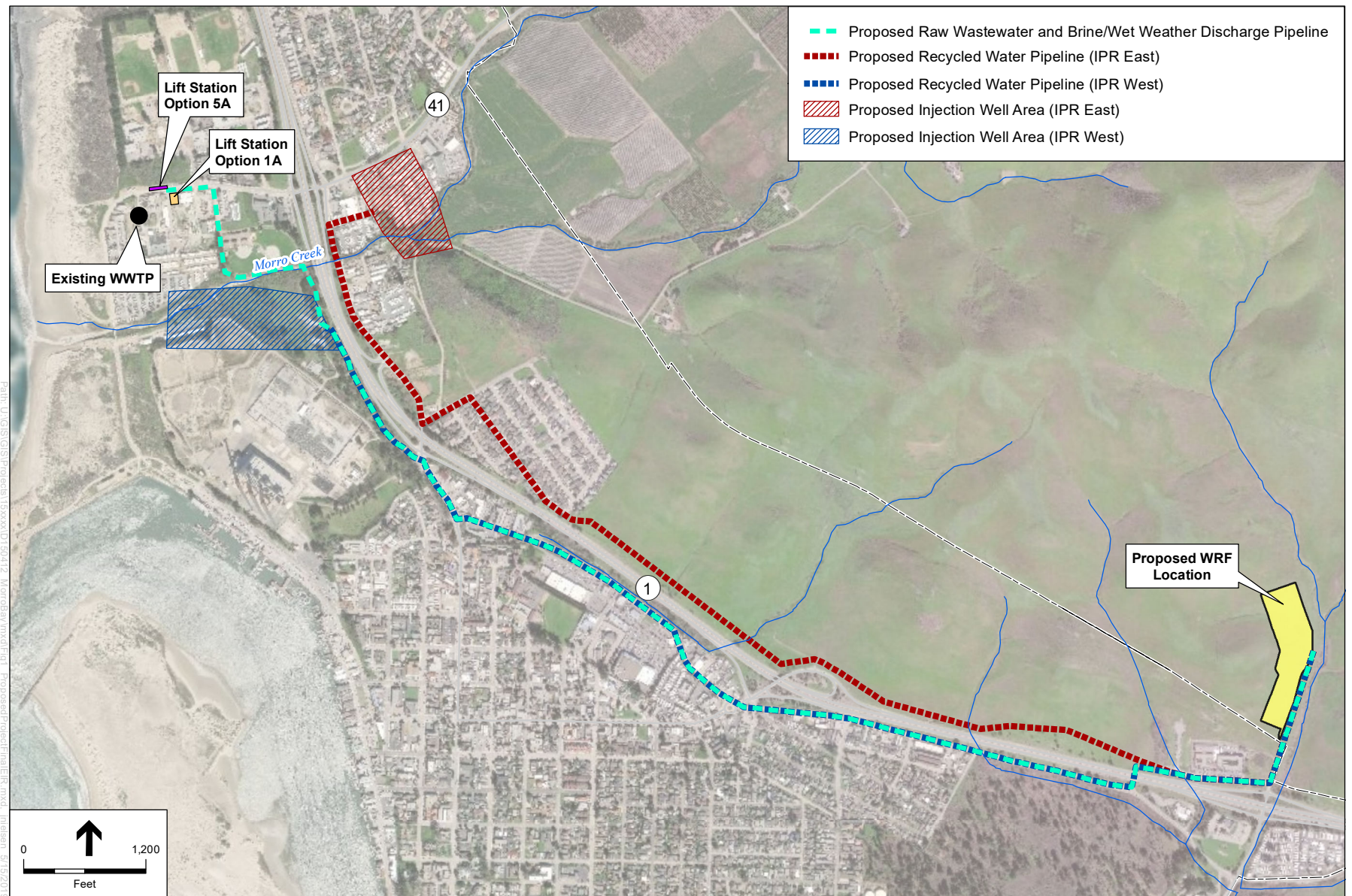
Final Environmental Impact Report Addendum

1.0 Introduction

The City of Morro Bay (City) is proposing to implement the Morro Bay Water Reclamation Facility Project (SCH 2016081027) (proposed project) to construct a water reclamation facility (WRF) that would provide wastewater treatment services for the City. The existing facility, the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP), would be replaced by the proposed project and eventually decommissioned and demolished. The proposed project is intended to provide opportunities for the City to produce and beneficially reuse advanced treated recycled water and to meet or exceed all wastewater treatment requirements of the State Water Resources Control Board (SWRCB). In addition to the WRF, other facilities would include an administration, operations, and maintenance buildings; additions to the collection system, including one or more lift stations and pipelines to convey raw/treated water/wastewater flows to/from the WRF; and a new distribution system to convey advanced treated recycled water from the WRF to new groundwater injection wells in the Morro Valley Groundwater Basin. In August 2018, the City certified the Final EIR for the project described above (**Figure 1**). Subsequent to the certification of the EIR, minor modifications to the project were identified to avoid impacts to sensitive resources, improve reliability, and reduce the financial impacts to the City's ratepayers.

This Addendum identifies minor modifications to the existing project which includes the rerouting of conveyance pipeline alignments, addition of a new lift station, rehabilitation of the existing ocean outfall, and identification of potential construction laydown sites (**Figure 2**). The minor modifications to the project are further defined below:

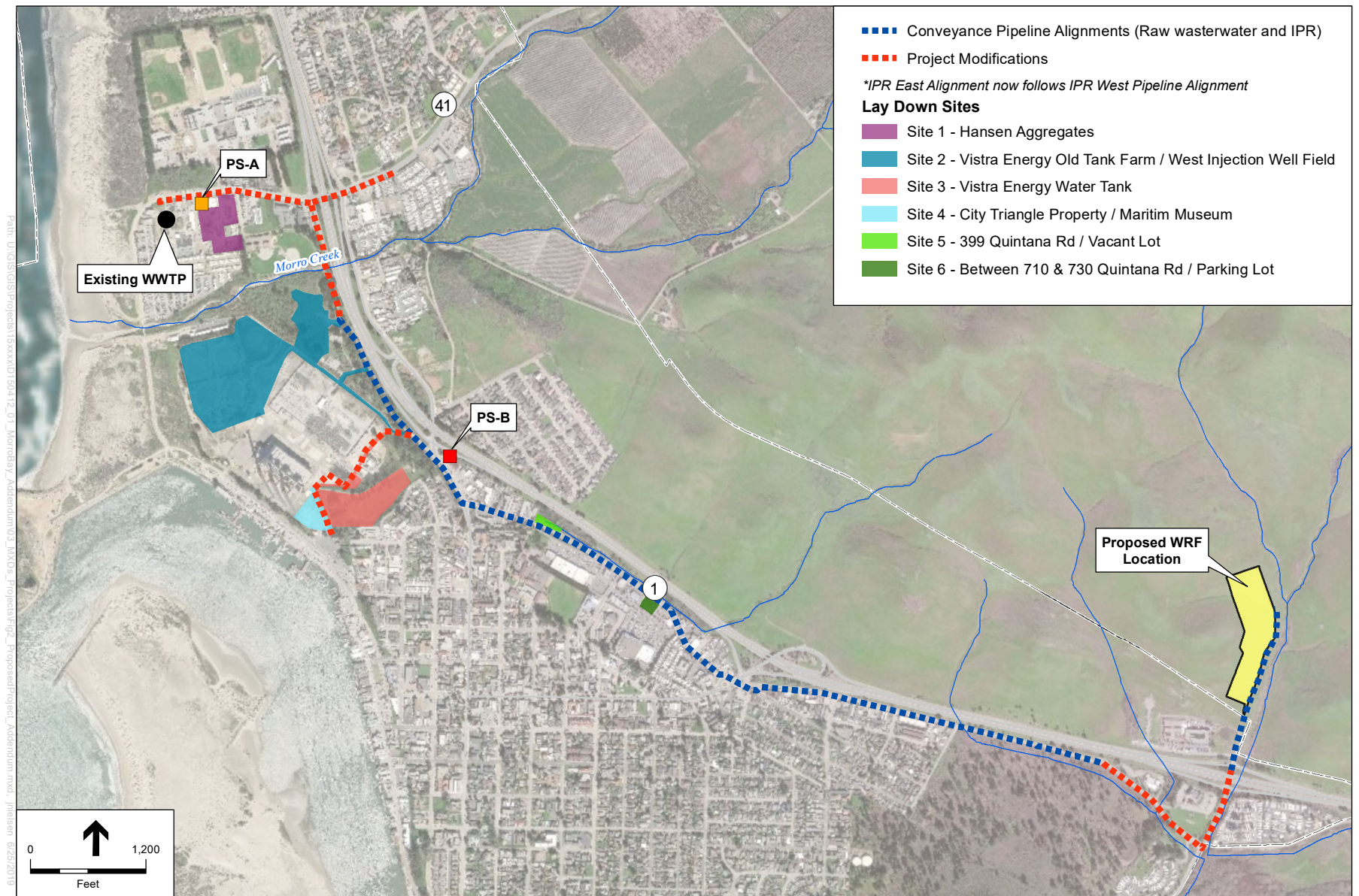
- Northern Alignment Modifications
 - Re-routing the northern end of the conveyance pipeline's alignment to lift station (PS-A). The new alignment would continue north along Highway 1 and would then travel west along Atascadero Road rather than turn west at Lila Keiser Park. The new alignment would completely avoid Lila Keiser Park. This would avoid Native American burial sites previously identified in the Final EIR.
 - Re-routing the East indirect potable reuse (IPR) Recycled Water Pipeline alignment to follow the West IPR pipeline alignment. The alignment would now be on the west side of Highway 1. Re-routing the northern end of the recycled water pipeline to the East IPR wellfield. The pipeline would now be along Highway 41 instead of Errol Street. The pipeline would be constructed within Highway 41/Atascadero and would travel under Highway 1; this crossing was not included previously in the Final EIR.



Morro Bay Water Reclamation Facility Project. 150412

Figure 1

Proposed Project from Final EIR



SOURCE: ESRI 2016

Morro Bay Water Reclamation Facility Project. 150412

Figure 2
Project Modifications

- Constructing a forcemain between existing lift station (LS-2) and PS-B (described below). LS-2 is one of the City's three existing lift stations located on the Embarcadero at Front Street near the Morro Bay Maritime Museum.
- Southern Alignment Modifications
 - Re-routing the southern end of the conveyance pipeline as it leaves the proposed WRF. The pipeline alignment modification would stay within South Bay Boulevard headed southwest under Highway 1, turning at the corner of Quintana Road rather than traveling north on Teresa Road as analyzed in the Final EIR. This new alignment avoids having to tunnel under Highway 1 and avoids crossing one jurisdictional feature, and avoiding utility conflicts in Teresa Road.
- The project modification would include a new lift station (PS-B) along the pipeline route. The lift station would be at the corner of Main Street, Quintana Road, and Highway 1, on a site owned by the City. It is currently a paved lot adjacent to a pet food store that is owned by the City. This project modification would allow for PS-A, which was included in the previous Final EIR, to be reduced in size/footprint, which would reduce the size of the facilities in the coastal flood hazard zone. Through the development of the detailed design for the lift station and pipelines, a second lift station was determined to be more cost and energy efficient.
- Utilizing new laydown areas for materials and equipment during construction (see Figure 2).
- Over nearly 40 years of operation, significant quantities of sediment have accumulated in the outfall. This project modification includes removal of approximately 30 cubic yards of accumulated sediment that was identified in the Morro Bay Outfall Inspection (Ballard Diving & Salvage, 2011). Following removal of the sediment, duckbill-style check valves will be installed on 28 of the 34 diffusers. The City is making a significant capital investment in the construction of a new WRF. Rehabilitation of the outfall will reduce the vulnerability of the City's overall wastewater treatment system and protect the City's new investment.

To comply with the California Environmental Quality Act (CEQA) (Public Resources Code Sections 21000 et seq.) and *State CEQA Guidelines* (California Code of Regulations Sections 15000 et seq., hereinafter referred to as *Guidelines*), this Addendum to the Final EIR has been prepared to evaluate the environmental impacts associated with the proposed modification.

2.0 Project Background

The U.S. Environmental Protection Agency (USEPA) and the SWRCB regulate municipal wastewater discharges into the Pacific Ocean through National Pollutant Discharge Elimination System (NPDES) Permits in accordance with Section 402 of the federal Clean Water Act. USEPA or the SWRCB issue (or reissue) NPDES permits to wastewater dischargers every five years. The existing WWTP serves the City and the community of Cayucos, and is owned and operated jointly by the City and the Cayucos Sanitary District (CSD). Prior to the current 2017 NPDES Permit No. CA0047881 and Waste Discharge Requirements (WDR) Order No R3-2017-0050, the WWTP discharged to the Pacific Ocean under NPDES Permit No. CA0047881 and WDR Order No. R3-2008-0065, which was a Clean Water Act Section 301(h) modified NPDES permit that waived full secondary treatment requirements for biochemical oxygen demand (BOD) and total suspended solids (TSS). The existing WWTP has operated under that modified permit since its last upgrade in 1984. On July 7, 2003, the City submitted an application for renewal of the NPDES permit to USEPA and Central Coast Regional Water Quality Control Board (RWQCB) which expired in March 2014. The final renewed discharge permit was adopted by the

RWQCB on December 7, 2017. The 301(h) modifications were no longer included in the 2017 renewal. A time schedule order was provided to the City by RWQCB on June 27, 2018 for compliance with full secondary treatment requirements. The time schedule orders require the City to comply with the biochemical oxygen demand (BOD) and total suspended solids (TSS) limits as identified in NPDES Permit No. R3-2017-0050.

Based on an agreement with the RWQCB, the City and CSD had previously pursued bringing the existing facility to full secondary treatment in place of continued requests for a 301(h) modified discharge permit. The agreement allowed the City and CSD to pursue secondary treatment on a schedule that was mutually agreed upon by both agencies and the RWQCB. In February 2015, the RWQCB stated the new facility was expected to be fully operational by 2021 in order to meet its goals.

The existing WWTP is located in the Coastal Zone; as such, in order to upgrade the existing WWTP at its existing location, a Coastal Development Permit (CDP) is required from the California Coastal Commission (CCC). However, in January 2013, the CCC denied the City and CSD's project application for the CDP to demolish the existing WWTP and construct a new treatment facility on the same site. The basis for that denial included the CCC's assessment the new facilities would be inconsistent with the City's Local Coastal Plan (LCP) zoning provisions, failed to avoid coastal hazards, failed to include a sizeable reclaimed water component, and that the project location was within an LCP-designated sensitive view area.

Following this denial, the City began planning a new WRF and pursuing alternative locations for a new upgraded wastewater treatment plant. The City realized that an alternative location presented an opportunity to design and construct a WRF to enhance the City's water supply portfolio through the production of recycled water. From 2013 to the beginning of 2014, the community defined goals to guide the planning and design process for the new WRF. Public outreach was conducted through stakeholder meetings, stakeholder interviews, and public workshops which gathered input related to cost, environmental concerns, engineering and design issues, site-related issues, and logistics and process issues. Through that public outreach program, criteria were determined for the siting process, and various studies were conducted to examine the suitability of each site. Some of the criteria included, but were not limited to, compliance with NPDES Permit requirements, distance to the City sewer collection system, avoidance of coastal hazards, minimal visual impacts, and sustainable use of public resources. In order to ensure public involvement during this process, a WRF Citizens Advisory Committee (WRFCAC) was created in July 2014 to help oversee and evaluate the siting process.

Five comparative siting studies were performed between 2013 and 2017. Starting with the results of the Rough Screening Evaluation, 17 study sites were first examined for the potential location of the WRF. By December 2013, it was narrowed down to seven study sites (Chevron, Morro Valley, Chorro Valley, California Men's Colony (CMC) Wastewater Treatment Plant site, Power plant – southern portion, Panorama, and Giannini), which ranged in size and number of properties included in each. Finally, the City Council narrowed the sites down to focus on the Morro Valley, Chorro Valley, and Giannini Property in May 2014. Within those three general areas, there were four specific locations: Rancho Colina and Righetti (both in Morro Valley), Tri-W (now called the "South Bay Boulevard" site, in Chorro Valley) and Giannini. It should be noted there was also

a feasibility analysis performed for a regional facility at the CMC site that could serve the needs of the City and partner agencies; however, it concluded not to be feasible. In April 2016, after direction to investigate other potential sites, the list of potential sites was revised to include Rancho Colina, Righetti, Tri-W, Chevron/Toro Creek, and Madonna. After the 2016 comparative study was completed, the Tri-W site, which became known as the South Bay Boulevard site, was found to be the final site preference, and preliminary planning efforts began at that location based on City Council direction at that time. The CCC supports the proposed new treatment plant location and has been supportive in the concept of working with the City and, as needed, San Luis Obispo County (County), on a CDP for a WRF at that location.

In April 2015, the CSD decided to pursue an independent path from the City to build its own new wastewater facility, and unilaterally adopted a resolution to that effect on April 30, 2015. From that point forward, the City's efforts have been focused on finding a suitable site to build a WRF to serve only its customers, exclusive of CSD customers. Thus, current plans are for the City and CSD to build separate treatment facilities and, once both are operational, decommission the jointly-owned WWTP. The City has welcomed CSD to continue to participate in a joint venture since that time. CSD has consistently indicated it has no further interest in that approach, and, in fact, has found a site and made plans for a facility at a different location that would address its long-range wastewater disposal needs.

3.0 Project Objectives

The Morro Bay City Council refined and adopted the project objectives for the proposed project on October 24, 2017. The primary goals of the proposed project have not changed. The following refined objectives reflect the input of the community and stakeholders since issuance of the Notice of Preparation (NOP) in 2016, demonstrating the purpose and value of the CEQA scoping process:

- All aspects of the WRF project shall be completed ensuring economic value with a special emphasis on minimizing rate payer and City expense
- Communicate WRF project progress including general project status, milestones, and budget/cost information to our community members regularly
- Produce tertiary disinfected wastewater in accordance with 22 California Code of Regulations (CCR) 60001, *et seq.* requirements for unrestricted urban irrigation
- Design to produce reclaimed wastewater to augment the City's water supply, by either direct or indirect means, as described in a master water reclamation plan and to maximize funding opportunities
- Include features in the WRF project to maximize the City's opportunities to secure funding and maximize efficiencies, including energy generation and recovery.
- Design to minimize the impacts from contaminants of emerging concern in the future
- Ensure compatibility with neighboring land uses

4.0 Purpose of Addendum

Under CEQA, the lead agency or a responsible agency shall prepare an addendum to a previously-certified Final EIR if some changes or additions are necessary to the prior EIR, but

none of the conditions calling for preparation of a subsequent or supplemental EIR have occurred (*CEQA Guidelines Sections 15162, 15164*). Once an EIR has been certified, a subsequent EIR is only required when the lead agency or responsible agency determines that one of the following conditions has been met:

1. Substantial changes are proposed in the project, or substantial changes occur with respect to the circumstances under which the project is undertaken, which require major revisions of the previous EIR due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects (*CEQA Guidelines Section 15162(a)(1), (2)*);
2. New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete, shows any of the following:
 - a. The project will have one or more significant effects not discussed in the previous EIR;
 - b. Significant effects previously examined will be substantially more severe than shown in the previous EIR;
 - c. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measure or alternative; or
 - d. Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the project proponents decline to adopt the mitigation measure or alternative (*CEQA Guidelines Section 15162(a)(3)*).

If one or more of the conditions described above for a subsequent EIR exist, but only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation, then the lead agency may prepare a supplement to an EIR, rather than a subsequent EIR (*CEQA Guidelines Section 15163(a)*).

CEQA recommends that a brief explanation of the decision to prepare an addendum rather than a subsequent or supplemental EIR be included in the record (*CEQA Guidelines Section 15164(e)*). The City has evaluated the potential environmental impacts of the proposed modifications as set forth below in Section 6 of this Addendum. The City, acting as the Lead Agency, has determined that none of the above CEQA conditions apply and that Addendum to the adopted Final EIR is the appropriate environmental documentation for the proposed modifications and fully complies with CEQA, as described in the *CEQA Guidelines*.

An addendum does not need to be circulated for public review, but rather can be attached to the Final EIR (*CEQA Guidelines Section 15164(c)*). Prior to initiating the modified project, the City will consider this Addendum together with the adopted Final EIR and make a decision regarding the modified project (*CEQA Guidelines Section 15164(d)*).

5.0 Proposed Modifications

5.1 Description of Modification to the Conveyance Alignment

The proposed conveyance pipelines analyzed in the Final EIR included a forcemain to convey raw wastewater from the existing collection system and pump station to the WRF site, a recycled water pipeline to convey treated water from the WRF to injection wells, and a waste discharge pipeline to convey brine or treated wet weather flows to the ocean outfall.

The conveyance pipeline analyzed in the Final EIR starts from the proposed pump station and travels east along Atascadero Road. The pipeline alignment then travels south along J Street and east around the perimeter of Lila Keiser Park, before following an existing parkway/bike path across Morro Creek. It continues southeast along the Main Street right-of-way until it joins and follows Quintana Road. Continuing in a southeast direction on Quintana Road, the pipeline passes through street crossings of Kennedy Way, Morro Bay Boulevard then Kings Avenue, Bella Vista Drive, and La Loma Avenue. The alignment would eventually cross under Highway 1 west of the South Bay Boulevard interchange and continues along Teresa Road to South Bay Boulevard, where it heads north towards the proposed WRF site (see Figure 1).

Northern Alignment Modifications

As stated above, three pipeline alignments in the northern portion of the project area are proposed to be modified, the raw wastewater pipeline, the recycled water pipeline to the East IPR injection wellfield, and a new forcemain replacement.

The purpose of modifying the raw wastewater pipeline alignment is to avoid sensitive resources. The proposed modification would avoid significant impacts to cultural resources. The northern end of the raw wastewater pipeline would deviate from the original alignment, now being routed from PS-A staying within the California Department of Transportations (CalTrans) right-of-way along Highway 1 and then heading down Atascadero Road to PS-A. This modified route would avoid potential impacts to Lila Keiser Park and previously identified Native American burial sites (see Figure 2).

Additionally, instead of constructing the recycled water pipeline along the east side of Highway 1 as analyzed in the Final EIR, the pipeline would now be on the west side of Highway 1, travel along the same alignment as the West IPR pipeline. The pipeline would then travel under Highway 1 near Highway within 41/Atascadero Road to the East IPR well injection field (see Figure 2). This alignment crossing was not proposed in the original Final EIR.

The proposed modification would include a new forcemain between LS-2 and PS-B. The capacity of the existing forcemain between LS-2 and the West IPR alignment would not be able to accommodate the future flows of the project. A larger forcemain would be needed to get flows from LS-2 to the new lift station PS-B adjacent to the West IPR alignment. The modification would include the abandonment of an approximately 1,163-foot portion of the existing 8-inch forcemain in place and the installation of approximately 1,910 feet of 12 to 14-inch diameter new forcemain to the southeast. The new alignment would run within the Pacific Gas and Electric

(PGE) property along the fence line (no impacts to PGE infrastructure), divert around the existing drainage area, and would connect with the remaining portion of the LS-2 forcemain within a paved road (see Figure 2).

Southern Alignment Modification

The conveyance pipeline leaving the WRF would now travel along South Bay Boulevard and under Highway 1, turning at the corner of Quintana Road rather than traveling up Teresa Road and eventually crossing Highway 1. This modification in the pipeline alignment would avoid having to tunnel under Highway 1 and crossing jurisdictional wetlands (see Figure 2).

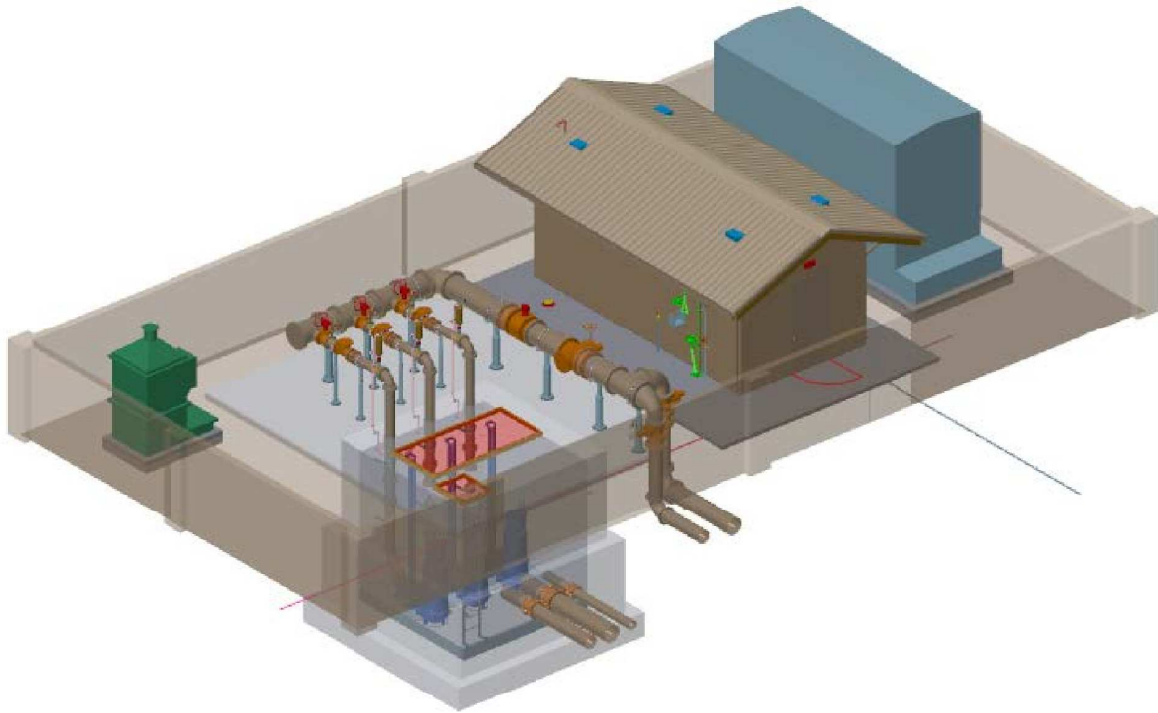
5.2 Description of Proposed New Pumping Station B

The proposed modification includes the addition of a new lift station to the proposed project. PS-B would be located at the corner of Main Street and Highway 1, on a property owned by the City. It is currently a paved lot adjacent to a pet food store. Similar to PS-A, PS-B would include a 2,600-square foot concrete masonry unit (CMU) building to house the electrical equipment needed to support the lift station. The electrical building will have a total height of 15 feet above existing grade. The lift station would include a CMU perimeter wall to prevent unauthorized individuals from accessing the approximately 8,600-square foot site (**Figure 3**). PS-B would require a total of three 250-hp pumps.

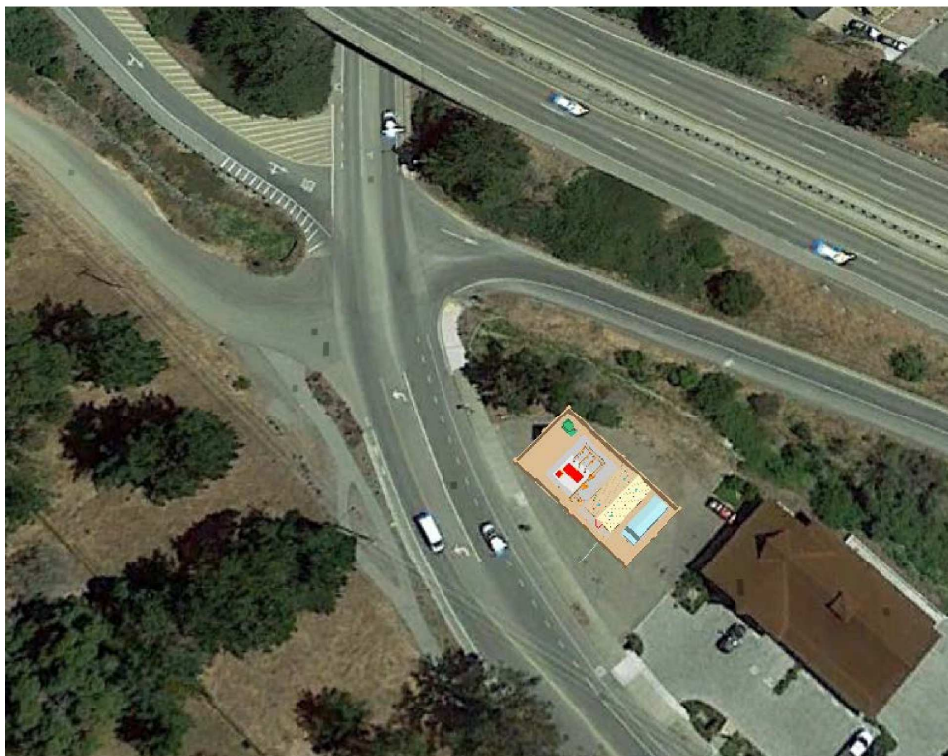
This project modification would allow for PS-A, which was included in the Final EIR, to be reduced in size/footprint. As included in the Final EIR, a single pump station would require two sets of pumps, one set of pumps would handle low flows and one set of larger pumps would handle high flows. With a single pump station, a total of eight pumps would be required including two 60-hp and size 250-hp resulting in a total connected load of 1,620 hp. With the addition of PS-B, PS-A would only require three 60-hp pumps. The result of adding PS-B is a reduction in the net connected load for project of 690 hp compared to the single pump station alternative included in the Final EIR.

