



Moss Landing Wastewater System Rehabilitation Project

Final Initial Study – Mitigated Negative Declaration

prepared by

Castroville Community Services District
11497 Geil Street
Castroville, California 93660
Contact: Eric Tynan, General Manager

prepared with the assistance of

Rincon Consultants, Inc.
2511 Garden Road, Suite C-250
Monterey, California 93490

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RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

rinconconsultants.com

Table of Contents

1	Introduction and Project Description	1
1.1.	Project Title	1
1.2.	Lead Agency Name and Address.....	1
1.3.	Contact Person and Phone Number	1
1.4.	Scope and Use of this Document	1
1.5.	Project Location	2
1.6.	Project Sponsor’s Name and Address.....	2
1.7.	General Plan Designations	2
1.8.	Zoning.....	9
1.9.	Description of Project	9
1.10.	Surrounding Land Uses and Setting	14
1.11.	Other Public Agencies Whose Approval is Required	14
	Environmental Factors Potentially Affected.....	17
	Determination	18
2	Environmental Checklist	19
2.1	Aesthetics.....	19
2.2	Agriculture and Forestry Resources.....	23
2.3	Air Quality	25
2.4	Biological Resources.....	35
2.5	Cultural Resources	47
2.6	Energy	53
2.7	Geology and Soils	57
2.8	Greenhouse Gas Emissions	65
2.9	Hazards and Hazardous Materials	71
2.10	Hydrology and Water Quality	75
2.11	Land Use and Planning.....	79
2.12	Mineral Resources	81
2.13	Noise	83
2.14	Population and Housing.....	93
2.15	Public Services.....	95
2.16	Recreation	97
2.17	Transportation	99
2.18	Tribal Cultural Resources	103
2.19	Utilities and Service Systems	107
2.20	Wildfire	111
2.21	Mandatory Findings of Significance	113

3	Federal Cross-Cutting Environmental Regulations Evaluation	119
3.1.	Federal Endangered Species Act.....	119
3.2.	National Historic Preservation Act, Section 106	120
3.3.	Clean Air Act.....	120
3.4.	Coastal Zone Management Act.....	120
3.5.	Farmland Protection Policy Act.....	121
3.6.	Executive Order 11988 – Floodplain Management	121
3.7.	Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168	121
3.8.	Executive Order 11990 – Protection of Wetlands	122
3.9.	Wild and Scenic Rivers Act	122
3.10.	Safe Drinking Water Act – Source Water Protection	122
3.11.	Executive Order on Trails for America in the 21st Century	122
3.12.	Executive Order 13007 – Indian Sacred Sites	122
3.13.	Magnuson-Stevens Fishery Conservation and Management Act.....	123
3.14.	Environmental Justice	123
4	Environmental Alternative Analysis.....	125
4.1.	Alternative 1: No Project/No Action	125
4.2.	Alternative 2: Rehabilitation of Lift Station Nos. 1 and 4	126
4.3.	Alternative 3: Replacement of Manholes 11 through 13	131
4.4.	Selection of the Chosen Project Alternative	135
5	References	137
5.1.	Bibliography	137
5.2.	List of Preparers	142

Tables

Table 1	Proposed Manhole Improvements	12
Table 2	Health Effects Associated with Non-Attainment Criteria Pollutants	26
Table 3	Air Quality Thresholds of Significance	27
Table 4	Estimated Maximum Daily Construction Emissions (lbs/day)	30
Table 5	Estimated Maximum Daily Operational Emissions (lbs/day).....	31
Table 6	Estimated Fuel Consumption during Construction.....	54
Table 7	Potential for Impacts to Paleontological Resources by Project Component.....	61
Table 8	Estimated Construction GHG Emissions	68
Table 9	AASHTO Maximum Vibration Levels for Preventing Damage.....	85
Table 10	Vibration Annoyance Potential Criteria	85
Table 11	Land Use Noise Compatibility Matrix - Community Noise Equivalent Levels (DNL or CNEL, dBA)	86
Table 12	Estimated Construction Equipment Noise Levels	89

Table 13 Vibration Levels at Sensitive Receivers..... 90
 Table 14 Cumulative Development Projects 114

Figures

Figure 1 Regional Project Location3
 Figure 2 Project Site Location – North Extent.....4
 Figure 3 Project Site Location – North-Central Extent.....5
 Figure 4 Project Site Location – South-Central Extent.....6
 Figure 5 Project Site Location – South Extent.....7
 Figure 6 Representative Site Photographs8
 Figure 7 Geologic Map of Project Site 62

Appendices

Appendix A Preliminary Project Plans
 Appendix B Federal Clean Air Act General Conformity Applicability Analysis
 Appendix C Biological Resources Assessment
 Appendix D Historic Properties Identification Report (CONFIDENTIAL)
 Appendix E Energy Calculations
 Appendix F Paleontological Resources Assessment
 Appendix G Noise and Vibration Modeling

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1 Introduction and Project Description

1.1. Project Title

Moss Landing Wastewater System Rehabilitation Project

1.2. Lead Agency Name and Address

Castroville Community Services District
11499 Geil Street
Castroville, California 95012

1.3. Contact Person and Phone Number

Eric Tynan, General Manager
(831) 633-2560

1.4. Scope and Use of this Document

This Initial Study-Mitigated Negative Declaration (IS-MND) provides an assessment of the potential impacts to environmental resources that would result from implementing the proposed project. The discussion and level of analysis are commensurate with the expected magnitude and severity of each impact to environmental resources. This document addresses the environmental effects of replacing and rehabilitating existing wastewater conveyance infrastructure. The analyses in Chapter 2 are based on technical reports and studies prepared for the project, supplemented with other public information sources as provided in the list of references.

This document evaluates the potential for impacts to resources areas identified in Appendix G of the current (2022) California Environmental Quality Act (CEQA) Guidelines. These resource areas include:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Energy
- Geology and Soils, including Paleontological Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation
- Utilities and Service Systems
- Tribal Cultural Resources
- Wildfire
- Mandatory Findings of Significance

Administration of the Clean Water State Revolving Fund Program in California

The Federal Water Pollution Control Act (Clean Water Act or CWA), as amended in 1987, established the Clean Water State Revolving Fund (CWSRF) program. The CWSRF program offers low interest financing agreements for water quality projects. The proposed project may be partially funded with a loan through the CWSRF Loan Program. The program is nationally administered by the United States Environmental Protection Agency (USEPA), and in certain instances the administration has been delegated to the individual states. In California, administration of the CWSRF program has been delegated to the State Water Resources Control Board (SWRCB). In turn, the SWRCB requires all projects being considered under the CWSRF program to comply with the CEQA and certain federal environmental protection laws, including the federal Endangered Species Act (Section 7), the National Historic Preservation Act (NHPA; Section 106), the General Conformity Rule for the Federal Clean Air Act (FCAA), and other executive orders and federal regulations. Collectively, the SWRCB refers to these requirements as “CEQA-Plus.”

This IS-MND has been prepared in accordance with the *State Environmental Review Process for the Clean Water State Revolving Fund Program* (SWRCB 2017) and is expanded beyond the typical content requirements of an IS-MND to include additional CEQA-Plus information. The SWRCB is a CEQA Responsible Agency for the proposed project and would consider this CEQA document prior to CWSRF loan authorization.

1.5. Project Location

The project site is located in Moss Landing, a census-designated place in Monterey County, and is comprised of four lift station locations, 12 manhole locations, one air release valve vault in Struve Road, and 5,735 linear feet (LF) of pipeline alignments along roads including Potrero Road, State Route (SR) 1, Sandholdt Road, and Struve Road. The project site includes County right-of-way, California Department of Transportation (Caltrans) right-of-way along SR 1, and easements through private properties. The project site is relatively flat and varies in elevation from approximately eight to 30 feet above mean sea level (AMSL). The Lift Station No. 2 Force Main alignment crosses Elkhorn Slough, which flows into the Monterey Bay National Marine Sanctuary portion of the Pacific Ocean, and Lift Station No. 3, Pipe Repairs P-1 and P-2, and Manholes 27 to 30 are in close proximity to Moss Landing Harbor. Figure 1 shows the project site’s regional context, and Figure 2 through Figure 5 show the project site at a local scale. Representative site photographs of the project site are included in Figure 6.

1.6. Project Sponsor’s Name and Address

Castroville Community Services District
11499 Geil Street
Castroville, California 95012

1.7. General Plan Designations

Outdoor Recreation, Residential – Medium Density, public rights-of-way

Figure 1 Regional Project Location



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★ Project Location

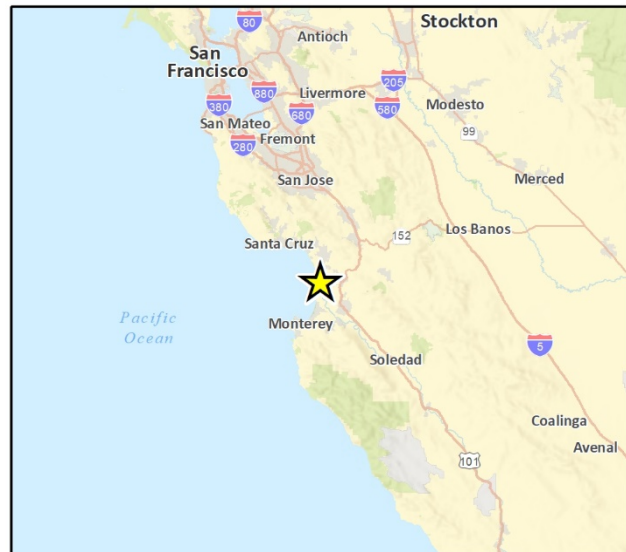


Fig 1 Regional Location

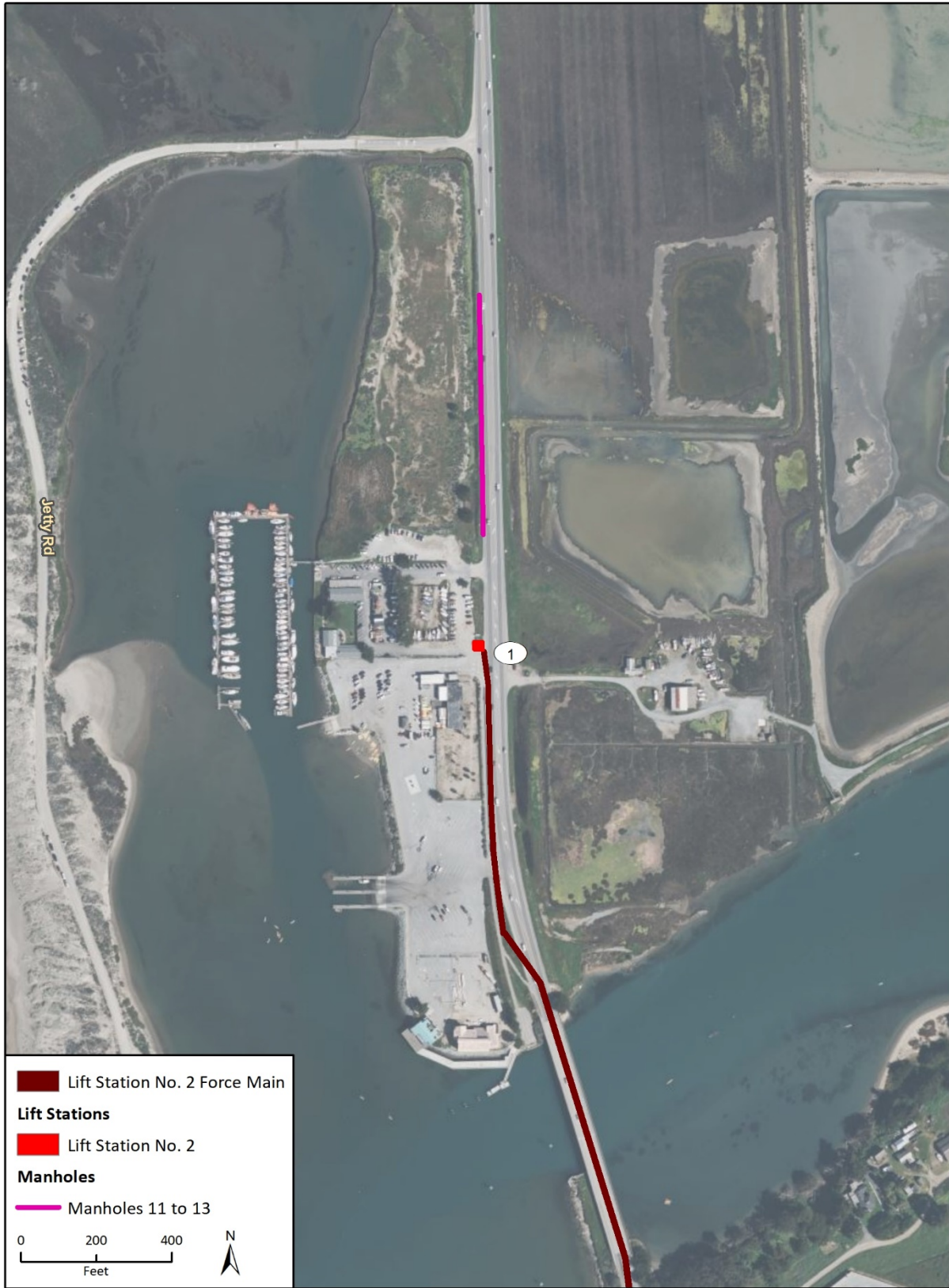
Figure 2 Project Site Location – North Extent



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Fig. 2 - Project Component Aerial

Figure 3 Project Site Location – North-Central Extent



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Fig. 3-2a Project Components South

Figure 4 Project Site Location – South-Central Extent



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Fig. 3-26 Project Components Location

Figure 5 Project Site Location – South Extent



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Fig. 5-2c Project Components South

Figure 6 Representative Site Photographs



Photograph 1. Lift Station No. 1



Photograph 2. Lift Station No. 2



Photograph 3. Lift Station No. 3 Vault and Wet Well



Photograph 4. Lift Station No. 4



Photograph 5. Lift Station No. 2 Force Main under Elkhorn Slough Bridge



Photograph 6. Manhole #12

1.8. Zoning

Open Space Recreation (Coastal Zone) (OR [CZ]), Medium Density Residential – 4 Dwelling Units per Acre (Coastal Zone) (MDR/4[CZ]), public rights-of-way

1.9. Description of Project

Project Background

The Castroville Community Services District (District) provides services to customers in the Castroville area of Monterey County. Services provided include water, sewer, stormwater, street lighting, and recreational facilities. The District approximately serves 2,000 residential, commercial, and industrial customers (District 2022).

In 2014, the District absorbed the Moss Landing Sanitation District, which the District had been operating under contract for several years, and annexed the Moss Landing Wastewater System (MLWWS). In October 2017, the District hired a consultant to perform a Sewer System Risk Assessment, which identified critical upgrades to be made to the MLWWS. Since then, the District has identified additional required improvements for the system, including additional manhole repair and air release valve upgrades. These critical upgrades are necessary not only to improve the reliability of the MLWWS but also to reduce the potential for unexpected leaks and/or breakages to affect nearby environmental resources such as Elkhorn Slough, Moss Landing Harbor, and the Monterey Bay National Marine Sanctuary.

Project Components

The proposed Moss Landing Wastewater System Rehabilitation Project (herein referred to as “proposed project” or “project”) would involve the replacement or rehabilitation of existing facilities that are part of the MLWWS. The project is intended to optimize the existing system to serve existing demand and would not serve additional growth or new demand. The proposed system improvements are described in the following subsections, and the preliminary project plans are provided in Appendix A.

Lift Station No. 1

Lift Station No. 1 would be demolished in its current location on Assessor’s Parcel Number (APN) 413-061-042-000 and reconstructed in its entirety on the northeast corner of APN 413-012-014-000. Similar to the existing Lift Station No. 1, the new lift station would consist of a wet well, valve vault, and aboveground appurtenances, such as an electrical and control panel, four-inch bollards, lighting, local alarm, and wet well air vent. A new 50-kilowatt (kW) backup generator would also be installed at Lift Station No. 1. The new lift station would have a capacity of approximately 150 gallons per minute (gpm) at 157 feet total dynamic head (TDH), which is approximately equal to the capacity of the existing lift station. An eight-foot-high security fence with rolling access gate would be installed around the perimeter of the lift station, and the facility footprint would be surfaced. The security fence would include privacy slats to reduce public views of the lift station. To accommodate the relocated lift station, a new 48-inch concrete manhole would be installed along the existing sewer pipeline alignment in Struve Road, and the eight-inch gravity sewer main along Struve Road would be extended from this manhole to the new lift station with eight-inch polyvinyl chloride (PVC) standard dimension ratio (SDR) 35 pipeline. A new four-inch ductile iron force main would also be

installed between the new lift station and the existing force main alignment in Struve Road to connect the new lift station to the sewer system. The eight-inch gravity sewer and four-inch force main pipelines that currently connect the sewer system to the existing Lift Station No. 1 would be removed or abandoned in place. Electrical service for Lift Station No. 1 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2

Lift Station No. 2 would be rehabilitated in place at its current location on APN 413-022-006-000. Rehabilitation would include replacement of the pumps and other components in the wet well, the wet well cover and hatch, the valve vault top and access hatches, and other aboveground features. The wet well design would include traffic-rated locking, lift assisted covers, interior surface lining of the wet well, duplex submersible pumps on stainless steel slide rails, a level sensor, and an alarm float. The valve vault would include a knife gate and check valves, pig launcher, bypass connection, and discharge piping.¹ Aboveground features would include a reconstructed electrical and control panel, four-inch bollards, lighting, local alarm, and a wet well air vent. A new 50-kW backup generator would also be installed at Lift Station No. 2. The rehabilitated lift station would have a capacity of 150 GPM at 101 feet TDH, which represents a moderate increase in capacity as compared to the existing lift station but is intended to serve existing systemwide demand. Approximately five feet of eight-inch PVC sewer main would be installed to connect the lift station to a new 48-inch grit-capturing polymer concrete manhole located immediately east and upstream of Lift Station No. 2. This new manhole would capture sand from influent flows in a settling basin to reduce wear on the pumps. An eight-foot-high security fence with access gates would be installed around the perimeter of the electrical components of the lift station, and the facility footprint would be surfaced. The security fence would include privacy slats to reduce public views of the lift station.

Lift Station No. 3

Lift Station No. 3 would be demolished and reconstructed in its entirety in the same location as the existing lift station within the public right-of-way of Sandholdt Road immediately east of 7662 Sandholdt Road. Similar to the existing Lift Station No. 3, the new lift station would consist of a wet well, valve vault, and aboveground appurtenances such as electrical and control panel, four-inch bollards, lighting, local alarm, and a wet well air vent. The wet well design would include traffic-rated locking, lift assisted covers, duplex submersible pumps on stainless steel slide rails, a level sensor, and an alarm float. The valve vault would include a knife gate and check valves, pig launcher, bypass connection, and discharge piping. A new 50-kW backup generator would also be installed at Lift Station No. 3. A new 48-inch grit-capturing polymer concrete manhole would be installed immediately west and upstream of the lift station to address the exposure and subsequent deterioration of this lift station due to large volumes of sand and shells from the various seafood vendors and businesses in the upstream collection system. Approximately five feet of eight-inch PVC sewer main would be installed to connect the lift station to this manhole. The reconstructed lift station would have a capacity of 100 GPM at 26 feet TDH, which represents a moderate increase in capacity as compared to the existing lift station but is intended to serve existing systemwide demand. An eight-foot-high security fence with rolling access gate would be installed around the perimeter of the lift station, and the facility footprint would be surfaced.

¹ A "pig launcher" is a section of pipe attached to the force main that would allow District personnel to insert a device known as a pig into the pipeline for cleaning, inspection, and/or maintenance. The pig is launched through the pipeline, typically with pressurized water, and discharged at a receiving location.

Lift Station No. 4

Lift Station No. 4 would be reconstructed in its entirety within the right-of-way of Potrero Road, approximately 220 feet east of its current location in the right-of-way of Portero Road. The existing lift station, electrical control vault, and manhole would be demolished and removed, and the existing gravity sewer and force main pipelines that connect the existing Lift Station No. 4 to the sewer system would be abandoned in place. Similar to the existing Lift Station No. 4, the new lift station would consist of a wet well, valve vault, and aboveground appurtenances such as electrical and control panel, four-inch bollards, lighting, local alarm, a wet well air vent, and associated site improvements. The wet well design would include traffic-rated locking, lift assisted covers, duplex submersible pumps on stainless steel slide rails, a level sensor, and an alarm float. The valve vault would include a knife gate and check valves, pig launcher, bypass connection, and discharge piping. A new 50-kW backup generator would also be installed at Lift Station No. 4. An eight-foot-high security fence with rolling access gate would be installed around the perimeter of the lift station, and the facility footprint would be surfaced. The security fence would include privacy slats to reduce public views of the lift station. A new 48-inch concrete manhole would be installed immediately east and upstream of the lift station. Approximately five feet of eight-inch PVC sewer main would be installed to connect the lift station to this manhole. In addition, ductile iron force main piping would be installed to connect the new lift station to the existing force main pipeline that runs parallel to Portero Road. The reconstructed lift station would have a capacity of 100 GPM at 38 feet TDH, which would represent a moderate increase in capacity compared to the existing lift station but is intended to serve existing systemwide demand. Electrical service for Lift Station No. 4 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2 Force Main

Approximately 3,890 LF of the Lift Station No. 2 force main would be replaced or rehabilitated. Of this, approximately 1,140 LF of the Lift Station No. 2 force main attached to the SR 1 bridge over Elkhorn Slough and between the bridge and Lift Station No. 2 would be replaced. The new force main would be constructed of four-inch fused high density polyethylene DR17 pipe and would be installed along the existing pipeline alignment under the SR 1 bridge within a PVC casing pipe. The existing ductile iron force main on the SR 1 bridge would be removed. Approximately 1,025 LF of the existing pipeline north of the SR 1 bridge over Elkhorn Slough and up to 200 LF of the existing pipeline south of the SR 1 bridge over Elkhorn Slough would be replaced via open trench. The remainder of the Lift Station No. 2 force main south of the SR 1 bridge over Elkhorn Slough, which consists of approximately 1,525 LF of pipeline, would be rehabilitated with a cured in place pipeline liner, if determined to be necessary during construction.

Pipe Repair P-1

Approximately 1,250 LF of existing eight-inch PVC gravity sewer pipeline from Manhole 36 to Lift Station No. 3 would be replaced with eight-inch PVC SDR 35 pipeline along the same alignment and slope. In addition, five existing manholes would be rehabilitated along this pipeline segment, which would include installation of a lining system, removal of manhole rungs (if present), and replacement of the manhole frame and cover at each manhole.