The area required for PS-A would be reduced to only 5,600 square feet and would include a 2,100-square foot CMU electrical building with a height of approximately 16 feet above existing grade. By reducing the footprint of PS-A, the project would reduce the impacts of having a facility in the coastal flood hazard zone.

The benefit of multiple lift stations was identified as a result of ongoing detailed design of the pipeline and lift stations being progressed and was not known at the time of preparation of the Final EIR.



PS-B 3-D Rendering



5.3 Description of Outfall Rehabilitation Activities

The proposed modifications include cleaning and installation of new valves on 28 of the outfall's 34 diffusers. Outfall cleaning will consist of conducting an initial inspection to collect sediment samples to characterize the material and confirm the quantity of sediment in order to determine an appropriate method for removal. Based on information from the Morro Bay Outfall Inspection (Ballard Diving & Salvage, 2011), approximately 30 cubic yards of sediment will need to be removed from the outfall. Removing sediment will be accomplished by flushing/pumping water through the outfall and into the diffuser section, removing the diffusers, and extracting the sediment through the existing diffuser ports.

The existing outfall includes a 170-foot diffuser section with a total of 34 diffusers. The existing diffusers consist of a 6-inch flanged steel pipe section welded to the main 27-inch diameter outfall pipe. Connected to the steel section is a Schedule 80 PVC short flanged section, 6-inch long radius 45-degree elbow, and 6-inch by 2-inch concentric reducer. To remove the sediment, the elbow and reducer will be removed and sediment will be pumped out of the diffuser ports into a barge. The sediment will be dried and then hauled to a landfill for disposal.

There is currently no way to keep sediment from entering the outfall through the diffuser ports. In order to keep sediment out of the outfall and maintain flow capacity, following cleaning the elbows will be reinstalled and the concentric reducers will be replaced with a new elastomeric duckbill-style check valve.

5.4 Description of Construction Laydown Locations

The modification would include new laydown areas for materials and equipment during construction. A total of six potential laydown locations adjacent to the project components have been identified (see Figure 2). The sites would all be located on disturbed lots or on previously paved lots. Once the construction phase is over the laydown areas would be returned to preconstruction conditions. Laydown areas were not described in the Final EIR since they could not have been known at that time. The laydown areas have only been identified since the preferred pipeline alignment was determined in January 2019.

6.0 Operation and Construction Characteristics

6.1 Operation Characteristics

Operation of the conveyance pipeline would not change as a result of alignment changes. Operational activities at PS-A and PS-B would be similar. The reduction in size of PS-A would not change the operational activities required to maintain the structure as stated in the Final EIR.

6.2 Construction Characteristics

Construction of the conveyance pipeline would not change as a result of alignment changes. Construction of PS-B would be similar to the construction of PS-A as analyzed in the Final EIR.

Construction of proposed conveyance pipelines would involve trenching using a conventional cut and cover technique. Pipeline would be installed within existing roadway rights-of-ways to the extent feasible.

The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition. Construction areas in roadways would be approximately 20 feet wide across one traffic lane. Open trenches would be approximately 10 to 15 feet wide. The construction corridor would be wide enough to accommodate the trench, staging areas, and vehicle access. Offsite construction staging areas would be confined to one or more of the six identified construction staging areas described previously for pipe lay-down, soil stockpiling, and equipment storage. On average 150 feet of pipeline would be installed per day.

Trenches would be backfilled at the end of each work day or temporarily closed by covering with steel trench plates. The construction equipment needed for pipeline installations generally includes: backhoes, excavators, dump trucks, shoring equipment, steam roller, and plate compactor. Typically, 15 to 20 workers would be required for pipeline installations. Excavated suitable soils would be reused as backfill and other disposed offsite.

The construction for the outfall rehabilitation will occur in two phases. The City will first contract with a diving company to visually inspect the outside of the outfall, measure pipe thickness and identify coating defects, and use a remotely operated vehicle (ROV) to video the inside of the outfall to both quantify and characterize the sediment that must be removed. The information from this initial inspection will be used to complete the design of the outfall rehabilitation.

The construction for the outfall rehabilitation construction, a dive company would mobilize a hopper barge at the end of the outfall approximately 4,000 feet offshore. The dive team would first remove the sediment from the diffuser section by pumping seawater into upstream diffuser ports and using a suction hose inserted into a downstream diffuser to remove the sediment and transfer it to the hopper barge. To remove the sediment in the upper reaches of the outfall beyond the diffuser section, the dive team would remove the blind flange from the end of the outfall and use a ROV to carry a suction hose past the diffuser section. The sediment would be removed by the suction hose and transferred to the hopper barge for disposal. Following cleaning, the elastomeric duckbill-style check valves would be installed in place of the existing concentric reducers, which would prevent future sediment from accumulating in the outfall.

Cleaning of the outfall and installation of the valves would be all done from offshore with no bypass of the outfall needed or disturbance of the dunes, beach, or surf zone. All sediment from inside the outfall would also be disposed of offsite and not discharged to the ocean.

Construction of the proposed modifications would occur during the weekdays, Monday through Friday, consistent with the City's Noise Ordinance requirements and Morro Bay Municipal Code Subdivisions 9.28.030. I., unless otherwise noted. Construction of the new facilities would involve the use of a variety of heavy construction machinery onsite. The majority of equipment and vehicles would be associated with earthwork and the structural and paving phases of construction. Large construction equipment such as backhoes, compactors, cranes, excavators,

haul trucks, pavers, and rollers would be used during the construction phase of the proposed modification and stored within the laydown areas when not in use.

7.0 Summary of Effects

Section 8.0 of this Addendum presents an analysis of 10 environmental categories: aesthetics, agriculture and forestry resources, air quality, biological resources, cultural resources, geology, soils, and seismicity, greenhouse gas and energy, hazards and hazardous materials, hydrology and water quality, noise and vibration, and traffic and transportation. The proposed modifications would result in minor changes but would not exceed thresholds identified in the certified Final EIR. The analysis provided in the certified EIR for all the other environmental topics would not change due to the proposed modifications. These topics include: land use, environmental justice, public services and utilities. The proposed modification would not conflict with zoning or disproportionately affect the health or environment of a minority or low-income populations. Further, the minor alignment changes would not alter the analysis or conclusions in the Final EIR for public service or utilities. Therefore, for all other environmental topics, no written analysis is provided in this Addendum.

It was determined in this Addendum that the proposed modifications would not change the conclusions of the Final EIR. The proposed modifications to the previously-approved project do not meet any of the conditions that would require the preparation of a negative declaration set forth in Section 15162 of the *Guidelines* or any of the conditions set forth in Section 15163 of the *Guidelines*.

8.0 Environmental Setting and Analysis

8.1 Aesthetics

The Final EIR (Chapter 3.1) concluded that potential impacts to aesthetics in the vicinity of the project area would be less than significant after mitigation. This section provides an analysis of the potential aesthetics impacts associated with the construction and operation of the proposed modifications.

8.1.1 Setting

The project area would be located in the Estero Planning Area in the County, which occupies a narrow strip along the coast north of the City and south of the unincorporated community of Los Osos. The Estero Planning Area is characterized by its natural setting including volcanic peaks, green valleys, coastal terraces, and hillsides (County of San Luis Obispo 2009).

The aesthetic and visual character of the project area is defined by the Pacific Ocean located west of the project area and the nearby communities of Cayucos to the north and Los Osos to the south, along with rolling hills of unincorporated areas of the County to the east.

Primary scenic resources within the City are Morro Rock, the Morro Bay Harbor, Morro Bay State Park, Atascadero/Morro Rock Beach, Highway 1, the Embarcadero area, Black Mountain, Morro Bay Golf Course, Morro Heights, the Downtown area, the electrical power plant, and Coleman Park (City of Morro Bay 1988; City of Morro Bay 2004a).

8.1.2 Summary of Potential Impact

The proposed modifications would require temporary ground disturbance within the project area similar to project components detailed in Chapter 3.1 of the Final EIR. The presence of construction equipment and materials would be potentially visible from public vantage points such as open space areas, sidewalks, and streets, but would not permanently affect designated scenic views or vistas. Given the short-term and temporary presence of construction equipment and materials, impacts to scenic vistas due to construction of proposed modifications would be less than significant. The forcemain and the northern and southern pipeline alignments would be potentially visible during construction but would be ultimately located underground within or along the public rights-of-way.

The proposed PS-B would be located on the corner of Main Street and Highway 1 adjacent to an existing building. The electrical building housed within PS-B would have a total height of approximately 15 feet above existing grade. The proposed lift station sites would not be prominently visible to motorists or pedestrians traveling southbound on scenic Highway 1 because it would be similar in height and mass as the neighboring structure and is partially screened by existing vegetation. In addition, Highway 1 at this location is elevated. The PS-B would not be taller than other neighboring existing building, and as such, would not have the scale or massing to obstruct views while traveling south on Highway 1 looking west, or to the distant hillsides and mountains when looking east. Therefore, PS-B would result in less than significant impacts to scenic vistas.

With the implementation of PS-B, PS-A would be reduced in size therein reducing the amount of construction in the Coastal Zone for the project. None of the newly proposed modifications would occur within Highway 1 and Highway 41 and would not have impacts to State Designated or Eligible Scenic Highways. While construction near these areas would create temporary visual impact they would not damage or alter scenic resources within a scenic highway or corridor for a permanent amount of time. The laydown areas, excavated areas, stockpiled soils and other materials generated during construction could present negative aesthetic elements to the existing visual landscape. However, those effects would be temporary and would not permanently affect the existing visual character of the surrounding area. Construction of the proposed project modifications would not require nighttime lighting, and would comply with all light and glare standards provided in the County of San Luis Obispo Local Coastal Plan and the City of Morro Bay Municipal Code.

The proposed outfall rehabilitation would occur offshore and would not impact any scenic vistas or highways. The rehabilitation would include a barge stationed offshore for the duration of the rehab. However, the barge would be similar to other vessels in and around the harbor. Once the rehabilitation is complete the barge would be removed. As a result, aesthetic impacts would be considered less than significant during construction and no impact would occur post-construction.

8.1.3 Applicable Mitigation Measures

All impacts of the proposed modifications would be less than significant and would not require any new mitigation measures.

8.1.4 Conclusion

The proposed modifications would not create additional significant aesthetic impacts beyond those described in the Final EIR, and would not substantially increase the severity of construction and operation impacts previously analyzed in the Final EIR. No mitigation is required beyond the existing commitments contained in the Mitigation Monitoring and Reporting Program (MMRP).

8.2 Agriculture and Forestry Resources

The Final EIR (Chapter 3.2) concluded that potential impacts to agriculture and forestry resources would be less than significant. This section provides an analysis of the potential agriculture and forestry resources impacts associated with the construction and operation of the proposed modifications.

8.2.1 Setting

The Morro and Chorro Valleys located within and adjacent to the City have been or are presently supporting some agricultural activity. The Morro Valley consists of gentle rolling hillsides north of Highway 41 where most of that area consists of rangeland with some farmland supporting avocado orchards. South of Highway 41, much of the flatland near Morro Creek is farmland where irrigated row crop production occurs (JFR Consulting 2013). The Chorro Valley contains substantial areas of agricultural use, however most of the area is grazing land. In fact, the Chorro Valley features gentle rolling hillsides north of Highway 1 where most of the area is rangeland.

8.2.2 Summary of Potential Impact

The pipeline alignment modifications would include installing the IPR East pipeline alignment along the same route as IPR West pipeline alignment. The alignment would also include a minor change on the southern portion leaving the WRF (see Figure 2). The modified pipeline alignment would travel south from the WRF along South Bay Boulevard and under Highway 1, turning at the corner of Quintana Road rather than traveling up Teresa Road and eventually crossing Highway 1. The IPR East pipeline would be installed within Farmland of Local Potential similar to the IPR West alignment. The proposed modification would not change the impact determination evaluated in the Final EIR (Chapter 3.2). Construction would temporarily impact the soils similar to what was analyzed in the Final EIR for the IPR West pipeline alignment (see Figure 3.2-1 of the Final EIR). Once constructed, the pipelines would be located underground and would not permanently convert land to non-agricultural use.

PS-B, the new forcemain and the Northern Alignment modifications would be constructed in areas designated as Urban and Built Up land and would not impact prime farmland or farmland of local or statewide importance. Implementation of the proposed modifications would not convert land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

The proposed outfall rehabilitation would occur offshore and would not impact agricultural resources.

Further, the proposed modifications would not be located within any land under a Williamson Act contract and as result, would not have impacts related to conflicts with the use of Williamson Act

contracted lands. In addition, the proposed modifications are not on lands zoned as forested land, timberland, or timberland production and would have no impact on the existing zoning or rezoning of these lands nor the conversion of forested land to non-forest use.

8.2.3 Applicable Mitigation Measures

All impacts of the proposed modifications would be less than significant and would not require any mitigation measures.

8.2.4 Conclusion

The proposed modifications would not create the loss of prime farmland or farmland of statewide or local importance nor would the modifications impact lands under a Williamson Act contract beyond those described in the Final EIR, and would not substantially increase the severity of construction and operation impacts previously analyzed in the Final EIR.

8.3 Air Quality

The Final EIR (Chapter 3.3) evaluated impacts to air quality from construction and operation of the project and concluded that impacts associated with air quality would be less than significant with mitigation. This section provides an analysis of the potential air quality impacts associated with the construction and operation of the proposed modifications.

8.3.1 Setting

The proposed modifications to the project analyzed in the Final EIR are all located within the same physical, environmental, and regulatory setting as that discussed in the Final EIR. Existing air quality in the area based on ambient air quality measurements of criteria air pollutants conducted at the Morro Bay station and the 3220 South Higuera Street station continue to show no exceedances of the state or national standards for ozone, particulate matter less than 10 microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), nitrogen dioxide (NO₂) or carbon monoxide (CO).

8.3.2 Summary of Potential Impact

Construction Impacts

The proposed modifications to the project would also generate short-term construction emissions. The proposed modifications to the pipeline alignment would not significantly change associated construction emissions as the length of the proposed pipeline alignment and construction methods used would be the same as that analyzed in the Final EIR. However, construction of PS-B would increase short-term emissions generated. Though the addition of PS-B would reduce the constructed area of PS-A, the analysis below conservatively includes only the increase in emissions from the construction of PS-B and not the reduction in emissions from constructing a smaller PS-A than what was analyzed in the Final EIR.

Though construction emissions are short-term and temporary, they could still have the potential to lead to a significant impact with respect to air quality particularly when construction extends over a long period of time and/or when sensitive receptors are located close by. Particulate matter (i.e., PM₁₀ and PM_{2.5}) are among the pollutants of greatest localized concern with respect to

construction activities. Particulate emissions from construction activities can lead to adverse health effects and nuisance concerns, such as reduced visibility and soiling of exposed surfaces. Particulate emissions can result from a variety of construction activities, including excavation, grading, vehicle travel on paved and unpaved surfaces, and vehicle and equipment exhaust. Construction emissions of particulate matter can vary greatly depending on the level of activity, the specific operations taking place, the number and types of equipment operated, local soil conditions, weather conditions, and the amount of earth disturbance. Emissions of ozone precursors reactive organic gases (ROG) and nitrogen oxide (NO_x) are primarily generated from construction equipment exhaust and mobile sources, and vary as a function of the number of daily vehicle trips, and the types and number of heavy-duty, off-road equipment used and the intensity and frequency of their operation. Additionally, construction-related ROG emissions would also result from the application of asphalt and architectural coating and the amount of these emissions would vary depending on the amount of paving or coating that would occur each day.

Construction emissions associated with the project analyzed in the Final EIR were estimated using CalEEMod (version 2016.3.2) and the results presented in Table 3.3-4 of the Final EIR. **Table 1** below shows the revised construction emissions that include emissions associated with the construction of PS-B. The table shows maximum quarterly emissions in each construction year for comparison with San Luis Obispo Air Pollution Control District's (SLOAPCD) quarterly significance thresholds that apply to projects lasting more than one quarter. Based on the project schedule, construction of PS-A was scheduled to occur over a period of 8 months from February 2020 to September 2020. Construction of PS-B was assumed to occur simultaneously and over the same period to provide worst-case maximum quarterly estimates. Therefore, emissions from the construction of PS-A were doubled to provide revised emissions for 2019.

The revised maximum quarterly construction emissions of ROG and NO_x generated by the project would exceed SLOAPCD's Tier 1 significance thresholds in all three construction years of the project. Quarterly diesel particulate matter (DPM) emissions would also exceed the Tier 1 thresholds in 2019 and 2020 while fugitive PM₁₀ emissions would be below the respective significance threshold for all three years. Estimated emissions of all pollutants would be at or below SLOAPCD's Tier 2 thresholds. Emissions shown in Table 1 represent the worst-case, maximum (peak) quarterly emissions that would result from the project over its construction period, and does not represent the average emissions that would occur throughout the year. Emissions during the other quarters within the project's construction period would be lower and would not exceed the significance thresholds.

TABLE 1
UNMITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS

Project Construction Activities	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	DPM ^a (Exhaust PM _{2.5})
2019 ^b	0.44	4.73	5.17	0.09	0.17
2020 ^c	0.38	3.71	4.09	0.06	0.14
2021 ^d	0.32	3.24	3.55	0.07	0.12
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	--	--	Yes	No	Yes
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	--	--	No	No	No

NOTE: See Appendix A for CalEEMod model outputs.

^a Refers to diesel particulate matter

^b Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.

^c Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.

^d Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, revised July 2019.

The revised maximum quarterly construction emissions of ROG and NO_x generated by the project would exceed SLOAPCD's Tier 1 significance thresholds in all three construction years of the project. Quarterly diesel particulate matter (DPM) emissions would also exceed the Tier 1 thresholds in 2019 and 2020 while fugitive PM₁₀ emissions would be below the respective significance threshold for all three years. Estimated emissions of all pollutants would be at or below SLOAPCD's Tier 2 thresholds. Emissions shown in Table 1 represent the worst-case, maximum (peak) quarterly emissions that would result from the project over its construction period, and does not represent the average emissions that would occur throughout the year. Emissions during the other quarters within the project's construction period would be lower and would not exceed the significance thresholds.

Nonetheless, as the SLOAPCD *CEQA Guidelines* require comparison of the maximum quarterly emissions with the thresholds, because the emissions of ROG, NO_x and DPM would exceed SLOAPCD's significance thresholds this impact would be significant and would require mitigation. SLOAPCD requires construction projects that last more than one quarter and exceed the Tier 1 thresholds to implement Standard Mitigation Measures and best available control technology (BACT) for construction equipment. Just as in the Final EIR analysis, implementation of **Mitigation Measures AQ-1a through AQ-1d** would reduce all pollutant emissions associated with the project's construction activities to below Tier 1 significance thresholds as shown in **Table 2**. Therefore, with mitigation, air quality impacts associated with the project, including the proposed modifications, would be less than significant.

TABLE 2
MITIGATED MAXIMUM QUARTERLY CONSTRUCTION EMISSIONS

Project Construction Activities	Estimated Maximum Quarterly Construction Emissions (tons/quarter)				
	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	DPM (PM _{2.5})
2019 ^a	0.11	0.84	0.95	0.09	0.01
2020 ^b	0.10	0.62	0.72	0.06	0.01
2021 ^c	0.09	0.74	0.83	0.07	0.01
SLOAPCD Quarterly Tier 1 Threshold	--	--	2.5	2.5	0.13
Exceed Threshold?	--	--	No	No	No
SLOAPCD Quarterly Tier 2 Threshold	--	--	6.3	2.5	0.32
Exceed Threshold?	--	--	No	No	No

NOTE: See Appendix A for CalEEMod model outputs.

^a Maximum emissions from October to December 2019 and include emissions from grading/excavation and construction of the WRF as well as construction of injection wells.

^b Maximum emissions from July to September 2020 and include emissions from construction of the WRF, pipelines and lift station.

^c Maximum emissions from August to October 2021 and include emissions from construction of the WRF, paving and decommissioning of the existing WWTP.

SOURCE: ESA CalEEMod Modeling, Revised July 2019.

Construction Health Risk Impacts

PS-B would be located at the corner of Main Street and Highway 1, on a property owned by the City. The site is currently a paved lot and is located approximately 200 feet from the nearest residences. Construction activities associated with PS-B would result in the short-term generation of DPM emissions from the use of off-road diesel construction equipment, and from heavy-duty trucks used to transport materials to and haul away debris from the site. DPM is a complex mixture of chemicals and particulate matter that has been identified by the State of California as a toxic air contaminant (TAC) with potential cancer and chronic non-cancer effects. The dose to which receptors are exposed is the primary factor affecting health risk from TACs. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period when assessing TACs (such as DPM) that have only cancer or chronic non-cancer health effects (OEHHA, 2003). However, assumed exposure in such health risk assessments should be limited to the duration of the emission-producing activities associated with the project.

Assuming a similar construction period for PS-B as PS-A, nearby residential receptors would be exposed to DPM emissions from construction for a period of about 8 months. Short-term exposure over 6 months to the level of mitigated DPM emissions shown in Table 2 is not likely to lead to a significant health risk impact.

Pipeline construction along the modified alignment would advance at the rate of 150 linear feet per day, so the same set of receptors would not be continually exposed to diesel exhaust from pipeline construction equipment for an extended period. Given that exposure to emissions from the proposed modifications would be limited to a few months at most, and would be distributed spatially so that the same set of receptors are not exposed to all emissions, exposure of receptors to the mitigated level of DPM emissions from construction would not lead to a significant health risk impact. Because the total emissions and duration of exposure at any one sensitive receptor location would be relatively minor compared to the 70-year exposure used in health risk assessments, the health risk from exposure to short-term DPM emissions associated with construction of the proposed modifications would be negligible, and this impact would be less than significant.

Operational Impacts

There would be no additional operational emissions associated with the proposed modifications over what was previously analyzed in the Final EIR. Operational and maintenance activities at PS-A and PS-B would be similar and are not expected to generate any additional emissions not addressed in the Final EIR.

Once operational, the proposed modifications would not introduce any new sources of TACs not already analyzed in the Final EIR. Truck trips associated with operational and maintenance activities of the project would also remain the same. Therefore, the operational health risk impact of the project with the proposed modifications would be the same as analyzed in the Final EIR and less than significant.

8.3.3 Applicable Mitigation Measures

The following mitigation measures are required to reduce construction emissions of ROG, NO_x, and DPM. Although the proposed project's fugitive dust emissions would not exceed Tier 1 or 2 thresholds, SLOAPCD requires any project with grading areas greater than 4.0 acres or that are within 1,000 feet of any sensitive receptor to implement standard fugitive dust mitigation measures. Therefore, Mitigation Measure AQ-1a is also required, but is not modified from what was described in the Final EIR. The Final EIR mitigation measures are restated below.

AQ-1a: Fugitive Dust Control Measures. Construction projects shall implement the following dust control measures so as to reduce PM₁₀ emissions in accordance with SLOAPCD requirements.

- Reduce the amount of the disturbed area where possible;
- Water trucks or sprinkler systems shall be used during construction in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency shall be required whenever wind speeds exceed 15 miles per hour (mph). Reclaimed (non-potable) water shall be used whenever possible;
- All dirt stock pile areas shall be sprayed daily as needed;
- Permanent dust control measures identified in the approved project revegetation and landscape plans shall be implemented as soon as possible following completion of any soil disturbing activities;

- Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading shall be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;
- All disturbed soil areas not subject to revegetation shall be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by SLOAPCD;
- All roadways, driveways, sidewalks, etc. to be paved shall be completed as soon as possible after grading unless seeding or soil binders are used;
- Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or shall maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with California Vehicle Code section 23114;
- Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;
- Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water shall be used where feasible;
- All of these fugitive dust mitigation measures shall be shown on grading and building plans; and
- The construction contractor shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

AQ-1b: Standard Control Measures for Construction Equipment. Standard mitigation measures for reducing NO_x, ROG, and DPM emissions from construction equipment are listed below:

- Maintain all construction equipment in proper tune according to manufacturer's specifications;
- Fuel all off-road and portable diesel powered equipment with ARB certified motor vehicle diesel fuel (non-taxed version suitable for use off-road);
- Use diesel construction equipment meeting ARB'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 ARB's 2007 or cleaner certification standard for on-road heavy-duty diesel engines, and comply with the State On-Road Regulation;
- Construction or trucking companies with fleets that do not have engines in their fleet that meet the engine standards identified in the above two measures (e.g. captive or NO_x exempt area fleets) may be eligible by proving alternative compliance;
- All on- and off-road diesel equipment shall not idle for more than 5 minutes. Signs shall be posted in the designated queuing areas and or job sites to remind drivers and operators of the 5-minute idling limit;

- Diesel idling within 1,000 feet of sensitive receptors is not permitted;
- Staging and queuing areas shall not be located within 1,000 feet of sensitive receptors;
- Electrify equipment when feasible;
- Substitute gasoline-powered in place of diesel-powered equipment, where feasible; and,
- Use alternatively fueled construction equipment on-site where feasible, such as compressed natural gas (CNG), liquefied natural gas (LNG), propane or biodiesel.

AQ-1c: BACT for Construction Equipment. The following BACT for diesel-fueled construction equipment shall be implemented during construction activities at the project site, where feasible:

- Further reducing emissions by expanding use of Tier 3 and Tier 4 off-road and 2010 on-road compliant engines where feasible;
- Repowering equipment with the cleanest engines available; and
- Installing California Verified Diesel Emission Control Strategies, such as level 2 diesel particulate filters. These strategies are listed at:
<http://www.arb.ca.gov/diesel/verdev/vt/cvt.htm>

AQ-1d: Architectural Coatings. To reduce ROG and NO_x emissions during the architectural coating phase, low or no VOC emission paints and finishes shall be used with levels of 50 g/L or less.

8.3.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impact to air quality as a result of the proposed modifications would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA guidelines 15162 (a) (1), (2), and (3)*.

8.4 Biological Resources

The Final EIR (Chapter 3.4) concluded that potential impacts to biological resources would be less than significant with mitigation. This section provides an analysis of the potential biological resource impacts associated with the construction and operation of the proposed modifications.

8.4.1 Setting

The biological study area for the proposed project includes varied topography with rolling hills and coastal plains. In general, drainage flows westerly towards the Pacific Ocean. The majority of the proposed western pipeline alignment is within existing public rights-of-way, paved and unpaved, south of Highway 1 and the proposed modification would have the eastern alignment follow the western alignment south of Highway 1 within the public rights-of-way. PS-B would be constructed on an existing paved lot owned by the City. The forcemain would be constructed along the PGE property line.

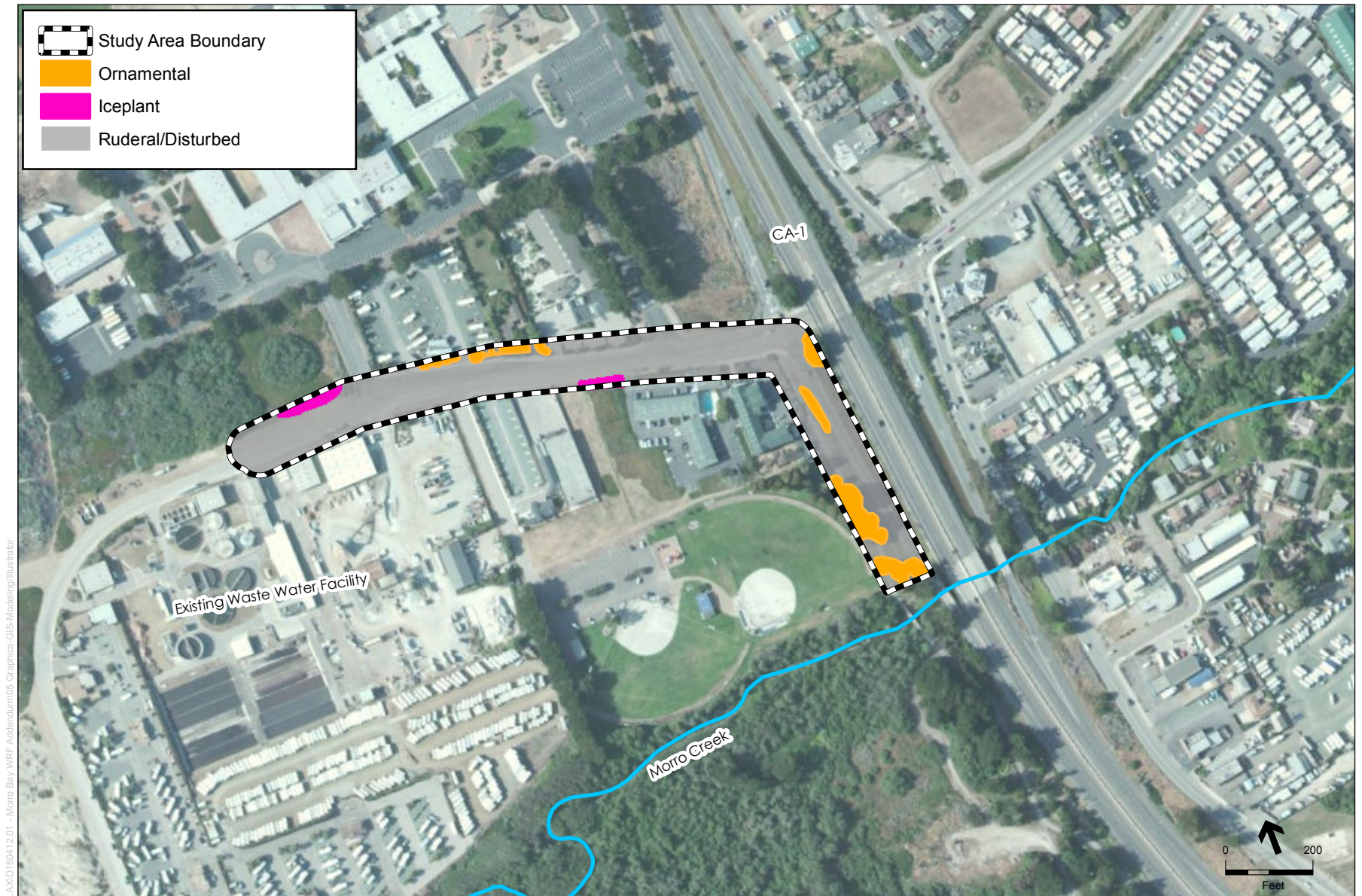
The conveyance pipelines would cross Morro Creek and several seasonal drainage features before terminating at the new WRF facility (see Figure 2). The western limit of the study area is separated from nearby beach, dune, and dune scrub habitats by Embarcadero Road and the Morro Dunes RV Park.

Background

A supplemental biological resource analysis was conducted in spring of 2019 to supplement the 2017 Biological Resource Assessment report to capture the proposed modifications (Appendix B). The purpose of the supplemental biological resource analysis was to cover proposed modifications areas not included in the Final EIR (see Figure 2). This includes revisions to the pipeline alignment, as well as other project elements such as PS-B on Main Street and two potential construction lay down or staging areas on Quintana Road (**Figure 4 through 6**).

As part of the background information review, the California Natural Diversity Database (CNDDB, 2019) maintained by the California Department of Fish and Wildlife (CDFW) was queried in March and May 2019 to confirm the previous analysis adequately covered special status resources potentially occurring in the area, and that no new special status species observations were reported since the Final EIR. This search used the same five-mile study area buffer to identify special status species and plant communities with potential to occur in the immediate vicinity of the project site. The special status species definitions for plants and animals are consistent with the definitions included in previous reports and correspondence.

The Natural Resources Conservation Service (NRCS) Web Soil Survey was also reviewed again to assess the current alignment's potential to support the Morro shoulderband snail and other special status species of plants and wildlife. The U. S. Fish and Wildlife Service's online National Wetland Inventory, Information, Planning and Consultation system (IPaC), and Critical Habitat Mappers (<http://www.fws.gov/wetlands/Data/Mapper.html>; <https://www.fws.gov/ipac/>; <http://criticalhabitat.fws.gov/crithab/>) were also reviewed to evaluate the extent of documented wetlands, federal listed species and designated critical habitat defined in the updated alignment. The online list of endangered and threatened marine (and anadromous) species under National Oceanic and Atmospheric Administration (NOAA) Fisheries jurisdiction located at <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm> was also reviewed to confirm the analysis adequately identified all special status species with potential to occur in the study area and be affected by the project. Kevin Merk Associates (KMA) biologists conducted field work to assess existing conditions and plant community distribution, search for special status plants and update the wetland delineation information in the supplemental study areas on the following days in 2019: February 28, March 13, April 22, May 21 and June 6. During the surveys, the study area was accessed on foot and driven with select vantage points used to assess existing conditions along Quintana Road and South Bay Boulevard. Weather during the surveys ranged from sunny to generally foggy conditions with light (<5 mph) to moderate (5-10 mph) winds out of the west. Several of the site visits occurred immediately following rain events to assess site hydrology.



SOURCE: Kevin Merk Associates, 2019

Morro Bay Water Reclamation Facility Project .150412

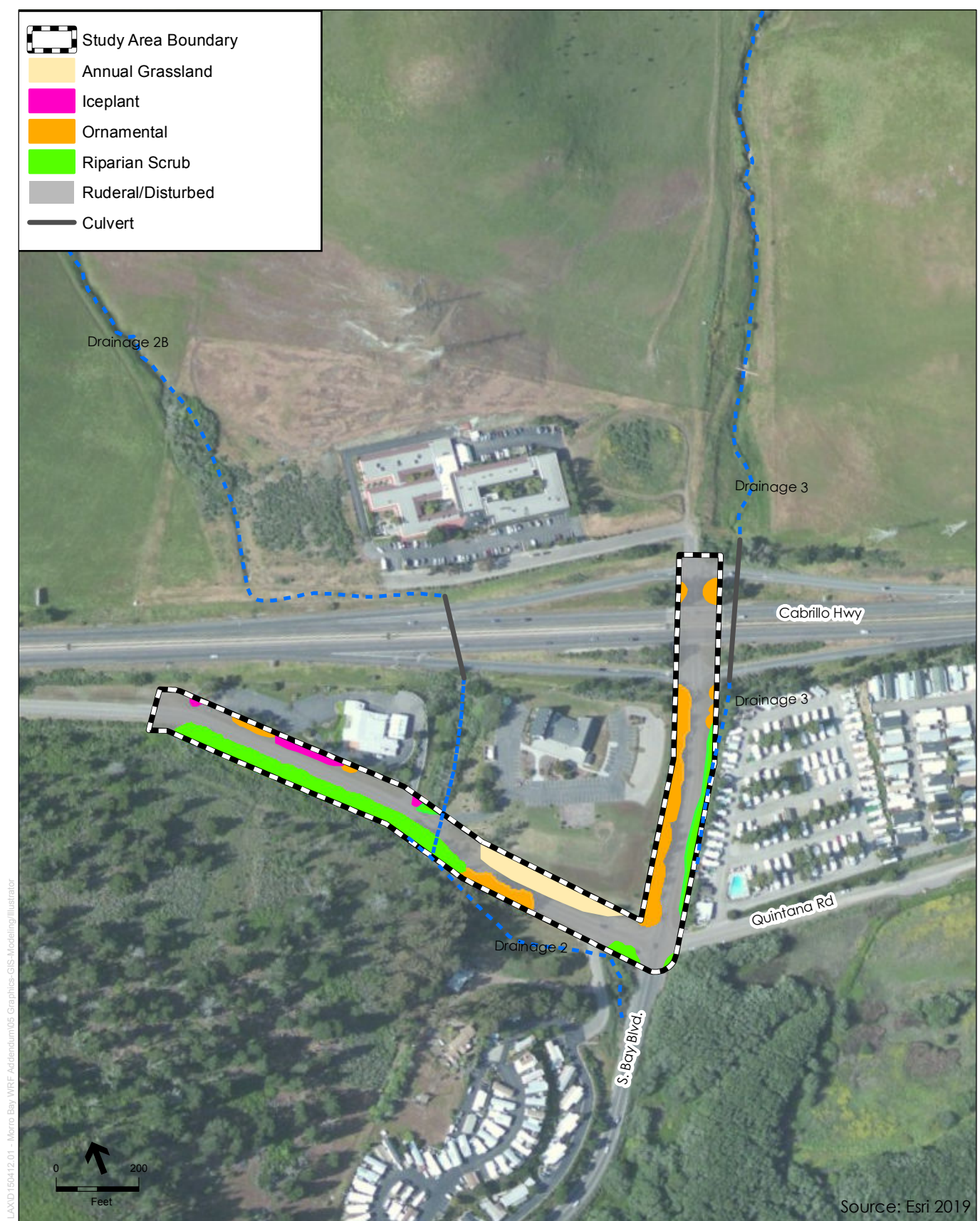
Figure 4
Habitat Map



SOURCE: Kevin Merk Associates, 2019

Morro Bay Water Reclamation Facility Project .150412

Figure 5
Habitat Map



SOURCE: Kevin Merk Associates, 2019

Morro Bay Water Reclamation Facility Project. 150412

Figure 6
Habitat Map

Field work for the wetland delineation occurred on May 21, 2019 and included analysis of Drainage 1 and the hydrologic connectivity of this drainage feature to Morro Creek. An offsite wetland feature in Drainage 1 just outside the original study area was also evaluated to delineate the extent of federal and state defined wetlands (**Figure 7**). Delineation methods used were consistent with those described in the 2018 Delineation Report (KMA 2018), and routine determination forms were completed at representative sample points to characterize the extent of Clean Water Act, California Coastal Act and California Fish and Game Code jurisdiction.

The evaluation of special status plants and wildlife and identification of habitat that could support these species was based on our field observations, knowledge of the particular species biology, and review of documented records included in the CNDDDB. Definitive surveys for the presence or absence of the wildlife species that may be present were not conducted. Wildlife species generally require specific survey protocols with extensive field survey time to be conducted only at certain times of the year. Since the updated investigation occurred during the spring of 2019, field surveys covered special status plants bloom periods to confirm absence of rare plants in the new study area.

Results of the Field Surveys

No new habitat types from those described in the Final EIR were identified in areas of the proposed modifications. Habitat types observed in the supplemental study areas shown on Figures 4 through 6 include Ornamental, Ruderal/Developed, Annual Grassland, Riparian Scrub and Iceplant. Background literature and CNDDDB review did not identify any new special status species beyond those described in the Final EIR.

8.4.2 Summary of Potential Impact

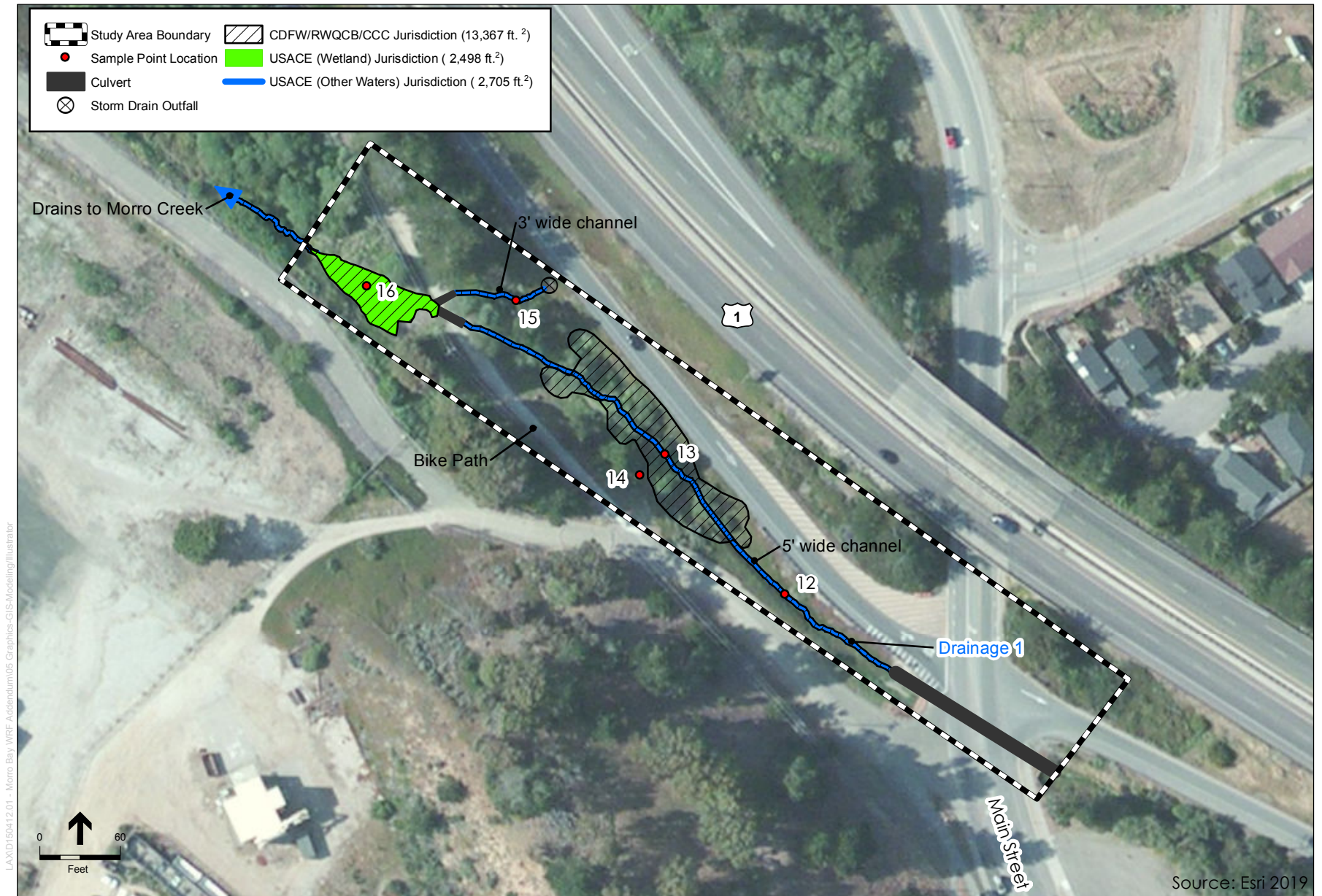
The pipeline alignment in the northern part of the study area was modified to avoid Lila Keiser Park and follow developed and disturbed areas along Atascadero Road and the bike path. The Final EIR generally assessed these areas but did not include them on the habitat maps. Figure 4 provides an update to the habitat map along the modified alignment in the northern part of the site. Soils in this portion of the study area are associated with coastal dunes (Dune Land) and the historic path of Morro Creek (Psamments and fluvents occasionally flooded), which were previously identified in the Final EIR. No new soil map units were identified in proposed modification areas. No special status plants or wildlife were observed in the revised northern alignment of the proposed modification. Consistent with the conclusions in the Final EIR, the portions of Morro Creek and Drainage 1 within the proposed modification area and the associated vegetation would be subject to regulatory jurisdiction of the USACE, RWQCB and CDFW. The same areas would fall under the CCC jurisdiction as environmentally sensitive habitat areas (ESHA). **Figures 7 and 8** identify the limits of regulatory agency jurisdiction associated with these two drainage features. The proposed modification would potentially include a pipe bridge that would be constructed over Morro Creek and would support footings sited outside or beyond the limits of the top of bank as shown on Figure 7.



SOURCE: Kevin Merk Associates, 2019

Morro Bay Water Reclamation Facility Project .150412

Figure 7
Wetland Delineation Map for Morro Creek



SOURCE: Kevin Merk Associates, 2019

Morro Bay Water Reclamation Facility Project .150412

Figure 8
Wetland Delineation Map for Drainage 1

The pipeline would be dropped into place using a crane and no alteration of the creek's bed or banks would be required. Some trimming of riparian scrub habitat may be needed to access the southern bank area, but very little riparian scrub habitat occurs in this area and it is mostly ornamental species such as Monterey cypress (*Hesperocyparis macrocarpa*) growing along the modified pipeline alignment. No impacts to Drainage 1 and its associated riparian scrub and wetland habitat are expected with implementation of the proposed modifications since the pipeline would be installed using HDD or similar technique to avoid impacts to the drainage feature. Any launching or receiving pits would be sited outside the jurisdictional areas and the pipeline would be installed to avoid impacting the drainage feature. Construction of pipe bridge footings outside the jurisdictional area of Morro Creek and placing the pipe over the creek using a crane would not require Clean Water Act Section 404 permit authorization from the USACE since the project would not place fill material within waters of the United States. Since a Section 404 permit would not be required from the USACE, a Section 401 Water Quality Certification from the RWQCB would not be required. Still, there is potential need to trim riparian scrub vegetation on the south banks of the creek, and riparian scrub habitat is associated with drainage features that are subject to California Fish and Game Code requirements. Ongoing consultation with the RWQCB will determine if the project should be enrolled in the Waste Discharge Requirements program or if enrollment in the general construction permit would be sufficient. Mitigation measures identified in the Final EIR would be sufficient to ensure the project does not significantly impact natural drainage features subject to Clean Water Act and California Fish and Game Code requirements.

The project was updated since the Final EIR to include PS-B at Main Street as well as two potential construction staging or laydown areas along Quintana Road. These areas were not included in the Final EIR, but are immediately adjacent to the areas evaluated in the Final EIR and have similar habitats or land uses as described in the Final EIR. PS-B would be constructed in a disturbed dirt parking lot with no native habitat present. While it is adjacent to Drainage 1, no riparian or wetland habitat was present in the drainage feature. For the most part, Drainage 1 is a trapezoidal ditch constructed along the toe of the fill slope of Highway 1. The bed and banks of this feature are armored in many places with rock rip rap and dominated by non-native weedy upland vegetation. Ornamental plantings (pine trees) are present at the north corner of the site. Further east are two proposed construction staging or laydown areas along Quintana Road. The westernmost site is a dirt pullout off Quintana Road. It was composed of bare soils and weedy grasses and forbs. Drainage 1 along with riparian scrub habitat is present downslope from the pull out area, and a swath of iceplant is present further east of the proposed disturbance area immediately adjacent to Quintana Road. No special status plants were observed in this area, and none are expected to occur based on the disturbed habitat. Since this is a sandy soils area (mapped as Baywood Fine Sands), the patch of iceplant has the potential to support the Morro shoulderband snail (*Helminthoglypta walkeriana*; MSS). If this laydown area is to be used, protection measures and construction best management practices (BMPs) such as protective fencing and worker environmental training would be required to ensure construction activities and storage of materials are confined to the disturbed area and do not have the potential to encroach or have runoff enter the drainage feature and associated riparian habitat. Protection of the iceplant area (i.e., orange protective and silt fencing) would also be needed to ensure avoidance of potential MSS habitat occurs during project construction.

New laydown areas associated with the proposed modifications along Quintana Road would be located in a parking lot surrounded by development. Since this site is already developed, no drainage features or native habitat that could potentially support special status species was present.

In the analysis in the Final EIR, the western alignment was proposed to cross under Highway 1 and connect with Teresa Road and run along the north side of Highway 1 to South Bay Boulevard before entering the facility site. Now, the modified pipeline alignment would follow Quintana Road all the way to South Bay Boulevard, then turn north and head to the plant in the roadway. The modified pipeline alignment would be installed entirely within the paved and disturbed roadway. Ornamental, riparian scrub, annual grassland and iceplant habitats were observed in the area outside the disturbed roadway. No rare plants were observed in this area, and the area is relatively disturbed with mowed road shoulders and non-native ornamental plantings present.

Drainage 3 is confined to a roadside ditch in between South Bay Boulevard and the mobile home park and does not support aquatic habitat with sufficient depth (i.e., 24 inches or greater) to support species such as the federal threatened California red-legged frog (*Rana draytonii*). This area occurs on heavy clay soils (Diablo and Cropley clays) along the shoulder of the road, and therefore, the MSS, which is known to occur only on sandy soils of marine origin, is unlikely to occur in iceplant patches that are present on the slope near the church entrance (see Figure 6).

Special Status Biological Resources

The Final EIR included numerous special status plants and animals documented by the CNDDDB in the vicinity of the project area. It also included seasonally timed botanical surveys of the facility site and proposed east and west alignments. The supplemental background review did not identify any new special status species beyond those described in the Final EIR. Surveys conducted in March, April and May 2019 also covered the modified pipeline alignment along South Bay Boulevard, and no new occurrences of rare plants were observed in the study area.

Surveys of the proposed modification areas confirmed that no special status species are present within the proposed modification areas.

Wetland Assessment

Morro Creek and Drainage 1 were analyzed further to delineate the limits of state and federal jurisdiction to make sure construction plans avoid impacts to these features. The National Wetlands Inventory (NWI) identified freshwater forested shrub wetland and riverine habitat along Morro Creek and this investigation confirmed that flowing water devoid of vegetation (i.e., riverine) was present in the active channel of Morro Creek. Flowing water was confined to areas within the ordinary high water mark, which averaged 25 feet wide in between the Highway 1 on-ramp bridge and bike path bridge. While ornamental plantings dominate the general area, riparian scrub habitat was present in a small patch on the southern creek bank, which is consistent with the freshwater forested shrub wetland category (see Figure 7 and 8).

The NWI does not identify wetland or riverine habitat in Drainage 1 in the vicinity of the bike path included in the wetland delineation study area. Field work confirmed that riverine habitat is present and is confined to a small roadside ditch averaging five (5) feet wide in the study area. A

patch of riparian scrub is also present along the portion of Drainage 1 in the area and was previously mapped on the Habitat Maps included in the Final EIR. A small storm drain outfall was also located at the toe of slope of Highway 1 and a distinct drainage channel (average width was 3 feet) was present connecting to Drainage 1 at the bike path. A wetland feature just west of the bike path on the Morro Bay Power Plant property was also identified in the Final EIR. The wetland feature is located within a chain link fence, and access was granted for this supplemental investigation to characterize and map the extent of state and federal wetland habitat. Field work for the delineation occurred over a several day period during the spring months to track hydrology and characterize these features, and specific data were collected in May. Eight data observation points were used to characterize the extent of state and federal jurisdictional drainage features within the study area (see Figure 7 and 8). The onsite drainages have a hydrologic connection to the Pacific Ocean. Drainage 1 connects to Morro Creek further west of the study area, and Morro Creek has a direct connection with the Pacific Ocean just downstream. Based on the investigation, Morro Creek and Drainage 1 and the small additional drainage feature entering the site from a storm drain outfall were determined to be subject to federal and state jurisdiction under the Clean Water Act and California Fish and Game Code.

All Waters of the U.S., as described above, also fall within the jurisdiction of the RWQCB under Section 401 of the Clean Water Act and Porter Cologne Water Quality Act. The drainages are also regulated by CDFW pursuant to California Fish and Game Code Sections 1600 et seq. The drainage features and associated riparian and wetland habitats also constitute ESHA and fall under the regulatory authority of the CCC pursuant to the California Coastal Act (see Figure 7 and 8).

No new habitat types, special status plants or wildlife beyond those described in the Final EIR were identified in the supplemental analysis. As a result, no new potential impacts to common or special status biological resources were identified. Further review of potential Morro shoulderband snail habitat was conducted in 2019, and confirmed most of the areas identified within the Final EIR are developed and devoid of potentially suitable habitat. Several areas of iceplant growing on sandy soils are present in the vicinity of proposed work areas, and it is recommended that protection measures such as staking and orange protective fencing be installed around the iceplant areas to ensure project activities avoid any potentially suitable habitat for the Morro shoulderband snail during construction. Mitigation Measure BIO-1 through Mitigation Measure BIO-10 identified in the Final EIR, would apply to the proposed modifications. No new mitigation measures or modification of existing measures would be required.

Further, the proposed outfall rehabilitation would occur offshore and would not impact any terrestrial wildlife. The rehabilitation would include sediment removal from within the existing diffuser. No additional ocean floor impacts are expected to occur. Because the impact to the seafloor is restricted to the diffuser and is short-term, localized impacts, recolonization of the disturbed habitat is expected to occur shortly after dredging is completed, the impacts to the sedimentary habitat is considered less than significant and any resultant loss of fish or marine mammal foraging habitat will be short-term and less than significant.

8.4.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures or modification of existing measures. However, mitigation measures Mitigation Measure BIO-1 through Mitigation Measure BIO-10 identified in the Final EIR, would apply to the proposed modifications. The Final EIR mitigation measures are restated below.

BIO-1: Construction Worker Environmental Awareness Training and Education Program. Prior to the commencement, and for the duration of proposed construction activities, all construction workers shall attend an Environmental Awareness Training and Education Program, developed and presented by the Lead Biologist. The Training and Education shall include:

1. The program shall include information on San Luis Obispo owl's clover and the life history of steelhead, CRLF, MSS, and other raptors; nesting birds; as well as other wildlife and plant species that may be encountered during construction activities. The program will also include descriptions of sensitive habitats (drainages, riparian habitat, and wetlands) and The program shall also discuss the legal protection status of each species and sensitive habitat, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the project proponent is implementing to protect each species and sensitive habitat, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species and sensitive habitats, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
2. An acknowledgement form signed by each worker indicating that Environmental Awareness Training and Education Program has been completed would be kept on record;
3. A sticker shall be placed on hard hats indicating that the worker has completed the Environmental Awareness Training and Education Program. Construction workers shall not be permitted to operate equipment within the construction areas unless they have attended the Environmental Awareness Training and Education Program and are wearing hard hats with the required sticker;
4. A copy of the training transcript, training video or informational binder for specific procedures shall be kept available for all personnel to review and be familiar with as necessary.
5. The construction crews and contractor(s) shall be responsible for unauthorized impacts from construction activities to sensitive biological resources that are outside the areas defined as subject to impacts by project permits.

BIO-2: Avoidance and Protection of Biological Resources. During proposed construction, operations and maintenance, and decommissioning the City and/or contractor shall implement the following general avoidance and protective measures:

1. All proposed impact areas, including staging areas, access routes, and disposal or temporary placement of spoils, shall be delineated with stakes and/or flagging prior to construction to avoid natural resources where possible. Construction-related activities outside of the impact zone shall be avoided.
2. The project proponent shall limit the areas of disturbance to the maximum extent that is practicable. Parking areas, new roads, staging, storage, excavation, and disposal site locations shall be confined to the smallest areas possible. These areas shall be

flagged and disturbance activities, vehicles, and equipment shall be confined to these flagged areas.

3. Riparian habitat, drainages, and wetlands will be flagged and signed to restrict project access into these areas.
4. Spoils shall be stockpiled in disturbed areas that lack native vegetation. Best Management Practices shall be employed to prevent erosion in accordance with the project's approved Stormwater Pollution Prevention Plan (SWPPP; as described in Chapter 3.9 of the Final EIR).
5. To prevent inadvertent entrapment of American badgers or other wildlife during construction, all excavated, steep-walled holes or trenches shall be covered with plywood or similar materials at the close of each working day, or provided with one or more escape ramps constructed of earth fill or wooden planks. If trapped animals are observed, the appropriate agency shall be consulted and escape ramps or structures shall be installed immediately to allow escape. If a listed species is trapped, the U.S. Fish and Wildlife Service and/or California Department of Fish and Wildlife shall be contacted immediately.
6. Vehicular traffic to and from the project site shall use existing routes of travel. Cross country vehicle and equipment use outside designated work areas shall be prohibited.
7. Workers shall be prohibited from bringing pets and firearms to the project site and from feeding wildlife.
8. Intentional killing or collection of any plant or wildlife species shall be prohibited.

BIO-3: Morro Shoulderband Snail. The following mitigation measures shall be implemented to avoid or minimize impacts to Morro shoulderband snail (MSS):

1. During project design, if project components would be located in areas determined to have soils and vegetation that could support MSS (e.g., see Figure 3.4-7 of the Final EIR), then a qualified biologist shall conduct a survey to delineate the extent of potential habitat. The survey information shall be incorporated into the project design such that facilities are located to avoid potential MSS habitat. The following project components have either been mapped as Baywood fine sands or dunes, or are in areas adjacent to known populations (see Figure 3.4.7 of the Final EIR):
 - Option 5A lift station adjacent to Atascadero Road;
 - the western pipeline alignment adjacent to the southeast corner of the WWTP;
 - a portion of the eastern pipeline alignment at Drainage 1A; and
 - the northwest corner of the IPR-West wellfield.
2. For pipeline alignments or other project components that are sited in areas adjacent to vegetated areas that have capacity to support MSS, silt fencing shall be installed, under the direction of a qualified biologist, to restrict project activities into these areas and to deter MSS movement into the project area.
3. If avoidance of MSS habitat is not feasible, then protocol levels surveys for MSS shall be conducted to determine presence/absence and distribution of MSS. Surveys shall be conducted by a biologist in possession of a valid recovery permit for the species. If the survey results are negative, the City shall request a concurrence determination for the project based on absence of the species. Coordination with USFWS during project design may facilitate receipt of a concurrence determination.

4. If survey results are negative and a concurrence authorization is granted, then vegetation shall be removed under supervision of the permitted biologist, and the site(s) shall be graded/grubbed down to bare mineral soil, and bordered with silt fence to preclude MSS from subsequently entering the area(s).
5. If live MSS are found within areas proposed for impact, then consultation with USFWS will be necessary and the issuance of a Biological Opinion (B.O.) may be required to allow individuals to be moved out of project areas prior to construction. A permitted biologist must be retained to move MSS per the B.O. requirements, and to monitor vegetation clearing activities occurring within the MSS habitat area(s).
6. If equipment use, materials stockpiling, lift station construction, or any other uses are proposed on the north side of Atascadero Road opposite the existing WWTP, then all such areas shall be delineated by installation of silt fencing to create a barrier between potential MSS habitat and project activities. If fenced areas are utilized during or immediately following rain events or dense fog conditions, then a permitted biologist will survey and clear the work areas each morning prior to start of work to ensure that no MSS have entered the site.
7. Work crews will undergo an environmental training session conducted by a qualified biologist prior to start of construction activities in or adjacent to MSS habitat areas. Environmental training would inform project personnel of the constraints associated with working within and adjacent to MSS habitat, and the appropriate protocol should MSS be encountered during construction activities.

BIO-4: American Badger. A pre-construction survey for active badger dens will be conducted within the proposed construction impact footprint and surrounding accessible areas of the mapped annual grassland portions of the eastern pipeline alignment (between the WRF and Downing Street on the west; see Figures 3.4-3 through 3.4-5 of the Final EIR) and the WRF site at least two weeks prior to any ground disturbing activities. The survey will be conducted by a qualified biologist. In order to avoid potential direct impacts to adults and nursing young, no grading should occur within 50 feet of an active badger den as determined by the project biologist. Construction activities between July 1 and February 28 shall comply with the following measures to avoid direct take of adult and weaned juvenile badgers through the forced abandonment of dens:

1. A qualified biologist will conduct a focused survey at least two (2) weeks prior to the start of construction;
2. If a potential den is located that is too long to see the end, then a fiber optic scope (or other acceptable method such as using tracking medium for a three-night period) will be used to determine if the den is being actively used by a badger;
3. Inactive dens will be excavated by hand with a shovel or using a small excavator to prevent badgers from re-using them during construction.
4. Badgers will be discouraged from using currently active dens prior to the grading of the site by partially blocking the entrance of the den with sticks, debris and soil for three to five days. Access to the den shall be incrementally blocked to a greater degree over this period. This should cause the badger to abandon the den and move elsewhere. After badgers have stopped using any den(s) within the project boundary, the den(s) will be hand-excavated with a shovel or carefully excavated with the use of an excavator to prevent re-use.