Pipe Repair P-2

Approximately 300 LF of existing eight-inch PVC sewer main between Manholes 38 and 39 would be replaced with eight-inch PVC SDR 35 pipeline along the same alignment and slope. Manhole 38

would be rehabilitated, which would include installation of a lining system, removal of manhole rungs (if present), and replacement of the manhole frame and cover. Manhole 39 would be abandoned in place and reconstructed approximately 50 feet to the north along the pipeline alignment within Sandholdt Road. The portion of existing sewer main between the existing and relocated Manhole 39 would be abandoned in place.

Lift Station No. 1 Force Main Air Release Valve Vault

The existing combination air release and vacuum valves as well as the isolation valve and appurtenances would be replaced in the existing valve vault of the Lift Station No. 1 Force Main.

Manholes

Several manhole improvements would be completed as part of the proposed project, which are summarized in Table 1.

Table 1 Proposed Manhole Improvements

Manhole Number(s)	Proposed Improvement(s)
11 to 13	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion and mitigate infiltration/inflow ▪ Replacement of manhole frames and covers ▪ Installation of concrete protective rings on manholes ▪ Installation of marking posts on manhole covers to reduce potential for future mower impacts
27 to 29, 41 to 46	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers
30	<ul style="list-style-type: none"> ▪ Replacement with a polymer concrete manhole to minimize future corrosion
47	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers ▪ Raising to grade ▪ Installation of a locking frame and cover

Construction

Project construction would occur over the course of approximately 12 months from September 2023 to September 2024. The project would be developed in three main phases: lift station relocation and rehabilitation; manhole, air release valve vault and pipeline rehabilitation and replacement; and Lift Station No. 2 Force Main rehabilitation and replacement. During construction, approximately 5,000 cubic yards of soil would be excavated; of this, approximately 3,000 cubic yards would be used as fill and approximately 2,000 cubic yards would be exported. Haul trucks would utilize Sandholdt Road, Moss Landing Road, and SR 1 to transport demolition debris and soil material to the Monterey Regional Waste Management District Materials Recovery Facility and/or Castroville Waste Management, Inc. Construction equipment would be staged at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots.

Construction work would occur Monday through Friday, from 7:00 a.m. to 5:00 p.m. During construction, temporary single-lane closures of Struve Road, Sandholdt Road, Potrero Road, Moss Landing Road, and SR 1 along the project alignment would be required to accommodate trenching, pipeline installation and re-lining, manhole rehabilitation/replacement, and lift station rehabilitation/replacement within public rights-of-way. As part of the encroachment permitting

process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. Due to the extended timeframe of the lane closure of Sandholdt Road adjacent to Lift Station No. 3, a temporary traffic signal would be installed for the duration of the lane closure.

Pipe Repairs P-1 and P-2 would be accomplished via open trenching methods. The pipeline trench would have a depth of approximately six to seven feet. Removal of the existing pipeline and installation of the new pipeline under the SR 1 bridge across Elkhorn Slough would occur from the bridge deck and abutments. Work on the banks below the bridge would only be completed by pedestrians on foot above the water line; no heavy equipment would drive on the banks near the bridge. The average depth of excavation for replacement and rehabilitation of the four lift stations would be approximately 14 feet. Several trees would be removed to accommodate the new Lift Station No. 1. The smaller, recently planted trees would be replaced, likely be located along the property line.

During construction activities, the following bypass systems would be utilized to maintain flows through the MLWWS:

- **Lift Station No. 1.** Bypassing for Lift Station No. 1 is expected to require one day of trucking wastewater from the manhole immediately upstream of the existing Lift Station No. 1 to Manhole 29 (immediately north of the intersection of SR 1 and Moss Landing Road), during which time the new system tie-in would be installed. Approximately eight truck trips would be required.
- **Lift Station No. 2.** During rehabilitation of Lift Station No. 2, a temporary bypass system would be utilized, which would consist either of bypass pumping using temporary aboveground pumps and a temporary aboveground pipeline or trucking wastewater from Lift Station No. 1 to Manhole 29. If wastewater is trucked, approximately 10 truck trips per day would be required for a period of up to one month.
- **Lift Station No. 3.** During rehabilitation of Lift Station No. 3, a full temporary bypass system would be installed adjacent to the lift station location to maintain sanitary sewer flows, which would consist of two temporary aboveground pumps and a temporary aboveground pipeline.
- **Lift Station No. 4.** The existing Lift Station No. 4 would remain in service for most of construction for the new Lift Station No. 4 to minimize sewer bypassing. During a one-day tie-in in which the existing and new lift stations are both offline, temporary aboveground pipelines and a temporary aboveground lift station would be utilized for bypassing, or wastewater would be trucked from the manhole immediately upstream of Lift Station No. 4 to Manhole 29, with up to six total truck trips.
- **Lift Station No. 2 Force Main.** During replacement of the Lift Station No. 2 force main, a temporary aboveground bypass pipeline would be utilized. This temporary bypass pipeline would run along the west side of SR 1 on the far edge of the shoulder from the south side of the Elkhorn Slough pedestrian bridge to either Manhole 29 or 30. The project contractor would be required to maintain access to the driveways over which the temporary bypass pipeline crosses.

Temporary dewatering activities would also be required during construction activities at Lift Station Nos. 1, 2, 3, and 4 and Pipe Repair P-1. Groundwater would be disposed of via the following methods at each location:

- **Lift Station No. 1:** Groundwater would either be discharged to an on-site infiltration pond for percolation (approximately four feet in depth) or injected via an on-site injection well

(approximately 20 feet in depth) back into the underlying groundwater basin. If the infiltration pond is used, a maximum of four feet of grading would occur.

- **Lift Station No. 2:** Groundwater would be injected back into the underlying groundwater basin via injection wells (approximately 20 feet in depth) installed within the District’s Lift Station No. 3 property.
- **Lift Station No. 3/Pipe Repair P-1:** A temporary berm would be installed within the open trench of Pipe Repair P-1, and groundwater would be discharged into the pond created by the temporary berm for percolation back into the underlying groundwater basin. Alternatively, a series of injection wells (approximately 20 feet in depth) would be installed within Sandholdt Road near these project components for injecting groundwater back into the underlying groundwater basin.
- **Lift Station No. 4:** Groundwater would be injected back into the underlying groundwater basin via injection wells (approximately 20 feet in depth) installed in the unpaired shoulder of Potrero Road within the County’s right-of-way in close proximity to the existing and proposed locations of Lift Station No. 4.

Operation and Maintenance

Once the proposed project is complete, the operation and maintenance needs of the MLWWS would generally be reduced due to improved infrastructure reliability resulting from the installation of corrosive-preventive materials, grit-capturing polymer concrete manholes at key locations to reduce damage caused by sand and shells, and the use of newer, more durable materials. Therefore, no new District employees would be required to operate and maintain the project. The grit-capturing polymer concrete manholes associated with Lift Station Nos. 2 and 3 would be cleaned quarterly with a vactor truck to remove sediment. The lift stations would operate 24 hours per day, cycling on and off as needed depending on wastewater flows. However, because the purpose of the project is to replace existing, aging facilities, electricity usage for wastewater conveyance at these lift stations would remain similar or would be slightly reduced due to the increased pumping efficiency of the new system. The four new backup generators would have a run time of approximately 100 hours per generator per year for routine testing and maintenance events. Lighting would be installed inside each lift station and utilized for nighttime work if blockages or breakdowns occur, similar to existing conditions.

1.10. Surrounding Land Uses and Setting

Land uses surrounding the project site consist of agricultural land, residential and commercial development, and open space. The location of the existing and proposed Lift Station No. 2 Force Main alignment traverses Elkhorn Slough, immediately west of the Moss Landing Power Plant, and immediately east of Moss Landing Harbor. The locations of Pipe Repairs P-1 and P-2 and Lift Station No. 3 are immediately adjacent to the Moss Landing Harbor and approximately 350 to 500 feet east of the Pacific Ocean. In the project site vicinity, Elkhorn Slough flows into the Monterey Bay National Marine Sanctuary portion of the Pacific Ocean.

1.11. Other Public Agencies Whose Approval is Required

This project would require the following permits from other public agencies:

- California Coastal Commission (coastal development permit [CDP])

- California State Water Resources Control Board (coverage of groundwater discharge under National Pollutant Discharge Elimination System Permit No. CAG993001 for Discharges with Low Threat to Water Quality)
- County of Monterey (encroachment permit and well permits)
- Caltrans (encroachment permit)
- Monterey Bay Air Resources District (MBARD; Permit to Construct and Permit to Operate for each proposed backup generator)

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Environmental Factors Potentially Affected

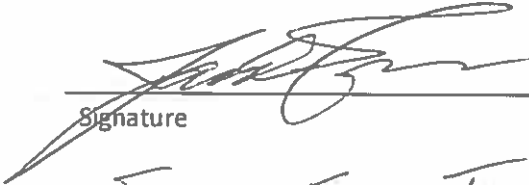
This project would potentially affect the environmental factors checked below, involving at least one impact that is “Potentially Significant” or “Less than Significant with Mitigation Incorporated” as indicated by the checklist on the following pages.

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

Determination

Based on this initial evaluation:

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



 Signature

James Eric TYUAN

 Printed Name

11/10/22

 Date

General Manager

 Title

2 Environmental Checklist

2.1 Aesthetics

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a. Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project have a substantial adverse effect on a scenic vista?*

Although the Monterey County General Plan does not define or identify scenic vistas, the Conservation and Open Space Element of the General Plan establishes Goal OS-1 which seeks to retain the character and natural beauty of Monterey County by preserving, conserving, and maintain unique physical features, natural resources, and agricultural operations (County of Monterey 2010). Monterey County’s visual resources are linked to its geography and topography. As such, Monterey County offers numerous scenic landscapes including valleys, ridgelines, vegetation, watercourses, coastal views, and travel routes. The County of Monterey defines seascapes and coastal views as one of the most valued visual resources (County of Monterey 2008).

The project site is located primarily within developed areas and along roadways near the coast. Scenic vistas in the vicinity of the project site consist of views of the Pacific Ocean, Old Salinas River, and Elkhorn Slough. The project would replace, rehabilitate, and improve portions of the existing MLWWS. Many project components would be located belowground and therefore would not be visible following the completion of project construction. Aboveground components associated with

the project include electrical and control panels, bollards, lighting, alarms, wet well air vents, and backup generators at the lift station locations. These components would be low profile and visually similar to the existing MLWWS infrastructure, and they would be located at the same sites as the existing Lift Station Nos. 2 and 3 and nearby the current sites of the existing Lift Station Nos. 1 and 4. Therefore, the project would not have a substantial adverse effect on a scenic vista, and no impact would occur.

NO IMPACT

- b. Would the project substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

Although the portion of SR 1 that runs through the project area is eligible for designation as a state scenic highway, SR 156 is the closest officially designated state scenic highway to the project site (California Department of Transportation [Caltrans] 2018). SR 156 is located approximately 2.8 miles southeast of the project site, and the project site is not visible to motorists traveling along this highway due to distance and intervening topography. The project also would not damage rock outcroppings or historic buildings and would require limited tree removal only at the new location of Lift Station No. 1. Therefore, the project would not substantially damage scenic resources within a state scenic highway, and no impact would occur.

NO IMPACT

- c. Would the project, in non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from a publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

According to Public Resources Code 21071(a), Moss Landing is classified as a nonurbanized area because its population is less than 100,000 persons and it is not located adjacent to one or more incorporated cities with populations that would add up to 100,000 persons or more when combined with the population of Moss Landing. A majority of project components would either be located belowground or would be replaced in the same locations and thus would not result in changes to the existing visual character or quality of public views of the project site and its surroundings. Some project components would be located aboveground, such as wet well air vents, backup generators, control panels, bollards, lighting, security fencing, and alarms at the four lift station locations. However, these project components would be low profile and aesthetically consistent with the existing MLWWS components located throughout the project site as well as with the existing agricultural and commercial nature of many of the lift station locations. In addition, the security fencing at all four lift stations would include privacy slats to further reduce public view of the lift stations. In addition, although the proposed project would involve tree removal at Lift Station No. 1, several new trees would be replanted after construction at the project site. Therefore, the proposed project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. *Would the project create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area?*

Project construction may include temporary nighttime work to minimize construction traffic impacts along SR 1, specifically during replacement and rehabilitation of the Lift Station No. 2 Force Main and rehabilitation of Manholes 11 to 13 and 27 to 30. Lighting used during nighttime construction activities at these locations would be directed downwards toward the work areas, and no residences are in the vicinity of these locations. Additionally, nighttime construction would be temporary, lasting no more than 90 days. Therefore, the use of nighttime lighting during construction would not be a new source of substantial light that would adversely affect nighttime views.

Lighting would be installed inside the lift stations for nighttime operations if blockages or pump breakdowns occur. These lights would normally be off and would only be activated on an as-needed basis. In addition, these lights would not represent a change from existing conditions because each lift station currently includes interior lighting for the same purpose. The project would not add reflective surfaces, such as windows or car windshields, to the project site or its surroundings that would result in a new source of substantial glare. Therefore, light and glare impacts to daytime and nighttime views in the area would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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Would the project:

a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Conflict with existing zoning for agricultural use or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*
- b. *Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?*
- c. *Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)); timberland (as defined by Public Resources Code Section 4526); or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?*
- d. *Would the project result in the loss of forest land or conversion of forest land to non-forest use?*
- e. *Would the project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?*

The project site includes land zoned as Open Space Recreation (Coastal Zone) (OR [CZ]), Medium Density Residential – 4 Dwelling Units per Acre (Coastal Zone) (MDR/4[CZ]), and public rights-of-way. The project site does not contain land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation (DOC) Farmland Mapping and Monitoring Program (DOC 2016). No portion of the project site is located under a Williamson Act contract (University of Texas 2011). In addition, no portion of the project site is used or zoned for timber production, forest land, or timberland. Although some portions of the project site are adjacent to agricultural land, the project would replace or rehabilitate existing wastewater conveyance facilities and would not introduce new land uses that would conflict with existing agricultural uses. Therefore, the project would not convert Farmland to non-agricultural use; conflict with existing zoning for agricultural use or a Williamson Act contract; conflict with existing zoning for, or cause rezoning of, forest land or timberland; result in the loss of forest land or conversion of forest land to non-forest use; or involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. No impact to agriculture and forestry resources would occur.

NO IMPACT

2.3 Air Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Overview of Air Pollution

The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic compounds (VOC)/reactive organic gases (ROG),² nitrogen oxides (NO_x), particulate matter with diameters of ten microns or less (PM₁₀) and 2.5 microns or less (PM_{2.5}), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between VOC and NO_x. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog).

Air pollutant emissions are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories:

- Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat.

² CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term VOC is used in this IS-MND.

- Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products.

Mobile sources refer to emissions from motor vehicles, including tailpipe and evaporative emissions, and can also be divided into two major subcategories:

- On-road sources may be legally operated on roadways and highways.
- Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

Air pollutants can also be generated by the natural environment, such as when high winds suspend fine dust particles.

Air Quality Standards and Attainment

The project site is located in the North Central Coast Air Basin, which is under the jurisdiction of the Monterey Bay Air Resources District (MBARD). As the local air quality management agency, MBARD is required to monitor air pollutant levels to ensure that the NAAQS and CAAQS are met and, if they are not met, to develop strategies to meet the standards. Depending on whether the standards are met or exceeded, the North Central Coast Air Basin is classified as being in “attainment” or “nonattainment.” In areas designated as non-attainment for one or more air pollutants, a cumulative air quality impact exists for those air pollutants, and the human health impacts associated with these criteria pollutants are already occurring in that area as part of the environmental baseline condition. Under state law, air districts are required to prepare a plan for air quality improvement for pollutants for which the district is in non-compliance. The North Central Coast Air Basin is currently designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM₁₀ CAAQS but is either unclassified or designated attainment for all other NAAQS and CAAQS (CARB 2020).³ The health effects associated with criteria pollutants for which the North Central Coast Air Basin is in non-attainment are described in Table 2.

Table 2 Health Effects Associated with Non-Attainment Criteria Pollutants

Pollutant	Adverse Effects
Ozone	(1) Short-term exposures: (a) pulmonary function decrements and localized lung edema in humans and animals and (b) risk to public health implied by alterations in pulmonary morphology and host defense in animals; (2) long-term exposures: risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (3) vegetation damage; and (4) property damage.
Suspended particulate matter (PM ₁₀)	(1) Excess deaths from short-term and long-term exposures; (2) excess seasonal declines in pulmonary function, especially in children; (3) asthma exacerbation and possibly induction; (4) adverse birth outcomes including low birth weight; (5) increased infant mortality; (6) increased respiratory symptoms in children such as cough and bronchitis; and (7) increased hospitalization for both cardiovascular and respiratory disease (including asthma).

Source: USEPA 2021a

³ A region is designated nonattainment-transitional for ozone when the standard has not been exceeded on more than three days at any one location during the last year.

Air Quality Management

The California Clean Air Act requires each air district with jurisdiction over a nonattainment area in the state to adopt a plan showing how the CAAQS for ozone will be met. Most recently, MBARD adopted the 2012-2015 Air Quality Management Plan (2015 AQMP) to demonstrate a pathway for the region to make progress toward meeting the ozone CAAQS. Reducing NO_x emissions is crucial for reducing ozone formation, and given that the primary sources of NO_x emissions are mobile sources, the 2015 AQMP primarily includes measures to reduce NO_x emissions, focusing on on-road and off-road vehicles.

Air Pollutant Emission Thresholds

The MBARD (2008) *CEQA Air Quality Guidelines* provide a list of construction and operational air pollutant emissions thresholds as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds.

Table 3 presents MBARD’s project-level significance thresholds for construction and operational criteria air pollutant and precursor emissions. These represent levels at which a project’s individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the North Central Coast Air Basin’s existing air quality conditions. For the purposes of this analysis, the project would result in a significant impact if construction or operational emissions from the project would exceed the thresholds shown in Table 3.

Table 3 Air Quality Thresholds of Significance

Pollutant	Source	Threshold of Significance
Construction Impacts		
PM ₁₀	Direct	82 lbs/day ¹
Operational Impacts		
VOC	Direct and Indirect	137 lbs/day
NO _x	Direct and Indirect	137 lbs/day
PM ₁₀	On-site	82 lbs/day ²
CO	N/A	LOS at intersection/road segment degrades from LOS D or better to LOS E or F or V/C ratio at intersection/road segment at LOS E or F increases by 0.05 or more or delay at intersection at LOS E or F increases by 10 seconds or more or reserve capacity at unsignalized intersection at LOS E or F decreases by 50 or more
	Direct	550 lbs/day ³
SO _x , as SO ₂	Direct	150 lbs/day

lbs/day = pounds per day; PM₁₀ = particulate matter with a diameter of 10 microns or less; VOC = volatile organic compounds (also referred to as ROG, or reactive organic gases); NO_x = oxides of nitrogen; CO = carbon monoxide; SO_x = oxides of sulfur; SO₂ = sulfur dioxide; LOS = level of service, V/C = volume-to-capacity

¹ This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM₁₀ emissions may occur if a project uses equipment that is not “typical construction equipment” as specified in Section 5.3 of the MBARD (2008) *CEQA Air Quality Guidelines*.

² MBARD’s operational PM₁₀ threshold of significance applies only to on-site emissions, such as project-related vehicle trips along on-site unpaved roads. These impacts are generally less than significant. However, for large development projects, even if almost all travel is on paved roads, entrained road dust from vehicular travel can exceed the significance threshold.

³ Modeling should be undertaken to determine if the project would cause or substantially contribute (550 pounds per day) to exceedance of the carbon monoxide ambient air quality standards. If not, the project would not have a significant impact.

Source: MBARD 2008

Methodology

Air pollutant emissions generated by project construction and operation were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod uses project-specific information, including the project's land uses, location, and construction parameters, to model construction and operational emissions. The analysis reflects the construction and operation of the project as described under *Description of Project*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed project was analyzed based on the construction schedule and construction equipment list provided by the project's engineering and design team. Construction would occur over the course of approximately 12 months with work occurring Monday through Friday. The project would be conducted in three phases: lift station relocation and rehabilitation; manhole, air release valve vault and pipeline rehabilitation and replacement; and Lift Station No. 2 Force Main rehabilitation and replacement. It is assumed all construction equipment would be diesel-powered. Approximately 2,000 cubic yards of soil would be exported, and temporary bypassing for Lift Station Nos. 1, 2, and 4 would require daily truck trips to transport wastewater as indicated under *Description of Project*. Operational emissions modeled consist of stationary source emissions from routine testing and maintenance of the four proposed 50-kW backup generators. Testing and maintenance would occur for up to two hours per day and up to 100 hours per year per generator.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

A project would conflict with or obstruct implementation of the 2015 AQMP if either it induced population such that the population of unincorporated Monterey County exceeds the population forecast for the appropriate five-year increment utilized in the 2015 AQMP or if construction and operational emissions of ozone precursors would exceed MBARD significance thresholds (MBARD 2008).

The proposed project involves the replacement and rehabilitation of existing wastewater infrastructure and would not directly generate population growth through construction of housing or creation of substantial employment opportunities. The project would involve the replacement or rehabilitation of existing facilities that are part of the MLWWS. The project is intended to provide critical upgrades to the MLWWS to improve system reliability and reduce the potential for unexpected leaks and/or breakages. Although the project would increase the volume of wastewater that can be pumped per minute at the four lift stations, the project would not increase pipeline conveyance capacity such that additional flows would be accommodated. Furthermore, the project does not include any new connections to residences or businesses. Therefore, the project would not indirectly induce population growth. As such, the project would not induce population growth such that the population of unincorporated Monterey County would exceed the population forecast for the appropriate five-year increment utilized in the 2015 AQMP.

MBARD states that construction projects using typical construction equipment that temporarily emit precursors of ozone (VOCs and NO_x) are accommodated in the emission inventories of state and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone NAAQS or CAAQS (MBARD 2008). The project would involve the use of typical construction equipment; as such, construction-related emissions of VOCs and NO_x would be less

than significant. Therefore, the proposed project would not conflict with or obstruct the implementation of the applicable air quality plan, and no impact would occur.

NO IMPACT

- b. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Construction Emissions

Construction activities such as site preparation, grading, construction worker travel to and from project site, delivery and hauling of construction materials and debris to and from project site, and fuel combustion by on-site construction equipment would generate emissions of ozone precursors (ROG and NO_x), carbon monoxide, and fugitive dust (PM₁₀ and PM_{2.5}). According to the MBARD guidelines, PM₁₀ is typically the greatest pollutant of concern during construction.

The MBARD (2008) *CEQA Air Quality Guidelines* provide project-level thresholds for construction emissions. If a project's construction emissions fall below the project-level thresholds, the project's impacts to regional air quality are considered individually and cumulatively less than significant. Table 4 shows the estimated maximum daily emissions for each year of construction of the project. As shown therein, construction of the project would generate maximum daily PM₁₀ emissions of approximately three pounds, which is well below the MBARD threshold of 82 pounds per day. In addition, MBARD states that construction projects using typical construction equipment that temporarily emit precursors of ozone (VOCs and NO_x) are accommodated in the emission inventories of state and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone NAAQS or CAAQS (MBARD 2008). The project would involve the use of typical construction equipment; as such, construction-related emissions of VOCs and NO_x would be less than significant. Therefore, project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, and impacts would be less than significant.

Table 4 Estimated Maximum Daily Construction Emissions (lbs/day)

Construction Year ¹	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
2023	5	44	51	< 1	3	2
2024	6	44	59	< 1	3	2
Maximum Emissions (lbs/day)	6	44	59	< 1	3	2
MBARD Thresholds	N/A	N/A	N/A	N/A	82 ²	N/A
Threshold Exceeded?	N/A	N/A	N/A	N/A	No	N/A

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with a diameter of 10 microns or less; PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; N/A = not applicable

¹ Construction would occur between September 2023 and September 2024; therefore, maximum daily construction emissions are shown for each year during which construction would occur.

² This threshold only applies if construction is located nearby or upwind of sensitive receptors. In addition, a significant air quality impact related to PM₁₀ emissions may occur if a project uses equipment that is not “typical construction equipment” as specified in Section 5.3 of the MBARD CEQA Guidelines (2008).

Notes: All numbers have been rounded to the nearest whole number. Emissions modeling was completed using CalEEMod. See Appendix B for modeling results.

Although construction-related air quality impacts would be less than significant, MBARD recommends the use of the following best management practices for the control of short-term construction emissions (MBARD 2008). These measures were not included in the modeling in order to provide a more conservative estimate of air pollutant emissions. However, if adhered to, these best management practices would further reduce air pollutant emissions:

- Water all active construction areas at least twice daily. Frequency should be based on the type of operation, soil, and wind exposure.
- Prohibit all grading activities during periods of high wind (over 15 miles per hour)
- Apply chemical soil stabilizers on inactive construction areas (disturbed lands within construction projects that are unused for at least four consecutive days)
- Apply non-toxic binders (e.g., latex acrylic copolymer) to exposed areas after cut and fill operations and hydroseed areas
- Maintain at least two feet of freeboard on haul trucks
- Cover all trucks hauling soil, sand, and other loose materials
- Plant vegetative ground cover in disturbed areas as quickly as possible
- Cover inactive storage piles
- Sweep streets if visible soil material is carried out from the construction site
- Post a publicly visible sign that specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The phone number of the MBARD shall be visible to ensure compliance with Rule 402 (Nuisance)
- Limit the area under construction at any one time

Operational Emissions

Operation of the project would include routine inspections and maintenance of infrastructure; however, maintenance trips and their associated air pollutant emissions would be reduced in comparison to existing conditions due to enhanced system functions. A new back-up generator would be installed at each of the four lift stations and would each operate for up to 100 hours per year for testing and maintenance events. As shown in Table 5, routine testing and maintenance of these backup generators would not generate air pollutant emissions exceeding MBARD thresholds. Therefore, project operation would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard, and impacts would be less than significant.

Table 5 Estimated Maximum Daily Operational Emissions (lbs/day)

Construction Year	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Generator Testing and Maintenance	1	3	3	< 1	< 1	< 1
MBARD Thresholds	137	137	N/A	N/A	82 ¹	N/A
Threshold Exceeded?	No	No	N/A	N/A	No	N/A

lbs/day = pounds per day; VOC = volatile organic compounds; NO_x = oxides of nitrogen; CO = carbon monoxide; SO₂ = sulfur dioxide; PM₁₀ = particulate matter with a diameter of 10 microns or less; PM_{2.5} = particulate matter with a diameter of 2.5 microns or less; N/A = not applicable

¹ MBARD's operational PM₁₀ threshold of significance applies only to on-site emissions, such as project-related vehicle trips along on-site unpaved roads. These impacts are generally less than significant. However, for large development projects, even if almost all travel is on paved roads, entrained road dust from vehicular travel can exceed the significance threshold.

Notes: All numbers have been rounded to the nearest whole number. Emissions modeling was completed using CalEEMod. See Appendix B for modeling results.

LESS THAN SIGNIFICANT IMPACT

c. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Carbon Monoxide Hotspots

A carbon monoxide hotspot is a localized concentration of carbon monoxide that is above a carbon monoxide ambient air quality standard. Localized carbon monoxide hotspots can occur at intersections with heavy peak hour traffic. Specifically, hotspots can be created at intersections where traffic levels are sufficiently high such that the local carbon monoxide concentration exceeds the federal one-hour standard of 35.0 ppm or the federal and state eight-hour standard of 9.0 ppm (CARB 2022a).

The project would result in a reduced frequency of operation and maintenance trips needed for the MLWWS. Therefore, the project would not result in volumes of traffic that would create, or substantially contribute to, the exceedance of state and federal ambient air quality standards for carbon monoxide. The project would not expose sensitive receptors to substantial pollutant concentrations related to carbon monoxide hotspots, and impacts would be less than significant.

Toxic Air Contaminants

Construction-related activities would result in temporary project-generated emissions of diesel particulate matter (DPM) exhaust emissions from off-road, heavy-duty diesel equipment for demolition, site preparation, trenching, infrastructure installation, paving, and other construction activities. DPM was identified as a toxic air contaminant (TAC) by CARB in 1998 (CARB 2022b).

Generation of DPM from construction projects typically occurs in a single area for a short period of time. Construction of the proposed project would occur in phases over approximately 12 months. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the project. Thus, the duration of proposed construction activities (i.e., one year) is approximately 1.4 percent of the total exposure period used for health risk calculation. Current models and methodologies for conducting health-risk assessments are associated with longer-term exposure periods of nine, 30, and 70 years, which do not correlate well with the temporary and highly variable nature of construction activities, resulting in difficulties in producing accurate estimates of health risk (Bay Area Air Quality Management District [BAAQMD] 2017).

The maximum PM₁₀ and PM_{2.5} emissions would occur during infrastructure installation activities. DPM emissions would be lower for the rest of the construction period because construction activities such as demolition and paving would require less construction equipment. While maximum DPM emissions associated with infrastructure installation would only occur for nine months of the overall construction period, these activities represent the worst-case condition for the total construction period. These activities would occur for approximately 1.1 percent of the total exposure period for health risk calculation. Therefore, given the aforementioned, DPM generated by project construction would not create conditions where the probability is greater than 10 in one million of contracting cancer for the maximally exposed individual⁴ or to generate ground-level concentrations of non-carcinogenic TACs that exceed a hazard index greater than one for the Maximally Exposed Individual. Construction-related TAC impacts would be less than significant.

The four proposed backup generators would be stationary sources of TAC emissions during operation. These generators would typically only operate for limited periods of time for routine testing and maintenance. The backup generators at Lift Station Nos. 2 and 3 would not be located within 1,000 feet of sensitive receptors, such as residences. The backup generators at Lift Station Nos. 1 and 4 would be located within 225 feet and 50 feet, respectively, of the nearest residences. However, the District would be required to obtain an Authority to Construct and Permit to Operate for each generator from MBARD pursuant to Rule 1000, which requires a risk assessment of associated TAC emissions. As part of the permit process, the District would be required to demonstrate compliance with the following requirements, which are designed to prevent TAC emissions from causing or contributing to an increase in mortality or an increase in serious illness or from posing a present or potential hazard to human health:

⁴ The maximally exposed individual is the hypothetical person receiving the greatest exposure to DPM.

- The acute and chronic hazard indices for any target organ or organ system due to TAC emissions do not exceed 1.0 at any receptor location; and
- The cancer risk due to TAC emissions does not exceed 10 in one million at any receptor location.

Therefore, given the limited operations of the backup generators and compliance with existing MBARD regulations, impacts related to TAC emissions from stationary sources would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

During construction activities, temporary odors would be generated by vehicle exhaust and construction equipment. Construction-related odors would be short-term and would cease upon completion. In addition, MBARD Rule 402 prohibits the discharge of air contaminants or other materials that would cause a nuisance or detriment to a considerable number of persons or to the public, with the exception of odors from agricultural activities. Compliance with Rule 402 is required and would further reduce construction odor impacts. Therefore, project construction would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

Land uses typically producing odorous emissions include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding (MBARD 2008). The project includes replacement and rehabilitation of existing wastewater conveyance facilities that are primarily located underground and are sealed, which would reduce the potential for odorous emissions. Minor quantities of odorous emissions may be released at the lift station locations and along the pipeline alignments from vents and release valves. However, these odor sources are not new to the project area, and emissions would be temporary and limited to the immediate vicinity. Therefore, project operation would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.4 Biological Resources

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

Regulatory authority over biological resources is shared by federal, State, and local authorities under a variety of statutes and guidelines. Primary authority for general biological resources lies

within the land use control and planning authority of local jurisdictions (in this instance, the County of Monterey). The California Department of Fish and Wildlife (CDFW) is a trustee agency for biological resources throughout the State under CEQA and also has direct jurisdiction under the California Fish and Game Code (CFGC). Under the California and federal Endangered Species Acts, CDFW and the United States Fish and Wildlife Service (USFWS) also have direct regulatory authority over species formally listed as threatened or endangered and species protected by the Migratory Bird Treaty Act (MBTA).

The following analysis is based primarily on the Biological Resources Assessment (BRA) prepared for the project by Rincon Consultants, Inc. (Rincon), which is included as Appendix C. For the purposes of this analysis, the Study Area is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts to biological resources. As part of the BRA, Rincon conducted a field reconnaissance survey of the Study Area in April 2022.

- a. *Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by USFWS or National Marine Fisheries Service (NMFS) under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by CDFW under the California Endangered Species Act; and animals designated as “Species of Special Concern” by CDFW or “Fully Protected” under the California Fish and Game Code. Rookery sites for species that nest colonially, such as bat maternity roosts, are also treated as special status. In addition, species designated as locally important by a local agency and/or otherwise protected through ordinance or local policy are considered special status species. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and are considered as such in this document. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are part of a unique community, from the type locality, designated as rare or significant by local governments or where cumulative impacts could result in population-level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant, are not part of a unique community, and the Study Area is not known to be the type locality for any ranked plant species. Therefore, CRPR 3 and CRPR 4 species were not included in this analysis (Appendix C).

Special-status Plant Species

Nineteen special status plant species are known to occur or have the potential to occur within the vicinity of the Study Area. However, only one special status plant species, Monterey spineflower (*Chorizanthe pungens* var. *pungens*; CRPR List 1B.1), was determined to have a moderate potential to occur within the Study Area based on the presence of suitable habitat, specifically coastal dune scrub habitat (Appendix B). The majority of project impacts would occur on previously disturbed areas outside the limits of natural habitats. However, Manholes 11 to 13 are located in close proximity to suitable habitat for Monterey spineflower. Direct impacts from project construction would include ground-disturbing activities that could result in removal of the species if present. Indirect impacts would occur if construction equipment inadvertently transported residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within

the undercarriage or tires of heavy equipment that have not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or alter habitat towards a state that is unsuitable for the survival of special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats through displacement of vital pollinators or through competition with native plants for space, water and light (Appendix B). Therefore, project impacts to Monterey spineflower would be potentially significant, and implementation of Mitigation Measures BIO-1 through BIO-3 would be required to reduce impacts to a less-than-significant level.

Special-status Wildlife Species

Of the 20 special-status wildlife species evaluated, one species, Smith's blue butterfly (*Euphilotes enoptes smithi*), a federally endangered species, has a moderate potential to occur within the Study Area (Appendix B). Smith's blue butterfly is dependent on its host plants (seacliff buckwheat and seaside buckwheat) for foraging and breeding. These plants have the potential to be located throughout the Study Area in undeveloped areas within or adjacent to the construction areas for Lift Station Nos. 1, 2, and 4, the Lift Station No. 2 Force Main, and all manhole improvements. If individuals of the host plants (seacliff buckwheat and seaside buckwheat) are present within or immediately adjacent to the Study Area, impacts to host plants could occur during construction activities if plants are damaged or removed. If these plants contain eggs and/or larva, impacts to Smith's blue butterfly would be potentially significant. Implementation of Mitigation Measure BIO-4 would be required to reduce impacts to Smith's blue butterfly to a less-than-significant level.

Other Protected Species

Non-game migratory birds protected under CFGC Section 3503 have the potential to breed throughout the Study Area. Native avian species common in coastal scrub, landscaping, developed, and ruderal areas have the potential to breed and forage throughout the Study Area. Species of birds common to the area that typically occur in the region, such as California scrub jay (*Apelocoma californica*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch, American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), American bushtit (*Psaltriparus minimus*) and other common California native bird species are likely to utilize the Study Area for nesting. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the Study Area.

Direct impacts to nesting birds may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds from construction would be potentially significant, and implementation of Mitigation Measure BIO-5 would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-1 Conduct Special Status Plant Species Survey

Prior to the start of project construction activities for Manholes 11 to 13, a survey for special status plants shall be completed in all natural vegetation communities in which Monterey spineflower may

be found. This survey shall be floristic in nature and shall be conducted to coincide with the blooming period of the spineflower from April to July. The survey shall be conducted by a qualified biologist during the blooming season prior to any ground disturbance. All special status plant species identified shall be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System (GPS) unit. Surveys shall be conducted in accordance with the most current protocols for botanical surveys established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A plant survey report shall be prepared that: 1) outlines the methodology of surveys and qualifications of the surveying biologist; 2) presents the results of the surveys; 3) presents an analysis of potential impacts to non-listed species and a determination of whether or not those impacts could result in jeopardy of a local or regional population; 4) presents a summary of listed species that would be impacted including numbers of individuals and/or acres of occupied habitat; 5) presents the required compensatory mitigation; and 6) recommends any additional tasks that would be required to avoid minimize and mitigate for special status plants such as preparation of a habitat mitigation and monitoring plan. A report of the survey results shall be submitted to the Castroville Community Services District. The CDFW and/or USFWS may also require documentation of surveys for consultation purposes. If special status plant species are identified within or adjacent to proposed disturbance areas, Mitigation Measure BIO-2 shall be implemented.

BIO-2 Implement Special Status Plant Species Avoidance, Minimization, and Mitigation

If federally and/or state listed or CRPR List 1B or 2 species are found during the special status plant survey and listed species would be directly and/or indirectly impacted, or there would be a population-level impact to non-listed species, then the plant(s) shall be demarcated and avoided to avoid population-level impacts. Listed and other special status plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits shall be demarcated as an Environmentally Sensitive Area (ESA) and shall have bright orange protective fencing (e.g., orange snow fencing) installed a minimum of 30 feet beyond their extent prior to and during construction activities. Reduction of avoidance buffer distance shall be approved by a qualified biologist. No construction activity shall be allowed within these avoidance areas. To avoid encroachment within ESAs, the limits of work shall be clearly shown on all project plans. In addition, work at Manholes 11 to 13 shall be monitored by a qualified biologist to ensure no encroachment. If significant impacts to Monterey spineflower cannot be avoided, Mitigation Measure BIO-3 shall be implemented.

BIO-3 Prepare Habitat Mitigation and Monitoring Plan

If federally and/or state listed plants or non-listed special status plant populations cannot be avoided and will be impacted by development of the proposed project, the District shall mitigate all impacts at a minimum ratio of 1:1 for occupied habitat area as a component of habitat restoration or through compensatory mitigation. A habitat mitigation and monitoring plan (HMMP) shall be prepared by a qualified biologist and submitted to the District for review and approval. The HMMP shall include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]

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

BIO- 4 Smith's Blue Butterfly Host Plant Surveys Mitigation

Prior to grading and construction in undeveloped areas for Lift Station Nos. 1, 2, and 4, the Lift Station No. 2 Force Main, and all manhole improvements, a qualified biologist shall conduct surveys for seacliff buckwheat (*Eriogonum parvifolium*) and seaside buckwheat (*Eriogonum latifolium*), host plants of Smith's blue butterfly, in areas of suitable habitat. These surveys can be completed as part of the special status plant species survey required under Mitigation Measure BIO-1.

If no Smith's blue butterfly host plants are located, no further action is required. If host plants are located within proposed disturbance areas, the plants shall be buffered by a minimum of 25 feet and demarcated as an ESA with high-contrast construction flagging or bright orange protective fencing (e.g., orange snow fencing). No construction activities shall be allowed within the buffered avoidance area. If construction would be required within the buffer area, a biological monitor shall be present for all work within the buffer avoidance area to ensure no direct impacts to host plants.

If avoidance is not feasible, focused surveys shall be conducted to determine presence or absence of the butterfly species. These may include surveys during the adult flight period (mid-June through early September) and/or inspection of host plants for all life forms (egg, larva, pupa, and adult). If individuals of any life stage that may be impacted by the proposed project are detected during focused surveys, the plant cannot be disturbed without consultation with and take authorization from USFWS. If take authorization is received, a USFWS-permitted biologist shall salvage and relocate occupied host plants to an approved location nearby. An HMMP as described for special-status plant species under Mitigation Measure BIO-3 shall be prepared by a qualified biologist and submitted to USFWS for review and approval.

BIO-5 Nesting Bird Avoidance and Minimization Measures

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

- Initial site disturbance shall occur outside the general avian nesting season (February 1 through September 15), if feasible.

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

Significance after Mitigation

Implementation of Mitigation Measures BIO-1 through BIO-3 would minimize potential impacts to Monterey spineflower, a special-status plant species, at Manholes 11 through 13 through preliminary detection of any individuals within the project footprint through a special-status plant survey; implementation of avoidance, minimization, and mitigation measures for special-status plant species should any be encountered during the survey; and preparation of an HMMP should the project be unable to avoid significant impacts to special status plants. Implementation of Mitigation Measure BIO-4 would minimize the potential for project construction activities to impact Smith's blue butterfly, a federally endangered species, through implementation of surveys for their host plants (seacliff buckwheat and seaside buckwheat) prior to grading and construction; implementation of buffers around host plants, if present; focused surveys for Smith's blue butterfly should impacts to host plants be infeasible; and consultation with USFWS, re-location of occupied host plants, and preparation of an HMMP if occupied host plants cannot be avoided.

Implementation of Mitigation Measure BIO-5 would reduce the potential for project construction activities to result in the loss of active bird nests through a pre-construction nesting bird survey and establishment of avoidance buffers around active nests, if present. Overall, implementation of these measures would reduce project impacts to special-status plant and wildlife species to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. Five sensitive natural communities are known to occur within the seven-quadrangle search area for the BRA, three of which were observed in the Study Area during the field reconnaissance survey – central dune scrub, central maritime chaparral, and Northern Coastal Salt Marsh (Appendix C). In addition, critical habitat for tidewater goby (*Eucyclogobius newberryi*), western snowy plover (*Charadrius alexandrinus nivosus*), and Monterey spineflower occurs within five miles of the Study

Area. However, the Study Area does not occur within federally-designated critical habitat for these species. Furthermore, all project components occur within the Coastal Zone designated by the California Coastal Commission under the California Coastal Act. Because the locations occur within the jurisdiction of the County of Monterey, these project components would be regulated pursuant to the County's Local Coastal Program (LCP), specifically by the North County Land Use Plan, which includes the Moss Landing Community Plan (1982). LCPs typically identify Environmentally Sensitive Habitat Areas (ESHAs), which are areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. None of the project components are within ESHAs; however, based on the results of the field reconnaissance survey, ESHAs were observed adjacent to Manholes 11 to 13, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4 (Appendix C).

Construction and operation of many project components, including Lift Station Nos. 1 through 3, Pipe Repairs P-1 and P-2, and the Lift Station No. 1 Force Main Air Release Valve Vault, would not impact riparian habitat or other sensitive habitat types. In addition, no effects to riparian habitat or other natural communities adjacent to Elkhorn Slough would occur during replacement of the Lift Station No. 2 Force Main because construction activities would be conducted from the deck of the bridge. Thus, these construction activities would have no impacts to Elkhorn Slough or the riparian vegetation associated with the slough. Manholes 11 to 13 are adjacent to a coastal dune scrub habitat, which is on the California Sensitive Natural Communities List (Appendix C). In addition, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4 are all adjacent to the sensitive coastal scrub habitat. These project components occur within the roadway rights-of-way, and construction activities would not directly impact these habitats. However, there is potential for indirect impacts to sensitive habitat to occur, such as introduction of invasive species or incidental trampling of habitat as construction workers move around the area (Appendix C). Therefore, impacts to sensitive plant communities could be potentially significant, and implementation of Mitigation Measure BIO-6 is required to reduce impacts to a less-than-significant level.

It should be noted that the project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA, including those contained in the Monterey County LCP and the Monterey County Code (see discussion under item [e]).

Mitigation Measures

BIO-6 Implement Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

The following measures shall be implemented for project construction activities associated with Manholes 11 to 13, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4:

- To the extent feasible, all project activities, including access routes, staging areas, stockpile areas, and equipment maintenance, shall be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas shall be mapped by a qualified biologist and clearly shown on construction plans. Bright orange protective fencing (e.g., orange snow fencing) shall be installed at the outermost edge of sensitive habitats and shall not be disturbed except as required for project activities. Vegetation removal shall be limited to the minimum extent necessary to achieve project objectives. Mature trees shall be retained wherever feasible, and

limbing of trees and shrubs shall be favored in lieu of removal. When feasible, stumps and burls of native vegetation shall be retained during construction to allow for re-sprouting following project completion.

- During construction, the District shall make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on site shall be used for fill material. If the use of imported fill material is necessary, the imported material shall be obtained from a source that is known to be free of invasive plant species.

In addition, the construction specifications for Manholes 11 to 13, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4 shall include the following best management practices to protect sensitive plant communities during project construction activities.

- Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities.
- Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources and/or previous construction sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the Study Area. All equipment used on the premises shall be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as feasible from any water body adjacent to the project site in a level staging area. Position parked equipment also over drip pans or absorbent material.
- Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities.
- To the greatest extent feasible, stabilize all exposed or disturbed areas in the Study Area. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby aquatic features. Prohibit the use of monofilament erosion control matting to prevent wildlife entanglement. Modify, repair, and/or replace erosion control measures as needed.