5. The qualified biologist will be present during the initial clearing and grading activity. If additional badger dens are found, all work within the area will cease until the biologist can complete measures described above for inactive and active dens. Once the badger dens have been excavated, work in the area may resume.

BIO-5: Nesting Birds. The following mitigation measures are recommended to avoid or minimize impacts to nesting bird species, including special-status species and species protected by the Migratory Bird Treaty Act.

1. Any removal of trees and disturbance of annual grassland habitat will be limited to the time period between September 1 and February 14 if feasible. If tree removal and grassland impacts cannot be conducted during this time period, a qualified biologist shall conduct pre-construction surveys for active bird nests within the limits of the project.
2. If active nest sites of bird species protected under the Migratory Bird Treaty Act and/or FGC section 3503 are observed within or adjacent to the study area, then the project shall be modified and/or delayed as necessary to avoid direct take of the identified nests, eggs, and/or young. Potential project modifications may include establishing appropriate “no activity” buffers around the nest site. The buffer will be 500 feet for raptors and 250 feet for other bird species, or as otherwise determined and documented by a qualified biologist. Construction activities shall not occur in the buffer until the project biologist has determined that the nesting activity has ceased.
3. Active nests shall be documented and monitored by the project biologist, and a letter report will be submitted to the USFWS and CDFW, documenting project compliance with the MBTA and applicable project mitigation measures.

BIO-6: Riparian Habitat Avoidance. During proposed project design, a qualified biologist shall identify the project boundaries adjacent to Morro Creek and the allowable limits of construction activities to avoid direct and indirect impacts to riparian habitat. Those limits shall be used during proposed project design to identify a pipeline alignment that avoids impacts to riparian habitat as well as areas to be avoided for siting injection and monitoring wells. During construction, the riparian boundaries and limits shall be clearly flagged or fenced so that contractors are aware of the limits of allowable site access and disturbance. Areas to be preserved should be clearly flagged as off-limits to avoid unnecessary damage and potential erosion.

BIO-7: Trenching Buffer for Jurisdictional Features. During construction of proposed project pipelines, trenching shall stop at least 50 feet away from jurisdictional features, such as the top of stream banks, riparian habitat and wetlands, and the remaining distance shall be installed using trenchless construction methods, such as horizontal directional drilling.

BIO-8: Construction BMPs to Protect Jurisdictional Features and Aquatic Habitat. The following mitigation measures should be implemented prior to and during construction near Morro Creek and Little Morro Creek, as well as Drainages 1, 1A, 1B, 2, 2A, 2B, 3, 3A, and 3B, and wetlands:

1. Prior to start of construction activities, the applicant should retain a qualified biological monitor to ensure compliance with all permit requirements and avoidance and minimization measures (i.e.: pre-construction surveys, worker environmental training, and construction monitoring) during work within and adjacent to drainage features.

2. The qualified biological monitor will conduct pre-construction surveys to identify any new wetland areas and the expansion of existing wetland to determine their limits. The results will be used in the implementation of Mitigation Measure BIO-7.
3. Prior to issuance of construction permits, an Erosion Control Plan incorporating up to date Best Management Practices should be prepared by the project engineer to minimize impacts to jurisdictional features and aquatic habitats. The plan should address installation and maintenance of both temporary and permanent measures to control erosion and dust, contain spills, protect stockpiles, and generally maintain good housekeeping practices within the worksite. All project plans should show that erosion, sediment, and dust control measures must be installed prior to start of any ground disturbing work.
4. All applicable plans should clearly show project stockpile and materials staging areas. These areas would be at least 50 feet from drainage features, wetlands, and active storm drain inlets, and must conform to BMPs applicable for storm drain protection.
5. Prior to start of work, the contractor should prepare and implement a Spill Prevention Plan to ensure 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 a spill occur. All project-related hazardous materials spills within the project site should be cleaned up immediately. Spill prevention and cleanup materials should be on-site at all times during the course of the project.
6. All refueling, maintenance, and washing of equipment and vehicles should occur on paved areas in a location where a spill would not travel onto bare ground or to a storm drain inlet. This fueling/staging area will conform to BMPs applicable to attaining zero discharge of stormwater runoff. At a minimum, all equipment and vehicles must be checked and maintained on a daily basis to ensure proper operation and avoid potential leaks or spills. Washing of equipment should occur only in a location where polluted water and materials can be contained for subsequent removal from the site.
7. A designated concrete washout location should be established onsite, in an area at least 50 feet from any drainage or storm drain inlet. The washout should be maintained and inspected weekly, and will be covered prior to and during any rain event. Concrete debris should be removed whenever the washout container reaches the 1/2 full mark.
8. BMP's for dust abatement shall be a component of the project's construction documents. Dust control requirements should be carefully implemented to prevent water used for dust abatement from transporting pollutants to storm drains leading to the creek channel.
9. During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following construction, all trash and construction debris shall be removed from work areas.

BIO-9: Preparation of a Frac-Out Contingency Plan. A Frac-Out Contingency Plan shall be prepared prior to initiation of construction activities that involve horizontal direction drilling activities. The Frac-Out Plan shall be implemented during HDD construction activities. At a minimum, the Frac-Out Plan will include the following:

1. Minimize the potential for a frac-out associated with horizontal directional drilling activities

2. Provide for the timely detection of frac-outs
3. Protect areas that are considered environmentally sensitive (streams, wetlands, other biological resources, cultural resources)
4. Ensure an organized, timely, and “minimum-impact” response in the event a frac-out and release of drilling mud occurs
5. Ensure that all appropriate notifications are made to the appropriate environmental specialists immediately (e.g., qualified biological monitor), and to appropriate regulatory agencies in 24 hours and that documentation is completed.

BIO-10: Tree Protection. For public trees, protection will be established at a minimum distance of 1.5 times the dripline (*i.e.*, the distance from the trunk to the outermost limits of leaves and branches). During development, orange construction fencing or sufficient staking to identify the protection area will surround each tree or clusters of trees.

8.4.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impact to biological resources as a result of the proposed modifications would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA guidelines 15162 (a) (1), (2), and (3)*.

8.5 Cultural Resources

The Final EIR (Chapter 3.5) concluded that potential impacts to cultural resources would be significant and unavoidable. This section provides an analysis of the potential cultural resource impacts associated with the construction and operation of the proposed modifications.

8.5.1 Setting

The majority of the current project area had been previously surveyed during Far Western’s earlier inventories for the project (Kaijankoski and Izzi 2018; Ruby 2016b, 2017; Ruby et al. 2016). Recent modifications to the project design were surveyed on May 8 and 9, 2019. During this latest survey, the entire area of potential effect (APE) was reviewed to ensure that conditions had not changed since the time it was surveyed. No new archaeological sites were identified within the current APE; however, several previously recorded sites were revisited and the site records updated as warranted.

During each inventory, digital aerial photographs showing project components, previously recorded sites, and project design APE were used to guide the survey. Where possible, the survey was conducted in 10-meter transects, although this was often not feasible due to access constraints and/or poor ground visibility. In areas where the alignments were paved over, surveyors viewed all accessible areas where sediments were exposed, including street landscaping and the yards of residences. Below is a summary of the survey of each project component and associated recorded sites.

Conveyance Pipeline

This project component is largely within paved roads that cross a diverse setting. The eastern portion is rural and largely undeveloped, while the central portion is dense residential and commercial developments along Quintana Road and Main Street. In the northwest, the alignment is within the paved bike path between the power plant property and Caltrans SR 1 rights-of-way that crosses Morro Creek and Leila Keiser Park. This bike path terminates at Atascadero Road where the pipeline alignment continues west to the existing wastewater treatment plant and east onto SR 41 to the proposed eastern injection field. Atascadero Road/SR 41 in this area is surrounded by a mix of commercial and residential developments.

The majority of the new pipeline alignment was surveyed in February 2017, with small additions surveyed in March 2018, and again in April 2019. No new archaeological resources were identified within this pipeline alignment during the survey; however, it crosses through or adjacent to several previously recorded sites summarized below.

CA-SLO-16

The proposed pipeline runs along the eastern site boundary of SLO-16. A human burial was documented at the pedestrian bridge over Morro Creek virtually within the pipeline alignment (Singer 2000). While survey of this area has been negative due to ground cover and recent sediment deposition, it is highly likely that the pipeline alignment will encounter archaeological deposits associated with this site, including human remains. The presence of surface or buried archaeological deposits in this area should be assessed through excavations within proposed impact areas.

CA-SLO-165

The proposed pipeline alignment associated with the East Injection Wells runs through the southern extent of National Register-eligible site SLO-165 within the roadway of SR 41. Shell midden was noted north of the pipeline alignment during survey conducted in 2015. It is highly likely that this portion of the pipeline alignment will encounter archaeological deposits associated with this site which should be assessed through data recovery excavations in the proposed impact areas.

CA-SLO-239

This site is situated on a terrace well above the pipeline alignment. Surveys of this portion of the alignment have been negative with the exception of shell noted along the east side of Main Street near Lift Station B (see page 40). Redeposited shell midden associated with this site may be present in this portion of the pipeline alignment and the potential for intact archaeological deposits within the depth of project impacts will need to be assessed through subsurface testing.

CA-SLO-2022

Shell midden associated with this site was observed in the Quintana Road cut near the Benedict-Retty Mortuary, as described in the site record (Bertrando 2000). Here Quintana Road appears to be constructed on a cut into an ancient hillside. Therefore, it is likely that the northern portion of the road (westbound lane) is underlain by culturally sterile soils. However, archaeological deposits associated with this site may underlie the southern portion (eastbound lane) of the road which will need to be assessed through subsurface testing in proposed impact areas.

CA-SLO-2222

This site is plotted south of the proposed pipeline alignment leading to the East Injection Wells, deeply buried and covered by a gas station. It is likely that this archaeological deposit extends into the pipeline alignment (and connects to National Register-eligible site SLO-165) at a depth of 2 to 3 meters below surface, which will need to be assessed through subsurface testing.

CA-SLO-2232/H

At time of survey, this site was covered in recent landscaping associated with construction of the nearby housing development; no archaeological materials were identified. While SLO-2232/H was originally recorded as a historic-era refuse scatter, two Native American burials were recovered from the hill immediately south of the site boundary (Ron Rose, personal communication, 2019). It is likely that this archaeological deposit extends into the pipeline alignment and will need to be assessed through subsurface testing.

Forcemain

This existing sewer line is within the Dynegy property on paved and gravel roads. While it skirts the northern boundary of site SLO-239, the forcemain is situated well below the intact site on the topographically elevated terrace. No cultural materials were observed within this project component during the 2019 survey although redeposited shell midden associated with SLO-239 was documented just south of the alignment. It is unlikely that this forcemain would expose intact archaeological deposits, although it's highly likely that redeposited shell midden would be present.

New Pumping Station B

PS-B is proposed in a parking lot north of the building at 1320 Main Street near the intersection of Main Street and SR 1. This area is just east of the recorded boundaries of SLO-239, yet well below the elevated terrace where intact archaeological deposits are located. During survey of this project component in 2019, shellfish was observed at the surface in exposed soil between the parking lot and drainage ditch north of the lift station. However, a soil profile exposed in the ditch east of the lift station revealed only redeposited sediments. Redeposited shell midden associated with SLO-239 may be present in this location, although the potential for intact archaeological deposits within the vertical depth of impact would need to be assessed through subsurface testing.

Construction Laydown Locations

The staging areas include a parcel south of Atascadero Road and east of the current wastewater treatment plant (Staging Area 1), and lands owned by Dynegy Morro Bay, LLC, south of Morro Creek with associated access routes (Staging Areas 2, 3, and 4). Additional staging areas include a small area on the north shoulder of Quintana Road immediately east of the building at 387 Quintana Road (Staging Area 5), and another in the grass field south of Quintana Road to the east of the Dollar Tree at 710 Quintana Road (Staging Area 6). All six staging areas were surveyed in 2019 with negative results, with the exception of Staging Area 3.

The northern portion of site SLO-239 falls within proposed Staging Area 3 in the Dynegy property. Observations of the site during the current survey were largely consistent with prior recordings. There is a large borrow pit excavated at the center of the site to well below the cultural deposit, leaving an intact ring of midden exposed at the surface around the pit edges. An access road on the northwest edge of the site leads into the center of the borrow pit. Site

boundaries were expanded slightly to encompass a high-density shell midden that appears to be in secondary context at the base of the access road, and the site record updated accordingly. As archaeological deposits associated with this site are exposed at the surface in portions of Staging Area 3, use of this area for construction staging would likely impact this site unless abundant protection measures are in place.

Additionally, site SLO-2124 is within Staging Area 2 on the Dynegy property. This is a deeply buried shell midden previously identified at 2.8 to 3.6 meters below surface (Parker 2001a). No cultural constituents were observed during surface survey of this area. Given the depth of this site, use of this area for construction staging would not impact this site.

8.5.2 Summary of Potential Impact

Far Western completed a records search, Native American consultation, field inventories, and assessment of the potential for buried archaeological deposits for all components of the proposed modifications. Seven previously recorded sites extended into the current design APE based on prior surveys and limited testing (Table 3). Six of these seven sites are also likely present within the project area of direct impact (ADI) and may be impacted by subsurface project components. This includes site SLO-239 documented at the surface within a proposed construction staging area. No new archaeological sites were found within the design APE during surveys for the proposed modification.

Native American consultation for the project has been ongoing for several years. Recently, 14 potentially interested Native American individuals were contacted, and several responses were received expressing concerns about the project and providing recommendations. Interactions with the Native American representatives are ongoing.

Table 3
Summary of Archaeological Sites within the Project Area of Potential Effects

Site (CA-SLO-)	Project Component	Description	Research/ Survey Findings	Notes	In ADI?
16	New pipeline alignment; western injection wells	Village and cemetery	Limited accessibility, but shell midden observed; research expanded boundaries	Partially buried.	Yes
165	New pipeline alignment; eastern injection wells	Village and cemetery	Shell midden present north of State Route 41	Boundaries not determined; National Register-eligible.	Yes
239	Staging area	Village and cemetery	Shell midden observed at surface as previously described around borrow pit	-	Yes, at surface
2022	New pipeline alignment	Shell midden	Visible in Quintana Road cut	-	Yes
2124	Staging area	Shell midden	Buried; not observed	-	No
2222	New pipeline alignment	Shell midden, human remains	Buried; not observed	Possibly part of SLO-165.	Yes
2232/H	New pipeline alignment	Shell midden, historic-era refuse	Site covered by recent landscaping	Recent construction of housing development uncovered burials south of recorded site boundary (Rose 2019).	Yes

Note: ADI – Area of Direct Impact.

The buried site sensitivity assessment identified the APE north of the intersection of Main Street and SR 1 as an area of High sensitivity for buried cultural resources, as confirmed by the presence of three recorded, deeply buried prehistoric sites. Southeast of this intersection, the majority of the APE has a Very Low sensitivity for buried sites due to the ancient age of surface landforms. The exception is the far southeastern extent of the project that has a High sensitivity for buried sites due to youthful surface soils.

8.5.3 Future Studies

Of the seven sites identified within the APE, only SLO-165 has been determined eligible for the National Register, with concurrence from the SHPO; the others have not been formally evaluated for listing on the National or California Registers. Preconstruction subsurface testing is recommended to define the boundary of most sites relative to the ADI, in addition to presence/absence testing in areas of elevated buried site sensitivity based on proposed project impacts. However, due to the archaeological sensitivity and urban nature of the ADI, some amount of identification would need to occur during construction. As a result, the proposed modification would require the implementation of the Mitigation Measures CUL-1 through CUL-14 from the Final EIR prior to any ground disturbance.

8.5.4 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures, nor any modification of existing mitigation measures. However, Mitigation Measure CUL-1 through Mitigation Measure CUL-14 identified in the Final EIR, would apply to the proposed modifications. The Final EIR mitigation measures are restated below.

CUL-1: Retention of a Qualified Archaeologist. Within 30 days after the City's approval of the final design plans and prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a Qualified Archaeologist meeting the Secretary of the Interior's Professional Qualifications Standards for archaeology (U.S. Department of the Interior, 1983) to carry out all mitigation related to archaeological resources.

CUL-2: Pre-Construction Phase I Cultural Resources Survey. Within 30 days after the City's approval of the final design plans and prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall conduct pre-construction Phase I Cultural Resources Survey of all areas that have not been previously surveyed within the last 5 years.

The survey shall document resources potentially qualifying as historical resources or unique archaeological under CEQA. The Qualified Archaeologist shall document the results of the survey in a Phase I Cultural Resources Survey Report that follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (OHP, 1990). The Qualified Archaeologist shall also prepare Department of Parks and Recreation 523 forms for resources encountered during the survey, which shall be appended to the report. If historic architectural resources are encountered that could

potentially be impacted by the project, the Qualified Archaeologist shall consult with a Qualified Architectural Historian meeting the Secretary of the Interior's Professional Qualifications Standards for architectural history (U.S. Department of the Interior, 1983). The Qualified Archaeologist shall submit the draft Phase I Cultural Resources Survey Report to the City within 30 days after completion of the survey. The final Phase I Cultural Resources Survey Report shall be submitted to the City within 10 days after receipt of City's comments. The Qualified Archaeologist shall also submit the final Phase I Cultural Resources Survey Report to the Central Coast Information Center.

In the event resources potentially qualifying as historical resources or unique archaeological resources under CEQA are identified during the survey, avoidance and preservation in place shall be the preferred manner of mitigating impacts to the resources in accordance with Mitigation Measure CUL-3. If avoidance of the identified resources is determined by the City to be infeasible in light of factors such as the nature of the find, proposed project design, costs, and other considerations, then the portion of the resource within the Area of Direct Impact (ADI) shall be subject to presence/absence testing and if potentially significant deposits are identified, the resource shall be evaluated for significance under all four National Register/California Register Criteria (A/1-D/4). If a resource is found to be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), then it shall be incorporated into the Archaeological Resources Data Recovery and Treatment Plan outlined in Mitigation Measure CUL-4.

CUL-3: Avoidance and Preservation in Place of Archaeological Resources. The City shall avoid and preserve in place resources CA-SLO-16, -43, -165, -239, -2222, and -2845, and any other resources that are identified as potentially qualifying as historical resources or unique archaeological resources under CEQA, through proposed project re-design. Avoidance and preservation in place is the preferred manner of mitigating impacts to archaeological resources. Preservation in place maintains the important relationship between artifacts and their archaeological context and also serves to avoid conflict with traditional and religious values of groups who may ascribe meaning to the resource. Preservation in place may be accomplished by, but is not limited to, avoidance, incorporating the resource into open space, capping, or deeding the site into a permanent conservation easement. In the event that avoidance and preservation in place of a resource is determined by the City to be infeasible in light of factors such as project design, costs, and other considerations, then Mitigation Measure CUL-4 shall be implemented for that resource. If avoidance and preservation in place of a resource is determined by the City to be feasible, then Mitigation Measures CUL-5 shall be implemented for that resource.

CUL-4: Development of an Archaeological Resources Data Recovery and Treatment Plan. The Qualified Archaeologist shall prepare an Archaeological Resources Data Recovery and Treatment Plan for all significant resources that will be impacted by the proposed project. The plan shall be submitted to the City for review and approval prior to the start of field work for data recovery efforts for resources that are eligible under Criterion D/4 (data potential). Data recovery field work shall be completed prior to the start of any project-related ground-disturbing activity. Treatment for resources that are eligible under Criteria A/1 (events), B/2 (persons), and/or C/3 design/workmanship shall be completed within 3 years of completion of the project. The Archaeological Resources Data Recovery and Treatment Plan shall include:

- *Research Design.* The plan shall outline the applicable cultural context(s) for the region, identify research goals and questions that are applicable to each resource or

class of resources, and list the data needs (types, quantities, quality) required to answer each research question. The research design shall address all four National Register/California Register Criteria (A/1-D/4) and identify the methods that will be required to inform treatment, such as subsurface investigation, documentary/archival research, and/or oral history, depending on the nature of the resource.

- *Data Recovery for Resources Eligible under Criterion D/4.* The plan shall outline the field and laboratory methods to be employed, and any specialized studies that will be conducted, as part of the data recovery effort for resources that are eligible under National Register/California Register Criterion D/4 (data potential). If a resource is eligible under additional criteria, treatment beyond data recovery shall be implemented (see CUL-4c).
- *Treatment for Resources Eligible under Criteria A/1, B/2, and/or C/3.* In the event a resource is eligible under National Register/California Register Criteria A/1 (events), B/2 (persons), or C/3 (design/workmanship), then resource-specific treatment shall be developed to mitigate project-related impacts to the degree feasible. That could include forms of documentation, interpretation, public outreach, ethnographic and language studies, publications, and educational programs, depending on the nature of the resource, and may require the retention of additional technical specialists. Treatment measures shall be generally outlined in the plan based on existing information on the resource. Once data recovery is completed and the results are available to better inform resource-specific treatment, the treatment measures shall be formalized and implemented. Treatment shall be developed by the Qualified Archaeologist in consultation with the City and Native American Tribal representatives for resources that are Native American in origin.
- *Security Measures.* The plan shall include recommended security measures to protect archaeological resources from vandalism, looting, and non-intentionally damaging activities during field work.
- *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The plan shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during field work. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98. See also CUL-14.
- *Reporting Requirements.* Upon completion of data recovery for resources eligible under Criterion D/4, the Qualified Archaeologist shall document the findings in an Archaeological Data Recovery Report. The draft Archaeological Data Recovery Report shall be submitted to the City within 360 days after completion of data recovery, and the final Archaeological Data Recovery Report shall be submitted to the City within 60 days after the receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Data Recovery Report to the Central Coast Information Center.

Upon completion of all other treatment for resources eligible under Criteria A/1, B/2, and C/3, the Qualified Archaeologist shall document the resource-specific treatment that was implemented for each resource and verification that treatment has been completed in a technical document (report or memorandum). The document shall be provided to the City within 30 days after completion of treatment.

- *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives,

the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see Mitigation Measure CUL-14).

Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 Code of Federal Regulations (CFR) 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.

- *Protocols for Native American Monitoring and Input.* The plan shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols and an opportunity and timelines for review of cultural resources documents. The plan shall include provisions for full-time Native American monitoring during field work (see Mitigation Measure CUL-8).

CUL-5: Development of a Cultural Resources Monitoring and Mitigation Program (CRMMP). Within 60 days of the award of the contractor's bid and prior to the start of any ground-disturbing activity (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist shall prepare a Cultural Resources Mitigation and Monitoring Program (CRMMP) based on the final City-approved project design plans. The CRMMP shall include:

- *Establishment of Environmentally Sensitive Areas.* The CRMMP shall outline areas that will be designated Environmentally Sensitive Areas (including maps). Significant or unevaluated cultural resources that are being avoided and are within 50 feet of the construction zone shall be delineated with exclusion markers to ensure avoidance. These areas will not be marked as archaeological resources, but will be designated as "exclusion zones" on project plans and protective fencing in order to discourage unauthorized disturbance or collection of artifacts.
- *Provisions for Archaeological Monitoring.* Full-time archaeological monitoring shall be required for all ground disturbance. The CRMMP shall outline the archaeological monitor(s) responsibilities and requirements (see Mitigation Measure CUL-7).
- *Procedures for Discovery of Archaeological Resources.* Procedures to be implemented in the event of an archaeological discovery shall be fully defined in the CRMMP, and shall include stop-work and protective measures, notification protocols, procedures for significance assessments, and appropriate treatment measures. The CRMMP shall state avoidance or preservation in place is the preferred manner of mitigating impacts to historical resources and unique archaeological resources, but shall provide procedures to follow should avoidance be infeasible in light of factors such as the nature of the find, project design, costs, and other considerations. See also Mitigation Measure CUL-9.

If, based on the recommendation of the Qualified Archaeologist, it is determined a discovered archaeological resource constitutes a historical resource or unique archaeological resource pursuant to CEQA, then avoidance and preservation in place

shall be the preferred manner of mitigating impacts to such a resource in accordance with Mitigation Measure CUL-3. In the event that preservation in place is determined to be infeasible and data recovery through excavation is the only feasible mitigation available, an Archaeological Resources Data Recovery and Treatment Plan shall be prepared and implemented following the procedures outlined in Mitigation Measure CUL-4. The City shall consult with appropriate Native American representatives in determining treatment of resources that are Native American in origin to ensure cultural values ascribed to the resource, beyond those that are scientifically important, are considered.

- *Procedures for Discovery of Human Remains and Associated Funerary Objects.* The CRMMP shall outline the protocols and procedures to be followed in the event that human remains and associated funerary objects are encountered during construction. These shall include stop-work and protective measures, notification protocols, and compliance with California Health and Safety Code section 7050.5 and PRC section 5097.98 (see Mitigation Measure CUL-14).
- *Reporting Requirements.* The CRMMP shall outline provisions for weekly, monthly, and final reporting. The Qualified Archaeologist shall prepare weekly status reports detailing activities and locations observed (including maps) and summarizing any discoveries for the duration of monitoring to be submitted to the City via email for each week in which monitoring activities occur. Monthly progress reports summarizing monitoring efforts shall be prepared and submitted to the City for the duration of ground disturbance. The Qualified Archaeologist shall prepare a draft Archaeological Resources Monitoring Report and submit it to the City within 180 days after completion of the monitoring program or treatment for significant discoveries should treatment extend beyond the cessation of monitoring. The final Archaeological Resources Monitoring Report shall be submitted to the City within 60 days after receipt of City comments. The Qualified Archaeologist shall also submit the final Archaeological Resources Monitoring Report to the Central Coast Information Center. If human remains are encountered, a confidential report documenting all activities shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment (see Mitigation Measure CUL-14).
- *Curation Requirements.* Disposition of Native American archaeological materials shall be determined through consultation between Native American representatives, the Qualified Archaeologist, and the City. Disposition of human remains and associated funerary objects shall be determined by the landowner in consultation with the City and Most Likely Descendant (see Mitigation Measure CUL-14).

Any historic-period archaeological materials that are not Native American in origin shall be curated at a repository accredited by the American Association of Museums that meets the standards outlined in 36 CFR 79.9. If no accredited repository accepts the collection, then it may be curated at a non-accredited repository as long as it meets the minimum standards set forth by 36 CFR 79.9. If neither an accredited nor a non-accredited repository accepts the collection, then it may be offered to a public, non-profit institution with a research interest in the materials, or donated to a local school or historical society in the area for educational purposes, to be determined by the Qualified Archaeologist in consultation with the City.

- *Protocols for Native American Monitoring and Input.* The CRMMP shall outline the role and responsibilities of Native American Tribal representatives. It shall include communication protocols, an opportunity and timelines for review of cultural resources documents related to discoveries that are Native American in origin, and

provisions for Native American monitoring. The CRMMP shall include provisions for full-time Native American monitoring of all project-related ground disturbance, as well as during any subsurface investigation and data recovery for discovered resources that are Native American in origin (see Mitigation Measures CUL-8).

CUL-6: Construction Worker Cultural Resources Sensitivity Training. Prior to start of any ground-disturbing activities (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the Qualified Archaeologist, or his/her designee, and a Native American representative shall conduct cultural resources sensitivity training for all construction personnel. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources or human remains, confidentiality of discoveries, and safety precautions to be taken when working with cultural resources monitors. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with paleontological sensitivity training required by Mitigation Measure CUL-11.

CUL-7: Archaeological Resources Monitoring. All project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) shall be monitored by an archaeological monitor(s) familiar with the types of resources that could be encountered and shall work under the direct supervisor of the Qualified Archaeologist. The number of archaeological monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another will require additional monitors. The archaeological monitor(s) shall keep daily logs detailing the types of activities and soils observed, and any discoveries. Archaeological monitor(s) shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance and treatment implemented, if necessary, based on the recommendations of the Qualified Archaeologist in coordination with the City, and the Native American representatives in the event the resource is Native American in origin, and in accordance with the protocols and procedures outlined in the CRMMP (see Mitigation Measure CUL-5).

CUL-8: Native American Monitoring. The City shall retain a Native American monitor(s) from a Tribe that is culturally and geographically affiliated with the project site (according to the California Native American Heritage Commission). The Native American monitor shall monitor all project-related ground disturbance (*i.e.*, demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil) and all ground disturbance related to subsurface investigation and data recovery efforts for discovered resources that are Native American in origin. The number of Native American monitors required to be on-site during ground disturbing activities is dependent on the construction scenario, specifically the number of pieces of equipment operating at the same time, the distance between these pieces of

equipment, and the pace at which equipment is working, with the goal of monitors being able to effectively observe soils as they are exposed. Generally, work areas more than 500 feet from one another require additional monitors. Native American monitors shall have the authority to halt and re-direct ground disturbing activities in the event of a discovery until it has been assessed for significance.