Significance after Mitigation

Mitigation Measure BIO-6 would reduce potential impacts to sensitive plant communities and ESHAs through avoidance, installation of protective fencing, use of on-site soils for fill, minimization of vegetation removal, and implementation of construction best management practices. Implementation of these Mitigation Measure BIO-6 would reduce project impacts to sensitive natural communities to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The Study Area is located within the Elkhorn Slough Watershed. The USFWS National Wetlands Inventory depicts Freshwater, Freshwater Emergent Wetland, Riverine, Estuarine and Marine

Wetland, and Estuarine and Marine Deepwater occurring at or within 100 feet of some project components. The drainages and wetlands mapped by the National Wetlands Inventory are generally consistent with observations made during the field reconnaissance survey. In addition, a roadside drainage was observed during the reconnaissance survey. The roadside drainage was located adjacent to SR 1 within 100 feet of Manholes 11 to 13. The drainage begins north of the driveway for the Elkhorn Yacht Club and drains north towards the intersection of Jetty Road and SR 1. The drainage is ephemeral and only conveys water during rain events and extreme high tides. The drainage contained a vegetated bed and banks but lacked a defined ordinary highwater mark. The distance between top of banks was approximately two feet wide. The vegetation consisted of non-native grasses including ripgut brome (*Bromus diandrus*) and other non-native species (Appendix C).

The observed roadside drainage is likely not under the jurisdiction(s) of the United States Army Corps of Engineers (USACE) because it is ephemeral and does not have an indicator of an ordinary high-water mark. In addition, it is likely not under the jurisdiction of CDFW because it is not a natural stream course. However, it is likely under the jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to the Porter-Cologne Water Quality Control Act as isolated waters of the State and County of Monterey pursuant to the California Coastal Act and associated Coastal Commission-approved LCP because it meets the one-parameter definition of a wetland (Appendix C).

The one drainage identified in the Study Area would be avoided by the project; therefore, no direct impacts to jurisdictional waters or wetlands would occur. Nevertheless, indirect impacts from project activities at Manholes 11 through 13 could occur if runoff were allowed to enter the drainage (Appendix C). As a result, impacts to state protected wetlands would be potentially significant, and implementation of Mitigation Measure BIO-7 would be required to reduce impacts to a less-than-significant level.

Mitigation Measures

BIO-7 Construction Best Management Practices for Jurisdictional Waters

The roadway drainage located near Manholes 11 to 13 shall be demarcated with fencing and avoided by construction personnel. The following best management practices shall be required for construction activities at Manholes 11 to 13:

- Staging and construction areas shall be limited to the minimum area necessary to achieve the project goal and minimize impacts to the roadway drainage, including locating access routes and ancillary construction areas away from the roadway drainage.
- To control erosion and sediment runoff during and after project construction, appropriate erosion control materials shall be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint.
- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, shall be prevented from contaminating the soil and/or entering the drainage.
- All refueling, maintenance, and staging of equipment and vehicles shall occur at least 100 feet from the drainage and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan shall be in place for prompt and effective response to any accidental

spills. All workers shall be informed of the importance of preventing spills and of the appropriate measures to take shall an accidental spill occur.

Significance after Mitigation

Mitigation Measure BIO-7 would minimize potential impacts to jurisdictional waters or wetlands through installation of protective fencing and implementation of construction best management practices. Therefore, implementation of Mitigation Measure BIO-7 would reduce project impacts to jurisdictional waters or wetlands to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- d. *Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

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

The Study Area is not within any Essential Connectivity Areas and given the relatively narrow footprint, relatively small size of the Study Area, and the hazardous nature of the associated roads, it is unlikely the Study Area would support a movement corridor for wildlife. Sea lions or sea otters may move locally in the project area; however, the proposed project would not prohibit their movement within the vicinity of the project. In addition, due to the relatively small size of each project component, their dispersal throughout the Study Area, and their location primarily below ground, the project would not interfere substantially with the movement of wildlife species (Appendix C). No impact would occur.

NO IMPACT

- e. *Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

The Monterey County General Plan (2010) includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats will be affected by new development. Section 2.3 of the County of Monterey's North County Land Use Plan also provides for the preservation environmentally sensitive habitats and prohibits all development within certain environmentally sensitive habitats as well as the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval. As discussed under item (b), impacts to special status species and sensitive plant communities (including environmentally sensitive habitats) would be less than significant with incorporation of Mitigation Measures BIO-1 through BIO-7 (Appendix

C). Therefore, the project would not conflict with any local policies or ordinances protecting biological resources. Impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

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

The project site is not located within an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan (Appendix C). Therefore, no conflicts with state, regional, or local habitat conservation plans would occur.

NO IMPACT

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2.5 Cultural Resources

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

This section provides an analysis of the project’s impacts on cultural resources, including historical and archaeological resources as well as human remains. CEQA requires a lead agency determine whether a project may have a significant effect on historical resources (Public Resources Code [PRC] Section 21084.1). A historical resource is a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR); a resource included in a local register of historical resources; or any object, building, structure, site, area, place, record, or manuscript a lead agency determines to be historically significant (CEQA Guidelines Section 15064.5[a][1-3]).

A resource shall be considered historically significant if it:

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

In addition, if it can be demonstrated that a project would cause damage to a unique archaeological resource, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that resources cannot be left undisturbed, mitigation measures are required (PRC Section 21083.2[a-b]). PRC Section 21083.2(g) defines a unique archaeological resource as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information;
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type; or

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

The impact analysis included here is organized based on the cultural resources thresholds included in CEQA Guidelines Appendix G: Environmental Checklist Form. Threshold A broadly refers to historical resources. To more clearly differentiate between archaeological and built environment resources, the analysis under Threshold A is limited to built environment resources. Archaeological resources, including those that may be considered historical resources pursuant to Section 15064.5 and those that may be considered unique archaeological resources pursuant to Section 21083.2, are considered under Threshold B.

Methodology and Results of Historic Properties Inventory Report

In 2022, Rincon conducted a cultural resources investigation and analysis of the project site. This analysis included a cultural resources records search of the California Historical Resources Information System at the Northwest Information Center (NWIC), located at California State University, Sonoma, and a Native American Heritage Commission (NAHC) Sacred Lands File (SLF) search. Rincon also conducted a pedestrian survey of the project footprint for all locations as part of the study and prepared a cultural resources assessment in the form of a Historic Properties Inventory Report (HPIR) covering the entirety of the proposed project (Losco et. al 2022).

The NWIC records search was performed to identify previously conducted cultural resources studies, as well as previously recorded cultural resources within the project site and a one-mile radius surrounding it. The records search included a review of available records at the NWIC, as well as the National Register of Historic Places (NRHP), the CRHR, the Office of Historic Preservation Historic Properties Directory, the California Inventory of Historic Resources, the Archaeological Determinations of Eligibility list, and historical maps. The NWIC records search identified 171 cultural resources studies conducted within a one-mile radius of the project site, 26 of which evaluated portions of the project site. The NWIC search identified 34 previously recorded cultural resources within a one-mile radius of the project site, two of which overlap portions of the project site. These two resources consist of a prehistoric archaeological resource, P-27-000335, which consists of midden, artifacts, and human burials from various phases of occupation spanning thousands of years, and a historic-period archaeological site, P-27-001487, which consists of dredge spoils deposited after the dredging of Elkhorn Slough in 1951. Additionally, even though not formally documented as a resource by the NWIC, the SR 1 bridge over Elkhorn Slough (bridge number 44 0074), which is included in the Caltrans historic bridge inventory, exists within the project site (Losco et. al 2022).

Resource P-27-000335 has been determined eligible for the NRHP by the Keeper of the Register (i.e., the National Parks Service) and is listed on the CRHR as historical resource (Losco et. al 2022).

Resource P-27-001487 is a large expanse of dredge tailings, and only a small portion of the resource boundary overlaps with the project site. Although no constituents of this resource were observed within the project site during the cultural assessment and survey, the majority of the resource was not accessed because it was outside of the project site, and the area overlapping the project site is paved with asphalt and compacted gravel to accommodate vehicle traffic. Therefore, Rincon archaeologists were unable to conduct a formal evaluation of this resource for the CRHR and the resource is being treated as eligible for the CRHR. Accordingly, this resource is considered a historical resource for the purposes of this project (Losco et. al 2022).

The Elkhorn Slough bridge (bridge number 44 0074) is included in the Caltrans historic bridge inventory list. Caltrans identified the bridge as built in 1985 and assigned as a Category 5 bridge, meaning it is not eligible for listing in the NRHP and is not eligible for the CRHR due to an age of less than 45 years. Therefore, it is not considered a historical resource pursuant to CEQA (Losco et. al 2022).

An SLF search is completed by topographic quadrangle, and a positive SLF result is returned if any sacred sites are identified within the mapping quadrangle within which a project site is located. However, no specific locational information is provided. No response to the SLF search has been received as of the date of this report. Prior to receiving the results, Rincon sent letters via email to tribes known to be locally affiliated with the area to request information regarding their knowledge of cultural resources in the vicinity that may be impacted by the project. The Santa Rosa Rancheria responded via email April 28, 2022, stating the project area is sensitive for resources and recommended reaching out to other local tribes in the area to assist with the protection of culturally sensitive areas. Rincon also received an email response from Chairman Nason of the Esselen Tribe of Monterey County on May 3, 2022, stating the area is known for several ancient sites and Native American cemeteries (Losco et. al 2022).

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

As detailed above, the project site does not contain any built environment historical resources. The Elkhorn Slough Bridge (bridge number 44 0074) does not meet the age threshold to be considered for inclusion in the CRHR and is therefore not considered a historical resource (Losco et. al 2022). Therefore, the project would have no impact on historical resources of the built environment.

NO IMPACT

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

The background research and pedestrian field survey identified two archaeological sites within the project site that are considered historical resources pursuant to CEQA - P-27-000335 and P-27-001487. Resource P-27-000355 partially overlaps the project site; however, the majority of the resource within the project site was inaccessible for a pre-project analysis because the area of overlap is paved. This resource has been subject to multiple disturbances in the area overlapping the project site in the form of archaeological data recovery excavations, roadwork, and the original installation of infrastructure that is slated for rehabilitation/replacement under the proposed project. Therefore, project implementation is not expected to alter the existing integrity of this resource (Losco et. al 2022). However, because of the nature and sensitivity of this resource and the fact that the full impacts of the project on this resource cannot be assessed prior to ground disturbance during project implementation, ground disturbance associated with project construction may result in a substantial adverse change in the significance of this archaeological resource should excavation for the project disturb or destroy an intact portion of the resource. Therefore, impacts to resource P-27-000355 would be potentially significant, and implementation of Mitigation Measures CR-1 through CR-4 would be required to reduce impacts to a less-than-significant level.

No evidence of archaeological resource P-27-001487 was observed within the project site during the field survey. All constituents of this resource are believed to either be outside of the project site or to have been flattened below the pavement and gravel driveways that overlap the project site.

Because this resource consists of redeposited soils on original ground surface, the portion of this resource within the project site would have been previously impacted during the installation of the existing pavement and gravel. This activity would have graded, removed, or flattened the dredge spoil soils such that any subsequent work would not alter the existing integrity of this resource at the project site location. Nevertheless, although unlikely, there is a possibility that subsurface components of this site may be unearthed during project activity. As a result, ground disturbance associated with project construction may result in a substantial adverse change in the significance of this archaeological resource should excavation for the project disturb or destroy an intact portion of the resource. Therefore, impacts to resource P-27-001487 would be potentially significant, and implementation of Mitigation Measure CR-2 would be required to reduce impacts to a less-than-significant level.

The presence of numerous known archaeological resources within the project site and a one-mile vicinity in addition to feedback provided by local Native American groups noting the sensitivity of the area indicates there is a high potential for encountering subsurface archaeological deposits during project construction. Therefore, impacts to previously unknown archaeological resources during construction would be potentially significant, and implementation of Mitigation Measures CR-3 and CR-4 would be required to reduce impacts to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

Mitigation Measures

CR-1 Archaeological Treatment Plan for Lift Station No. 2 Force Main

An Archaeological Treatment Plan (Plan) shall be prepared and approved by the District and SWRCB prior to any ground disturbance taking place within 100 feet of the footprint of resource P-27-000335 as part of the Lift Station No. 2 Force Main portion of the proposed project. The Plan shall outline detailed treatment methods and protocols for monitoring personnel, monitoring ground disturbing activities, stop-work protocols, and treatment methods for rapid recovery and data recovery of any prehistoric site constituents of P-27-000335 that may be encountered during excavation. The Plan shall also specify:

- The type of equipment that shall be used to conduct excavations, both mechanical and hand;
- Monitoring methods within resource boundaries, including stop-work authority and procedures;
- Sampling methods for soils and features;
- Protocol for recovery of artifacts, features, and soil samples;
- Types and level of analysis to be conducted on site constituents; and
- Final disposition of any artifacts or samples.

Any Native American tribes consulting under AB 52 or Section 106 for the proposed project shall be given the opportunity to consult on and review the Plan prior to its implementation.

CR-2 Archaeological Monitoring

Archaeological monitoring of all project-related ground disturbing activities shall be conducted by a qualified archaeologist, who shall work in conjunction with the Native American monitor retained as part of Mitigation Measure TCR-2. Archaeological monitoring shall be performed under the direction of an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983). The monitor shall have the authority to halt and redirect

work should any archaeological resources be identified during monitoring. If archaeological resources are encountered during ground-disturbing activities, work in the immediate area shall halt and the find shall be evaluated for listing in the CRHR and NRHP. Archaeological monitoring may be reduced or halted at the discretion of the monitor, in consultation with the District, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of ground disturbance. If monitoring is reduced to spot-checking, spot-checking shall occur when ground-disturbance moves to a new location within the APE and when ground disturbance will extend to depths not previously reached by past ground disturbance in that area (unless those depths are within bedrock).

CR-3 Worker's Environmental Awareness Program

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

CR-4 Unanticipated Discovery of Cultural Resources

If cultural resources are encountered during ground-disturbing activities, work in the immediate area shall halt and an archaeologist meeting the Secretary of the Interior's Professional Qualification Standards for archaeology (National Park Service 1983) shall be contacted immediately to evaluate the find. If the discovery proves to be significant under the NHPA and/or CEQA, additional work such as data recovery excavation and Native American consultation may be warranted to mitigate any significant impacts.

Significance after Mitigation

Mitigation Measures CR-1 through CR-4 include implementation of a treatment plan for excavation within resource P-27-000335, archaeological and Native American monitoring to identify any subsurface archaeological resources encountered during construction, a Worker's Environmental Awareness Program on archaeological sensitivity for construction personnel, procedures for the appropriate handling of unanticipated discoveries of cultural resources. Implementation of these mitigation measures would reduce potential impacts to archeological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?*

Human burials often occur in prehistoric archaeological contexts. The cultural resources records search identified archaeological resources containing human remains within the project site and in the surrounding vicinity. The project site vicinity is also sensitive for Native American resources and burials, as identified by the Santa Rose Rancheria and Chairman Nason of the Esselen Tribe of Monterey County in response to Rincon's outreach efforts. Furthermore, the discovery of human remains is always a possibility during ground disturbances as would be required for the proposed

project. In addition to being potential archaeological resources, human burials have specific provisions for treatment in PRC Section 5097. Additionally, California Health and Safety Code Sections 7050.5, 7051, and 7054 contain specific provisions for the protection of human burial remains. Existing regulations address the illegality of interfering with human burial remains and protects them from disturbance, vandalism, or destruction. PRC Section 5097.98 also addresses the disposition of Native American burials, protects such remains and establishes the NAHC as the entity to resolve any related disputes.

If human remains are found, California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. In the event of an unanticipated discovery of human remains, the County coroner must be notified immediately. If the human remains are determined to be prehistoric, the coroner will notify the NAHC, which will determine and notify a most likely descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of being granted access to the site and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Due to required compliance with PRC Section 5097.98 and California Health and Safety Code Section 7050.5, impacts to human remains would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2.6 Energy

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

As a state, California is one of the lowest per capita energy users in the United States, ranked 48th in the nation, due to its energy efficiency programs and mild climate (United States Energy Information Administration 2022). The project would only require the usage of electricity for lift station operations and petroleum fuels for construction activities and maintenance trips. Therefore, electricity and petroleum fuels are the focus of this analysis. Electricity is primarily consumed by the built environment for lighting, appliances, and cooling systems in addition to being consumed by alternative fuel vehicles. Most of California’s electricity is generated in state with approximately 30 percent imported from the Northwest and Southwest in 2020 (California Energy Commission [CEC] 2022a). In addition, approximately 32 percent of California’s electricity supply comes from renewable energy sources, such as wind, solar photovoltaic, geothermal, and biomass (CEC 2022a). In 2018, Senate Bill 100 accelerated the state’s Renewable Portfolio Standards Program, codified in the Public Utilities Act, by requiring electricity providers to increase procurement from eligible renewable energy and zero-carbon resources to 33 percent of total retail sales by 2020, 60 percent by 2030, and 100 percent by 2045. Electricity would be procured through Central Coast Community Energy (3CE) and delivered to the project by Pacific Gas and Electric (PG&E).

Petroleum fuels are primarily consumed by on-road and off-road equipment in addition to some industrial processes, with California being one of the top petroleum-producing states in the nation (United States Energy Information Administration 2022). Gasoline, which is used by light-duty cars, pickup trucks, and sport utility vehicles, is the most used transportation fuel in California with approximately 12.5 billion gallons sold in 2020 (CEC 2022b). Diesel, which is used primarily by heavy-duty-trucks, delivery vehicles, buses, trains, ships, boats and barges, farm equipment, and heavy-duty construction and military vehicles, is the second most used fuel in California with 2.9 billion gallons sold in 2020 (CEC 2022b).

Energy consumption is directly related to environmental quality in that the consumption of nonrenewable energy resources releases criteria air pollutant and greenhouse gas (GHG) emissions into the atmosphere. The environmental impacts of air pollutant and GHG emissions associated with the project’s energy consumption are discussed in detail in Section 2.3, *Air Quality*, and Section 2.8, *Greenhouse Gas Emissions*, respectively.

- a. *Would the project result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?*

Construction

The project would require demolition; site preparation and trenching, including hauling material off-site; infrastructure installation; pavement and surfacing installation; and site restoration. During project construction, energy would be consumed in the form of petroleum-based fuels used to power off-road construction vehicles and equipment on the project site, construction worker travel to and from the project site, and vehicles used to transport materials to and from the site. As shown in Table 6, project construction would require approximately 4,932 gallons of gasoline and approximately 104,881 gallons of diesel fuel. These construction energy estimates are conservative because they assume that the construction equipment used in each phase of construction is operating every day of construction.

Table 6 Estimated Fuel Consumption during Construction

Source	Fuel Consumption (gallons)	
	Gasoline	Diesel
Construction Equipment & Vendor/Hauling Trips	–	104,881
Construction Worker Vehicle Trips	4,932	–

See Appendix E for energy calculation sheets.

Energy use during construction would be temporary in nature, and construction equipment used would be typical of similar-sized construction projects in the region. In addition, construction contractors would be required to comply with the provisions of California Code of Regulations Title 13 Sections 2449 and 2485, which prohibit diesel-fueled commercial motor vehicles and off-road diesel vehicles from idling for more than five minutes and would minimize unnecessary fuel consumption. Construction equipment would be subject to the USEPA Construction Equipment Fuel Efficiency Standard, which would also minimize inefficient, wasteful, or unnecessary fuel consumption. These practices would result in efficient use of energy necessary to construct the project. In the interest of cost-efficiency, construction contractors also would not utilize fuel in a manner that is wasteful or unnecessary. Therefore, the project would not involve the inefficient, wasteful, and unnecessary use of energy during construction, and no impact would occur.

Operation

Because the purpose of the project is to replace existing, aging facilities, electricity usage for wastewater conveyance at these lift stations would remain similar or would be slightly reduced due to the increased pumping efficiency of the new system. Operation of the project would include routine inspections and maintenance of infrastructure; however, maintenance trips and their associated petroleum fuel consumption would be reduced in comparison to existing conditions due to enhanced system functions. A new 50-kW back-up generator would be installed at each of the four lift stations and would each operate for up to 100 hours per year for testing and maintenance events. Collectively, the four generators would consume approximately 1,920 gallons of diesel fuel per year (Generator Source 2022).⁵ Use of back-up generators would only occur for the required

⁵ The annual generator fuel consumption estimate is conservatively based on a 60-kW generator operating at full load (4.8 gallons per hour).

routine testing and maintenance of the generator or in emergency situations to maintain wastewater conveyance operations. Therefore, project operation would not result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

The District has not adopted a plan for renewable energy or energy efficiency with which the project could comply. Goal OS-9 of the Monterey County General Plan (2010) and its related policies are directed at promoting efficient energy usage. As detailed under item (a), the project would improve the energy efficiency of the existing MLWWS and would result in fewer operations and maintenance trips, which would further Goal OS-9 and its policies. SB 100 mandates 100 percent clean electricity for California by 2045. Because the proposed project would be powered by the existing electricity grid, the project would eventually be powered by renewable energy mandated by SB 100 and would not conflict with this statewide plan. Additionally, the project area is served by 3CE, which offers electricity supplied by approximately 31 percent renewable energy in its 3CE Choice program and electricity supplied by 100 percent renewable energy in its 3CE Prime program (3CE 2022). 3CE is subject to the requirements of SB 100 and aims to provide 100 percent clean electricity to all customers by 2030; 15 years ahead of the State's goal. As such, the proposed project would receive electricity that meets or exceeds State requirements for renewable energy generation (3CE 2022). Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and no impact would occur.

NO IMPACT

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2.7 Geology and Soils

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
1. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
3. Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a.1. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

The project site is located near a seismically active area of California; however, the project site is not located in an Alquist-Priolo Fault Zone (DOC 2021). Several known faults, such as the Reliz fault (approximately 7.9 miles south), Zayante-Vergeles fault (approximately 8.8 miles east), and Laureles fault (approximately 18.5 miles south) exist in the vicinity of the project site (United States Geological Survey 2022a). However, these faults do not cross the project site and are not considered “active” for the purposes of the Alquist-Priolo Act because they have not ruptured in the past 11,000 years (DOC 2019a). Therefore, the proposed project would not directly or indirectly cause potential adverse effects related to rupture of a known earthquake fault, and no impact would occur.

NO IMPACT

a.2. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

The San Andreas Fault system, which is the most active fault system in California, is approximately 14 miles east of the project site. Two other active faults, the Monterey Bay-Tularcitos Fault zone, (approximately 16.2 miles southwest of the project site) and the Palo Colorado-San Gregorio Fault zone (approximately 32.3 miles south of the project site) also occur in the county (Monterey County Office of Emergency Services 2022). From 2016 to 2022, Monterey County experienced 30 earthquakes with a magnitude greater than 2.5; however, none had a magnitude greater than 4.7 (USGS 2022b).