CUL-9 : Inadvertent Discovery. In the event archaeological resources are encountered during construction of the proposed project, all activity in the vicinity of the find shall cease (within 100 feet), and the protocols and procedures for discoveries outlined in the CRMMP (see Mitigation Measure CUL-5) shall be implemented. The discovery shall be evaluated for potential significance by the Qualified Archaeologist. If the Qualified Archaeologist determines that the resource may be significant (i.e., meets the definition for historical resource in *CEQA Guidelines* subdivision 15064.5(a) or unique archaeological resource in PRC subdivision 21083.2(g)), the Qualified Archaeologist shall develop an Archaeological Resources Data Recovery and Treatment Plan for the resource in accordance with the CRMMP (see Mitigation Measure CUL-5) and following the procedures outlined in Mitigation Measure CUL-4. When assessing significance and developing treatment for resources that are Native American in origin, the Qualified Archaeologist and the City shall consult with the appropriate Native American representatives. The Qualified Archaeologist shall also determine if work may proceed in other parts of the project site while data recovery and treatment is being carried out.

CUL-10: Retention of a Qualified Paleontologist. Within 60 days prior to the start of any ground-disturbing activity (i.e., demolition, pavement removal, pot-holing or auguring, boring, drilling, grubbing, vegetation removal, brush clearance, weed abatement, grading, excavation, trenching, or any other activity that has potential to disturb soil), the City shall retain a paleontologist who meets the (SVP) Standards (SVP, 2010) (Qualified Paleontologist) to carry out all mitigation measures related to paleontological resources.

CUL-11: Paleontological Resources Sensitivity Training. The Qualified Paleontologist, or his/her designee, shall conduct construction worker paleontological resources sensitivity training prior to the start of ground disturbing activities. In the event construction crews are phased, additional trainings shall be conducted for new construction personnel. The training session shall focus on the recognition of the types of paleontological resources that could be encountered within the project site and the procedures to be followed if they are found. The City shall ensure construction personnel are made available for and attend the training and retain documentation demonstrating attendance. That training may be conducted in coordination with construction worker cultural resources sensitivity training required by CUL-6.

CUL-12: Paleontological Resources Monitoring. All ground disturbance in excess of 5 feet within areas that are mapped as younger alluvial gravel (Qa) and beach and dune sands (Qs) shall be monitored on a full-time basis during initial ground disturbance. The Qualified Paleontologist shall spot check the excavation on an intermittent basis and recommend whether the depth of required monitoring should be revised based on his/her observations. If the Qualified Paleontologist determines full-time monitoring is no longer warranted, based on the specific geologic conditions at the surface or at depth, then the Qualified Paleontologist may recommend that monitoring be reduced to periodic spot-checking or cease entirely. Paleontological resources monitoring shall be performed by a

qualified paleontological monitor (meeting the standards of the SVP, 2010) under the direction of the Qualified Paleontologist. Monitors shall have the authority to temporarily halt or divert work away from exposed fossils in order to recover the fossil specimens. Any significant fossils collected during project-related excavations shall be prepared to the point of identification and curated into an accredited repository with retrievable storage. Monitors shall prepare daily logs detailing the types of activities and soils observed, and any discoveries. The Qualified Paleontologist shall prepare a Paleontological Resources Monitoring Report detailing the locations of monitoring and any discoveries. The report shall be submitted to the City within 60 days after completion of the monitoring program, or treatment for significant discoveries should treatment extend beyond the cessation of monitoring.

CUL-13: Inadvertent Discovery of Fossils. If construction or other proposed project personnel discover any potential fossils during construction, regardless of the depth of work or location, then work at the discovery location shall cease in a 50-foot radius of the discovery until the Qualified Paleontologist has assessed the discovery and made recommendations as to the appropriate treatment. If the find is deemed significant, it shall be salvaged following the standards of the SVP (2010) and curated with a certified repository.

CUL-14. Inadvertent Discovery of Human Remains: If human remains are encountered, then the City shall halt work in the vicinity (within 100 feet) of the discovery and contact the County Coroner in accordance with PRC section 5097.98 and Health and Safety Code section 7050.5. If the County Coroner determines the remains are Native American, then the Coroner will notify the California Native American Heritage Commission in accordance with Health and Safety Code subdivision 7050.5(c), and PRC section 5097.98. The California Native American Heritage Commission will designate a Most Likely Descendent for the remains per PRC section 5097.98. Until the landowner has conferred with the Most Likely Descendent, the contractor shall ensure the immediate vicinity where the discovery occurred is not disturbed by further activity, is adequately protected according to generally accepted cultural or archaeological standards or practices, and that further activities take into account the possibility of multiple burials. If human remains are encountered, the Qualified Archaeologist, in consultation with the Most Likely Descendant shall prepare a confidential report documenting all activities and it shall be submitted to the California Native American Heritage Commission within 90 days after completion of any treatment.

8.5.5 Conclusion

Ground disturbance related to construction would remain significant and unavoidable, similar to what was evaluated in the Final EIR. The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impact to cultural resources as a result of the proposed modifications would not increase the severity of the impacts associated with ground disturbance beyond what was previously analyzed in the Final EIR. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.6 Geology, Soils, and Seismicity

The Final EIR (Chapter 3.6) concluded that potential impacts to geology, soils, and seismicity would be less than significant with mitigation. This section provides an analysis of the potential geology, soils, and seismicity impacts associated with the construction and operation of the proposed modifications.

8.6.1 Setting

The proposed modifications would be located within the Coast Ranges Geomorphic Province, which extends from the Transverse Ranges in southern California to the Klamath Mountains in northern California and into Oregon. Geomorphic Provinces are large regions that display common characteristic landforms and geologic structures, which are governed by tectonics. The Coast Ranges are northwest-trending mountain ranges (2,000 to 4,000, occasionally 6,000 feet elevation above sea level), and valleys composed of sedimentary, volcanic, and metamorphic formations comprised predominantly of Jurassic and Cretaceous age rocks with Tertiary to Quaternary age rocks commonly overlying the older formations along the flanks and foothills of those ranges. Recent sediments of alluvium and colluvium are found above the rock within intervening drainages, valleys, and coastal areas. The ranges and valleys trend northwest, subparallel to the San Andreas Fault (DOC 2002; Yeh and Associates Inc. 2017).

Regional-scale geologic structure is characterized by a series of northwest trending faults that are mostly associated with compression and thrust occurring between the San Andreas fault along the eastern border of the County and the Hosgri fault zone located offshore, approximately 8 miles west of the City. Local northwest trending faults include active and potentially active faults such as the Oceanic, Cambria, Los Osos, Wilmar Avenue and Oceano faults. The Cambria fault is mapped as trending northwest approximately 2,500 feet north of the project area (Yeh and Associates Inc. 2017).

The proposed modifications are located within the City and in unincorporated area of the County adjacent to the City boundaries. The bedrock geology within the proposed modification area is characterized as the Cretaceous-Jurassic Age Mélange of the Franciscan Complex. The Mélange is a mixture of fragmented rock masses embedded in the sheared matrix of argillite and crushed metasandstone. The Mélange within the proposed project area is mostly concealed by residual soils, colluvium, landslide deposits and alluvium. Further, Jurassic age serpentanized ultramafic rocks are generally found in east-west trending outcrops in and around the City (Yeh and Associates Inc. 2017).

8.6.2 Summary of Potential Impact

None of the proposed modifications are within an Alquist-Priolo Fault Zone, and are not located adjacent to an active fault that would be susceptible to fault rupture. However, the proposed modifications are located in a region that is seismically active. In the event of an earthquake in California, some seismic ground shaking would likely be experienced in the area comprising the proposed modifications. The closest “active fault” to the proposed modification area is the Los Osos fault, approximately 8 miles southwest. Ground shaking could result in structural damage to new facilities, which in turn could affect operation of the related systems. Aside from occasional maintenance, the structures would be non-habitable. Nevertheless, implementation of Mitigation

Measure GEO-1 and conformance to the California Building Code would reduce any potential impacts to less than significant.

PS-B, the forcemain and the conveyance pipelines alignment modifications would be located in a Seismic Hazard Zone for liquefaction and are designated to have moderate to high liquefaction potential. Therefore, constructing the project within a high liquefaction zone could be potentially significant. However, similar to the Final EIR, the proposed modifications would require implementation of Mitigation Measure GEO-1 requiring a geotechnical investigation prior to construction. Implementing Mitigation Measure GEO-1 would reduce impacts to less than significant.

Construction of the proposed modifications would include ground disturbing activities such as excavation and grading that could expose soils and result in soil erosion during rain or high wind events. As stated in the Final EIR, the project would be required by the SLOAPCD to implement standard fugitive dust control measures, which include watering of construction sites and stockpile areas, stabilization of disturbed soil areas, and timely implementation of revegetation and landscape plans. The Final EIR requires implementation of Mitigation Measure GEO-2 which would require post-construction restoration. The implementation of Mitigation Measure GEO-2 would prevent and/or manage wind erosion and subsequent topsoil loss during construction. Additionally, the City would be required to prepare and implement a SWPPP that would identify best management practices to control erosion, sedimentation, and hazardous materials potentially released from construction sites into surface waters. As a result, these requirements would extend to the proposed modifications and impacts would be less than significant during construction.

The proposed modifications would not affect groundwater levels and would not, therein induce subsidence in the project area. The project in conjunction with the proposed modifications would not result in a net lowering of groundwater levels and would as such not have the potential to induce subsidence.

As mentioned above, PS-B and the proposed forcemain and conveyance pipeline alignment modifications would be subject to liquefaction and could result in collapsible soils. Additionally, since these areas are subject to liquefaction there is a potential for lateral spreading. As stated above, with implementation of Mitigation Measure GEO-1 proposed in the Final EIR, the proposed modifications would be subject to a final geotechnical investigation and would be designed to resist geologic hazards such as those aforementioned. Therefore, impacts would be considered less than significant with mitigation.

8.6.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures, nor any modification of existing measures. However, Mitigation Measure GEO-1 and Mitigation Measure GEO-2 identified in the Final EIR, would apply to the proposed modifications. The Final EIR mitigation measures are restated below.

GEO-1: Geotechnical Investigation. A geotechnical investigation shall be prepared by a certified engineer for all facilities involving substantial ground disturbance or excavation. The investigation shall assess geologic and seismic hazards, including but not limited to,

subsidence, liquefaction, landslide, expansive soil potential and collapsible soil potential of each facility site. Structural mitigation recommendations provided in the geotechnical investigation shall be incorporated into the design of the facility prior to construction. The contents of the geotechnical investigation shall vary depending on the jurisdiction and risks associated with each facility's location.

GEO-2: Post-Construction Site Restoration. After construction of project pipelines, disturbed areas shall be managed to control erosion, including without limitation: repaving areas within roadways, restoring vegetated areas, and regrading surfaces to minimize changes in drainage patterns.

8.6.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impacts as a result of geologic hazards would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.7 Greenhouse Gases and Energy

The Final EIR (Chapter 3.7) concluded that potential impacts of the project to greenhouse gases (GHG) and energy would be less than significant. This section provides an analysis of the potential impacts from the construction and operation of proposed modifications to greenhouse gas emissions and energy.

8.7.1 Setting

The physical and regulatory setting for greenhouse gases and energy remain unchanged from that discussed in the Final EIR and would apply to the proposed modifications.

8.7.2 Summary of Potential Impacts

Construction GHG Impacts

GHG emissions as result of construction of the project were estimated and presented in Table 3.7-5, Chapter 3.7, Greenhouse Gas Emissions and Energy of the Final EIR. Construction of the proposed modification would also generate GHG emissions associated with the use of heavy-duty off-road construction equipment and automobile and truck trips required to transport workers, materials, and debris to and from the project sites. GHG emissions from the construction of PS-A were extracted from the CalEEMod output and doubled to represent emissions associated with the construction of both PS-A and PS-B are presented below in **Table 4**. As with air quality, the reduction in construction emissions due to the construction of a smaller PS-A were not included in the table below to provide a conservative estimate.

TABLE 4
ESTIMATED CONSTRUCTION GHG EMISSIONS

Year	GHG Emissions as metric tons of CO₂e
2019	1074.1
2020	2003.5
2020 (PS-B Emissions)	292.5
2021	1727.2
Total	5097.3
Assumed Project Life (years)	25
Amortized Annual Construction Emissions	203.9

SOURCE: Appendix A.

As recommended by the SLOAPCD, the amortized annual construction emissions are added to the project's operational emissions discussed below and considered in the impact evaluation.

Operational GHG Impacts

Table 5 below shows the revised operational emissions associated with the project with the proposed modifications. Direct emissions from testing and maintenance of the backup generators and operational vehicle trips to and from the project site are not expected to change as a result of the proposed modifications. The result of adding the second lift station PS-B is a reduction in the net connected load for the project compared to the single lift station alternative included in the Final EIR. However, the GHG emissions from electricity generation presented in Table 4 have not been adjusted to account for this reduced load and provide a conservative estimate of net increase over existing conditions. The sum of the direct and indirect operational emissions and the amortized annual construction emissions is compared to the SLOAPCD's 10,000 MT of CO₂e/year threshold applicable to the project.

TABLE 5
PROJECT GHG EMISSIONS

Source	CO₂e (metric tons/year)
Backup Generators – Testing and Maintenance ^a	140.9
Worker Commute Trips	29.0
Delivery & Haul Truck Trips	58.2
Electricity Generation (Indirect)	437.5
Amortized Annual Construction Emissions	203.9
Total	869.5
SLOAPCD Significance Threshold	10,000
Significant?	No

^a Assumes operation of the backup generators for a maximum of 100 hours per year for testing and maintenance per SLOAPCD Rule 431.

SOURCE: Appendix A

Total project emissions would be well below the SLOAPCD threshold and therefore the proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than significant.

Compliance with GHG Plans

Additionally, the Final EIR discusses that the project would be in full compliance with all local, state and federal plans, policies, and regulations for the purpose of reducing the emissions of GHGs. This compliance would extend to the project modifications as well. Table 3.7-7 of the Final EIR provides a list of GHG-reducing strategies as they relate to the proposed project. The proposed modifications would not affect the project's consistency with GHG reduction actions and strategies outlined in CARB's Climate Change Scoping Plan, the County's EnergyWise Plan, the City's Climate Action Plan, and CALGreen Building Code and the impact would therefore be less than significant.

Energy Impacts

In regards to energy consumption of the project, electricity, natural gas, and transportation energy would be used to construct the project and in turn the proposed project modifications. Chapter 3.7 of the Final EIR discusses the application of each of these energy sources as they relate to construction activities. The energy requirements of the project construction are quantified in Table 3.7-8. Though the construction of the additional lift station would increase the use construction energy, this use would be minimal and not affect the impact conclusion of the analysis in the Final EIR. Additionally, Table 3.7-9 of the Final EIR illustrates the annual energy use during project operation. The implementation of the proposed project modifications would not substantially change the amount of annual energy the project would require as the addition of PS-B would reduce the energy demand of PS-A. Energy consumption during project construction and operations would be relatively negligible and not excessive or wasteful. The proposed projects energy requirements are within PG&E's existing and planned electricity capacity and supplies would be sufficient to support the project's demand. Based on current proven reserves, crude oil production would be sufficient to meet over 50 years of consumption (BP, 2017). The proposed modification would also comply with CAFE fuel economy standards, which would result in more efficient use of transportation fuels (lower consumption). Proposed modification-related vehicle trips would also comply with Pavley and Low Carbon Fuel Standards, which are designed to reduce vehicle GHG emissions but would also result in fuel savings in addition to CAFE standards. Therefore, proposed modification construction and operation activities would have a negligible effect on the transportation fuel supply. As the proposed modification would not lead to wasteful, inefficient, or unnecessary consumption of energy, or wasteful use of energy resources, during construction or operation, or conflict with applicable energy efficiency policies or standards impacts would be less than significant.

8.7.3 Applicable Mitigation Measures

Implementation of the proposed project modifications would not require mitigation as all impacts of the project modifications to greenhouse gas emissions and energy would be considered less than significant.

8.7.4 Conclusion

The project modifications do not require any new mitigation. The project modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects in regards to impacts to greenhouse gas emissions that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.8 Hazards and Hazardous Materials

The Final EIR (Chapter 3.8) concluded that potential impacts to hazards and hazardous materials would be less than significant with mitigation. This section provides an analysis of the potential hazards and hazardous materials impacts associated with the construction and operation of the proposed modifications.

8.8.1 Setting

A database search of hazardous materials sites located in or within approximately 0.25-mile of the proposed project components, including the pipeline alignments and indirect potable reuse (IPR) well areas, was performed using the State Water Resources Control Board's (SWRCB) database, Geotracker, and the Department of Toxic Substances Control's (DTSC) database, Envirostor. The databases show the location of "open" cases, which are sites that are undergoing or still require further action, and "closed" cases, which indicates site closure has been completed. Site closure is achieved when remaining contamination meets a risk or cleanup threshold determined not to pose a threat to human health or the environment (USEPA 2017). The results of the database search are included in Appendix F of the Final EIR.

Based on the results of the database searches, within 0.25 miles of the proposed project components, there are 13 Leaking Underground Storage Tank (LUST) sites designated as completed; one DTSC inspection site at the Morro Bay Power Plant; and one completed cleanup program site (SWRCB 2017; DTSC 2017a). There are currently no open active cases within 0.25-mile of the proposed project components.

8.8.2 Summary of Potential Impact

Construction of the proposed modifications would involve drilling, trenching, excavation, grading, and other ground-disturbing activities. Construction of the conveyance pipeline, PS-B, and forcemain would require small amounts of routinely-used hazardous materials, including petroleum products, automotive fluids, and other chemicals. As mentioned in the Final EIR, construction activities would be required to comply with all applicable federal, state, and local laws and regulations that pertain to avoiding and, if necessary, mitigating the accidental release of hazardous materials, including 8 CCR section 5194 that requires a hazards communication program identifying hazardous materials onsite and reducing the potential for a spill, and 29 CFR section 1910.120 that includes requirements for emergency response to releases or substantial threats of releases of hazardous substances. Construction contractors for the proposed modifications would be required to prepare and implement a Hazardous Materials Business Plan (HMBP) to manage any hazardous materials they use. Further, all spent hazardous materials would be disposed of in accordance with DTSC and County regulations.

According to the SLOAPCD Naturally Occurring Asbestos (NOA) Zones map, the majority of the City of Morro Bay is located in an area that is known to contain NOAs (SLOAPCD 2018). The proposed modifications would result in grading activities and, therefore, naturally occurring asbestos may be encountered. As discussed in the Final EIR, to ensure safety from the potential health hazard of releasing NOAs into the air a site-specific Health and Safety Plan would be developed per Cal/OHSA requirements prior to any earthwork activities related to the modifications of the proposed project. This includes preparing a NOA Construction and Grading Project Form and submitting it to the SLOAPCD prior to grading activities.

Once constructed, the conveyance pipeline and new forcemain would be located underground and would not include the use of hazardous materials and therefore would not have the potential for impacts to human health, public safety, and environment. Operation of PS-B would include odor control measures to reduce the release of odors as needed. These odor control measures include the use of calcium ammonium nitrate and other chemicals as mentioned in Chapter 3.8 of the Final EIR, and to ensure correct transportation and handling compliance to all applicable federal, state, and local regulations and requirements would ensure impacts associated with the operation of PS-B would be less than significant.

As stated in the Final EIR, there are 15 LUST cleanup and hazardous materials sites in or within 0.25 mile of the project area. The proposed modifications are not located on or directly adjacent to any of these sites or sites listed as a hazardous materials site pursuant to Government Code section 65962.5. Thus, the implementation of the proposed modifications would not create a significant hazard to the public or environment due to being located on a designated hazardous materials site.

The proposed modifications include construction activities within public rights-of-way. Construction would require either partial or full lane closures and could potentially impact emergency response or evacuation plans in the area. To ensure any emergency response or evacuation plans are not delayed Mitigation Measure TRAF-1 from the Final EIR would be required for the proposed modifications. Once operational, the modified pipeline alignments and forcemain would be underground. The PS-B would require minimal maintenance but would not interfere with normal roadway operations. Impacts would be less than significant with implementation of Mitigation Measure TRAF-1.

8.8.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures, nor modification of any existing measures. However, Mitigation Measures TRAF-1 identified in the Final EIR, would apply to the proposed modifications to ensure that emergency response and evacuation plans are not delayed as a result of construction activities. The Final EIR mitigation measures is restated below.

TRAF-1: Traffic Control Plan. Prior to the start of construction of project components that would occur within a roadway right-of-way, the City shall require the construction contractor to prepare a Traffic Control Plan. The Traffic Control Plan will show all signage, striping, delineated detours, flagging operations and any other devices that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of

the City's Public Works Director and Fire and Police Chiefs. When construction activities disrupt travel on major collectors or arterials, electronic signing shall be used to provide the public, on all transportation modes, with current construction information and the availability of alternate travel routes.

The Traffic Control Plan will be prepared in accordance with the City's traffic control guidelines and will be prepared to ensure that access will be maintained to individual properties, and that emergency access will not be restricted. Additionally, the Traffic Control Plan shall also include a scheduling plan showing the hours of operation to minimize congestion during the peak hours and special events. The scheduling plan will ensure that congestion and traffic delay are not substantially increased as a result of the construction activities. Further, the Traffic Control Plan will include detours or alternative routes for bicyclists using on-street bicycle lanes as well as for pedestrians using adjacent sidewalks.

In addition, the City shall provide written notice at least two weeks prior to the start of construction to owners/occupants along streets to be affected during construction. During construction, the City will maintain continuous vehicular and pedestrian access to any affected residential driveways from the public street to the private property line, except where necessary construction precludes such continuous access for reasonable periods of time. Access will be reestablished at the end of the workday. If a driveway needs to be closed or interfered with as described above, the City shall notify the owner or occupant of the closure of the driveway at least five working days prior to the closure.

The Traffic Control Plan shall include provisions to ensure that the construction of the lift station, conveyance pipelines, and the IPR injection and monitoring wells do not interfere unnecessarily with the work of other agencies such as mail delivery, school buses, and municipal waste services.

The City shall also notify local emergency responders of any planned partial or full lane closures or blocked access to roadways or driveways required for construction of the proposed project facilities. Emergency responders include fire departments, police departments, and ambulances that have jurisdiction within the proposed project area. Written notification and disclosure of lane closure location must be provided at least 30 days prior to the planned closure to allow for emergency response providers adequate time to prepare for lane closures.

8.8.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impact as result of hazards and hazardous materials would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.9 Hydrology and Water Quality

The Final EIR (Chapter 3.9) concluded that potential impacts to hydrology and water quality would be less than significant with mitigation. This section provides an analysis of the potential hydrology and water quality impacts associated with the construction and operation of the proposed modifications.

8.9.1 Setting

The City of Morro Bay lies on the narrow coastal shelf between the Pacific Ocean and the coastal hills. The climate in the City is characterized as coastal with mild to moderate temperatures year-round and little diurnal variation. The average annual rainfall in the region is approximately 16 inches per year and primarily occurs between the months of October and April (WRCC 2018).

The project area is located within the Central Coastal Watershed (USGS Unit 18060006) (USEPA 2009) in the Morro Bay Watershed and Cayucos Creek – Whale Rock Area Watershed within the Estero Bay Hydrologic Unit. A watershed is an area of land that drains all the streams and rainfall to a common outlet such as the outflow of a reservoir, mouth of a bay, or any point along a stream channel. The major surface water features in the region are Chorro Creek, Los Osos Creek, Toro Creek, Alva Paul Creek, San Bernardo Creek, Little Morro Creek, and Morro Creek, which all flow to the Pacific Ocean, either directly or via the Morro Bay estuary. The creeks and tributaries also serve as receiving waters for the City's storm drain system.

8.9.2 Summary of Potential Impact

The construction activities associated with the northern and southern pipeline alignments modifications, forcemain, and PS-B would involve earthmoving activities such as excavation, grading, soil stockpiling, and filling. Construction could cause soil erosion and sediment discharge to down gradient surface waters or drainages. Sedimentation of down gradient waterways could degrade water quality and affect the associated beneficial uses. Construction activities would also involve the use and handling of chemicals such as, but not limited to, oil, fuels, and lubricants. To avoid potential impact to surface water quality and groundwater quality the City would be required to obtain coverage under the NPDES General Construction Permit and prepare notice of intent (NOI), Risk Assessment, and a SWPPP since the construction areas would be greater than one acre in size. Compliance with these documents would ensure impacts would be less than significant. Once operational, PS-B would be required to adhere to NPDES MS4 storm drainage requirements that are discussed in Chapter 3.9 of the Final EIR. The conveyance line and forcemain would be installed below the ground surfacing using American Water Works Association (AWWA) standards. While the wastewater flowing through the forcemain could impact water quality in the occurrence of a rupture or leak, compliance with the City's Sewer System Management Plan (SSMP) and design requirements would ensure that impacts related to water quality would be less than significant.

Construction of the proposed modifications could result in temporary dewatering in areas where groundwater levels are shallow. This impact would be temporary and would not result in any permanent change to the underlying water table level or availability of groundwater supplies. PS-B will be constructed on an existing dirt lot. The construction of PS-B would introduce a new impervious surface that could change the stormwater infiltration conditions. Once constructed, PS-B would result in an increase in new impervious surface at the dirt lot. However, rainwater falling on the PS-B would be captured and treated onsite pursuant to the General Industrial Stormwater Permit. Once treated in compliance with the General Industrial Stormwater Permit, the rainwater would be routed to onsite infiltration systems (e.g. infiltration swales) or to the storm drain system and returned to the environment. The conveyance line realignments would be constructed in areas that are built up and both pervious and impervious. Once construction of the

pipelines and the forcemain are complete, the areas would be returned to preconstruction conditions and would not change the amount of surface runoff that is able to recharge the underlying groundwater.

Compliance with the NPDES General Construction Permit and site specific SWPPP would ensure that during construction and ground disturbing activities the proposed modifications' impacts to stormwater runoff, erosion, siltation, or flooding from altered drainage patterns would be less than significant. Once constructed, PS-B would adhere to the drainage control requirements from the City's Stormwater Management Plan (SWMP), which complies with the NPDES MS4 permit. Implementation of Mitigation Measure GEO-2, as stated in Chapter 3.9 of the Final EIR, would reduce any impact in regards to erosion, siltation, or flooding as result of the project modification to a less than significant level, which extends to the realignment of the conveyance pipeline, PS-B, forcemain and laydown areas.

Adherence to the SWPPP and the NPDES General Construction Permit would ensure impacts to stormwater runoff during construction of the pipeline, forcemain and PS-B would be less than significant. During operation, the impervious footprint of PS-B would not be large enough to generate substantial volumes of stormwater runoff. Additionally, the project would be required to be in compliance with the City's Stormwater Ordinance and SWMP. The conveyance pipeline and forcemain would be underground after construction and the construction footprint would be returned to preconstruction conditions. The pipelines would not change the amount of pervious or impervious surface nor would it change the amount of stormwater runoff beyond what was previously analyzed in the Final EIR.

PS-B would be located within the 100-year flood zone according to FEMA's Flood Map Service (FEMA, 2019). PS-B would be constructed, similar to PS-A, in accordance with the City's Municipal Code (Subdivision 14.72.050 A. 3. b.) so the structure is watertight with walls substantially impermeable to the passage of water. PS-B would be designed to be elevated at least one foot above the base flood elevation in accordance with the Municipal Code. Therefore, considering the relatively small footprint of the lift station, and design requirements for flood proofing, there would be a less than significant impact related to flood flow and flood elevations on neighboring parcels. The forcemain and modified pipeline alignment would be located underground and would not impede or redirect flood flows.

8.9.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures nor modification of existing measures. However, Mitigation Measures GEO-2 identified in the Final EIR (and restated in section 8.6.3 above), would apply to the proposed modifications to avoid impacts from erosion, siltation, or flooding during construction and operation of the proposed modifications.

8.9.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impacts as result of hydrology and water quality would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant

effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.10 Noise and Vibration

The Final EIR (Chapter 3.11) concluded that potential impacts to noise and vibration would be less than significant with mitigation. This section provides an analysis of the potential noise and vibration impacts associated with the construction and operation of the proposed modifications.

8.10.1 Setting

The noise environment surrounding the proposed project area is influenced by vehicular traffic along Highway 1 and along roadways such as Main Street and Quintana Road. Other noise sources in the area consist of ocean surf and operations at the existing wastewater facility.

8.10.2 Summary of Potential Impact

Construction Noise

All construction is expected to occur generally between 7:00 a.m. to 5:00 p.m. Monday through Friday. The same construction equipment would be used for the conveyance pipeline and forcemain as listed in the Final EIR for the raw wastewater and brine/wet weather discharge pipeline. The same construction equipment would be used for PS-B as listed in the Final EIR for the lift stations Option 1A and Option 5A.

The City noise ordinance exempts activities associated with construction provided they occur from 7:00 a.m. to 7:00 p.m. Monday through Friday or from 8:00 a.m. to 7:00 p.m. Saturday or Sunday.

The construction of the modified conveyance pipeline is expected to take approximately 12 months to complete. Construction would involve trenching using a conventional cut and cover technique or directional drilling technique where necessary to avoid sensitive drainages and roadway intersections if utilities are congested. The pipeline would be installed within existing roadway rights-of-ways to the extent feasible. The trenching technique would include saw cutting of the pavement, trench excavation, pipe installation, backfill operations, and re-surfacing to the original condition.