The project site could be subject to seismic ground shaking during an earthquake along the San Andreas Fault or other active faults in the region. The proposed project would involve the replacement and rehabilitation of existing MLWWS components. A large seismic event, such as a seismic shaking or ground failure, could result in breakage of the proposed pipelines, lift stations, or manholes; failure of joints; and/or underground leakage from the pipelines. The existing MLWWS facilities are subject to the same risk; therefore, there would no change in the potential for MLWWS facilities to directly or indirectly cause substantial adverse effects involving strong seismic ground shaking as compared to existing conditions. Furthermore, in the event an earthquake compromised any project component during operation, the District would temporarily shut-off the lift stations and conduct emergency repairs as soon as possible. Additionally, project design would be required to incorporate the materials and installation standards of the American Water Works Association as required pursuant to Title 22 California Code of Regulations (CCR) Chapter 16, which include appropriate standard engineering practices and specifications in pipeline design to minimize risk of structural failure in a seismic event and would reduce any potential secondary impacts. Therefore, the project would not expose people or structures to potential substantial adverse effects involving strong seismic ground shaking, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

a.3. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

The project site is not located within a mapped liquefaction zone (California Geological Survey [CGS] 2022). However, the Geotechnical Report prepared for the project found that soils at all the lift

station locations are considered potentially liquifiable (Yeh & Associates, Inc. 2022). During construction activities, the project would require discharge of groundwater via percolation or injection into the underlying groundwater basin, which can create and/or exacerbate liquefaction hazards by increasing soil saturation. However, water percolated/injected into the ground would consist of groundwater produced during temporary dewatering activities adjacent to the percolation areas/injection wells. Thus, groundwater discharge would not increase local levels of soil saturation as compared to existing conditions because the discharge would involve re-inserting groundwater into the same local area from where it was extracted. In addition, design and construction of the project would adhere to recommendations outlined in the Geotechnical Report to minimize impacts from potentially liquifiable soils (Yeh and Associates, Inc. 2022). As a result, the project would not create or exacerbate liquefaction hazards. The project also does not include habitable structures and would therefore not expose people to loss, injury, or death involving seismic-related ground failure, including liquefaction. Therefore, the project would not directly or indirectly cause potential adverse effects related to seismic ground failure or liquefaction, and no impact would occur.

NO IMPACT

a.4. Would the project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

The project site is not located in an earthquake-induced landslide hazard zone and is relatively flat (DOC 2021). Therefore, landslides are not expected to occur within the project site. The project does not include habitable structures therefore not expose people to loss, injury, or death involving landslides. Implementation of the project would not exacerbate the existing risk of earthquake-induced landslides in the immediate vicinity because the project would not directly result in a seismic event or destabilize soils prone to landslide. Therefore, because the project site is not located in an earthquake-induced landslide hazard zone and the project would not introduce new infrastructure to the site that would exacerbate landslide hazards, the proposed project would not directly or indirectly cause potential adverse effects involving earthquake-induced landslides. No impact would occur.

NO IMPACT

b. Would the project result in substantial soil erosion or the loss of topsoil?

Soil erosion or the loss of topsoil may occur when soils are disturbed but not secured or restored, such that wind or rain events may mobilize disturbed soils, resulting in their transport off the project site. Project construction would include dust control via use of a water truck that would water the construction area two times a day or as needed to prevent dust in areas of grading. Construction would not disturb greater than one acre; as such, coverage under the National Pollutant Discharge Elimination System Construction General Permit would not be required. Erosion during project construction would be limited given that many project components would be located in paved areas and given the relatively small footprint of each project component. Therefore, the project would not result in substantial soil erosion or loss of topsoil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?*

Although the proposed project would be located in a seismically active area, the project is not located in an earthquake-induced landslide hazard zone or liquefaction zone (CGS 2022). As discussed above under item (b), project facilities would occur on a relatively flat area that already includes wastewater conveyance facilities. The proposed project would incorporate all applicable building standards and requirements in compliance with the California Building Standards Code and the American Water Works Association Standards for pipeline installation. Therefore, given the lack of known unstable geologic and soil conditions as well as project compliance with applicable building standards, the proposed project would not significantly affect soil stability or increase the potential for on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. No impact would occur.

NO IMPACT

- d. *Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?*

The project site contains soils composed of Alviso silty clay loam (30.1 percent clay), Elkhorn fine sandy loam (19.0 percent clay), Oceano loamy sand (3.5 percent clay), Santa Ynez fine loam (28.4 percent clay), and Xerorthents (27.5 percent clay) (United States Department of Agriculture 2022). Due to the moderate clay content of most on-site soils, there is potential for expansive soils to occur. The project would be designed and constructed in accordance with the applicable geotechnical recommendations related to expansive soils, such as using compacted fill and structural/trench backfill that does not include expansive materials, as outlined in the Geotechnical Report prepared for the project (Yeh and Associates, Inc. 2022). In addition, the existing MLWWS facilities are subject to the same risk; therefore, there would no change in the potential for MLWWS facilities to create substantial direct or indirect risks to life or property as compared to existing conditions. As a result, the project would not create substantial direct or indirect risks to life or property as a result of expansive soil, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- e. *Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?*

The proposed project involves replacement of existing sewer infrastructure that eventually discharges to the Monterey One Water Regional Wastewater Facility for treatment. The project does not involve the use of septic tanks or alternative wastewater disposal systems. No impact would occur.

NO IMPACT

- f. *Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?*

A Paleontological Resources Assessment was prepared in May 2022 to determine whether the proposed project would result in significant impacts to paleontological resources (Appendix F). According to this assessment, the project site is located in the Coast Ranges geomorphic province,

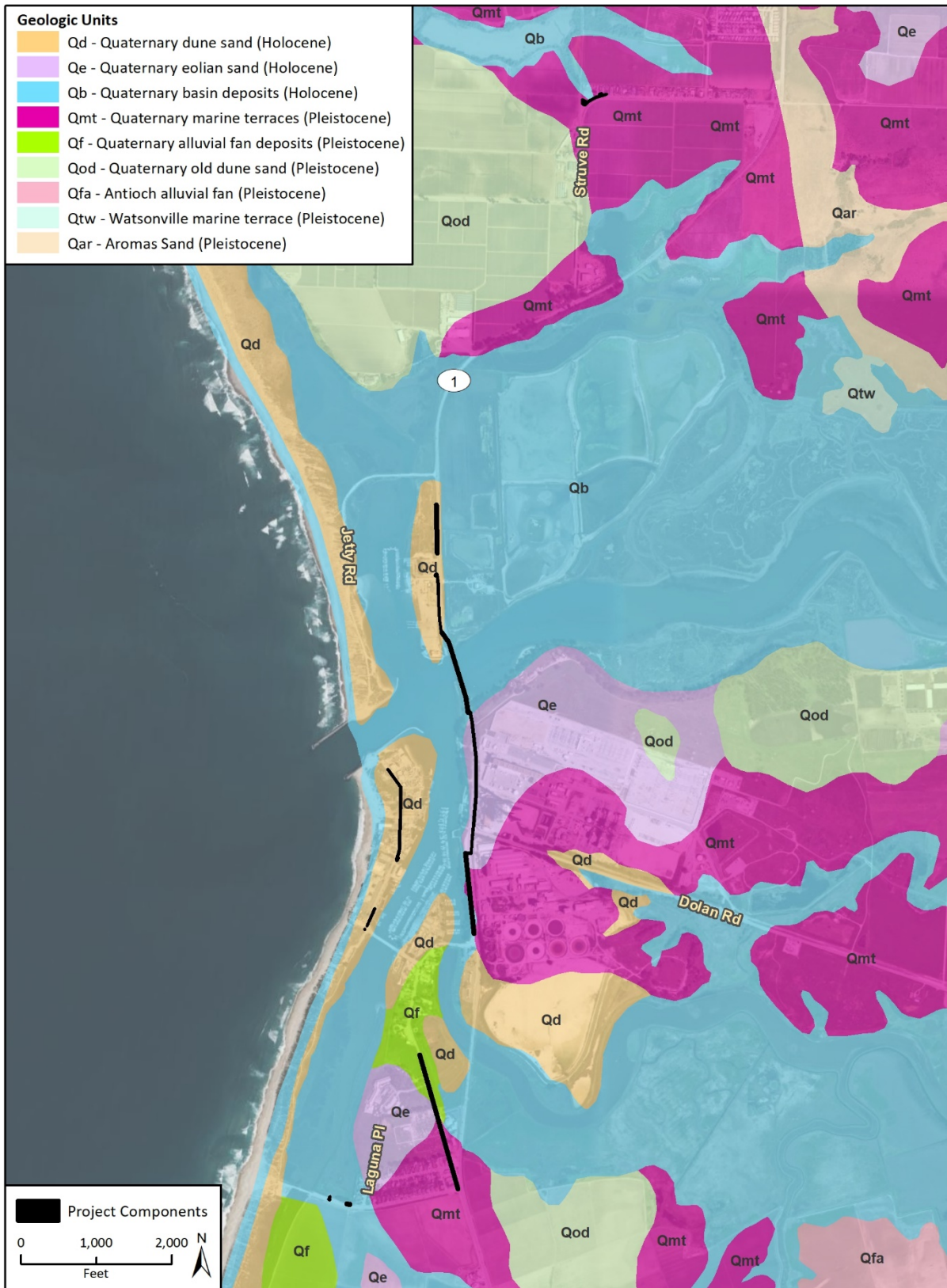
one of the eleven geomorphic provinces of California, and five geologic units are mapped at the surface underlying project components. As shown in Figure 7, these units consist of Quaternary dune sand (Qd), Quaternary eolian sand (Qe), Quaternary basin deposits (Qb), Quaternary marine terraces (Qmt), and Quaternary alluvial fan deposits (Qf). The assessment determined that Quaternary dune sand, Quaternary basin deposits, and Quaternary eolian sand have low paleontological sensitivity based on the age of the sediments. However, sediments similar in lithology and age to Quaternary marine terraces and Quaternary alluvial fan deposits have produced scientifically significant paleontological resources throughout California, including in Monterey County. Therefore, Quaternary marine terraces and Quaternary alluvial fan deposits have high paleontological sensitivity (Appendix F).

Table 7 summarizes the potential for construction activities associated with each project component to result in significant impacts to paleontological resources. No ground disturbance would occur for replacement of the Lift Station No. 1 Force Main Air Release Valve Vault; therefore, this project component would have no impacts to paleontological resources. Excavations for six project components (Lift Station No. 2, Lift Station No. 3, Lift Station No. 4, Lift Station No. 2 Force Main, Pipe Repair P-1, and Pipe Repair P-2) would take place solely within sediments assigned low paleontological sensitivity and would thus have a less-than-significant impact to paleontological resources. Construction activities associated with manhole replacement and rehabilitation would involve ground disturbance in areas where highly sensitive sediments are mapped. However, these activities would only affect previously-disturbed sediments, so they would also have a less-than-significant impact on paleontological resources. Installation of Lift Station No. 1 would involve ground disturbing activities in previously-undisturbed sediments assigned high paleontological sensitivity (Quaternary marine terraces); therefore, there is potential for ground-disturbing activities associated with this project component to result in significant impacts to paleontological resources. As a result, implementation of Mitigation Measure GEO-1 would be required to reduce impacts that could occur during construction of Lift Station No. 1 to a less-than-significant level. No mitigation is required for other project components.

Table 7 Potential for Impacts to Paleontological Resources by Project Component

Project Component	Located in Geologic Unit of High Paleontological Sensitivity?	Disturbance in Previously Undisturbed Soils?	Potentially Significant Impact?
Lift Station No. 1	Yes (New Lift Station No. 1 Location)	Yes	Yes
Lift Station No. 2	No	No	No
Lift Station No. 3	No	No	No
Lift Station No. 4	No	No	No
Lift Station No. 2 Force Main	No	No	No
Pipe Repair P-1	No	No	No
Pipe Repair P-2	No	No	No
Lift Station No. 1 Force Main Air Release Valve Vault	Yes	No	No
Manholes	Yes (Manholes 27 to 30 and 41 to 47)	No	No

Figure 7 Geologic Map of Project Site



Mitigation Measure

GEO-1 Paleontological Resources Monitoring and Mitigation

The following measures shall be implemented during construction of the new Lift Station No. 1:

- **Qualified Paleontologist.** The District shall retain a Qualified Paleontologist prior to the construction of the new Lift Station No. 1. The Qualified Paleontologist shall direct all mitigation measures related to paleontological resources. A qualified professional paleontologist is defined by Society of Vertebrate Paleontology (SVP) standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years (SVP 2010).
- **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction, the Qualified Paleontologist or their designee shall conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.
- **Paleontological Monitoring.** Full-time paleontological monitoring shall be conducted during ground-disturbing construction activities associated with construction of the new Lift Station No. 1. Paleontological monitoring shall be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring shall be determined by the Qualified Paleontologist based on the observation of the geologic setting from initial ground disturbance and subject to the review and approval by the District. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions once the full depth of excavations has been reached, they may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. Monitoring shall be reinstated if any new ground disturbance is required, and reduction or suspension shall be reconsidered by the Qualified Paleontologist at that time. In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find shall cease. A Qualified Paleontologist shall evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist shall complete the following conditions to mitigate impacts to significant fossil resources:
 - **Fossil Salvage.** If fossils are discovered, the paleontological monitor shall have the authority to halt or temporarily divert construction equipment within 50 feet of the find until the monitor and/or lead paleontologist evaluate the discovery and determine if the fossil may be considered significant.⁶
 - **Fossil Preparation and Curation.** Once salvaged, significant fossils shall be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.

⁶ Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits.

- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activity (and curation of fossils if necessary), the Qualified Paleontologist shall prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report shall include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report shall be submitted to the District. If the monitoring efforts produce fossils, then a copy of the report shall also be submitted to the designated museum repository.

Significance after Mitigation

Implementation of Mitigation Measure GEO-1 would require a paleontological Worker Environmental Awareness Program training and paleontological monitoring for ground-disturbing construction activities associated with the new Lift Station No. 1, which would be located in a previously-undisturbed area underlain by a geologic unit with high paleontological sensitivity. Should paleontological resources be discovered, they would be salvaged, evaluated for significance, and curated in a scientific institution, if appropriate. Therefore, Mitigation Measure GEO-1 would reduce project impacts to paleontological resources to a less-than-significant level.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

2.8 Greenhouse Gas Emissions

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

Overview of Climate Change and Greenhouse Gas Emissions

Climate change is the observed increase in the average temperature of the Earth’s atmosphere and oceans along with other substantial changes in climate (such as wind patterns, precipitation, and storms) over an extended period. Climate change is the result of numerous, cumulative sources of greenhouse gas (GHG) emissions contributing to the “greenhouse effect,” a natural occurrence which takes place in Earth’s atmosphere and helps regulate the temperature of the planet. Most radiation from the sun hits Earth’s surface and warms it. The surface, in turn, radiates heat back towards the atmosphere in the form of infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping into space and re-radiate it in all directions.

GHG emissions occur both naturally and as a result of human activities, such as fossil fuel burning, decomposition of landfill wastes, raising livestock, deforestation, and some agricultural practices. GHGs produced by human activities include carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Different types of GHGs have varying global warming potentials (GWP). The GWP of a GHG is the potential of a gas or aerosol to trap heat in the atmosphere over a specified timescale (generally, 100 years). Because GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of the gas emitted, referred to as “carbon dioxide equivalent” (CO₂e), which is the amount of GHG emitted multiplied by its GWP. Carbon dioxide has a 100-year GWP of one. By contrast, methane has a GWP of 30, meaning its global warming effect is 30 times greater than CO₂ on a molecule per molecule basis (Intergovernmental Panel on Climate Change [IPCC] 2021).⁷

The United Nations IPCC expressed that the rise and continued growth of atmospheric CO₂ concentrations is unequivocally due to human activities in the IPCC’s Sixth Assessment Report (2021). Human influence has warmed the atmosphere, ocean, and land, which has led the climate to warm at an unprecedented rate in the last 2,000 years. It is estimated that between the period of

⁷ The Intergovernmental Panel on Climate Change’s (2021) Sixth Assessment Report determined that methane has a GWP of 30. However, the 2017 Climate Change Scoping Plan published by the California Air Resources Board uses a GWP of 25 for methane, consistent with the Intergovernmental Panel on Climate Change’s (2007) Fourth Assessment Report. Therefore, this analysis utilizes a GWP of 25.

1850 through 2019, a total of 2,390 gigatonnes of anthropogenic CO₂ was emitted. It is likely that anthropogenic activities have increased the global surface temperature by approximately 1.07 degrees Celsius between the years 2010 through 2019 (IPCC 2021). Furthermore, since the late 1700s, estimated concentrations of CO₂, methane, and nitrous oxide in the atmosphere have increased by over 43 percent, 156 percent, and 17 percent, respectively, primarily due to human activity (United States Environmental Protection Agency 2021b). Emissions resulting from human activities are thereby contributing to an average increase in Earth's temperature. Potential climate change impacts in California may include loss of snowpack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years (State of California 2018).

Regulatory Framework

In response to climate change, California implemented Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006." AB 32 required the reduction of statewide GHG emissions to 1990 emissions levels (essentially a 15 percent reduction below 2005 emission levels) by 2020 and the adoption of rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. On September 8, 2016, the Governor signed Senate Bill 32 into law, extending AB 32 by requiring the State to further reduce GHG emissions to 40 percent below 1990 levels by 2030 (the other provisions of AB 32 remain unchanged). On December 14, 2017, CARB adopted the 2017 Scoping Plan, which provides a framework for achieving the 2030 target. The 2017 Scoping Plan relies on the continuation and expansion of existing policies and regulations, such as the Cap-and-Trade Program and the Low Carbon Fuel Standard, and implementation of recently adopted policies and legislation, such as SB 1383 (aimed at reducing short-lived climate pollutants including methane, hydrofluorocarbon gases, and anthropogenic black carbon) and SB 100 (aimed at accelerating the state's Renewables Portfolio Standard Program). The 2017 Scoping Plan also puts an increased emphasis on innovation, adoption of existing technology, and strategic investment to support its strategies. As with the 2013 Scoping Plan Update, the 2017 Scoping Plan does not provide project-level thresholds for land use development. Instead, it recommends local governments adopt policies and locally-appropriate quantitative thresholds consistent with a statewide per capita goal of six metric tons (MT) of CO₂e by 2030 and two MT of CO₂e by 2050 (CARB 2017).

Significance Thresholds

The State of California, MBARD, County of Monterey, and District have not adopted GHG emissions thresholds for land use development projects. Therefore, this analysis utilizes the thresholds published by the Bay Area Air Quality Management District (BAAQMD), which is the air district immediately north of and adjacent to the jurisdiction of MBARD. The use of GHG thresholds developed by the adjoining BAAQMD is considered appropriate by the District because of the broad similarities between the two adjacent air basins. The NCCAB comprises the counties of Santa Cruz, Monterey, and San Benito, with a substantial portion of the air basin located within Santa Cruz and Monterey counties. The San Francisco Bay Area Air Basin that is managed by BAAQMD consists of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, southwestern Solano, and southern Sonoma counties. The areas managed by the two air districts - BAAQMD and MBARD - contain a mix of urban and rural areas and similar emission sources, such as construction, electricity and natural gas consumption, agriculture, and transportation. Given the similarities between the two regions, the District has determined that the thresholds set forth by the BAAQMD are appropriate to use for the project.

To determine if a project's GHG emissions are significant under CEQA, BAAQMD recommends completing a "fair share" analysis to determine how a new land use development project should be "designed and built to ensure it will be consistent with the goal of carbon neutrality by 2045" (BAAQMD 2022). BAAQMD has only recommended thresholds for evaluating a project's operational emissions because "GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions" (BAAQMD 2022). For a project's GHG emissions to be determined less than significant, a project must be consistent with a local GHG reduction strategy that meets the criteria of CEQA Guidelines Section 15183.5(b) or incorporate the following project design elements (BAAQMD 2022):

- Not include natural gas appliances or natural gas plumbing;
- Not result in wasteful, inefficient, or unnecessary energy usage as determined by the analysis required under PRC Section 21100(b)(3) and CEQA Guidelines Section 15126.2(b);
- Achieve a reduction in project-generated vehicle miles traveled (VMT) below the regional average consistent with the 2017 Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted SB 743 VMT target reflecting the recommendations provided in the Governor's Office of Planning and Research's *Technical Advisory on Evaluating Transportation Impacts in CEQA* (2018); and
- Achieve compliance with off-street electric vehicle requirements in the most recently adopted version of California Green Building Standards Code (CALGreen) Tier 2.

Methodology

For informational purposes, GHG emissions associated with project construction and operation were estimated using CalEEMod, version 2020.4.0, with the assumptions described under Section 2.3, *Air Quality*. In addition, construction emissions were amortized over the project's estimated 50-year lifetime because construction emissions are confined to a relatively short period of time in relation to the overall life of the proposed project.

- a. *Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?*

Pursuant to BAAQMD guidance, the project's GHG emissions would be less than significant if the project includes no natural gas appliances or plumbing; would not result in wasteful, inefficient, or unnecessary energy usage; would achieve lower-than-average project-generated VMT consistent with CARB's 2017 Scoping Plan or a locally adopted VMT target; and achieve compliance with CALGreen Tier 2 requirements for off-street electric vehicle spaces (BAAQMD 2022). The project does not include natural gas connections, and as discussed in Section 2.6, *Energy*, the project would not result in wasteful, inefficient, or unnecessary energy usage. Due to enhanced system functions, the project would not result in a net increase in routine inspections and maintenance trips and their associated VMT, as detailed in Section 2.17, *Transportation*. In addition, CALGreen Tier 2 requirements for off-street electric vehicle spaces are not applicable to the project because no residential or nonresidential buildings would be constructed. Therefore, the project would include the requisite project design elements, as applicable, and pursuant to BAAQMD guidance, the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Impacts would be less than significant.

Although impacts would be less than significant as discussed above, calculations of CO₂, methane, and nitrous oxide emissions are provided to disclose the magnitude of GHG emissions generated by

the project for informational purposes. Construction of the proposed project would generate temporary GHG emissions primarily as a result of the use of construction equipment on-site as well as from vehicles transporting construction workers to and from the project site and heavy trucks transporting demolished and new materials and exported soil. As shown in Table 8, project construction would generate approximately 982 MT of CO₂e in total, or approximately 20 MT of CO₂e per year when amortized over a 50-year period (i.e., the expected lifetime of the proposed project).

Table 8 Estimated Construction GHG Emissions

Construction Year	Emissions (MT of CO ₂ e per year)
2023	260
2024	722
Total	982
Total Amortized over 50 Years	20

MT = metric tons; CO₂e = carbon dioxide equivalents

¹ Construction would occur between September 2023 and September 2024; therefore, emissions are shown for each year during which construction would occur.

See Appendix B for CalEEMod calculations.

Because the purpose of the project is to replace existing, aging facilities, electricity usage and associated GHG emissions for wastewater conveyance at the four lift stations would remain similar or would be slightly reduced due to the increased pumping efficiency of the new system. Operation of the project would include routine inspections and maintenance of infrastructure; however, maintenance trips and their associated GHG emissions would be reduced in comparison to existing conditions due to enhanced system functions. In addition, the project would not result in any new GHG emissions associated with wastewater treatment beyond existing conditions because the project would not include new service connections or be capacity-inducing. A new back-up generator would be installed at each of the four lift stations and would each operate for up to 100 hours per year for testing and maintenance events. Routine testing and maintenance of these backup generators would generate approximately 10 MT of CO₂e per year (Appendix B). When combined with amortized construction-related GHG emissions, project emissions would be approximately 30 MT of CO₂e per year. Nevertheless, as discussed previously, pursuant to BAAQMD guidance, the project’s GHG emissions would be less than significant the project would include the requisite project design elements related to GHG emission reduction.

LESS THAN SIGNIFICANT IMPACT

b. Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The District has not adopted a qualified GHG reduction plan; therefore, there are no regional or local GHG reduction plans that would apply to the proposed project. Nonetheless, the project would be consistent with the 2017 Scoping Plan and would not conflict with SB 32 emissions targets because the project would improve the efficiency of the existing MLWWS, thereby reducing operational GHG emissions associated with electricity usage and routine maintenance trips. Furthermore, although project construction activities and the routine testing and maintenance of the proposed backup generators may result in a net increase in GHG emissions associated with District operations, the use of these generators would be limited to testing and maintenance events

and would not emit a substantial quantity of GHG emissions, as discussed under item (a). Therefore, the project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions, and no impact would occur.

NO IMPACT

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2.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e. For a project located in an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a. *Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Construction of the project would temporarily increase the transport and use of hazardous materials in the project area through the operation of vehicles and equipment. Such substances include diesel fuel, oil, solvents, and other similar materials brought onto the construction site for use and storage during the construction period. These materials would be contained within vessels specifically engineered for safe storage and would not be transported, stored, or used in quantities that would pose a significant hazard to the public or construction workers themselves. Furthermore, project construction would require the excavation and transport of paving materials and soils which could possibly be contaminated by vehicle-related pollution (e.g., oil, gasoline, diesel, and other automotive chemicals). All such paving and soils removed during construction would be transported and disposed of in accordance with applicable codes and regulations to ensure no significant hazard to construction workers or the surrounding community would occur. Operation of the project would involve the conveyance of wastewater and would not require the use, storage, or disposal of hazardous materials. Therefore, the project would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

The use, transport, and storage of hazardous materials during construction of the project (e.g., diesel fuel, oil, solvents, and other similar materials) could introduce the potential for an accidental spill or release to occur. As discussed under item (a) above, operation and maintenance of the project would not involve the routine transport, use, or disposal of hazardous materials. Therefore, potential impacts are limited to the construction period.

The presence of hazardous materials during project construction activities, including but not limited to ground-disturbing activities such as trenching and excavation, could result in an accidental upset or release of hazardous materials if they are not properly stored and secured. Hazardous materials used during project construction would be disposed of off-site in accordance with all applicable laws and regulations, including but not limited to the California Building and Fire Codes, as well as regulations of the federal and State Occupational Safety and Health Administrations. Therefore, the project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?*

The nearest school to the project site is North Monterey County Middle School located approximately 2.0 miles southeast of the project site. Therefore, the project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school, and no impact would occur.

NO IMPACT

- d. *Would the project be located on a site that is included on a list of hazardous material sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

The following databases compiled pursuant to Government Code Section 65962.5 were checked for known hazardous materials contamination:

- EnviroStor Database, California Department of Toxic Substances Control (DTSC)
- GeoTracker Database, SWRCB

According to the database search, there are no known hazardous material sites within the project site (DTSC 2022 and SWRCB 2022a). The nearest listed cleanup sites are the Moss Landing Power Plant and Dynegy Moss Landing, both located the intersection of SR 1 and Dolan Road. The Moss Landing Power Plant (ID 6053014601) is located adjacent to the alignment of the Lift Station No. 2 Force Main. EnviroStor classifies the site as a School Cleanup with a status of “Closed” and indicates that as of 2019, DTSC received the final certified closure report and accepted closure certification. Due to its closed status, this site does not present a hazard in relation to the proposed project. Dynegy Moss Landing (ID 80001833) is also located adjacent to the alignment of the Lift Station No. 2 Force Main and is classified as a Corrective Action. The cleanup status is Active as of January 1, 2008, and the potential media affected consist of groundwater, sediments, and soil. Although active, a Site Designation Status Report dated December 28, 2021, indicates that target cleanup levels at the site for groundwater have already been achieved (Bystra 2021). In addition, project construction would not disturb potentially contaminated sediments or soils on the Dynegy property. Therefore, the proposed project would not be located on a site that is included on a list of hazardous materials site and would not create a significant hazard to the public or the environment as a result. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- e. *For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

The closest public or private airport to the project site is the Marina Municipal Airport, located approximately 7.4 miles to the south. The project site is not located within this airport’s Airport Influence Area (Monterey County Airport Land Use Commission 2019). Thus, the project would not result in a safety hazard or excessive noise for people working in the project area due to proximity to an airport, and no impacts would occur.

NO IMPACT

- f. *Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

The County of Monterey has published an Emergency Operations Plan that establishes policies and procedures and identifies responsibilities of key officials and agencies to ensure the effective management of emergencies and disasters within the Monterey County Operational Area. The plan provides information on the County’s emergency management structure, protocols for when the Monterey County Emergency Operations Center is activated, and procedures for notification and activation (County of Monterey 2014). The Emergency Operations Plan does not include policies

specific to the project site or project activities; therefore, this analysis focuses on the project's potential to generally interfere with emergency response activities in the project site vicinity.

During construction, temporary single-lane closures of Struve Road, Sandholdt Road, Potrero Road, Moss Landing Road, and SR 1 along the project alignment would be required to accommodate trenching, pipeline installation and re-lining, manhole replacement, and lift station rehabilitation/replacement within public rights-of-way. As part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. As described in Section 2.17, *Transportation*, project impacts on circulation would be minor and temporary and therefore would not interfere with emergency response and/or evacuation. Operation of the project would be similar to existing conditions, and routine maintenance trips would be reduced in frequency as compared to existing conditions due to enhanced system functions. Project components would be located underground, flush with the ground surface, and/or outside of established roadways and therefore would not obstruct access to any roadways or structures. Therefore, the project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?*

The project site and surrounding area is located within a Local Responsibility Area for Fire Protection Responsibility and is not within a designated Very High Fire Hazard Severity Zone (California Department of Forestry and Fire Protection [CALFIRE] 2008). Therefore, the proposed project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires, and no impact would occur.

NO IMPACT

2.10 Hydrology and Water Quality

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
(i) Result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(iv) Impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a. *Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?*

The project site is located in the Central Coast hydrological region. The nearest surface water bodies are Elkhorn Slough, which runs west to east through the project alignment, and the Pacific Ocean, which is located approximately 350 to 500 feet to the west of the nearest project components. The project would consist of replacing components of a wastewater system located primarily underground in existing public rights-of-way except for the new Lift Station No. 1, which would be located on private property. As detailed in Section 2.7, *Geology and Soils*, erosion during project construction would be limited given that many project components would be located in paved areas and given the relatively small footprint of each project component. In addition, as described in Section 2.9, *Hazards and Hazardous Materials*, accidental leaks or spills of hazardous materials that may occur during project construction would be cleaned up and disposed of in accordance with applicable regulations. Temporary dewatering activities would also be required during construction activities at Lift Station Nos. 1, 2, 3, and 4 and Pipe Repair P-1. Groundwater would be disposed of via percolation and injection. Groundwater percolated/injected back into the underlying groundwater basin would not adversely impact groundwater quality because groundwater would be percolated/injected directly back into its source groundwater basin. In addition, the District would obtain coverage of the discharge of groundwater via these methods under National Pollutant Discharge Elimination System Permit No. CAG993001 for Discharges with Low Threat to Water Quality (SWRCB 2022b). Compliance with the NPDES permit requirements would further ensure the groundwater discharges would not adversely affect groundwater quality. Upon completion of the proposed project, the existing potential for unexpected leaks and/or breakages of existing MLWWS components, which could affect water quality, would be reduced due to system improvements. Therefore, the project would not violate any water quality standards or waste discharge requirements or substantially degrade surface or groundwater quality. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

The project site overlies the Salinas Valley Groundwater Basin (SVGB), for which the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) is the Groundwater Sustainability Agency. The SVBGSA adopted a groundwater sustainability management plan for the SVGB on January 9, 2020. The project involves the replacement of existing MLWWS components. Dewatering during construction would be required for some project components due to the high water-table; however, these activities would be temporary and short-term and the groundwater produced during dewatering would be percolated/injected back into the groundwater basin. Therefore, dewatering during project construction would not substantially decrease groundwater supplies. No long-term use of groundwater supplies would be required for the proposed project. Groundwater recharge would not be substantially reduced because the project would have a minimal effect on the amount of impervious surfaces within the project site as compared to existing conditions because most project components would be located underground and the footprints of each lift station that would be surfaced would be relatively small (approximately 600 to 1,700 square feet per lift station). Therefore, the project would not substantially decrease groundwater supplies or interfere

substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c.(i) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?*
- c.(ii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?*
- c.(iii) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*
- c.(iv) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner that would impede or redirect flood flows?*

The project would consist of replacing components of a wastewater system located primarily underground in existing public rights-of-way except for the new Lift Station No. 1, which would be located on private property. The project does not propose alterations to the course of a stream or river. As described above under item (b), the project would minimally alter impervious surfaces within the site compared to existing conditions because most project components would be located underground and the footprints of each lift station that would be surfaced would be relatively small (approximately 600 to 1,700 square feet per lift station). According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps, the alignment of the existing and replacement Lift Station No. 2 Force Main is located within a 100-year flood hazard area (Zone AE) (FEMA 2017). However, the existing force main is either located underground or attached to an existing bridge crossing Elkhorn Slough along its alignment, and the proposed replacement force main would be installed in the same location. As such, the Lift Station No. 2 Force Main replacement would not alter drainage patterns in a flood zone. Therefore, the project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or off-site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?*

Portions of the project site in proximity to the coast are located within a tsunami inundation zone, according to the DOC Tsunami Inundation Maps (DOC 2019b). The project site traverses Elkhorn

Slough, which has the potential to be subject to risk of seiche. Most of the project alignment is in a moderate to low flood hazard zone; the Lift Station No. 2 Force Main alignment is located within a 100-year flood hazard area (Zone AE) (FEMA 2017). However, many project components would be located underground and would not risk release of pollutants due to project inundation in the event of flooding or a seiche. In addition, the Lift Station No. 2 Force Main would be replaced in its current location and thus would not present a new risk of pollutant release due to project inundation. Furthermore, Monterey County Code (MCC) Section 16.16.050(F) sets standards for utilities, including requirements for sanitary sewage systems to be designed to minimize or eliminate the infiltration of flood waters into the system and the discharge from systems into flood waters. Therefore, the project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

The project site is subject to the 2019 Water Quality Control Plan for the Central Coast Basin (Basin Plan), established by the Central Coast Regional Water Quality Control Board. The Basin Plan establishes narrative and numerical water quality objectives and includes total daily maximum loads (TDMLs), which are a calculation of the maximum amount of a pollutant a water body can have and still meet water quality objectives established by the region (Central Coast Regional Water Quality Control Board 2019). Pursuant to the requirements of National Pollutant Discharge Elimination System Permit No. CAG993001 for Discharges with Low Threat to Water Quality, groundwater discharged during temporary dewatering activities would be required to comply with minimum water quality standards and any more stringent standards listed in the Basin Plan (SWRCB 2022b). In addition, as discussed under item (a), the proposed project would not generate substantial erosion, and all accidental leaks or spills of hazardous materials that may occur during construction would be remediated in accordance with applicable regulations. As such, the proposed project would not conflict with or obstruct implementation of the Basin Plan.

As mentioned under item (b), the SVBGSA is the Groundwater Sustainability Agency for the SVGB. In January 2020, the SVBGSA adopted a groundwater sustainability management plan, subject to Sustainable Groundwater Management Act requirements. In addition, as discussed under item (b), the project would not increase groundwater extraction, substantially impede groundwater recharge, or interfere with sustainable groundwater management. As such, the project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2.11 Land Use and Planning

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a. Would the project physically divide an established community?

The proposed project would rehabilitate and replace components of the existing MLWWS. Project components would be situated in the same or nearby locations as existing facilities and would function similarly to the existing facilities. Construction would be temporary in nature and would maintain roadway access, although temporary lane closures may be required during work in public rights-of-way. Most project components would be located underground; however, the project would install aboveground infrastructure including electrical and control panels, bollards, lighting, alarms, wet well air vents, and backup generators at identified lift station locations. These aboveground elements would be relatively small and would be installed on the edges of roadways or on private property. Therefore, the project would not physically divide an established community, and no impact would occur.

NO IMPACT

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project site is located within unincorporated Monterey County in the community of Moss Landing. The project would replace, rehabilitate, and improve portions of the existing MLWWS on parcels zoned as Open Space Recreation (Coastal Zone) and Medium Density Residential (Coastal Zone) as well as within public rights-of-way. Pursuant to MCC Chapters 20.12 and 20.38, both public utility facilities and water system facilities are conditionally allowed in the Medium Density Residential (Coastal Zone) and Open Space Recreation (Coastal Zone) zones with issuance of a coastal development permit, if not otherwise exempt. As noted in Section 1.10, *Other Public Agencies Whose Approval is Required*, the project would be required to obtain a coastal development permit from the California Coastal Commission. As such, the proposed project would not require a zone change or General Plan amendment. The project would be subject to compliance with the applicable site development standards outlined in MCC Sections 20.12.060 and 20.38.060.

In addition, the project would be in furtherance of County of Monterey General Plan Goal PS-4, which aims to ensure adequate treatment and disposal of wastewater (County of Monterey 2010).

The following policies from the North County Coastal Land Use Plan, which includes the Moss Landing Community Plan (Chapter 5), would be applicable to the proposed project (County of Monterey 1982):

- **3.2.2-3:** Agricultural lands shall not be included in any future expansion or adjustment of service areas unless the site is specifically designated as necessary to accommodate the infilling of a developed area. Sewer lines shall be located away from agricultural lands where possible. Where sewer lines are required to run through agricultural lands, such lands shall not be served by sewer.
- **3.2.3-5:** Wastewater collection and treatment systems shall be constructed in a manner to minimize impacts to natural and visual resources,

The proposed project would rehabilitate existing wastewater conveyance facilities and would not be sited on agricultural land. As discussed in Section 2.1, *Aesthetics*, the proposed project would not impact visual resources. Therefore, the project would be consistent with the North County Coastal Land Use Plan. Furthermore, as noted throughout this document, the project would result in no impact, less than significant impacts, or less than significant impacts with the incorporation of mitigation measures for all issue areas evaluated, including biological resources, cultural and tribal cultural resources, paleontological resources, and noise. As a result, the proposed project would be consistent with the goals and policies outlined in the Monterey County Code and North County Coastal Land Use Plan as they relate to these topics. As a result, the proposed project would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2.12 Mineral Resources

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

- a. *Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*
- b. *Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?*

According to Mineral Land Classification Maps prepared by the DOC, the project site is not underlain by a known mineral resource (CGS 2021). The proposed project would not involve mineral extraction, construction activities, or changes in land use that could affect the availability of mineral resources. Therefore, no impacts to mineral resources would occur.

NO IMPACT

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2.13 Noise

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project result in:				
a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Overview of Noise and Vibration

Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

HUMAN PERCEPTION OF SOUND

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Caltrans 2013).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as

one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud (10.5 times the sound energy) (Caltrans 2013).

SOUND PROPAGATION AND SHIELDING

Sound changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in the noise level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line), the path the sound will travel, site conditions, and obstructions. Noise levels from a point source (e.g., construction, industrial machinery, air conditioning units) typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance. Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). Noise levels may also be reduced by intervening structures; the amount of attenuation provided by this “shielding” depends on the size of the object and the frequencies of the noise levels. Natural terrain features, such as hills and dense woods, and man-made features, such as buildings and walls, can significantly alter noise levels.

DESCRIPTORS

The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. The noise descriptors used for this analysis are the equivalent noise level (L_{eq}) and the community noise equivalent level (CNEL).

The L_{eq} is one of the most frequently used noise metrics; it considers both duration and sound power level. The L_{eq} is defined as the single steady-state A-weighted sound level equal to the average sound energy over a time period. When no time period is specified, a 1-hour period is assumed. The L_{max} is the highest noise level within the sampling period, and the L_{min} is the lowest noise level within the measuring period. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using CNEL, which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013).

Groundborne Vibration

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

Typically, ground-borne vibration generated by manmade activities attenuates rapidly as distance from the source of the vibration increases. Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in/sec). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used as it corresponds to the stresses that are experienced by buildings (Caltrans 2020).

High levels of groundborne vibration may cause damage to nearby building or structures; at lower levels, groundborne vibration may cause minor cosmetic (i.e., non-structural damage) such as cracks. These vibration levels are nearly exclusively associated with high impact activities such as blasting, pile-driving, vibratory compaction, demolition, drilling, or excavation. The American Association of State Highway and Transportation Officials (AASHTO) has determined vibration levels with potential to damage nearby buildings and structures; these levels are identified in Table 9.

Table 9 AASHTO Maximum Vibration Levels for Preventing Damage

Type of Situation	Limiting Velocity (in/sec PPV)
Historic sites or other critical locations	0.1
Residential buildings, plastered walls	0.2–0.3
Residential buildings in good repair with gypsum board walls	0.4–0.5
Engineered structures, without plaster	1.0–1.5

in/sec = inches per second; PPV = peak particle velocity
 Source: Caltrans 2020

Numerous studies have been conducted to characterize the human response to vibration. The vibration annoyance potential criteria recommended for use by Caltrans, which are based on the general human response to different levels of groundborne vibration velocity levels, are described in Table 10.

Table 10 Vibration Annoyance Potential Criteria

Human Response	Vibration Level (in/sec PPV)	
	Transient Sources	Continuous/Frequent Intermittent Sources ¹
Severe	2.0	0.4
Strongly perceptible	0.9	0.10
Distinctly perceptible	0.25	0.04
Barely perceptible	0.04	0.01

in/sec = inches per second; PPV = peak particle velocity
¹ Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
 Source: Caltrans 2020

Project Noise Setting

SENSITIVE RECEIVERS

Noise exposure goals for various types of land uses reflect the varying noise sensitivities associated with those uses. Noise sensitive receptors generally include schools, parks, residential areas, hospitals, churches, courts, libraries, and care facilities. While neither the District nor the County

does define specific noise-sensitive land uses, the County’s most stringent noise compatibility standards are for the following land uses: residential (low-density, single-family, duplex, mobile homes), residential (multi-family), transient lodging (hotels, motels), schools, libraries, churches, hospitals, and nursing homes. Noise-sensitive receivers nearest to the project site include the residences along Struve Road, which are adjacent to the current location of Lift Station No. 1 and residences 30 feet northeast of the proposed location of Lift Station No. 4. In addition, the proposed location of Lift Station No. 1 is designated for residential use, although currently undeveloped.

AMBIENT NOISE LEVELS

The most common source of noise in the project site vicinity is vehicular traffic (e.g., automobiles, buses, and trucks) on SR 1. Noise levels along SR 1 in the project site vicinity vary from 60 to 70 CNEL, depending on the distances from this roadway (County of Monterey 2010). Ambient noise levels are generally highest during the daytime and rush hour unless congestion substantially slows speeds. Motor vehicle noise is of concern because it is characterized by a high number of individual events, which often create sustained noise levels. Other sources of noise in the project vicinity include industrial land uses east of SR 1, such as the Moss Landing Power Plant as well as commercial and recreational activities within and near Moss Landing Harbor.

Regulatory Setting

The District has not adopted noise thresholds for construction or operational activities; therefore, thresholds outlined in the 2010 Monterey County General Plan and the MCC are utilized in this analysis.

Monterey County General Plan

The 2010 Monterey County General Plan Safety Element contains a land use and noise compatibility matrix (shown in Table 11), which summarizes the normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses. Portions of the project site are located within areas designated for residential use or are adjacent to residential properties. According to the County’s noise standards shown in Table 11, ambient noise levels up to 60 CNEL or less are normally acceptable for residential uses, which is the most stringent of the land uses adjacent to the project site.

Table 11 Land Use Noise Compatibility Matrix - Community Noise Equivalent Levels (DNL or CNEL, dBA)

Land Use Categories	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential (Low-Density Single-Family, Duplex, Mobile Homes)	<60	55-70	70-75	75+
Residential (Multi-Family)	<65	60-70	70-75	75+
Transient Lodging (Hotels, Motels)	<65	60-70	70-80	80+
Schools, Libraries, Churches, Hospitals, Nursing Homes	<70	60-70	70-80	80+
Auditoriums, Concert Halls, Amphitheaters	N/A	<70	65+	N/A
Sports Arena, Outdoor Spectator Sports	N/A	<75	70+	N/A
Playgrounds, Neighborhood Parks	<70	67.5-75	72.5+	N/A

Land Use Categories	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Golf Courses, Riding Stables, Water Recreation, Cemeteries	<75	70-80	N/A	80+
Office Buildings, Business Commercial and Professional	<70	67.5-77.5	75+	N/A
Industrial, Manufacturing, Utilities, Agriculture	<75	70-80	75+	N/A

N/A = Not Applicable (The County of Monterey has not established noise level ranges for these categories.)

Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New construction or development should generally not be undertaken.

Source: County of Monterey 2010

The following noise-related policies are provided in the 2010 Monterey County General Plan:

- **Policy S-7.4:** New noise generators may be allowed in areas where projected noise levels (shown in Figure 10 of the Monterey County General Plan) are “conditionally acceptable” only after a detailed analysis of the noise reduction requirements is made and needed noise mitigation features are included in project design.
- **Policy S-7.5:** New noise generators shall be discouraged in areas identified as “normally unacceptable.” Where such new noise generators are permitted, mitigation to reduce both the indoor and outdoor noise levels will be required.
- **Policy S-7.6:** Acoustical analysis shall be part of the environmental review process for projects when:
 - Proposed noise generators are likely to produce noise levels exceeding the levels shown in the adopted Community Noise Ordinance when received at existing or planned noise-sensitive receptors.
- **Policy S-7.8:** All discretionary projects that propose to use heavy construction equipment that has the potential to create vibrations that could cause structural damage to adjacent structures within 100 feet shall be required to submit a pre-construction vibration study prior to the approval of a building permit. Projects shall be required to incorporate specified measures and monitoring identified to reduce impacts. Pile driving or blasting are illustrative of the type of equipment that could be subject to this policy.
- **Policy S-7.9:** No construction activities pursuant to a County permit that exceed “acceptable” levels listed in Policy S-7.1 shall be allowed within 500 feet of a noise sensitive land use during the evening hours of Monday through Saturday, or anytime on Sunday or holidays, prior to completion of a noise mitigation study. Noise protection measures, in the event of any identified impact, may include but not be limited to:
 - Constructing temporary barriers, or
 - Using quieter equipment than normal.