The modified conveyances pipeline alignment would be nearly identical to the proposed raw wastewater and brine/wet weather discharge pipeline described within the Final EIR. The nearest sensitive receptors to the modified pipeline alignment consist of the Morro Dune RV Park, single-family residences along Main Street and Quintana Road and Bayside Care Center. All of these sensitive receptors would be located within 50 feet from the proposed conveyance pipeline alignment. Similar to the Final EIR, the sensitive receptors located within 50 feet of the proposed conveyance pipeline would be temporarily exposed to noise levels of up to 83 dBA L_{eq} during construction (Table 3.11-8 of the Final EIR). However, since construction activities would only occur within the construction exempt hours specified in the City's noise ordinance, construction activities would be exempt from the City's noise ordinance. Temporary construction impacts would be less than significant.

The proposed forcemain alignment would run within the PGE property along the fence line. There are no sensitive receptors within the vicinity of the pipeline alignment. The construction of the forcemain would only occur within the construction exempt hours specified in the City's noise ordinance. As a result, construction activities would be exempt from the City's noise ordinance. Temporary construction impacts would be less than significant.

The construction of PS-B is expected to take approximately 8 months to complete. The construction equipment needed generally includes: auger truck, backhoe, boom lift truck, excavator and plate compactor. The closest sensitive receptors to the proposed PS-B site is a residence located approximately 200 feet to the north. The residence would temporarily be exposed to noise levels of up to 77 dBA L_{eq} during construction (excavator, 89 dBA L_{eq} at 50 feet). However, all construction activities associated with the proposed PS-B would occur within the construction exempt hours specified in the City's noise ordinance. Since project-related construction activities would be exempt from the City's noise ordinance, construction of PS-B would not result in a violation of the Morro Bay Municipal Code. Temporary construction impacts would be less than significant.

Operational Noise

Once operational, the conveyance pipelines and forcemain would be underground and would not impact sensitive receptors. Operation of the pump motors can generate a noise level of 76 dBA from a distance of 50 feet (FTA, 2006). The operation of the PS-B would produce a noise level of approximately 63 dBA at the nearest receptor. As a result, the operation of PS-B would exceed the City's daytime and nighttime noise standards. However, with the implementation of Mitigation Measure NOISE-2, requiring an Operational Noise Reduction Plan, operational noise impacts would be less than significant.

8.10.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures. However, Mitigation Measures NOISE-2 identified in the Final EIR, would require a minor change to include the operation of PS-B in addition to the operation of the injection wells. The implementation of Mitigation Measure NOISE-2 would avoid impacts from operational noise of the proposed modifications.

NOISE-2: Operational Noise Reduction Measures. Prior to final design of the proposed injection wells and PS-B, the City shall prepare an Operational Noise Reduction Plan demonstrating that the proposed injection wells/PS-B will not expose the nearest sensitive receptor to noise levels that would exceed the City's daytime and nighttime noise standards (see Table 3.11-4 of the Final EIR). The operational noise reduction plan shall be prepared by a qualified noise consultant. Once all noise reduction measures outlined in the Operational Noise Reduction Plan are implemented, the City shall measure noise at the nearest sensitive receptor property line to validate the effectiveness of the measures and to demonstrate that operational noise levels are below the City's noise standards.

8.10.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure noise impacts would be reduced to less than significant levels. The proposed

modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

8.11 Traffic and Transportation

The Final EIR (Chapter 3.14) concluded that potential impacts to traffic and transportation would be less than significant with mitigation. This section provides an analysis of the potential traffic and transportation impacts associated with the construction and operation of the proposed modifications.

8.11.1 Setting

The City is located along the coast in the western portion of San Luis Obispo County (County). Regional access to the City is provided via State Route 1 (SR 1), also known as Cabrillo Highway in this area of the state, and State Route 41 (SR 41), which turns into Morro Road in the City. Local access to or through the City is provided via collector or arterial roadways, Main Street, Morro Bay Boulevard, Beach Street, Quintana Road, and South Bay Boulevard.

8.11.2 Summary of Potential Impact

Construction of the proposed modifications would not substantially increase traffic levels or travel times on the surrounding circulation systems, as construction trips would be generated by trucks bringing materials to and from the construction sites and daily construction worker vehicle trips over an approximately three-year period. Truck trips for the proposed modifications would add an insignificant amount to the total truck trips already analyzed in the EIR. Although construction of the proposed modifications would temporarily generate additional truck and vehicle trips within the local and regional circulation systems, traffic levels would be temporary in nature as traffic levels would return to pre-construction conditions once construction is complete. While local drivers could experience increased travel times if they were traveling behind a heavy truck due to slower movement and turning radii compared to passenger vehicles, those delays would be intermittent throughout the day and would cease once construction activities are completed. Further, all construction trucks traveling on Caltrans facilities would be required to comply with California Vehicle Code, division 15, chapters 1 through 5 (Size, Weight, and Load) and Streets and Highway Code sections 660-711, as applicable, to minimize impacts to roadway operations.

Even though construction of these project components would not significantly increase the number of trucks and vehicles on the local and regional circulation systems, construction activities within roadways may require partial closure of traffic lanes, which could significantly impact the performance of applicable roadways. This would be a potentially significant impact. To ensure that impacts to traffic are less than significant a traffic control plan would be prepared prior to project construction. Implementation of Mitigation Measure-TRAF-1 requiring a Traffic Control Plan would ensure that local and regional circulation systems and emergency access is not impeded during project construction. The Traffic Control Plan would require coordination with all emergency responders before construction.

The construction truck trips for the proposed modifications would add an insignificant amount to the total truck trips already analyzed in the EIR. The modification wouldn't significantly increase the amount of trucks and vehicles on the local and regional circulation systems, construction activities within roadways would require partial closure of traffic lanes, which would potentially impact bicycle lanes within the rights-of-way, sidewalks, transit routes and bus stops.

Construction of the conveyance pipeline would directly impact the Class I bike path that runs between Main Street and Morro Creek to the west of SR 1. Pipelines would be installed at an average rate of 150 feet per day, so the length of time that a particular bike path and/or pedestrian facility would be affected would be short in duration. However, this would be a potentially significant impacts. In order to reduce impacts to alternative transportation facilities during construction of the conveyance pipelines, the City would be required to implement Mitigation Measure TRAF-1 and prepare a Traffic Control Plan, which would include measures specifically for alternative transportation facilities. The Traffic Control Plan would include, but not be limited to, signage, striping, delineated detours, flagging operations, changeable message signs, delineators, arrow boards, and K-Rails that will be used during construction to guide motorists, bicyclists, and pedestrians safely through the construction area and allow for adequate access and circulation to the satisfaction of the appropriate local jurisdiction. In addition, the Traffic Control Plan would include detours or alternative routes for bicyclists using on-street and off-street bicycle lanes, as well as for pedestrians using adjacent sidewalks. Therefore, with implementation of Mitigation Measure TRAF-1, impacts would be less than significant.

Once construction is complete, operation and maintenance of these facilities would be minimal and would not interfere with local and regional circulation systems, emergency access or response time or alternative transportation facilities. Therefore, impacts during operation of the proposed modifications would be less than significant.

8.11.3 Applicable Mitigation Measures

The proposed modifications do not require the addition of any new mitigation measures, nor modification of existing measures. However, Mitigation Measure TRAF-1 identified in the Final EIR (and restated in section 8.8.3 above), would apply to the proposed modifications to avoid impacts from traffic and transportation during construction and operation of the proposed modifications.

8.11.4 Conclusion

The proposed modifications would be subject to the same mitigation measures presented in the Final EIR to ensure impact as result of traffic and transportation would be reduced to less than significant levels. The proposed modifications do not identify any new significant environmental effects or a substantial increase in the severity of previously identified significant effects that would result in major revisions of the previous EIR per *CEQA Guidelines 15162 (a) (1), (2), and (3)*.

9.0 Summary of Environmental Effects

Section 15164(a) of the *CEQA Guidelines* states the following:

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 the preparation of subsequent EIR have occurred.

As discussed above in this Addendum, the proposed modifications would not change the impact conclusions of the Final EIR. The proposed modifications would still meet the same project objectives determined in the Final EIR. As analyzed above, no new potentially significant impacts would occur, and the proposed modifications would not increase the severity of previously identified impacts analyzed in the Final EIR. The proposed modifications to the previously approved project do not meet any of the conditions that would require the preparation of a subsequent EIR or negative declaration set forth in Section 15162 of the *CEQA Guidelines* or any of the conditions set forth in Section 15163 of the *CEQA Guidelines*.

City of Morro Bay

Signature

Date

Printed Name

Environmental Compliance Specialist
Title

Appendix A

CalEEMod Model Outputs

MORRO BAY WRF - AQ/GHG/Energy RFI

Project component	Construction Duration (months)	Construction Start Date	Construction End Date	Number of workdays	Project Construction Equipment	Equivalent Equipment in CalEEMod	Number	Ave hp	Hours of use/day	Average number of workers	No. of one-way worker commute trips	No. of one-way haul truck trips	No. of one-way vendor trips	one-way vendor trips/day
WRF	30					Choose from dropdown list								
- Site Preparation	3	5/1/2019	7/31/2019	66	Backhoe Water Truck	Tractors/Loaders/Backhoes Off-Highway Trucks	2 1			6	12	600	20	0.30
- Grading/Excavation	6	7/1/2019	1/31/2020	155	Backhoe Compactor Excavator Loader Water Truck	Tractors/Loaders/Backhoes Plate Compactors Excavators Rubber Tired Loaders Off-Highway Trucks	2 1 2 2 1			8	16	4800	20	0.13
- Construction	24	10/1/2019	10/31/2021	544	Backhoe Cement & Mortar Mixer Compactor Cranes Jackhammers Pickup Truck Water Truck	Tractors/Loaders/Backhoes Cement and Mortar Mixers Plate Compactors Cranes Other Construction Equipment Off-Highway Trucks Off-Highway Trucks	2 3 1 2 2 5 1			20	40	5120	200	0.37
- Paving	1	9/1/2021	10/31/2021	43	Backhoe Cement & Mortar Mixer Compactor Jackhammers Paver Paving Equipment Rollers	Tractors/Loaders/Backhoes Cement and Mortar Mixers Plate Compactors Other Construction Equipment Pavers Paving Equipment Rollers	2 3 1 2 1 1 1			8	16	40	2460	57
Pipelines (150 ft/day)	8	8/1/2020	4/30/2021	195	Backhoe Excavator Dump Truck Shoring Equipment Steam Roller Plate Compactor	Tractors/Loaders/Backhoes Excavators Dumpers/Tenders Other Construction Equipment Rollers Plate Compactors	2 1 1 1 1 1			8	16	2600	2600	13
Lift Station PS-A	6	2/1/2020	9/30/2020	173	Auger Truck Backhoe Boom Lift Truck Excavator Plate Compactor	Off-Highway Trucks Tractors/Loaders/Backhoes Off-Highway Trucks Excavators Plate Compactors	1 1 1 1 1			8	16	120	140	1
Lift Station PS-B	6	2/1/2020	9/30/2020	173	Auger Truck Backhoe Boom Lift Truck Excavator Plate Compactor	Off-Highway Trucks Tractors/Loaders/Backhoes Off-Highway Trucks Excavators Plate Compactors	1 1 1 1 1			8	16	120	140	1
Injection Wells	2	10/1/2019	12/31/2019	66	Auger Rig Drill Rig Small Crane Welder Forklift Pipe Trailer Generator Baker Tanks Circulation pits Backhoe	Bore/Drill Rigs Bore/Drill Rigs Cranes Welders Forklifts Off-Highway Trucks Generator Sets Other Construction Equipment Other Construction Equipment Tractors/Loaders/Backhoes	1 1 1 1 1 1 1 1 1 1			6	12	60	60	1
Decommission existing plant	3	9/1/2021	12/31/2021	88	Backhoe Compactor Excavator Loader Water Truck Jackhammers Steam Roller	Tractors/Loaders/Backhoes Plate Compactors Excavators Rubber Tired Loaders Off-Highway Trucks Other Construction Equipment Rollers	1 1 1 1 1 2 1			8	16	1320	1160	13

Other data needs:

- Worker commute trip one way distance
- Hauling trips one-way distance
- Vendor trip one-way distance
- Area disturbed
- Energy usage at the existing plant
- Projected energy needs of proposed plant
- Number of average daily trips once new plant is operation - employees, truck trips etc.

Assume 20 miles
Biosolids - 86 miles away; Screenings - 30 miles away
Chemicals - 200 miles away
Lift Station - 8000 SF; Pipelines 150,000 SF; WRF Site 14 ac

3000 kwh/day
8000 kwh/day
10 employees total - 14 employee commute trips/day; 16 maintenance vehicle trips/day (all trips "one way")

Unmitigated Maximum Daily Construction Emissions by Phase (lbs/day)

Project Component	Year	Source	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
WRF									
Site Preparation	2019	Onsite	1.18	11.86	13.04	0.2282	0.57	0.0246	0.53
		Offsite	0.19	3.24	3.42	0.34	0.02	0.09	0.09
		Total	1.36	15.10	16.46	0.341	0.5939	0.0918	0.6192
Grading/Excavation	2019	Onsite	2.53	27.13	29.67	0.0972	1.17	0.01	1.07
		Offsite	0.44	10.85	11.30	0.85	0.07	0.23	0.06
		Total	2.98	37.98	40.96	0.952	1.2327	0.2405	1.1372
Grading/Excavation	2020	Onsite	2.36	24.43	26.79	0.0972	1.03	0.01	0.95
		Offsite	0.38	9.93	10.32	3.13	0.05	0.79	0.04
		Total	2.74	34.36	37.11	3.2306	1.0784	0.7998	0.9945
Construction	2019	Onsite	6.82	70.39	77.21	0	2.94	0	2.70
		Offsite	0.40	3.54	3.94	1.67	0.02	0.43	0.02
		Total	7.22	73.93	81.15	1.6735	2.959	0.4274	2.7273
Construction	2020	Onsite	6.34	62.89	69.23	0	2.61	0.00	2.41
		Offsite	0.36	3.23	3.59	0.91	0.02	0.24	0.02
		Total	6.70	66.12	72.82	0.9063	2.6268	0.2391	2.4213
Construction	2021	Onsite	5.74	53.50	59.24	0	2.21	0.00	2.04
		Offsite	0.34	2.95	3.28	0.96	0.02	0.25	0.01
		Total	6.08	56.45	62.53	0.9614	2.2248	0.2527	2.0515
Paving	2021	Onsite	2.06	20.37	22.43	0	1.07	0.00	0.99
		Offsite	0.54	12.13	12.67	1.31	0.06	0.37	0.05
		Total	2.60	32.50	35.09	1.3136	1.1294	0.3721	1.0453
Pipelines	2020	Onsite	1.48	14.66	16.14	0	0.82	0.00	0.76
		Offsite	0.35	7.42	7.77	0.86	0.05	0.23	0.05
		Total	1.83	22.08	23.91	0.8554	0.8673	0.2315	0.8017
Pipelines	2021	Onsite	1.33	12.97	14.29	0	0.70	0.00	0.65
		Offsite	0.31	6.64	6.95	0.94	0.03	0.25	0.03
		Total	1.64	19.61	21.25	0.9399	0.7323	0.2523	0.6769
Lift Station PS-A	2020	Onsite	1.79	17.15	18.95	0	0.70	0.00	0.65
		Offsite	0.13	0.55	0.68	0.27	0.00	0.07	0.00
		Total	1.92	17.70	19.63	0.2739	0.70837	0.0732	0.65263
Lift Station PS-B	2020	Onsite	1.79	17.15	18.95	0	0.70	0.00	0.65
		Offsite	0.13	0.55	0.68	0.27	0.00	0.07	0.00
		Total	1.92	17.70	19.63	0.2739	0.70837	0.0732	0.65263
Injection Wells	2019	Onsite	3.95	40.00	43.95	0	1.86	0.00	1.74
		Offsite	0.11	0.67	0.78	0.22	0.01	0.06	0.01
		Total	4.07	40.67	44.74	0.2168	1.86765	0.058	1.74454
Decommissioning existing plant	2021	Onsite	3.17	31.44	34.61	0	1.55	0.00	1.44
		Offsite	0.32	7.13	7.45	0.75	0.03	0.21	0.03
		Total	3.49	38.57	42.06	0.7455	1.5836	0.2054	1.472

Unmitigated Maximum Daily Emissions (lbs/day)

Year	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
2019 (Oct to Dec)	14.26	152.58	166.84	2.84	6.06	0.73	5.61
2020 (Aug to Sep)	12.38	123.60	135.98	2.31	4.91	0.62	4.53
2021 (Sep to Oct)	12.16	127.52	139.68	3.02	4.94	0.83	4.57

Unmitigated Maximum Quarterly Emissions (tons/quarter)

Year	Workdays in quarter	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
2019 (Oct to Dec)	62	0.44	4.73	5.17	0.09	0.19	0.02	0.17
2020 (Jul to Sep)	64	0.38	3.71	4.09	0.06	0.15	0.02	0.14
2021 (Aug to Oct)	63	0.32	3.24	3.55	0.07	0.13	0.02	0.12
SLOAPCD Threshold - Tier 1				2.5	2.5			0.13
Significant?								
SLOAPCD Threshold - Tier 2				6.3				0.32
Significant?								

Mitigated Maximum Daily Construction Emissions by Phase (lbs/day) - Tier 4

Project Component	Year	Source	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
WRF									
Site Preparation	2019	Onsite	0.24	1.03	1.27	0.2282	0.03	0.0246	0.03
		Offsite	0.19	3.24	3.42	0.34	0.02	0.09	0.09
		Total	0.42	4.26	4.69	0.341	0.0521	0.0918	0.1232
Grading/Excavation	2019	Onsite	0.52	2.25	2.77	0.0972	0.07	0.01	0.07
		Offsite	0.44	10.85	11.30	0.85	0.07	0.23	0.06
		Total	0.96	13.10	14.07	0.952	0.1364	0.2405	0.1334
Grading/Excavation	2020	Onsite	0.52	2.25	2.77	0.0972	0.07	0.01	0.07
		Offsite	0.38	9.93	10.32	3.13	0.05	0.79	0.04
		Total	0.90	12.18	13.09	3.2306	0.1148	0.7998	0.1128
Construction	2019	Onsite	1.31	5.69	7.00	0	0.18	0	0.18
		Offsite	0.40	3.54	3.94	1.67	0.02	0.43	0.02
		Total	1.71	9.23	10.94	1.6735	0.1989	0.4274	0.1977
Construction	2020	Onsite	1.31	5.69	7.00	0	0.18	0.00	0.18
		Offsite	0.36	3.23	3.59	0.91	0.02	0.24	0.02
		Total	1.67	8.92	10.59	0.9063	0.1922	0.2391	0.1913
Construction	2021	Onsite	1.31	5.69	7.00	0	0.18	0.00	0.18
		Offsite	0.34	2.95	3.28	0.96	0.02	0.25	0.01
		Total	1.65	8.64	10.29	0.9614	0.1905	0.2527	0.1897
Paving	2021	Onsite	0.37	1.60	1.97	0	0.05	0.00	0.05
		Offsite	0.54	12.13	12.67	1.31	0.06	0.37	0.05
		Total	0.91	13.73	14.64	1.3136	0.1053	0.3721	0.1028
Pipelines	2020	Onsite	0.25	1.08	1.32	0	0.03	0.00	0.03
		Offsite	0.35	7.42	7.77	0.86	0.05	0.23	0.05
		Total	0.60	8.49	9.10	0.8554	0.0807	0.2315	0.0785
Pipelines	2021	Onsite	0.25	1.08	1.32	0	0.03	0.00	0.03
		Offsite	0.31	6.64	6.95	0.94	0.03	0.25	0.03
		Total	0.56	7.72	8.28	0.9399	0.0634	0.2523	0.062
Lift Station PS-A	2020	Onsite	0.42	1.82	2.24	0	0.06	0.00	0.06
		Offsite	0.13	0.55	0.68	0.27	0.00	0.07	0.00
		Total	0.55	2.37	2.92	0.2739	0.06057	0.0732	0.06033
Lift Station PS-B	2020	Onsite	0.42	1.82	2.24	0	0.06	0.00	0.06
		Offsite	0.13	0.55	0.68	0.27	0.00	0.07	0.00
		Total	0.55	2.37	2.92	0.2739	0.06057	0.0732	0.06033
Injection Wells	2019	Onsite	0.77	4.16	4.93	0	0.10	0.00	0.10
		Offsite	0.11	0.67	0.78	0.22	0.01	0.06	0.01
		Total	0.89	4.83	5.71	0.2168	0.10645	0.058	0.10614
Decommissioning existing plant	2021	Onsite	0.46	2.00	2.47	0	0.06	0.00	0.06
		Offsite	0.32	7.13	7.45	0.75	0.03	0.21	0.03
		Total	0.79	9.13	9.92	0.7455	0.0939	0.2054	0.0925

Mitigated Maximum Daily Emissions (lbs/day) - Tier 4

Year	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
2019 (Oct to Dec)	3.56	27.16	30.72	2.84	0.44	0.73	0.44
2020 (Aug to Sep)	3.37	22.16	25.53	2.31	0.39	0.62	0.39
2021 (Sep to Oct)	3.34	31.50	34.84	3.02	0.39	0.83	0.39

Maximum Quarterly Emissions (tons/quarter) - Tier 4

	Workdays in quarter	ROG	NO _x	ROG + NO _x	Fugitive PM ₁₀	Exhaust PM ₁₀	Fugitive PM _{2.5}	Exhaust PM _{2.5}
2019 (Oct to Dec)	62	0.11	0.84	0.95	0.09	0.01	0.02	0.01
2020 (Jul to Sep)	64	0.10	0.62	0.72	0.06	0.01	0.02	0.01
2021 (Aug to Oct)	63	0.09	0.74	0.83	0.07	0.01	0.02	0.01
SLOAPCD Threshold								
Tier 1				2.5	2.5			0.13
Tier 2				6.3				0.32

Summary of Annual GHG Emissions (tons/year)

Source	CO ₂	CH ₄	N ₂ O	CO ₂ e
Backup Generator T & M	140.4	0.0197	0	140.9
Worker Commute Trips	26.8	0.0	0.0	29.0
Delivery and Haul Truck Trips	58.1	0.0	0.0	58.2
Electricity Generation (Indirect)	434.5	0.05	0.01	437.5
Amortized Construction Emissions	202.6	0.05	0.00	203.9
Total	862.4	0.13	0.01	869.5
SLOAPCD Significance Thresholds	---	---	---	10000
Significant?	---	---	---	No

Direct Operational GHG Emissions from Vehicle Trips

Source	Vehicle Type	Ave. Trips/month (round trips)	One way trips/month	One Way Trip length (miles)	Travel miles per month	Emission Factors ¹ (gms/mile)			Total Emissions			
						CO ₂	CH ₄	N ₂ O	CO ₂	CH ₄	N ₂ O	CO ₂ e ²
Chemical Delivery trips	HDT	5	10	200	2000	1647.2885	0.0051	0.0048	3.31	0.000	0.000	3.32
Biosolids Hauling Trips	HDT	4	8	86	688	1647.2885	0.0051	0.0048	1.13	0.000	0.000	1.13
Screening & Grit Removal Trips	HDT	4	8	30	240	1647.2885	0.0051	0.0048	0.40	0.000	0.000	0.40
Worker Commute Trips	LDA	120	240	20	4800	276.9620	0.0704	0.0647	1.33	0.000	0.000	1.43
Maintenance Trips	LDT	60	120	20	2400	378.3494	0.0776	0.1056	0.91	0.000	0.000	0.99
Total Project Average Monthly									7.08	0.001	0.001	7.27
Total Annual Emissions (tons/year)									84.96	0.006	0.007	87.18

NOTES:

- CO₂ emission factor derived from EMFAC2014, CH₄ and N₂O emission factors from Table 13.4, page 36 of the 2017 TCR Default Emission Factors available at <http://www.theclimaterestory.org/wp-content/uploads/2017/05/2017-Climate-Registry-Default-Emission-Factors.pdf>
- GWP for CH₄ and N₂O derived from IPCC Fourth Assessment Report (AR4), available at <https://www3.arb.ca.gov/cc/inventory/background/gwp.htm>

Indirect Operational GHG Emissions from Electricity Consumption

GHG	Emission Factor ^{1,2} (lb/kWh)	Electricity Consumption (kWhr/year)	Annual emissions (metric tons/year)	Annual emissions as CO ₂ e (metric tons/year)
CO ₂	0.29000	3,303,250	434.52	434.52
CH ₄	0.00003	3,303,250	0.05	1.24
N ₂ O	0.00000	3,303,250	0.01	1.79
Total =				437.55

NOTES:

- CH₄ and N₂O emission factors from USEPA's eGRID2014v2, available at https://www.epa.gov/sites/production/files/2017-02/documents/egrid2014_summarytables_v2.pdf
- CO₂ emissions factor from PG&E, available at https://www.pge.com/includes/docs/pdfs/shared/environment/calculator/pge_ghg_emission_factor_info_sheet.pdf

Construction GHG Emissions (MT/year)

Year	CO ₂	CH ₄	N ₂ O	CO ₂ e
2019	1067.5124	0.2646	0	1074.1
2020	2280.1944	0.63222	0	2296.0
2021	1716.3713	0.4344	0	1727.2
Total				5097.4
Assumed Project Life (years)				25
Amortized annual emissions				203.9
Additional Construction Emissions from PS-B included in 2020 emissions above	290.3473	0.08562	0	292.5

Appendix B

**Biological Resources
Supplemental Information for
the Morro Bay Reclamation
Facility Project**



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MEMORANDUM

Date: June 27, 2019
To: Eric Casares and Paul Amico
Organization: Carollo Engineers
From: Kevin Merk
Email: kmerk@kevinmerkassociates.com
cc: Rob Livick, City of Morro Bay
Re: **Biological Resources Supplemental Information for the Morro Bay Wastewater Reclamation Facility Project**

INTRODUCTION

Kevin Merk Associates (KMA) is providing this technical memorandum to supplement our Biological Resources Assessment (April 2017), Delineation of Waters of the United States and State of California (March 2018; Delineation Report), and Supplemental Biological Resources Report (June 2018) prepared for the Morro Bay Wastewater Reclamation Facility project (WRF). The purpose of the memo is to cover changes to the project that affect areas not included in the previous studies. This includes revisions to the pipeline alignment, as well as other project elements such as a proposed lift station on Main Street and two potential construction lay down or staging areas on Quintana Road (please refer to the attached Area of Potential Effects Map). To support information provided in this technical memorandum are Habitat Maps, Figures 3F, 3G and 3H, covering the revised project elements. Also refer to the attached photo plate for further detail regarding existing conditions.

The project as proposed will avoid direct impacts to natural drainage features regulated under the Clean Water Act, California Fish and Game Code and California Coastal Act. To support project planning and preparation of construction documents, two additional wetland delineation maps have been prepared identifying the limits of federal and state jurisdiction over Morro Creek and Drainage 1 within the study area. The wetland delineation maps, identified as Figures 4A and 4B should be used as addenda to the 2018 Delineation Report as the methodologies of the recent delineation work are consistent with those described in that document. Agency consultation between the U.S. Army Corps of Engineers (USACE) and the City of Morro Bay regarding the proposed project has also occurred, and the USACE prepared a Preliminary Jurisdictional Determination (PJD) that concurs with the findings of the 2018 Delineation Report (please see attached).

The following details the methods and results of the supplemental investigation.

METHODS

The supplemental biological resources analysis was completed in during the late winter and spring 2019 consistent with the methods used in the preparation of the 2017 Biological Resources Assessment report. The supplemental analysis included a review of available background information such as historic photographs and biological studies conducted in the region. We also reviewed the Biological Resources section of the Final Environmental Impact Report and correspondence between project team members and regulatory agency personnel. This includes an email from Kevin Merk to Ms. Alaina McCurdy of the Environmental Protection Agency (EPA) on March 5, 2019 clarifying special status resources issues.

Vegetation classification in this analysis was consistent with the 2017 and 2018 study methods and generally follows Holland's *Preliminary Descriptions of the Terrestrial Natural Communities of California* (1986) with modifications to cover anthropogenic habitats such as ruderal or ornamental. Observed plant community distribution onsite was cross-referenced with *A Manual of California Vegetation, Second Edition* (Sawyer et al., 2009) for consistency. Plant taxonomy followed the *Jepson Manual, Second Edition* (Baldwin et al., 2012) as updated online.

As part of the background information review, the California Natural Diversity Database (CNDDDB, 2019) maintained by the California Department of Fish and Wildlife (CDFW) was queried in March and May to confirm the previous analysis adequately covered special status resources potentially occurring in the area, and that no new special status species observations were reported since the 2017 and 2018 analysis occurred. This search used the same five-mile study area buffer to identify special status species and plant communities with potential to occur in the immediate vicinity of the project site. The special status species definitions for plants and animals are consistent with the definitions included in previous reports and correspondence.

The Natural Resources Conservation Service (NRCS) Web Soil Survey was also reviewed again to assess the current alignment's potential to support the Morro shoulderband snail and other special status species of plants and wildlife. The U. S. Fish and Wildlife Service's online National Wetland Inventory, Information, Planning and Consultation system (IPaC), and Critical Habitat Mappers (<http://www.fws.gov/wetlands/Data/Mapper.html>; <https://www.fws.gov/ipac/>; <http://criticalhabitat.fws.gov/crithab/>) were also reviewed to evaluate the extent of documented wetlands, federal listed species and designated critical habitat defined in the updated alignment. The online list of endangered and threatened marine (and anadromous) species under NOAA Fisheries (or NMFS) jurisdiction located at <http://www.nmfs.noaa.gov/pr/species/esa/listed.htm> was also reviewed to confirm the analysis adequately identified all special status species with potential to occur in the study area and be affected by the project.