- **Policy S-7.10:** Construction projects shall include the following standard noise protection measures:
 - Construction shall occur only during times allowed by ordinance/code unless such limits are waived for public convenience;
 - All equipment shall have properly operating mufflers; and
 - Lay-down yards and semi-stationary equipment such as pumps or generators shall be located as far from noise-sensitive land uses as practical.

Monterey County Code

MCC Chapter 10.60 enforces construction and operational noise regulations. MCC Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. MCC Section 10.60.040 limits nighttime noise levels to 45 dBA L_{eq} and 65 dBA L_{max} at 50 feet between 9:00 p.m. and 7:00 a.m. MCC Section 10.60.040(C) provides exemptions to compliance with the exterior nighttime noise level standards, including for equipment used in an emergency, which is defined as a situation arising from fire, explosion, act of God, or act of public enemy which, if not corrected immediately, will potentially result in the loss of life, property or substantial environmental resources. However, there is no exemption provided for nighttime construction noise. The MCC does not include quantitative standards for groundborne vibration.

Noise Level Increases over Ambient Noise Levels

The operational and construction noise limits used in this analysis are set at reasonable levels at which a substantial noise level increase as compared to ambient noise levels would occur. Operational noise limits are lower than construction noise limits to account for the fact that permanent noise level increases associated with continuous operational noise sources typically result in adverse community reaction at lower magnitudes of increase than temporary noise level increases associated with construction activities that occur during daytime hours and do not affect sleep. Furthermore, these noise limits are tailored to specific land uses; for example, the noise limits for residential land uses are lower than those for commercial land uses. The difference in noise limits for each land use indicates that the noise limits inherently account for typical ambient noise levels associated with each land use. Therefore, an increase in ambient noise levels that exceeds these absolute limits would also be considered a substantial increase above ambient noise levels. As such, a separate evaluation of the magnitude of noise level increases over ambient noise levels would not provide additional analytical information regarding noise impacts and is therefore not included in this analysis.

- a. *Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Construction Noise

Project construction activities would generate temporary noise in the project site vicinity, exposing sensitive receivers adjacent to Lift Station No. 1, within 30 feet of Lift Station No. 4, and 175 feet from Manholes 41 to 47 to increased noise levels. (No sensitive receivers are in the vicinity of Lift Station Nos. 2 and 3, Pipe Repairs P-1 and P-2, Manholes 11 to 13 and 27 to 30, or the Lift Station No. 2 Force Main.) Construction noise would be generated by heavy-duty diesel construction equipment used for demolition, site preparation, trenching, infrastructure installation, and paving

activities. Each phase of construction has a specific equipment mix and associated noise characteristics, depending on the equipment used during that phase. Construction noise would be short-term and temporary at the individual locations of project components given that construction at each location would only occur for a fraction of the overall one-year construction period.

MCC Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. Table 12 presents estimated construction noise levels at 50 feet for various pieces of heavy equipment anticipated to be utilized for project construction activities. As shown therein, construction equipment noise levels would range from 68 to 85 dBA L_{eq} at 50 feet, which would not exceed the threshold of 85 dBA L_{eq} at 50 feet. Therefore, project construction would not generate a substantial temporary increase in ambient noise levels in the vicinity of the project, including at nearby noise-sensitive receivers, and impacts would be less than significant.

Table 12 Estimated Construction Equipment Noise Levels

Equipment	Construction Noise Levels at 50 Feet (dBA L_{eq})
Air Compressor	80
Backhoe	80
Bore/Drill Rig	77
Cement and Mortar Mixer	85
Concrete/Industrial Saw	76
Compactor	82
Crane	83
Excavator	77
Forklift ¹	68
Generator	82
Front End Loader	80
Paver	85
Pumps	77
Roller	85
Sweeper/Scrubber	72
Welder	70
Threshold	85
Threshold Exceeded?	No

dBA = A-weighted decibels; L_{eq} = equivalent noise level

¹ Because forklift noise levels were not available, noise levels for a manlift were used as a proxy for the purposes of this analysis because these two pieces of equipment are generally similar in size and operational characteristics.

Source: FTA 2018; Federal Highway Administration Roadway Construction Noise Model 2006

Operational Noise

Upon completion, project components would resume operating in a similar fashion to existing conditions. The only new source of operational noise would be routine testing and maintenance of the four back-up generators, which would occur during daytime hours (7:00 a.m. to 9:00 p.m.). As discussed earlier, MCC Section 10.60.030 prohibits the operation of machinery that exceeds 85 dBA at 50 feet at any time of day. Generators typically produce a noise level of 82 dBA L_{eq} at 50 feet, which would not exceed this threshold (FTA 2018). In addition, should operation of the backup

generators during nighttime hours (9:00 a.m. to 7:00 a.m.) be required due to an emergency, operation would be exempt from compliance with the nighttime noise level limits of MCC Section 10.60.040 pursuant to MCC Section 10.60.040(C). Therefore, project operation would not generate a substantial permanent increase in ambient noise levels in the vicinity of the project, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

b. Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Construction

Pursuant to Policy S-7.8 of the 2010 Monterey County General Plan, construction equipment that creates vibrations that could cause structural damage to structures within 100 feet of the construction area require additional vibrational analysis. The District and County of Monterey have not adopted quantitative standards to assess vibration impacts during construction and operation. However, Caltrans has developed limits for the assessment of vibrations from transportation and construction sources. The Caltrans vibration limits are reflective of standard practice for analyzing vibration impacts on structures from continuous and intermittent sources. The thresholds of significance used in this analysis to evaluate vibration impacts are based on these impact criteria, as summarized in Table 9 and Table 10.

Project construction may require operation of vibratory equipment such as jackhammers, drill rigs, vibratory rollers, and loaded trucks within 25 feet of the residential and commercial buildings. As shown in Table 13, vibration levels from individual pieces of construction equipment would exceed 0.20 in/sec PPV during operation of vibratory rollers, which is the threshold at which damage can occur to residential structures, but would not exceed 0.25 in/sec PPV, which is the level at which transient vibration sources are distinctly perceptible. Because the use of vibratory rollers would exceed the threshold for structural damage, project construction would generate excessive groundborne vibration or groundborne noise levels, and impacts would be potentially significant. Implementation of Mitigation Measure N-1 would be required to reduce project impacts to a less-than-significant level.

Table 13 Vibration Levels at Sensitive Receivers

Equipment	Estimated PPV at Nearest Building (25 feet)
Vibratory Roller	0.21
Drill Rig ¹	0.09
Loaded Truck	0.08
Jackhammer	0.04
Threshold For Structural Damage to Residential Buildings	0.20
Threshold Exceeded?	Yes
Threshold For Human Annoyance	0.25
Threshold Exceeded?	No

¹ Caisson drilling used as a proxy for estimating vibration levels from a drill rig.
 See Appendix G for vibration analysis worksheets.

Operation

The proposed project does not include components with the potential to generate significant vibration during operation, such as manufacturing or heavy equipment. No operational vibration impact would occur.

Mitigation Measure

N-1 Restrictions on Use of Vibratory Rollers

The project contractor(s) shall not use vibratory rollers within 30 feet of nearby structures. If necessary, the contractor shall use non-vibratory smooth wheel rollers or pneumatic tired rollers instead of vibratory rollers within these areas.

Significance after Mitigation

Implementation of Mitigation Measure N-1 would prohibit the use of vibratory rollers within 30 feet of structures. At this distance, vibration levels at the nearest structures would be reduced to 0.17 in/sec PPV, which would be below the threshold for structural damage to residential buildings of 0.2 in/sec PPV. Therefore, Mitigation Measure N-1 would reduce the project's construction-related vibration impacts to a less-than-significant level.

LESS THAN SIGNIFICANT IMPACT WITH MITIGATION

- c. *For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?*

The nearest airport to the project site is the Marina Municipal Airport, located approximately 7.4 miles to the south. The project site is not located within this airport's Airport Influence Area (Monterey County Airport Land Use Commission 2019). Because the project site is not located in the vicinity of a private airstrip, airport land use plan, or within two miles of a public or public use airport, the project would not expose people residing or working in the project area to excessive aircraft-related noise. No impact would occur.

NO IMPACT

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2.14 Population and Housing

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

- a. *Would the project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*
- b. *Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

The project would involve replacement and rehabilitation of existing wastewater infrastructure components and would not include housing or other infrastructure that would lead directly to population growth. The project is intended to provide critical upgrades to MLWWS to improve system reliability and reduce the potential for unexpected leaks and/or breakages. Although the project would increase the volume of wastewater that can be pumped per minute at the four lift stations, the project would not increase pipeline conveyance capacity such that additional flows would be accommodated. Furthermore, the project does not include any new connections to residences or businesses. As a result, the project would not indirectly induce substantial unplanned population growth. In addition, the project does not include components that would displace existing people or result in the demolition of housing. Therefore, no impacts to population and housing would occur.

NO IMPACT

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2.15 Public Services

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

a.1. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

a.2. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, or the need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?*

a.3. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered schools, or the need for new or physically altered schools, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

a.4. *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered parks, or the need for new or physically altered parks, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives?*

a.5. Would the project result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives?

The project involves rehabilitation and replacement of existing wastewater conveyance infrastructure and would not introduce new infrastructure requiring additional fire or police protection services. As described in Section 2.14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Moss Landing. Therefore, the project would not result in substantial adverse physical impacts associated with the provision of other new or physically altered public facilities, or the need for other new or physically altered public facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives. No impacts would occur.

NO IMPACT

2.16 Recreation

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

- a. *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*
- b. *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

As described in Section 2.14, *Population and Housing*, the project does not include development of structures or infrastructure that would directly or indirectly increase the population in Moss Landing. Therefore, the project would not increase the population served by local recreation facilities or otherwise result in increased demand for or degradation of those facilities. The project also does not include recreational facilities or require the construction or expansion of recreational facilities. No impacts related to recreation would occur.

NO IMPACT

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2.17 Transportation

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

The Transportation Agency for Monterey County is the designated Congestion Management Agency responsible for the development and implementation of the Congestion Management Program in the project area. The 2010 Monterey County General Plan Circulation Element includes goals to facilitate traffic movement and alleviate congestion by protecting public transportation facilities, encouraging land use patterns that reduce automobile dependence, and requiring new development to be located and designed with convenient access to efficient transportation options.

Construction-related vehicle trips would include construction workers traveling to and from the project work zones and staging areas, haul trucks (including for export of demolition debris and soil), and other trucks associated with equipment and material deliveries. During the 12-month construction period, construction-related vehicle trips would be comprised of up to approximately 39 roundtrips per day. Such trips would occur on area roadways, such as SR 1, which is the primary access route to the project site. Temporary single-lane closures of Struve Road, Sandholdt Road, Potrero Road, Moss Landing Road, and SR 1 along the project alignment would be required to accommodate trenching, pipeline installation and re-lining, manhole replacement, and lift station rehabilitation/replacement within public rights-of-way. However, as part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. In addition, due to the extended timeframe of the lane closure of Sandholdt Road adjacent to Lift Station No. 3, a temporary traffic signal would be installed for the duration of the lane closure. Construction equipment and materials would be staged along the road shoulders and at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots. Given that construction would be a short-term and temporary activity, trips would

account for a relatively small portion of existing traffic on area roadways, and traffic control plans would be implemented, construction-related traffic impacts would not be substantial. Therefore, project construction would not conflict with a program, plan, ordinance, or policy addressing the circulation system impacts, and impacts would be less than significant.

The proposed project involves replacement and rehabilitation of existing MLWWS components, which would not conflict with adopted policies, plans, or programs addressing the circulation system, including public transit, bicycle, or pedestrian facilities. Project components would be located primarily underground in existing public rights-of-way except for the new Lift Station No. 1, which would be located on private property. Operation of the project would include routine inspections and maintenance of infrastructure. However, maintenance trips would be reduced in comparison to existing conditions due to enhanced system functions, which would decrease traffic along SR 1. Therefore, project operation would not conflict with a program, plan, ordinance, or policy addressing the circulation system, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

CEQA Guidelines Section 15064.3(b) identifies criteria for evaluating transportation impacts. Specifically, the guidelines state VMT exceeding an applicable threshold of significance may indicate a significant impact. Neither the District nor Monterey County have adopted VMT thresholds, although the 2018 Monterey County Active Transportation Plan includes Policy C-2.4, which encourages a reduction in the number of VMT per person (Transportation Agency of Monterey County 2018). According to CEQA Guidelines Section 15064.3(b)(3), a lead agency may include a qualitative analysis of operational and construction traffic if existing models or methods are not available to estimate VMT for the particular project being considered. Such a qualitative analysis would evaluate factors such as the availability of transit and proximity to other destinations.

A VMT calculation is typically conducted on a daily or annual basis for long-range planning purposes. As discussed under item (a) above, traffic on local roadways would be temporarily increased during project construction due to worker trips and the necessary transport of construction vehicles and equipment to the project site. Increases in VMT from construction would be short-term, minimal, and temporary. In addition, after completion of the proposed project, routine operation and maintenance trips for the MLWWS would be less frequent in comparison to existing conditions due to enhanced system functions. Thus, operational VMT would decrease as compared to existing conditions. Therefore, the project would not conflict or be inconsistent with CEQA Guidelines Section 15064.3(b), and no impact would occur.

NO IMPACT

- c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible use (e.g., farm equipment)?*

The project would not involve the construction of new roads or reconfiguration of any roadways or intersections that could result in a substantial increase in traffic hazards. Construction equipment would be staged at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots, which would not create traffic hazards. In addition, the project includes installation of bollards and traffic-rated locking at each of the four lift stations as protective safety measures. Furthermore, the project would not introduce new uses to the project site. As

such, the project would not substantially increase hazards due to a geometric design feature or incompatible use, and no impact would occur.

NO IMPACT

d. Would the project result in inadequate emergency access?

During construction, temporary single-lane closures of Struve Road, Sandholdt Road, Potrero Road, Moss Landing Road, and SR 1 along the project alignment would be required to accommodate trenching, pipeline installation and re-lining, manhole replacement, and lift station rehabilitation/replacement within public rights-of-way. As part of the encroachment permitting process, traffic control plans would be prepared for work within the Caltrans and County rights-of-way. As described above, construction would not result in a significant increase in traffic, and operation of the improved MLWWS would not introduce a new source of vehicle trips. The project site is easily accessible by emergency vehicles via SR 1, and the project would not permanently alter emergency access or traffic congestion in the area. As a result, impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

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2.18 Tribal Cultural Resources

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

AB 52 of 2015 expanded CEQA by defining a new resource category, “tribal cultural resources.” AB 52 states “a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment” (PRC Section 21084.2). It further states the lead agency shall establish measures to avoid impacts altering the significant characteristics of a tribal cultural resource, when feasible (PRC Section 21084.3). PRC Section 21074 (a)(1)(A-B) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe” and is:

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

these criteria, the lead agency shall consider the significance of the resource to a California Native American tribe.

AB 52 also establishes a formal consultation process for California tribes regarding those resources. The consultation process must be completed before a CEQA document can be certified or adopted. Under AB 52, lead agencies are required to “begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project.” Native American tribes to be included in the process are those having requested notice of projects proposed in the jurisdiction of the lead agency.

Pursuant to PRC 21080.3.1 and AB 52, the District sent notification letters via email and certified mail on September 26, 2022 to the following eight Native American tribes that are traditionally and culturally affiliated with the project site:

- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of Mission San Juan Bautista
- Costanoan Rumsen Carmel Tribe
- Esselen Tribe of Monterey County
- Indian Canyon Mutsun Band of Costanoan
- Ohlone/Costanoan-Esselen Nation
- Rumsen Am:a Tur:ataj Ohlone
- Wuksache Indian Tribe/Eshom Valley Band

The District received a response from Chairperson Ann Marie Sayers of the Indian Canyon Mutsun Band of Costanoan indicating she is no longer in her role and requesting that Kanyon Sayers-Roods be notified instead. Kanyon Sayers-Roods was included in the original AB 52 notification list; therefore, no additional notification was submitted. The District also received a response from Chairperson Dee Ybarra of the Rumsen Am:a Tur:ataj Ohlone Tribe requesting consultation under AB 52. The District held a consultation meeting with Chairperson Ybarra and Daniel Quiroga, Cultural Advisor of the Rumsen Am:a Tur:ataj Ohlone Tribe on October 31, 2022. The results of this meeting are summarized below. The District concluded consultation with consensus on November 9, 2022.

- a. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code Section 21074 that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k)?*
- b. *Would the project cause a substantial adverse change in the significance of a tribal cultural resource as defined in Public Resources Code 21074 that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1?*

The SLF search was returned on September 13, 2022 with positive results for sacred lands within the project area. A pre-contact era Native American archaeological site partially overlaps the boundaries of the project site for the Lift Station No. 2 Force Main alignment. This site may hold significance to tribes with ancestral ties to the area. One Native American Tribe, the Rumsen Am:a Tur:ataj Ohlone Tribe, requested consultation under AB 52. During the consultation meeting held on October 31, 2022, Chairperson Ybarra and Mr. Quiroga indicated the cultural importance and sensitivity of the

Moss Landing area to the Rumsen Am:a Tur:ataj Ohlone Tribe. Consequently, impacts to tribal cultural resources would be potentially significant. Chairperson Ybarra and Mr. Quiroga concurred with the mitigation measures recommended by Rincon in the HPIR, which are included herein as Mitigation Measures CR-1 through CR-3 in Section 2.5, *Cultural Resources*, and Mitigation Measures TCR-1 and TCR-2 below (Losco et. al 2022; Appendix D). Implementation of these mitigation measures would be required to reduce impacts to tribal cultural resources to a less-than-significant level.

Mitigation Measure

TCR-1 Unanticipated Discovery of Tribal Cultural Resources

In the event that cultural resources of Native American origin are identified during ground-disturbing activities in areas outside of the Archaeological Treatment Plan Area for Lift Station No. 2 Force Main, all ground-disturbing work within 50 feet of the find shall be temporarily suspended or redirected until a qualified archaeologist has evaluated the nature and significance of the find; an appropriate Native American representative(s), based on the nature of the find, is consulted; and mitigation measures are put in place for the disposition and protection of any find pursuant to PRC Section 21083.2. Discoveries within the Lift Station No. 2 Force Main construction area shall be treated in accordance with the Archaeological Treatment Plan Area, prepared pursuant to Mitigation Measure CR-1, for this location. If the District, in consultation with local Native Americans, determines the resource is a tribal cultural resource and thus significant under CEQA, a mitigation plan shall be prepared and implemented in accordance with State guidelines and in consultation with local Native American group(s) prior to the continuation of any ground-disturbing work within the vicinity of the find. The plan shall include avoidance of the resource or, if avoidance of the resource is infeasible, shall outline the appropriate treatment of the resource in coordination with the appropriate local Native American tribal representative and, if applicable, a qualified archaeologist. Examples of appropriate mitigation for tribal cultural resources include, but are not limited to, protecting the cultural character and integrity of the resource, protecting traditional use of the resource, protecting the confidentiality of the resource, or heritage recovery.

TCR-2 Native American Monitoring

The District shall retain a Native American consultant to conduct Native American monitoring of all project-related ground disturbing activities. Native American monitoring shall be provided by a locally affiliated tribal member (e.g., the Rumsen Am:a Tur:ataj Ohlone Tribe), who shall work in conjunction with the archaeological monitor retained as part of Mitigation Measure CR-2. Monitors shall have the authority to halt and redirect work should any tribal cultural resources be identified during monitoring. Native American monitoring may be reduced to spot-checking or eliminated at the discretion of the monitor, in consultation with the District, as warranted by conditions such as encountering bedrock, sediments being excavated are fill, or negative findings during the first 60 percent of rough grading. If monitoring is reduced to spot-checking, spot-checking will occur when ground-disturbance moves to a new location within the project site and when ground disturbance will extend to depths not previously reached (unless those depths are within bedrock). The Native American monitoring duties during construction of Lift Station 2 Force Main shall be outlined in the Archaeological Treatment Plan to be prepared under Mitigation Measure CR-1.

Significance after Mitigation

Mitigation Measures TCR-1 and TCR-2 require Native American monitoring of ground disturbance activities related to the project as well as the implementation of avoidance measures for and evaluation of any unanticipated discoveries of tribal cultural resources. In conjunction with Mitigation Measures CR-1 through CR-3, outlined in Section 2.5, *Cultural Resources*, these measures would reduce potential impacts to tribal cultural resources to a less-than-significant level.

LESS THAN SIGNIFICANT IMPACT

2.19 Utilities and Service Systems

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
Would the project:				
a. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b. Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

a. *Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Water

The project includes the replacement and rehabilitation of components of an existing wastewater conveyance system. The project would not require or result in the relocation or construction of new or expanded water facilities; therefore, no impact would occur.

Wastewater Treatment

The proposed project consists of the replacement and rehabilitation of existing wastewater facilities, the environmental impacts of which are analyzed throughout this document. No additional environmental impacts associated with the construction or relocation of wastewater facilities would occur beyond those analyzed herein.

Stormwater Drainage

As discussed in Section 2.10, *Hydrology and Water Quality*, the project would have a minimal effect on the amount of impervious surfaces within the project site as compared to existing conditions because most project components would be located underground and the footprints of each lift station that would be surfaced would be relatively small (approximately 600 to 1,700 square feet per lift station). Therefore, the proposed project would not alter the drainage pattern within the project site and would not increase stormwater flow such that new or expanded stormwater drainage systems would be necessary. Impacts would be less than significant.

Electric Power and Natural Gas

As discussed in Section 2.6, *Energy*, the project would replace and rehabilitate existing components of a wastewater conveyance system. Therefore, operational electricity demand would be similar to or less than existing conditions due to the increased pumping efficiency of the new system. The project would require re-location and installation of electrical service for Lift Station Nos. 1 and 4, the environmental impacts of which are analyzed throughout this document. The project would not require natural gas connections. Therefore, no additional environmental impacts associated with the construction or relocation of electric power and natural gas facilities would occur beyond those analyzed herein.

Telecommunications

The project would not involve any components requiring telecommunications infrastructure and is not anticipated to involve the relocation of existing telecommunications facilities. Therefore, no impact would occur.