KMA biologists conducted field work to assess existing conditions and plant community distribution, search for special status plants and update the wetland delineation information in the supplemental study areas on the following days in 2019: February 28, March 13, April 22, May 21 and June 6. During the surveys, the study area was accessed on foot and driven with select vantage points used to assess existing conditions along Quintana Road and South Bay Boulevard. Weather during the surveys ranged from sunny to generally foggy conditions with light (<5mph) to moderate (5-10mph) winds out of the west. Several of the site visits occurred immediately following rain events to assess site hydrology. Temperatures ranged from approximately 55 to 65 degrees Fahrenheit.

Field work for the wetland delineation occurred on May 21, 2019 and included analysis of Drainage 1 and the hydrologic connectivity of this drainage feature to Morro Creek. An offsite wetland feature in Drainage 1 just outside the original study area was also evaluated to delineate the extent of federal and

state defined wetlands. Delineation methods used were consistent with those described in the 2018 Delineation Report, and routine determination forms were completed at representative sample points to characterize the extent of Clean Water Act, California Coastal Act and California Fish and Game Code jurisdiction.

The evaluation of special status plants and wildlife and identification of habitat that could support these species was based on our field observations, knowledge of the particular species biology, and review of documented records included in the CNDDDB. Definitive surveys for the presence or absence of the wildlife species that may be present were not conducted. Wildlife species generally require specific survey protocols with extensive field survey time to be conducted only at certain times of the year. Since the updated investigation occurred during the spring of 2019, field surveys covered special status plants bloom periods to confirm absence of rare plants in the new study area.

RESULTS

No new habitat types from those described in the 2017 Biological Resources Assessment were identified in the revised alignment, proposed lift station and construction staging (laydown) areas. Habitat types observed in the supplemental study areas shown on Figures 3F, 3G, and 3H include Ornamental, Ruderal/Developed, Annual Grassland, Riparian Scrub and Iceplant. Please refer to the 2017 report for a detailed characterization of these habitat types. Background literature and CNDDDB review did not identify any new special status species beyond those described in the 2017 and 2018 reports. Additional special status species detail is provided below to answer questions raised by the EPA during their review of the project. The supplemental analysis also amended the Delineation Report to identify the extent of federal and state jurisdictional areas at Morro Creek where a pipe bridge is proposed and at Drainage 1 to assist the project team avoid impacting regulated drainage features while developing construction documents for the project. Please refer to Figures 4A and 4B included as attachments for the wetland delineation information. The following summarizes our findings by each area:

Revised Pipeline Alignment North – pipeline from existing facility on Atascadero Road (Highway 41) extends east to bike path then south to Morro Creek (Figure 3F)

The pipeline alignment in the northern part of the study area was revised to avoid Lila Keiser Park and follow developed and disturbed areas along Atascadero Road and the bike path. The previous biological work conducted in 2017 and 2018 generally assessed these areas but did not include them on the habitat maps. As such, the attached habitat map provided as Figure 3F covers the revised alignment in the northern part of the site, and ties into the habitat maps provided in the 2017 report.

Soils in this portion of the study area are associated with coastal dunes (Dune Land) and the historic path of Morro Creek (Psammments and fluvents occasionally flooded), which were previously identified in the 2017 report. No new soil map units were identified in this portion of the study area.

No special status plants or wildlife were observed in the revised northern alignment. The study area is disturbed and developed with some ornamental and landscaping vegetation along the front of Morro Bay High School, several motels, and other developments in the area. A small patch of iceplant is present in the vicinity of proposed Lift Station Option 5A analyzed in the 2017 report, and a large mat of iceplant is present just west of Motel 6. It was determined that since the iceplant occurs on sandy dune land, there is potential for the Morro shoulderband snail (*Helminthoglypta walkeriana*; MSS) to occur in this portion of the site. Protecting the iceplant and ensuring no encroachment from project-related activities occurs during construction would be sufficient to avoid impacts to MSS within this part of the project.

Consistent with the conclusions in the 2017 Biological Resources Assessment, the portions of Morro

Creek and Drainage 1 within the study area and their associated vegetation would be subject to regulatory jurisdiction of the USACE, Regional Water Quality Control Board (RWQCB) and CDFW. The same areas would fall under the California Coastal Commission's (CCC) jurisdiction as environmentally sensitive habitat areas (ESHA). The attached wetland delineation maps identify the limits of regulatory agency jurisdiction associated with these two drainage features.

It is our understanding that a pipe bridge will be constructed over Morro Creek and support footings would be sited outside or beyond the limits of the top of bank as shown on Figure 4A. The pipeline would be dropped into place using a crane and no alteration of the creek's bed or banks would be required. Some trimming of riparian scrub habitat may be needed to access the southern bank area, but very little riparian scrub habitat occurs in this area and it is mostly ornamental species such as Monterey cypress (*Hesperocyparis macrocarpa*) growing in the pipeline alignment. No impacts to Drainage 1 and its associated riparian scrub and wetland habitat are expected since the pipeline would be installed using horizontal directional drilling (HDD) or similar technique to avoid impacts to the drainage feature. Any launching or receiving pits would be sited outside the jurisdictional areas and the pipeline would be installed at a depth sufficient to avoid impacting the drainage feature.

Construction of pipe bridge footings outside the jurisdictional area of Morro Creek and placing the pipe over the creek using a crane would not require Clean Water Act Section 404 permit authorization from the USACE since the project would not place fill material within a waters of the United States (please refer to the USACE PJD attached). Since a Section 404 permit would not be required from the USACE, a Section 401 Water Quality Certification from the RWQCB would not be required. Still, there is potential need to trim riparian scrub vegetation on the south banks of the creek, and riparian scrub habitat is associated with drainage features that are subject to California Fish and Game Code requirements. CDFW will be notified by the submittal of a Streambed Alteration Agreement and all drainage crossings and any riparian habitat disturbances will be identified in the submittal. Ongoing consultation with the RWQCB will determine if the project should be enrolled in the Waste Discharge Requirements program or if enrollment in the general construction permit will be sufficient. Mitigation measures identified in the FEIR would be sufficient to ensure the project does not significantly impact natural drainage features subject to Clean Water Act and California Fish and Game Code requirements.

Proposed Pump/Lift Station B at Main Street and two potential Construction Staging/Laydown Areas on Quintana Road (Figure 3G)

The project was updated since the previous studies were conducted to include a lift (or pump) station at Main Street as well as two potential construction staging or laydown areas along Quintana Road. These areas were not included in our study area developed for the 2017 report, but are immediately adjacent to the study area and have similar habitats or land uses as described in the earlier report. The proposed lift station would be constructed in a disturbed dirt parking lot with no native habitat present. While it is adjacent to Drainage 1, no riparian or wetland habitat was present in the drainage feature. For the most part, Drainage 1 is a trapezoidal ditch constructed along the toe of the fill slope of Highway 1. The bed and banks of this feature are armored in many places with rock rip rap and dominated by non-native weedy upland vegetation. Ornamental plantings (pine trees) are present at the north corner of the site, and at this time, it is unclear if these trees would require removal to construct the lift station.

Further east are two proposed construction staging or laydown areas along Quintana Road. The western most site is a dirt pull out off Quintana Road. It was composed of bare soils and weedy grasses and forbs. Drainage 1 along with riparian scrub habitat is present downslope from the pull out area, and a swath of iceplant is present further east of the proposed disturbance area immediately adjacent to Quintana Road. No special status plants were observed in this area during spring surveys conducted in 2019, and none are expected to occur based on the disturbed habitat. Since this is a sandy soils area (mapped as

Baywood Fine Sands), the patch of iceplant has the potential to support the MSS. If this site is to be used, protection measures and construction best management practices (BMPs) such as protective fencing and worker environmental training will be required to ensure construction activities and storage of materials are confined to the disturbed area and do not have the potential to encroach or have runoff enter the drainage feature and associated riparian habitat. Protection of the iceplant area (i.e., orange protective and silt fencing) will also be needed to ensure avoidance of potential MSS habitat occurs during project construction.

The eastern laydown area along Quintana Road is located in a parking lot surrounded by development. Since this site is already developed, no drainage features or native habitat that could potentially support special status species was present.

Revised Pipeline Alignment East – pipeline extends east on Quintana Road to South Bay Boulevard then north to proposed facility (Figure 3H)

At the time the 2017 investigation was conducted, the western alignment was proposed to cross under Highway 1 and connect with Teresa Road and run along the north side of Highway 1 to South Bay Boulevard before entering the facility site. Now, the pipeline alignment is proposed to follow Quintana Road all the way to South Bay Boulevard, then turn north and head to the plant in the roadway. The pipeline will be installed entirely within the paved and disturbed roadway. Ornamental, riparian scrub, annual grassland and iceplant habitats were observed in the study area outside the disturbed roadway. No rare plants were observed in this area during recent surveys, and the study area is relatively disturbed with mowed road shoulders and non-native ornamental plantings present. Drainage 3 is confined to a roadside ditch in between South Bay Boulevard and the mobile home park and does not support aquatic habitat with sufficient depth (i.e., 24 inches or greater) to support species such as the federal threatened California red-legged frog (*Rana draytonii*). This portion of the study shown on Figure 3H occurs on heavy clay soils (Diablo and Cropley clays), and therefore, the MSS, which is known to occur only on sandy soils of marine origin, is unlikely to occur in iceplant patches that are present on the slope near the church entrance as shown on Figure 3H.

Special Status Biological Resources

The 2017 Biological Resources Assessment reviewed numerous special status plants and animals documented by the CNDDB in the vicinity of the project area. It also included seasonally timed botanical surveys of the facility site and proposed east and west alignments. The supplemental background review did not identify any new special status species beyond those described in the 2017 report. Surveys conducted in March, April and May 2019 also covered the proposed facility on the South Bay Boulevard site, and no new occurrences of rare plants were observed in the study area. To date, only San Luis Obispo owl's clover (*Castilleja densiflora* ssp. *obispoensis*) was observed on the South Bay Boulevard facility site, well away from any proposed project related activities. The spring 2019 surveys of that site confirmed this species is confined to the same areas shown on the Habitat Map included in the 2017 report.

The supplemental analysis provided in our 2018 Biological Resources Report and via email to the project team concluded the 2017 report identified all special status species, including state and federal listed species and special status species under the California Environmental Quality Act that could have the potential to occur in the project area. Surveys of the additional areas in 2019 confirmed that no special status species are present within the revised study areas shown on Figures 3F, 3G, and 3H.

As discussed in our 2018 Biological Resources Report and subsequent email correspondence with team and agency personnel, review of the USFWS's IPaC system identified additional federally-listed species

not included in the 2017 report's special status species analysis. Even though a defined study area was created for the IPaC query, the system generated a list of all federally-listed species in the County, including species such as the San Joaquin kit fox (*Vulpes macrotis mutica*) known from arid inland areas. This species has a highly restricted range in San Luis Obispo County that does not extend this far west over the Santa Lucia Mountains into the coastal zone. Furthermore, no suitable habitat is present for the kit fox or other species such as giant kangaroo rat (*Dipodomys ingens*) characteristic of arid inland areas identified in the review of the IPaC report. Therefore, it was concluded these additional species do not have the potential to occur in the study area due to range restrictions and lack of suitable habitat.

The 2019 analysis also reviewed Figure 3.4-7, Morro Shoulderband Snail Survey Locations Map, included in the project EIR and inspected areas mapped as Baywood Fine Sands or dune land to determine the potential for MSS to be present in or adjacent to project work areas. Since the eastern pipeline alignment is no longer proposed, the focus was on sandy soil areas from the existing facility on Atascadero Road east to Quintana Road near the intersection of Morro Bay Boulevard where sandy soils stop and clay soils are present for the remainder of the alignment. It was confirmed that most of the sandy soils shown on Figure 3.4-7 covering the current project alignment are developed with road ways and structures. Several areas were identified along Atascadero Road (refer to Figure 3F) and near the proposed western construction lay down area on Quintana Road (refer to Figure 3G) where patches of iceplant are present on sandy soils. There were no MSS shells observed in these patches, and no substantial occurrences of native coastal scrub habitat were present adjacent to the iceplant patches where snails would be expected. Given the project will install the pipeline in existing road right of ways or areas that are developed such as the bike path next to Lila Keiser Park, avoidance and protection of the iceplant patches would be the most appropriate method to ensure the project does not affect potentially suitable MSS habitat. Prior to construction, the project biologist could delineate any potentially suitable MSS habitat adjacent to a work area and have that area staked and fenced to ensure construction activities do not impact iceplant and potentially affect MSS should they be present.

Wetland Assessment

Morro Creek and Drainage 1 were analyzed further to delineate the limits of state and federal jurisdiction to make sure construction plans avoid impacts to these features. The National Wetlands Inventory (NWI) identified freshwater forested shrub wetland and riverine habitat along Morro Creek and this investigation confirmed that flowing water devoid of vegetation (i.e., riverine) was present in the active channel of Morro Creek. Flowing water was confined to areas within the ordinary high water mark, which averaged 25 feet wide in between the Highway 1 on-ramp bridge and bike path bridge. While ornamental plantings dominate the general area, riparian scrub habitat was present in a small patch on the southern creek bank, which is consistent with the freshwater forested shrub wetland category. Please refer to the attached Figure 4A, wetland determination data forms, and Figure 2 in the 2017 Biological Resources Assessment for further information.

The NWI does not identify wetland or riverine habitat in Drainage 1 in the vicinity of the bike path included in the wetland delineation study area. Field work confirmed that riverine habitat is present and is confined to a small roadside ditch averaging five (5) feet wide in the study area. A patch of riparian scrub is also present along the portion of Drainage 1 in the study area and was previously mapped on the Habitat Maps included in the 2017 report. A small storm drain outfall was also located at the toe of slope of Highway 1 and a distinct drainage channel (average width was 3 feet) was present connecting to Drainage 1 at the bike path. A wetland feature just west of the bike path on the Morro Bay Power Plant property was also identified in 2017 report. The wetland feature is located within a chain link fence, and access was granted for this supplemental investigation to characterize and map the extent of state and federal wetland habitat. Field work for the delineation occurred over a several day period during the spring months to track hydrology and characterize these features, and specific data were collected on May

21, 2019.

Eight data observation points were used to characterize the extent of state and federal jurisdictional drainage features within the study area. Please refer to the attached Figures 4A and 4B and wetland determination data forms for further detail. The onsite drainages have a hydrologic connection to the Pacific Ocean. Drainage 1 connects to Morro Creek further west of the study area, and Morro Creek has a direct connection with the Pacific Ocean just downstream. Based on our investigation, Morro Creek and Drainage 1 and the small additional drainage feature entering the site from a storm drain outfall were determined to be subject to federal and state jurisdiction under the Clean Water Act and California Fish and Game Code. These features also meet the definition of ESHA as detailed in the 2017 and 2018 reports.

All Waters of the U.S., as described above, also fall within the jurisdiction of the RWQCB under Section 401 of the Clean Water Act and Porter Cologne Water Quality Act. The drainages are also regulated by CDFW pursuant to California Fish and Game Code Sections 1600 et seq. The drainage features and associated riparian and wetland habitats also constitute ESHA and fall under the regulatory authority of the CCC pursuant to the California Coastal Act. The outer extent of riparian vegetation was included in CDFW/RWQCB/CCC regulatory authority as shown on Figure 4A and 4B. Please refer to these maps for further detail including area calculations of the extent of each agency's jurisdiction within the study area.

Conclusion

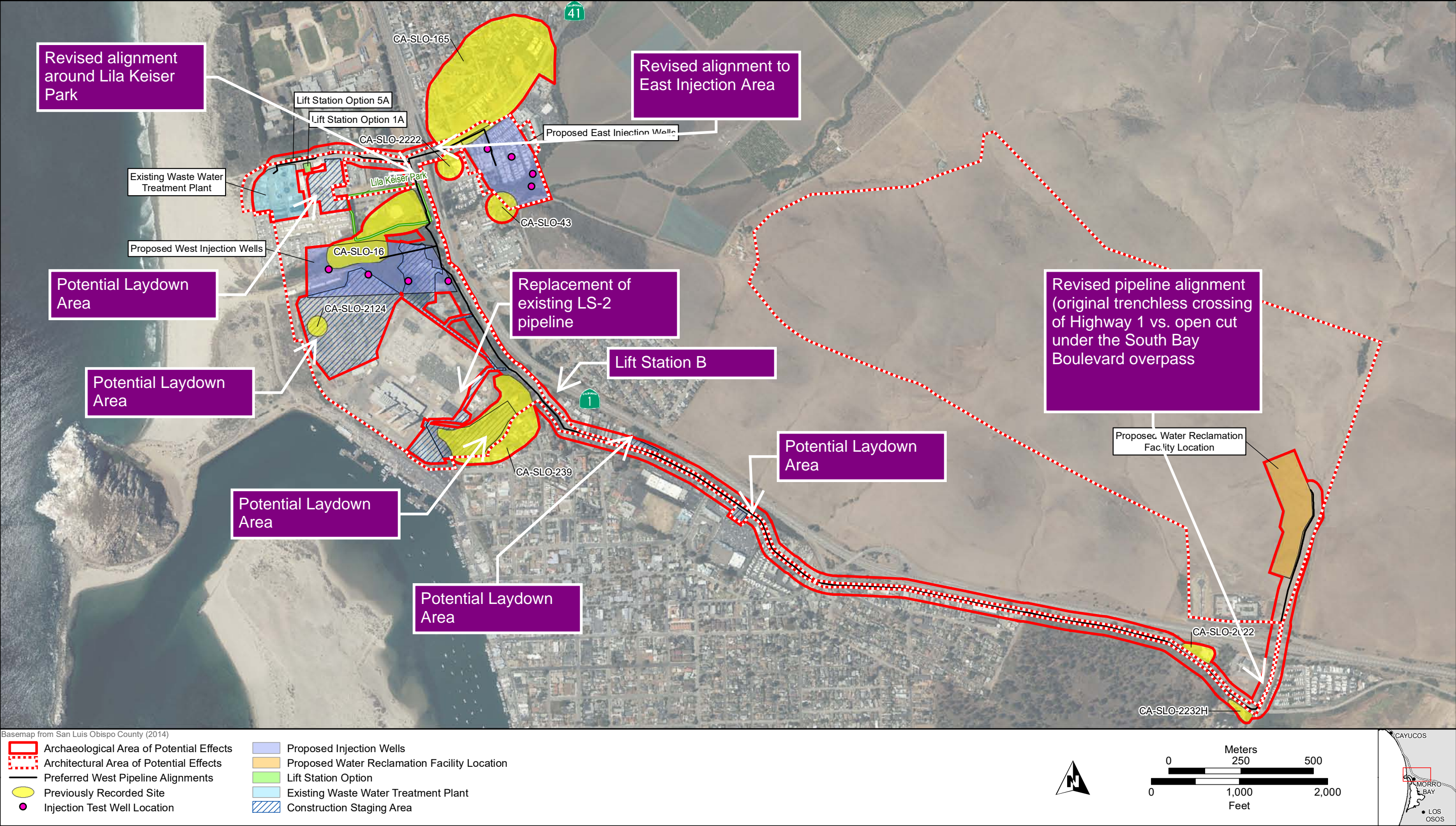
The 2019 biological investigation analyzed an enlarged study area covering project elements including revised pipeline alignments not previously evaluated in the 2017 Biological Resources Assessment or 2018 Delineation of Waters of the U.S. and State of California prepared for the South Bay Boulevard project site. Supplemental biological analysis also occurred in 2018 and included east and west injection well areas and a small segment of pipeline right of way along Main Street and Errol Street leading to the east injection well site. The 2019 analysis also included a proposed lift station on Main Street and two construction lay down or staging areas on Quintana Road. The Delineation of Waters of the U.S. and State of California for the South Bay Boulevard Site was amended to include the pipeline crossing of Morro Creek and provide a more detailed characterization of Drainage 1 to develop appropriate setbacks to be employed during construction.

No new habitat types, special status plants or wildlife beyond those described in the 2017 and 2018 biological reports were identified in the 2019 analysis. As a result, no new potential impacts to common or special status biological resources were identified in the supplemental analysis. Additional discussion was provided to clarify federal listed species occurrence discrepancies in the USFWS's IPaC System. The potentially significant impacts identified in the 2017 report, FEIR and associated mitigation measures are deemed adequate to reduce project related impacts to a less than significant level pursuant to the California Environmental Quality Act. Further review of potential Morro shoulderband snail habitat was conducted in 2019, and confirmed most of the areas identified on Figure 3.4-7 in the FEIR are developed and devoid of potentially suitable habitat. Several areas of iceplant growing on sandy soils are present in the vicinity of proposed work areas, and it is recommended that protection measures such as staking and orange protective fencing be installed around the iceplant areas to ensure project activities avoid any potentially suitable habitat for the Morro shoulderband snail during construction.

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


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Area of Potential Effects





-  Study Area Boundary
-  Annual Grassland
-  Riparian Scrub
-  Ornamental
-  Ruderal/Disturbed
-  Approximate Drainage Centerline
-  Culvert

Lift Station B

Drainage 1

Drainage 1A

Main St.

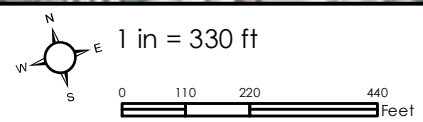
Quintana Rd.

CA-1

Potential Constuction Laydown Site

Potential Construction Laydown Site

Source: Esri 2019

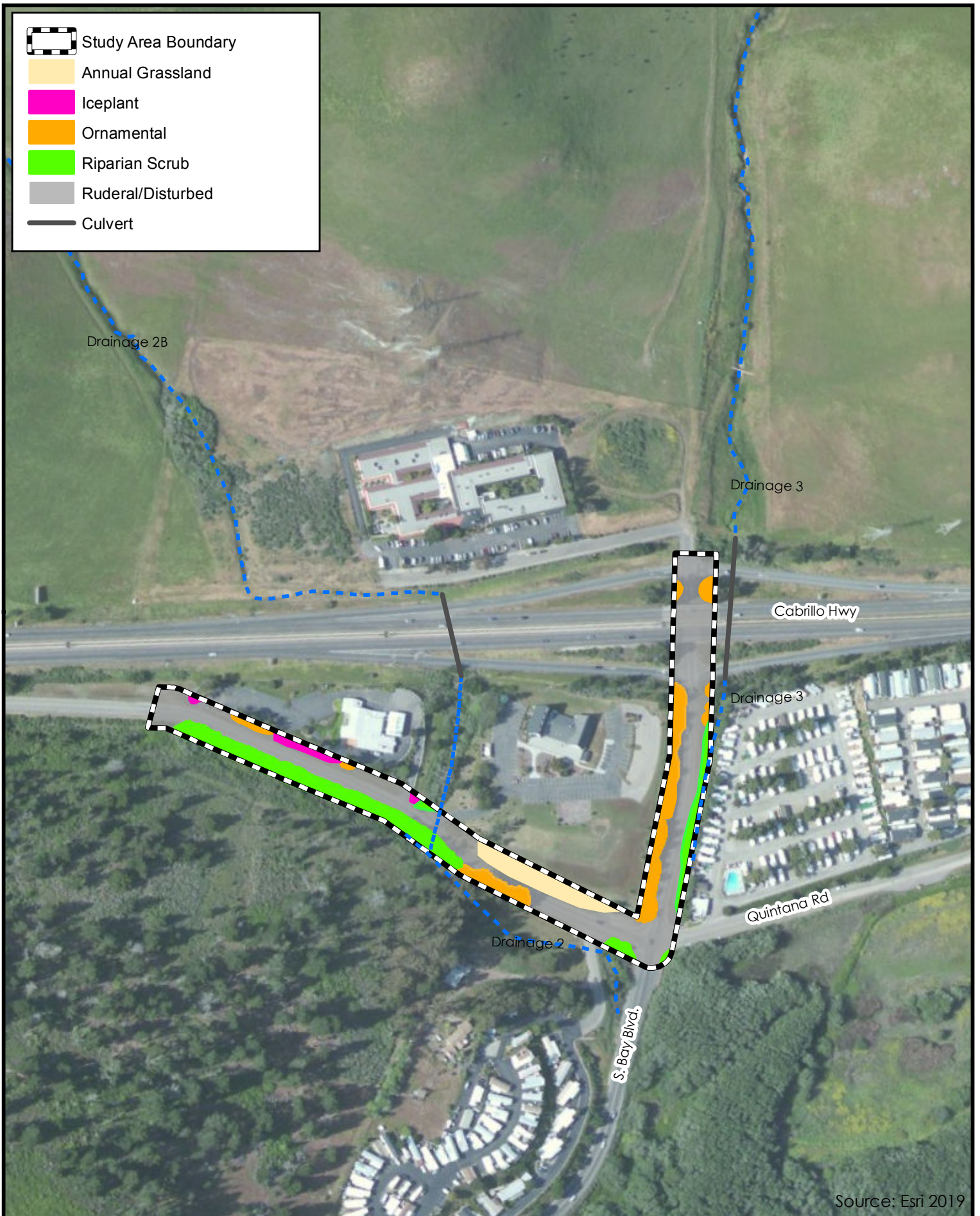


Morro Bay Water Reclamation Facility

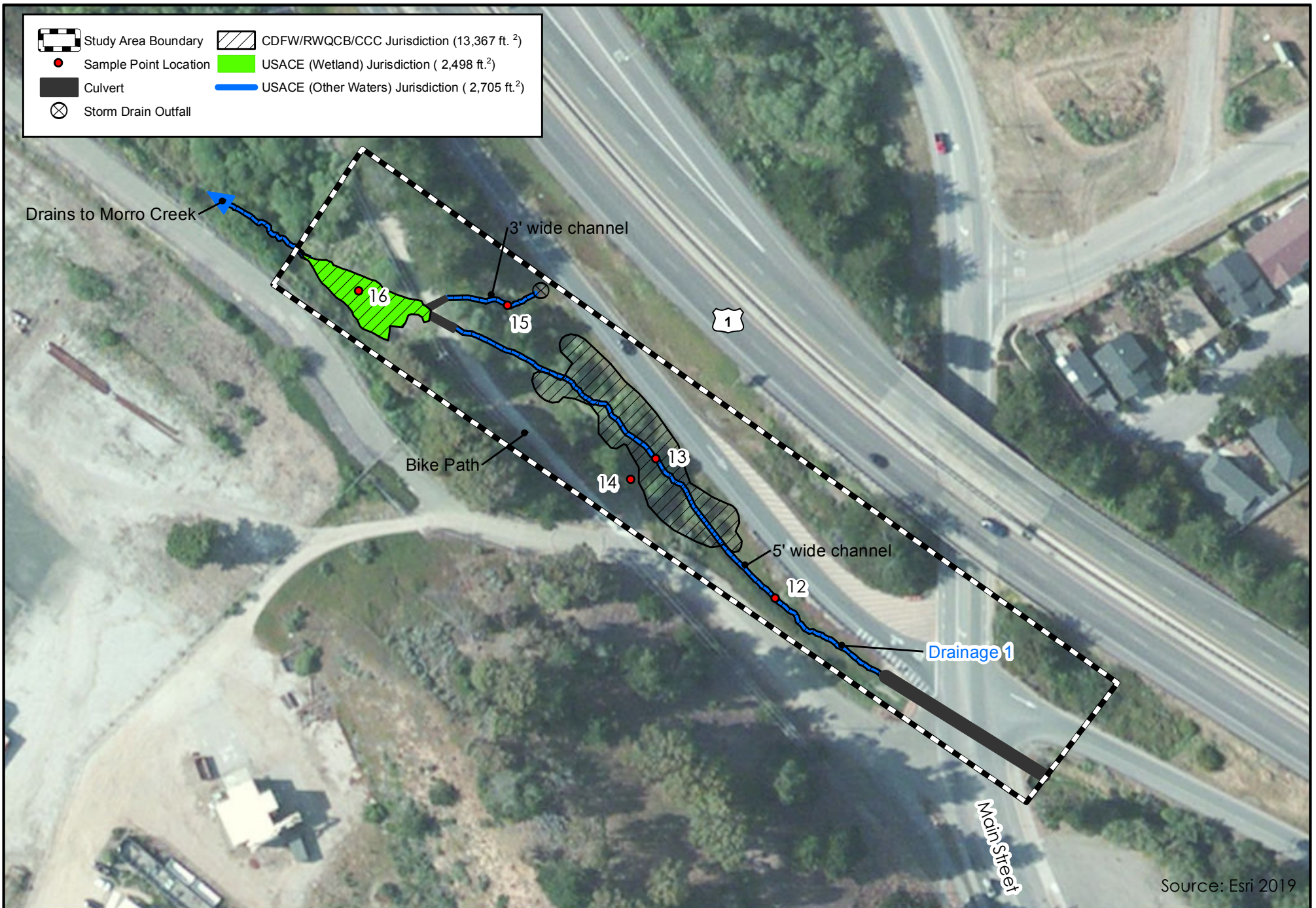
City of Morro Bay

Figure 3G

Habitat Map







WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 9
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 5
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded NWI classification: FWFSW

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Data point characterizes willow riparian scrub on southern bank above active Morro Creek channel.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)
1. <u>Salix lasiolepis</u>	<u>60</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>55</u> x 2 = <u>110</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>45</u> x 5 = <u>225</u> Column Totals: <u>100</u> (A) <u>335</u> (B) Prevalence Index = B/A = <u>3.35</u>
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	<u>60</u>			
Sapling/Shrub Stratum (Plot size: _____)				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.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. <u>Tropaeolum majus</u>	<u>10</u>	<u>N</u>	<u>UPL</u>	Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. <u>Delairea odorata</u>	<u>30</u>	<u>Y</u>	<u>UPL</u>	
3. _____				Remarks: Characterizes willow occurrence surrounded by ornamental plantings (Monterey cypress). Cape ivy growing throughout area with garden nasturtium growing over rock rip rap slope protection defining the limits of ordinary high water mark.
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover	<u>40</u>			
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____				
2. _____				
_____ = Total Cover	<u>100</u>			
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox features or other indicators of hydric soils observed in profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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 indicators of wetland hydrology observed. Data point characterizes willow scrub on upper bank outside of channel.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 10
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): concave Slope (%): 0
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded NWI classification: FWFSW and Riverine

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Data point characterizes active Morro Creek channel with flowing water devoid of vegetation.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				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.
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks:
Characterizes active channel with flowing water. No vegetation present within ordinary high water mark.

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

Flowing water present in channel and hydric soils criterion presumed to be met present since cobbles and gravels comprise the bed of channel with prolonged saturation and flowing water.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input checked="" type="checkbox"/> Water Marks (B1) (Riverine) |
| <input checked="" type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input checked="" type="checkbox"/> Aquatic Invertebrates (B13) | <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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:

Data point characterizes active channel. Ordinary high water mark mapped to define extent of non-wetland waters of the U.S. which averages 25 feet wide in study area. Flowing water approximately 6-18 inches deep.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 11
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): creek channel Local relief (concave, convex, none): Convex Slope (%): 5
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded NWI classification: none

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Data point characterizes north bank of Morro Creek dominated by upland weedy species	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____) 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ _____ = Total Cover				
Herb Stratum (Plot size: <u>20 ft circle</u>) 1. <u>Bromus diandrus</u> 35 Y UPL 2. <u>Malva neglecta</u> 10 _____ UPL 3. <u>Raphanus sativa</u> 15 _____ UPL 4. <u>Brassica nigra</u> 15 _____ UPL 5. <u>Tropaelum majus</u> 15 _____ UPL 6. <u>Pennisetum clandestinum</u> 10 _____ UPL 7. _____ 8. _____ 100 = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>) 1. _____ 2. _____ _____ = Total Cover				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.
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>				

Remarks:

Characterizes weedy north bank composed of upland species. Also present outside sample plot are ornamental plantings associated with Lila Kaiser Park, including Monterey cypress and blue gum eucalyptus.

SOIL

Sampling Point: 11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation and wetland hydrology must be present unless disturbed or problematic

³ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No hydric soils indicators expected due to dominance of weedy upland species and no signs of wetland hydrology

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|---|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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 indicators of wetland hydrology present

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 12
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): Drainage feature Local relief (concave, convex, none): concave Slope (%): <2
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded slopes NWI classification: _____

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Data point characterizes Drainage 1 as non-wetland other waters of the U.S. within roadside ditch. OHWM averages 5 feet wide.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				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 <input checked="" type="checkbox"/>
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. <u>Carpobrotus edulis</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Bromus diandrus</u>	<u>15</u>		<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>35</u> % Cover of Biotic Crust _____				

Remarks:
Characterizes roadside channel that has no vegetation rooted in the channel. Iceplant and riggut brome are present on banks and surrounding area.

SOIL

Sampling Point: 12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1)
<input type="checkbox"/> Histic Epipedon (A2)
<input type="checkbox"/> Black Histic (A3)
<input type="checkbox"/> Hydrogen Sulfide (A4)
<input type="checkbox"/> Stratified Layers (A5) (LRR C)
<input type="checkbox"/> 1 cm Muck (A9) (LRR D)
<input type="checkbox"/> Depleted Below Dark Surface (A11)
<input type="checkbox"/> Thick Dark Surface (A12)
<input type="checkbox"/> Sandy Mucky Mineral (S1)
<input type="checkbox"/> Sandy Gleyed Matrix (S4) | <input type="checkbox"/> Sandy Redox (S5)
<input type="checkbox"/> Stripped Matrix (S6)
<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Vernal Pools (F9) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C)
<input type="checkbox"/> 2 cm Muck (A10) (LRR B)
<input type="checkbox"/> Reduced Vertic (F18)
<input type="checkbox"/> Red Parent Material (TF2)
<input type="checkbox"/> Other (Explain in Remarks) |
|--|---|---|
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problem area

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No redox features or other indicators of hydric soils observed in profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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:

Drainage 1 characterized as a roadside ditch in this area with periodic flow during storm events. Drains onto Power Plant Property further northwest and then connects to Morro Creek and Pacific Ocean.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 13
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): Drainage feature Local relief (concave, convex, none): concave Slope (%): <2
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded slopes NWI classification: none

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Data point characterizes Drainage 1 as non-wetland other waters of the U.S. within roadside ditch. OHWM averages 5 feet wide.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Salix lasiolepis</u>	<u>100</u>	<u>Y</u>	<u>FACW</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover	<u>100</u>			
Sapling/Shrub Stratum (Plot size: _____)				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.
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. _____				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____				
2. _____				
_____ = Total Cover	<u>100</u>			
% Bare Ground in Herb Stratum _____	% Cover of Biotic Crust _____			

Remarks:
Characterizes Drainage 1 as it flows toward bike path. Willow thicket covers channel.

SOIL

Sampling Point: 13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox features or other indicators of hydric soils observed in profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input checked="" type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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:

Drainage 1 characterized as a roadside ditch in this area with periodic flow during storm events. Drains onto Power Plant Property further northwest and then connects to Morro Creek and Pacific Ocean. Ordinary high water mark averages 5 feet wide.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 14
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): flat terrace Local relief (concave, convex, none): flat Slope (%): <2
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded slopes NWI classification: none

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	
Remarks: Data point characterizes upland habitat in the vicinity of Drainage 1 paired with data point 13	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				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 <input checked="" type="checkbox"/>
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. <u>Bromus diandrus</u>	<u>80</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Brassica nigra</u>	<u>20</u>		<u>UPL</u>	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:
Characterizes upland vegetation adjacent to willow thicket along Drainage 1. Also in area are ornamental plantings consisting of Monterey pine, eucalyptus and myoporum.

SOIL

Sampling Point: 14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR3/2	100					sandy loar	rocky fill soils

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: 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 Soils³:

- ☐ 1 cm Muck (A9) (**LRR C**)
- ☐ 2 cm Muck (A10) (**LRR B**)
- ☐ Reduced Vertic (F18)
- ☐ Red Parent Material (TF2)
- ☐ Other (Explain in Remarks)

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ☒

Remarks:

No redox features or other indicators of hydric soils observed in profile.

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)

Secondary Indicators (2 or more required)

- ☐ 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 indicators of wetland hydrology present

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 15
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): flat terrace Local relief (concave, convex, none): concave Slope (%): <2
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psammments and Fluvents, occasionally flooded slopes NWI classification: none

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/>
Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/>	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Data point characterizes small drainage feature (OHWM = 3' wide) originating at storm drainage outfall under Highway 1 that connects to Drainage 1	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Pinus radiata</u>	<u>50</u>	<u>Y</u>	<u>UPL</u>	
2. _____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: _____ Multiply by: OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				
Sapling/Shrub Stratum (Plot size: _____)	_____	_____	_____	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.
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 ft circle</u>)	_____	_____	_____	
1. <u>Bromus diandrus</u>	<u>80</u>	<u>Y</u>	<u>UPL</u>	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	Remarks: Characterizes small drainage feature that appears to carry surface runoff from Highway 1 to Drainage 1.
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)	_____	_____	_____	
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum <u>20</u>	% Cover of Biotic Crust _____			

SOIL

Sampling Point: 15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

No redox features or other indicators of hydric soils observed in profile.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> 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:

OHWM approximately 3 feet wide confined to small drainage feature originating at outfall pipe. Connects to Drainage 1 at bike path.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Morro Bay WRF City/County: Morro Bay/SLO County Sampling Date: 5/21/19
 Applicant/Owner: City of Morro Bay State: CA Sampling Point: 16
 Investigator(s): Merk Section, Township, Range: T29S / R10E
 Landform (hillslope, terrace, etc.): flat terrace Local relief (concave, convex, none): concave Slope (%): <2
 Subregion (LRR): C Lat: _____ Long: _____ Datum: _____
 Soil Map Unit Name: Psamments and Fluvents, occasionally flooded slopes NWI classification: none

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? Are "Normal Circumstances" present? Yes ☒ No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____
Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____	
Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	
Remarks: Data point characterizes wetland feature in Drainage 1 just west of bike path.	

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: <u>20 ft circle</u>)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A) Total Number of Dominant Species Across All Strata: _____ (B) Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)
1. <u>Eucalyptus globulus</u>	<u>35</u>	<u>N</u>	<u>UPL</u>	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
_____ = Total Cover				Prevalence Index worksheet: Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
Sapling/Shrub Stratum (Plot size: _____)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	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)
_____ = Total Cover				
Herb Stratum (Plot size: <u>20 ft circle</u>)				
1. <u>Cyperus eragrostis</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	
2. <u>Eleocharis macrostachya</u>	<u>25</u>	<u>Y</u>	<u>OBL</u>	
3. <u>Juncus effusus</u>	<u>25</u>	<u>Y</u>	<u>FACW</u>	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
4. <u>Schoenoplectus acutus</u>	<u>10</u>	_____	<u>OBL</u>	
5. <u>Phalaris aquatica</u>	<u>5</u>	_____	<u>FACU</u>	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
_____ = Total Cover				
Woody Vine Stratum (Plot size: <u>20 ft circle</u>)				
1. _____	_____	_____	_____	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>
2. _____	_____	_____	_____	
_____ = Total Cover				
% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____				

Remarks:

Characterizes wetland feature in Drainage 1 on west side of bike path in Morro Bay Power Plant property. Phalaris aquatic present around feature and was not included in mapping. Also has approximately 10% open water present approximately 2-12 inches deep.

SOIL

Sampling Point: 16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

[illegible]

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

Indicators for Problematic Hydric Soils³:

- | | | |
|--|---|---|
| <input type="checkbox"/> Histosol (A1) | <input type="checkbox"/> Sandy Redox (S5) | <input type="checkbox"/> 1 cm Muck (A9) (LRR C) |
| <input type="checkbox"/> Histic Epipedon (A2) | <input type="checkbox"/> Stripped Matrix (S6) | <input type="checkbox"/> 2 cm Muck (A10) (LRR B) |
| <input type="checkbox"/> Black Histic (A3) | <input type="checkbox"/> Loamy Mucky Mineral (F1) | <input type="checkbox"/> Reduced Vertic (F18) |
| <input type="checkbox"/> Hydrogen Sulfide (A4) | <input type="checkbox"/> Loamy Gleyed Matrix (F2) | <input type="checkbox"/> Red Parent Material (TF2) |
| <input type="checkbox"/> Stratified Layers (A5) (LRR C) | <input type="checkbox"/> Depleted Matrix (F3) | <input type="checkbox"/> Other (Explain in Remarks) |
| <input type="checkbox"/> 1 cm Muck (A9) (LRR D) | <input type="checkbox"/> Redox Dark Surface (F6) | |
| <input type="checkbox"/> Depleted Below Dark Surface (A11) | <input type="checkbox"/> Depleted Dark Surface (F7) | |
| <input type="checkbox"/> Thick Dark Surface (A12) | <input type="checkbox"/> Redox Depressions (F8) | |
| <input type="checkbox"/> Sandy Mucky Mineral (S1) | <input type="checkbox"/> Vernal Pools (F9) | |
| <input type="checkbox"/> Sandy Gleyed Matrix (S4) | | |
- ³Indicators of hydrophytic vegetation wetland hydrology must be present unless disturbed or problematic

³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✓ No

Remarks:

No soil pit excavated due to presence of surface water. Hydric soil indicators presumed present based on predominance of FACW and OBL plants

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

Secondary Indicators (2 or more required)

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Salt Crust (B11) | <input type="checkbox"/> Water Marks (B1) (Riverine) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Biotic Crust (B12) | <input checked="" type="checkbox"/> Sediment Deposits (B2) (Riverine) |
| <input checked="" type="checkbox"/> Saturation (A3) | <input checked="" type="checkbox"/> Aquatic Invertebrates (B13) | <input type="checkbox"/> Drift Deposits (B3) (Riverine) |
| <input type="checkbox"/> Water Marks (B1) (Nonriverine) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input checked="" type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Sediment Deposits (B2) (Nonriverine) | <input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input type="checkbox"/> Drift Deposits (B3) (Nonriverine) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Surface Soil Cracks (B6) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Thin Muck Surface (C7) | <input type="checkbox"/> Shallow Aquitard (D3) |
| <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Other (Explain in Remarks) | <input type="checkbox"/> FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present? Yes ☒ No ☐ Depth (inches): 2-12 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:

Wetland feature associated with Drainage 1 was mapped based on the limits of wetland vegetation.

Photo Plate

Photo 1. Westerly view of the Atascadero Road alignment looking toward the existing treatment facility. Photo taken in front of the High School showing ruderal and ornamental areas.



Photo 2. View of riparian scrub, ruderal and iceplant in the vicinity of Lift Station Option 5A. Iceplant on sandy dune soils could provide habitat for the Morro shoulderband snail (MSS).



Photo 3. Westerly view of ruderal and developed areas of Atascadero Road near bike path intersection. Existing facility is in the distance.



Photo 4. Southerly view of bike path alignment with ornamental plantings on Lila Kaiser Park and ruderal/developed areas including road shoulder and paved areas.



Photo 5. Southerly view of bike path and proposed location where the pipeline would cross Morro Creek. Pedestrian bridge is visible in the distance beyond the eucalyptus trees (=ornamental).



Photo 6. Close up view of Morro Creek where the pipe bridge would be constructed. Support footings would be constructed outside the top of bank. Weedy vegetation covers the banks, but some riparian scrub on the south side of the creek may require trimming.



Photo 7. Northerly view of potential Lift Station B on Main Street. Photo shows ruderal/disturbed area abutting Drainage 1 (right), which is characterized as a roadside ditch with ephemeral flow.



Photo 8. Northwesterly view of western laydown/construction staging area on Quintana Road. Drainage 1 and riparian scrub is visible in right hand side of photo.



Photo 9. Easterly view of western laydown area on Quintana Road showing ruderal/disturbed area. Riparian scrub is visible to the left associated with Drainage 1 and iceplant growing on sandy soils is present in the distance along the road shoulder, which could support MSS.



Photo 10. Easterly view of Quintana Road pipeline alignment. Riparian scrub is present on the right associated with Drainage 2. Ruderal and Ornamental vegetation are present to the left.



Photo 11. Northerly view of Quintana Road near South Bay Blvd showing riparian scrub along Drainage 2 (left), ruderal/developed (road and road shoulder) and ornamental areas. Iceplant is present on the slope to right, but soils in this area are clay which is not suitable for MSS.



Photo 12. Northerly view of intersection of South Bay Blvd and Quintana Road.



Photo 13. Westerly view of Quintana Road and South Bay Blvd intersection showing ornamental plantings to the right and riparian scrub associated with Drainage 2 visible to the left.



Photo 14. Northerly view of South Bay Blvd looking towards Highway 1 and the entrance to the proposed WRF. Drainage 3 with riparian scrub are present to the right in the roadside ditch and ornamental plantings are visible in the distance.



Photo 15. Southeasterly view of Drainage 1 next to the Highway 1 off ramp at Main Street. Drainage is approximately 5 feet wide roadside ditch with iceplant and upland weeds on the banks.



Photo 16. Northerly view of Drainage 1 showing approximately 5 foot wide channel with iceplant and ornamental species that transition into riparian scrub growing on the banks in the distance.



Photo 17. Drainage 1 crosses beneath bike path via small box culvert and flows onto Morro Bay Power Plant property. Due to vegetation growth along the channel to west, flows are impounded creating an area of seasonal ponding on the other side of the fence. See below photo.



Photo 18. Southeasterly view of wetland on Power Plant that has formed to the northwest of the bike path as shown on Figure 3A included in the 2017 BRA and Figure 4B (attached).



Photo 19. Westerly view of Morro Creek in the vicinity of the proposed pipe bridge. Creek has an ordinary high water mark approximately 25 feet in width with weedy upland vegetation on the north bank and a mix of weedy upland, ornamental and riparian scrub vegetation on south bank.



Photo 20. Morro Creek's south bank has rip rap slope protection overgrown by Cape ivy, garden nasturtium and other non-native weeds. Patch of riparian scrub is present along bike path.



DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, LOS ANGELES DISTRICT
60 SOUTH CALIFORNIA STREET, SUITE 201
VENTURA, CALIFORNIA 93001-2598

June 18, 2019

SUBJECT: Determination of Need for Department of the Army Permit

Rob Livick
Public Works Director
City of Morro Bay
955 Shasta Avenue
Morro Bay, California 93442

Dear Mr. Livick:

I am responding to your request (File No. SPL-2019-00390-GLH) dated May 30, 2019, for clarification whether a Department of the Army Permit is required for the City of Morro Bay Water Reclamation Facility Project site located within the city of Morro Bay, San Luis Obispo County, California (Lat. 35.367723°, Long. -120.822340°).

The Corps' evaluation process for determining if you need a permit is based on whether or not the proposed project is located within or contains a water of the United States, and whether or not the proposed project includes an activity potentially regulated under Section 10 of the Rivers and Harbors Act or Section 404 of the Clean Water Act. If both conditions are met, a permit would be required.

Based on the attached approved jurisdictional determination dated June 18, 2019, it appears the City of Morro Bay Water Reclamation Facility Project site contains waters of the United States pursuant to 33 CFR Part 325.9.

However, I have determined the proposed work would not involve a discharge of dredged or fill material and therefore, would not be regulated under Section 404 of the Clean Water Act if the activity is performed in the manner described in your application. Notwithstanding this determination, your proposed project may be regulated under other Federal, State, and local laws.

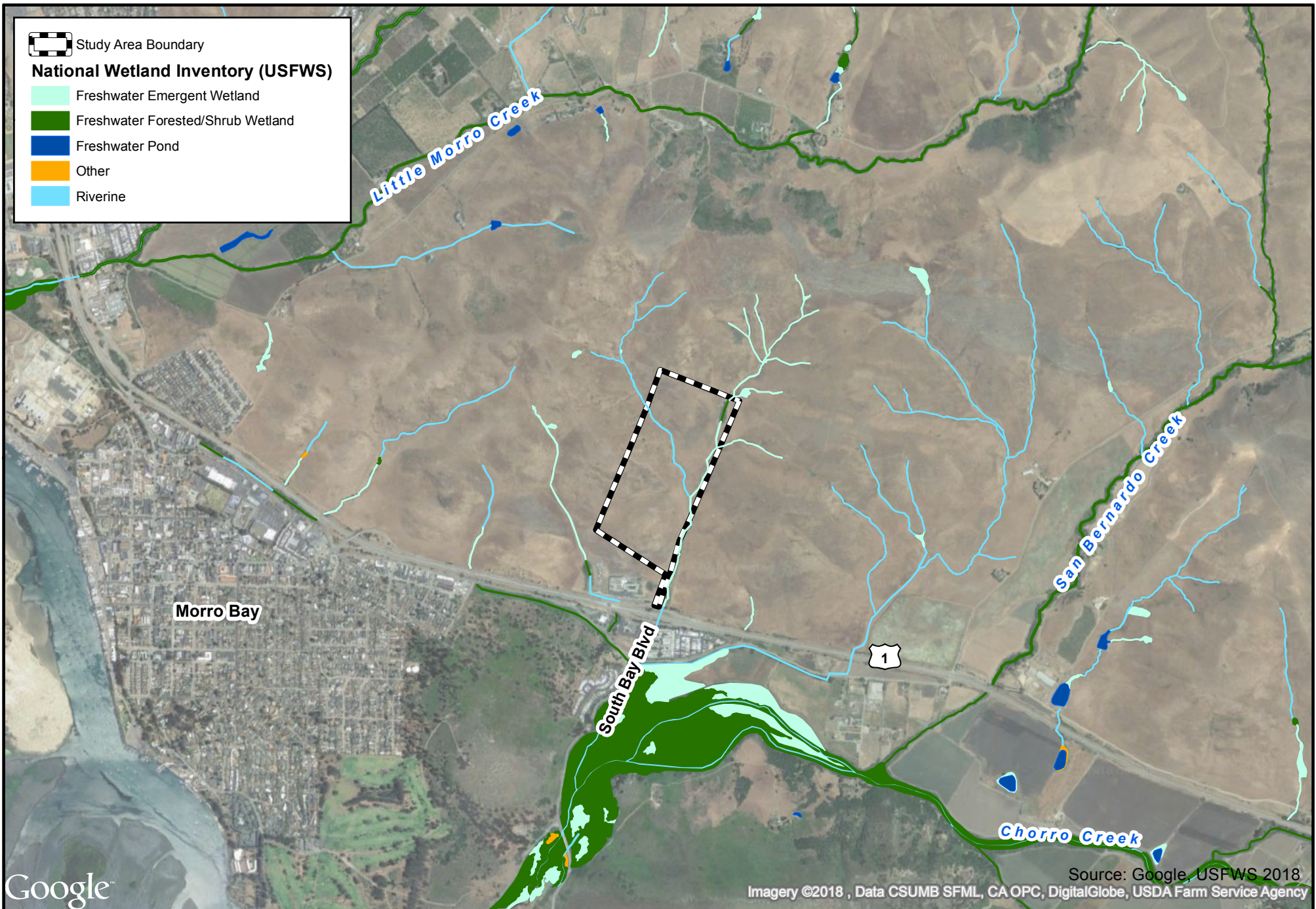
If you have any questions, please contact me at (805) 585-2145 or via email at Gerardo.L.Hidalgo@usace.army.mil. Thank you for participating in the Regulatory Program. Please help me to evaluate and improve the regulatory experience for others by completing the customer survey form at http://corpsmapu.usace.army.mil/cm_apex/f?p=regulatory_survey.

Sincerely,

Jerry Hidalgo
Project Manager
North Coast Branch
Regulatory Division

Enclosures





●

Sample Point Location

⊙

Culvert

Drainage Outside Study Area

▤

Study Area Boundary

▨

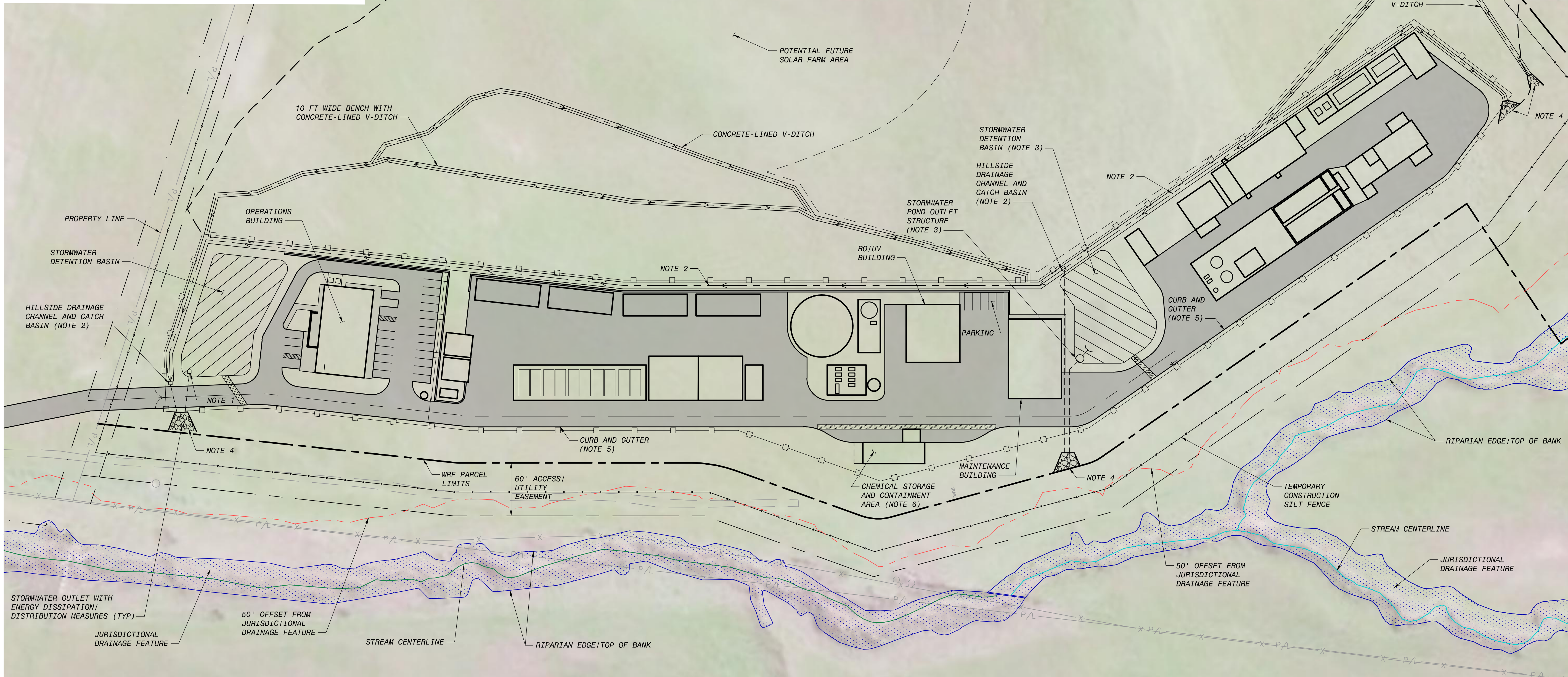
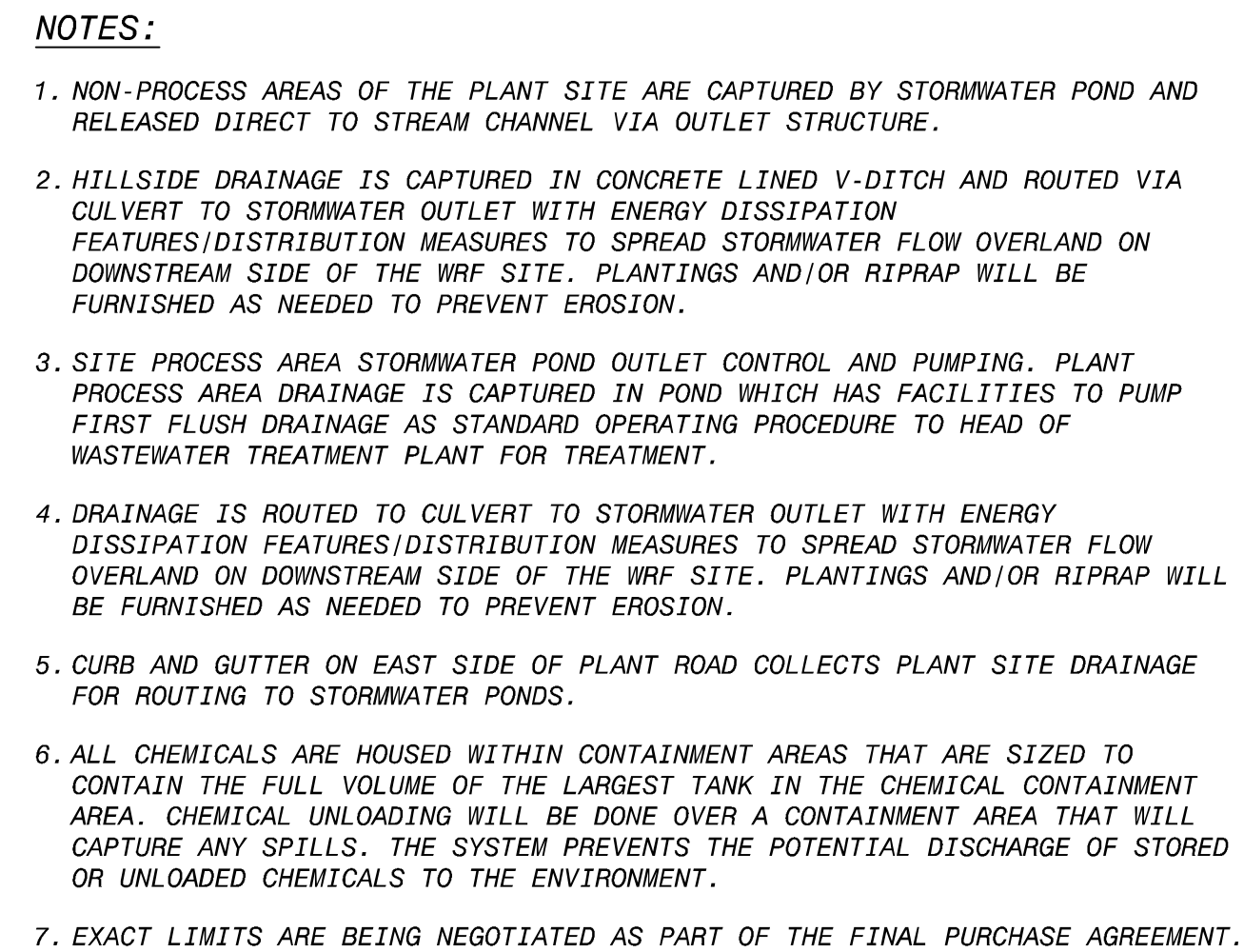
CDFW, RWQCB, CCC Jurisdiction (193,334 ft.²/4.44 acres)

■

USACE Other Waters (25,279 ft.²/0.58 acre)



Source: Google 2018, USFWS 2018, ESRI 2018



PRELIMINARY - NOT FOR CONSTRUCTION

[illegible]