Summary

In summary, the project would not require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- b. *Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

The project consists of the replacement and rehabilitation of components of the MLWWS. Small quantities of water would be required during construction for dust suppression, which would be provided by the District. Water consumption associated with dust suppression would be temporary and minimal because only disturbed areas would need to be watered. Dewatering during construction would be required for some project components due to the high water-table; however, these activities would be temporary and short-term and the groundwater produced during

dewatering would be percolated/injected back into the groundwater basin. Therefore, dewatering during project construction would not affect the availability of groundwater supplies. The project does not include development of structures or infrastructure that would directly or indirectly increase the population in Moss Landing such that water demand would increase. Therefore, impacts to water supplies would be less than significant.

LESS THAN SIGNIFICANT IMPACT

- c. *Would the project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

The District collects and processes wastewater from the Moss Landing area. Wastewater is conveyed through the MLWWS to the Monterey One Water Moss Landing Pump Station and eventually discharged for treatment to the Monterey One Water Regional Wastewater Facility, which has a design capacity of 29.6 million gallons per day (Monterey One Water 2022).

The project would involve replacement and rehabilitation of existing wastewater infrastructure components and would not include housing or other infrastructure that would lead directly to population growth. The project is intended to provide critical upgrades to MLWWS to improve system reliability and reduce the potential for unexpected leaks and/or breakages. Although the project would increase the volume of wastewater that can be pumped per minute at the four lift stations, the project would not increase pipeline conveyance capacity such that additional flows would be accommodated. Furthermore, the project does not include any new connections to residences or businesses. Therefore, the project would not result in an increase in wastewater treatment demand at the Monterey One Water Regional Wastewater Facility, and no impact would occur.

NO IMPACT

- d. *Would the project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*
- e. *Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

Construction activities may temporarily generate solid waste, including soil spoils or other construction waste, which would be disposed of in accordance with all applicable federal, State, and local statutes and regulations. While most soil is expected to be reused as backfill material within the project area, roughly 2,000 cubic yards of soils would be disposed of at a nearby landfill, likely to be Johnson Canyon Sanitary Landfill. The landfill had a remaining capacity of 12,590,000 cubic yards as of 2021 (California Department of Resource Recycling and Recovery 2022). Due to the temporary nature of construction and minimal amount of construction waste anticipated to require disposal, the project would not generate quantities of solid waste that would account for a substantial percentage of the total daily regional permitted capacity available at Johnson Canyon Landfill. Therefore, waste generated by demolition and construction activities would not exceed the available capacity at the landfill serving the project area that would accept debris generated by the project, and impacts would be less than significant.

The project would be required to comply with all applicable laws and regulations related to solid waste generation, collection, and disposal. The project would result in a short-term and temporary

Castroville Community Services District
Moss Landing Wastewater System Rehabilitation Project

increase in solid waste generation during construction but would not substantially affect standard solid waste operations of any landfill accepting waste. Recycling and reuse activities during construction would comply with the California Integrated Waste Management Act of 1989 (AB 939). Once operational, the project would include unmanned facilities that would not generate solid waste. Therefore, solid waste impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

2.20 Wildfire

	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d. Expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<hr/>				
a. <i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project substantially impair an adopted emergency response plan or emergency evacuation plan?</i>				
b. <i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project, due to slope, prevailing winds, and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?</i>				
c. <i>If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?</i>				

Moss Landing Wastewater System Rehabilitation Project

- d. *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project expose people or structures to significant risks, including downslopes or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

The project site and surrounding area is located within a Local Responsibility Area for Fire Protection Responsibility and is not within a designated Very High Fire Hazard Severity Zone (CALFIRE 2008). Therefore, the proposed project would not be located in or near a State Responsibility Area or land classified as a Very High Fire Hazard Severity Zone. No impacts related to wildfire would occur.

NO IMPACT

2.21 Mandatory Findings of Significance

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

a. *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

As discussed in Section 2.4, *Biological Resources*, the proposed project would not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 2.5, *Cultural Resources*, and Section 2.18, *Tribal Cultural Resources*, the project would not have the potential to eliminate important examples of the major periods of California history or prehistory with the incorporation of

Mitigation Measures CR-1 through CR-4 . Therefore, impacts would be less than significant with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- b. *Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

As described in Sections 2.1 through 2.20, the proposed project would not result in significant and unmitigable impacts to the environment with respect to all environmental issues. This is largely because project construction activities would be temporary, infrequent, and low-intensity and would not significantly alter the environmental baseline condition. In addition, upon the completion of construction, there would be a reduction in the operation and maintenance needs of the MLWWS as compared to baseline conditions because the project would enhance existing system functions.

Cumulative impacts could occur if the construction of other projects occurs at the same time as the proposed project and in the same geographic scope, such that the effects of similar impacts of multiple projects combine to create greater levels of impact than would occur at the project-level. For example, if the construction of other projects in the area occurs at the same time as project activities, combined air quality and noise impacts may be greater than at the project-level.

Fourteen planned projects are in the vicinity of the project site, which are summarized in Table 14. Of these, four projects (Project Nos. 11 through 14) have been inactive for a considerable length of time or do not have a formal application submitted and are therefore excluded from this analysis due to the uncertainty around whether implementation would occur. In addition, Project No. 7 and 8 are located on existing developed parcels surrounded by agricultural land approximately 0.5 mile from the nearest project component. Therefore, the potential for these projects to result in cumulative impacts in combination with the project and other cumulative development is low, and they are thus excluded from this analysis. The exact implementation timing of the remaining projects (Project Nos. 1 through 6, 9, and 10) is not known at this time; therefore, it is conservatively assumed that construction of these planned projects could overlap with construction of the proposed project. These planned projects are primarily located in the vicinity of the Lift Station No. 2 Force Main Alignment, Pipe Repairs P-1 and P-2, Manholes 27 to 30, and Manholes 41 to 47.

Table 14 Cumulative Development Projects

No.	Project Name	Project Location	Project Components	Status
1	Monterey Bay Aquarium Research Institute Marine Research Facility (PLN210093)		<ul style="list-style-type: none"> ▪ Demolition of existing restaurant and construction of marine research facility building 	Approved by Monterey County Planning Commission

No.	Project Name	Project Location	Project Components	Status
2	Monterey Bay Aquarium Research Institute General Development Plan (PLN210093)	East and west sides of Sandholdt Road (APNs 133-252-001-000, 133-242-001-000, 133-242-008-000, 133-232-001-000, 133-231-001-000)	<ul style="list-style-type: none"> ▪ New expedition staging facility and research laboratory building ▪ Dock extension and new dock house ▪ Replacement oceanographic research/test and integration building ▪ New research laboratory building 	In process – environmental review to be conducted as part of Moss Landing Community Plan EIR
3	Master Plan for the Moss Landing Marine Laboratories (PLN080307)	East and west sides of Sandholdt Road and 8272 Moss Landing Road (APNs 133-241-013-000, 133-241-014-000, 133-242-010-000, 133-232-006-000, 133-201-016-000)	<ul style="list-style-type: none"> ▪ New marine operations facility ▪ Additional building for northern Shore Laboratory Complex ▪ New Sandholdt Pier/southern Shore Laboratory Complex ▪ New Sandholdt Center/academic village 	In process – environmental review to be conducted as part of Moss Landing Community Plan EIR
4	General Development Plan for Gregg Drilling (PLN090039)	East side of Sandholdt Road north of Clam Way (APNs 133-241-001, 133-241-002, 133-251-004, 133-251-005, 133-251-006, 133-251-008, 133-251-009, 133-251-012)	<ul style="list-style-type: none"> ▪ Lot line adjustments ▪ New bulkhead with backfill and riprap repair and extension ▪ New wharf and floating dock ▪ Dredging ▪ Reconstruction of existing launching piers ▪ New office building ▪ Relocation of existing restaurant ▪ Wind turbine ▪ Parking lots 	In process – environmental review to be conducted as part of Moss Landing Community Plan EIR
5	Moss Landing Road Storm Drain and Street Improvements	Sandholdt Road and Moss Landing Road	<ul style="list-style-type: none"> ▪ New storm drain facilities ▪ New curb, gutters, and sidewalks on Moss Landing Road 	In process – environmental review to be conducted as part of Moss Landing Community Plan EIR
6	Moss Landing Commercial Park LLC (PLN160401)	7697 Highway 1 (APN 133-172-013-000)	<ul style="list-style-type: none"> ▪ After-the-fact approval for reuse of five existing industrial and warehouse structures with commercial cannabis businesses 	Environmental review in process
7	Mckearn Variance (PLN210165)	264 Giberson Road (APN 413-012-011-000)	<ul style="list-style-type: none"> ▪ Variance to increase lot coverage and construction of a single-family dwelling, garage, office, accessory dwelling unit, barn and shed 	Application in process (deemed incomplete 2022)

Castroville Community Services District
Moss Landing Wastewater System Rehabilitation Project

No.	Project Name	Project Location	Project Components	Status
8	Jobst Residence (PLN200030)	262 Giberson Road (APN 413-012-010-000)	<ul style="list-style-type: none"> Temporary residence during construction of the first single family dwelling 	Application in process (re-submitted 2020)
9	Monterey Bay Sanctuary Scenic Trail – Moss Landing Bicycle/Pedestrian Path and Bridge Project	Generally parallel to SR 1 from a point immediately north of Elkhorn Slough to Moss Landing Road	<ul style="list-style-type: none"> 4,466-foot Class 1 bicycle and pedestrian pathway within County and State rights-of-way 	Final Initial Study-Mitigated Negative Declaration adopted
10	Moss Landing Energy Storage Facility Expansion	Moss Landing Power Plant (APN 133-181-010-000)	<ul style="list-style-type: none"> Addition of 350-megwatt battery energy storage system 	Pending approval by California Public Utilities Commission
11	Lopez ADU (PLN210101)	unknown	<ul style="list-style-type: none"> Establishment of a junior accessory dwelling unit within an existing single-family dwelling and construction of new accessory dwelling unit 	In request stage – no formal application submitted
12	Moss Landing Harbor District Hotel (PLN170758)	2390 SR 1 (APNs 413-022-002-000, 413-022-003-000, 413-022-005-000 & 133-201-010-000)	<ul style="list-style-type: none"> Lot line adjustment between 2 legal lots and construction of a 30-unit inn/hotel 	Application in process (deemed incomplete in 2018, no further progress)
13	McCombs Storage Area (PLN160443)	516 Dolan Road (APN 131-054-004-000)	<ul style="list-style-type: none"> Establishment of a commercial outdoor storage area for recreational vehicles, boats, trailers, and cars within 100 feet of an environmentally sensitive habitat area 	Application in process (deemed incomplete in 2018, no further progress)
14	Keith Family Investments LLC (PLN100332)	7902 SR 1 (APN 133-221-001-000)	<ul style="list-style-type: none"> Minor and Trivial Amendment to a previously approved Combined Development Permit 	Application in process (deemed incomplete in 2010, no further progress)

APN = Assessor's Parcel Number

Source: County of Monterey 2015, 2022a, 2022b, and 2022c; Colthorpe 2022

Project impacts are primarily temporary, localized effects that would occur during construction activities. Therefore, the potential for the project to contribute to cumulative impacts would be limited to the infrequent periods of project activities and the following issue areas:

- Air Quality.** Because the NCCAB is designated nonattainment-transitional for the ozone CAAQS and nonattainment for the PM₁₀ CAAQS, cumulative air quality impacts currently exist for these pollutants. As discussed in the Section 2.3, *Air Quality*, project construction activities would not generate emissions of this air pollutant exceeding MBARD significance thresholds, which are intended to assess whether a project's contribution to existing cumulative air quality impacts is considerable. Therefore, the project's contribution to cumulative air quality impacts would not be cumulatively considerable.
- Biological Resources.** Most cumulative impacts to biological resources occur when a disproportionate number of development projects occur at once and regionally impact a local population of a special status species, riparian habitat, sensitive natural communities, wetlands, or other locally protected biological resources. In this case, Project Nos. 6 and 10 would occur

within developed sites with low potential to impact biological resources (County of Monterey 2022b). Project Nos. 1 through 4 and 9 include elements that have the potential to result in significant impacts to special status plant and wildlife species, sensitive natural communities, and/or federally and state-protected waters. Due to the nature of these projects and the discretionary approvals required for each one, Project Nos. 1 and 9 have already undergone CEQA review with mitigation measures required for impacts to biological resources, and Project Nos. 2 through 4 would be required to undergo CEQA review to identify the extent of these biological resources impacts and to mitigate those impacts appropriately. Given the uncertainty in the extent of impacts associated with these projects, this analysis conservatively assumes a significant cumulative impact to biological resources would occur. Nevertheless, the proposed project would be required to implement Mitigation Measures BIO-1 through BIO-7 to reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact.

- **Cultural and Tribal Cultural Resources.** Cumulative development in the region would continue to disturb areas with the potential to contain cultural and tribal cultural resources. Project Nos. 6 and 10 would occur within developed sites with low potential to impact cultural resources (County of Monterey 2022b). In addition, as mentioned above, Project Nos. 1 through 4 and 9 have undergone or would be required to undergo CEQA review, which would determine the extent of potential cultural and tribal cultural resources impacts and mitigate those impacts appropriately. If these cumulative projects would result in impacts to known or unknown cultural or tribal cultural resources, impacts to such resources would be addressed on a case-by-case basis. It is anticipated that if these projects have the potential to result in significant impacts to cultural or tribal cultural resources, they would be required to implement similar mitigation measures as those required for the proposed project and would comply with all applicable laws and regulations governing cultural resources. Therefore, cumulative impacts to cultural and tribal cultural resources would be less than significant.
- **Greenhouse Gas Emissions.** GHG emissions and climate change are, by definition, cumulative impacts. As discussed in Section 2.8, *Greenhouse Gas Emissions*, the adverse environmental impacts of cumulative GHG emissions, including sea level rise, increased average temperatures, more drought years, and more large forest fires, are already occurring. As a result, cumulative impacts related to GHG emissions are significant. Thus, the issue of climate change involves an analysis of whether a project's contribution towards an impact is cumulatively considerable. As discussed in Section 2.8, *Greenhouse Gas Emissions*, project emissions would be below the identified threshold of significance and would therefore not be cumulatively considerable.
- **Hazards and Hazardous Materials.** Similar to the proposed project, cumulative development projects would be required to comply with regulations applicable to the use, disposal, and transportation of hazardous materials during construction activities, and compliance with applicable regulations would reduce potential cumulative impacts to less-than-significant levels. With respect to the use and accidental release of hazardous materials in the environment at construction, effects are generally limited to site-specific conditions. Therefore, there would be no cumulative impact related to accidental release of hazardous materials.
- **Noise.** Overlapping construction activities associated with cumulative development projects in conjunction with proposed project activities could result in cumulative noise impacts related to a temporary increase in ambient noise levels at the same noise-sensitive receivers located throughout the area, especially during construction activities. However, similar to the proposed project, cumulative development projects would be subject to compliance with the noise level limits established in MCC Chapter 10.60. Furthermore, cumulative development projects are

primarily concentrated along Sandholdt Road in an area where there are no nearby sensitive receivers that would be adversely affected by combined construction noise. Therefore, no cumulative construction noise impact would occur.

Given the above discussion, the proposed project would not result in a cumulatively considerable contribution to a significant cumulative impact with mitigation incorporated.

LESS THAN SIGNIFICANT WITH MITIGATION INCORPORATED

- c. *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

In general, impacts to human beings are associated with air quality, hazards and hazardous materials, and noise impacts. As discussed in Section 2.3, *Air Quality*, the proposed project would not result in significant air quality impacts during construction or operation. As discussed in Section 2.9, *Hazards and Hazardous Materials*, compliance with federal, state, and local laws regulating the transportation of hazardous materials would minimize the potential for an accidental release of hazardous materials during construction, and the proposed project would not involve the use of hazardous materials during operation. As discussed in Section 2.13, *Noise*, the project would not generate substantial temporary or permanent increases in ambient noise levels in the vicinity of the project site. Therefore, the proposed project would not adversely affect human beings, directly or indirectly, and impacts would be less than significant.

LESS THAN SIGNIFICANT IMPACT

3 Federal Cross-Cutting Environmental Regulations Evaluation

The proposed project may receive funding from the CWSRF, which is administered in California by SWRCB on behalf of USEPA. Therefore, to assist in compliance with the federal environmental requirements for the funding program, this document includes analysis pertinent to several federal cross-cutting regulations (also referred to as federal cross-cutters or CEQA-Plus). The basic rules for complying with cross-cutting federal authorities under this program are set-out in the CWSRF regulations at 40 Code of Federal Regulations (CFR) Section 35.3145.

This section describes the project's status of compliance with relevant federal laws, executive orders, and policies, and any consultation that has occurred to date or will occur in the near future. The topics are based in part on the SWRCB's CWSRF Program Evaluation Form for Environmental Review and Federal Coordination.

3.1. Federal Endangered Species Act

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

Section 2.4, *Biological Resources*, indicates that the Study Area for biological resources (the project site plus a 100-foot buffer) contains suitable habitat for one federally endangered species protected under the federal Endangered Species Act, Smith's blue butterfly, which has a moderate potential to occur in the Study Area. The project footprint is not located within Critical Habitat for this species. Due to the potential for Smith's blue butterfly to occur, the project would implement Mitigation Measure BIO-4 to minimize potential impacts to this species and its habitat through implementation of surveys for their host plants (seacliff buckwheat and seaside buckwheat) prior to grading and construction; implementation of buffers around host plants, if present; focused surveys for Smith's blue butterfly should impacts to host plants be unavoidable; and consultation with USFWS, relocation of occupied host plants, and preparation of an HMMP if occupied host plants cannot be avoided. With implementation of Mitigation Measure BIO-4 as described in Section 2.4, *Biological Resources*, the project would have less than significant impacts on the existence of endangered or threatened species and would not result in the destruction or adverse modification of the critical habitat of these species. Thus, the project would not jeopardize listed species and the lead agency would be in compliance with the federal Endangered Species Act.

3.2. National Historic Preservation Act, Section 106

The purpose of the NHPA is to protect, preserve, rehabilitate, or restore significant historical, archaeological, and cultural resources. Section 106 requires federal agencies to consider effects on historic properties. Section 106 review involves a step-by-step procedure detailed in the implementing regulations found in 36 CFR Part 800.

As discussed in Section 2.5, *Cultural Resources*, and the HPIR prepared for the project (Losco et. al 2022), one resource within the project site (P-27-000335) has been determined eligible for the NRHP by the Keeper of the Register (i.e., the National Parks Service). In addition, resource P-27-001487 is treated in this report as eligible for the NRHP. Ground disturbance associated with project construction may result in a substantial adverse change in the significance of these archaeological resources should the project disturb or destroy intact portions of these resources that contribute to their significance. However, the project would be required to implement Mitigation Measures CR-1 through CR-4, which would avoid and minimize the potential for adverse effects to these resources. Therefore, as concluded in the HPIR, the project would result in no adverse effect to historic properties under Section 106 of NHPA (Losco et. al).

3.3. Clean Air Act

The 1990 Amendment to FCAA Section 176 requires USEPA to promulgate rules to ensure federal actions conform to the appropriate State Implementation Plan. This rule, known as the General Conformity Rule (40 CFR Subpart W and 40 CFR Part 93 Subpart B: General Conformity), requires any federal agency responsible for an action in a federal nonattainment or maintenance area to demonstrate conformity with the applicable State Implementation Plan, by determining the action is either exempt from the General Conformity Rule requirements or subject to a formal General Conformity Determination. Actions would be exempt, and thus conform to the State Implementation Plan, if an applicability analysis shows that total direct and indirect project emissions of criteria pollutants for which the project area is designated nonattainment or maintenance would be less than specified emission thresholds, known as *de minimis* rates. If not exempt, an air quality conformity analysis would be required to determine conformity.

As outlined in the Federal Clean Air Act General Conformity Applicability Analysis included as Appendix B, the project site is located within the North Central Coast Air Basin, which is designated attainment or unclassified for all NAAQS. Therefore, no *de minimis* rates are applicable, and general conformity requirements do not apply to the project. A formal conformity determination is not required for the project, and the lead agency would be in compliance with the FCAA.

3.4. Coastal Zone Management Act

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

The proposed project is located within the Coastal Zone. In the project area, the California Coastal Commission has delegated local permitting authority through its approval of the Monterey County Local Coastal Program. Unless the project is determined to be exempt by the County of Monterey, the District would be required to obtain a coastal development permit for the project. Therefore, through required compliance with County of Monterey coastal regulations, the lead agency would be in compliance with the CZMA.

3.5. Farmland Protection Policy Act

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

As described in Section 2.2, *Agriculture and Forestry Resources*, the project site is not currently in agricultural production and does not contain Prime Farmland, Unique Farmland, Farmland of Statewide Importance, or land under a Williamson Act contract (DOC 2016). Therefore, the proposed project would not adversely affect farmland areas, and the lead agency would be in compliance with the FPPA.

3.6. Executive Order 11988 – Floodplain Management

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

As described in Section 3.10, *Hydrology and Water Quality*, most of the project alignment is located in a moderate to low flood hazard zone with the Lift Station No. 2 Force Main alignment located within a 100-Year Flood Hazard Area (FEMA 2017). However, many project components would be located underground, and the Lift Station No. 2 Force Main would be replaced along its existing alignment that is attached to the SR 1 bridge over Elkhorn Slough. As such, the project would not interfere with floodplain management or expose people or structures to a significant risk of loss, injury or death involving flooding. The lead agency would therefore be in compliance with this EO.

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

The Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 (September 22, 2000) requires that any project with federal involvement address impacts of federal actions on migratory birds.

As described in Section 2.4, *Biological Resources*, the proposed project would have a less-than-significant impact on nesting birds with implementation of Mitigation Measure BIO-5 if construction cannot be avoided during nesting season. Thus, the lead agency would be in compliance with this EO.

3.8. Executive Order 11990 – Protection of Wetlands

Under EO 11990 (May 24, 1977), federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

As described in Section 3.4, *Biological Resources*, the project site does not support federally protected wetlands as defined by CWA Section 404; therefore, no impacts would occur. Thus, the lead agency would be in compliance with EO 11990.

3.9. Wild and Scenic Rivers Act

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

There are no designated Wild and Scenic Rivers within the project area, and no designated rivers would be adversely affected by the proposed project. As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

3.10. Safe Drinking Water Act – Source Water Protection

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

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

3.11. Executive Order on Trails for America in the 21st Century

The EO on Trails for America (January 18, 2001) requires federal agencies to protect, connect, promote, and assist trails of all types throughout the United States. No trails exist in the vicinity of the project site with which the proposed project could interfere (County of Monterey 1982 and 2010). The Moss Landing Bicycle/Pedestrian Path and Bridge segment of the Monterey Bay Sanctuary Scenic Trail is planned to be constructed parallel to the Lift Station No. 2 alignment and Manholes 11 through 13 (County of Monterey 2015). However, proposed improvements to Lift Station No. 2 and Manholes 11 through 13 would occur in their existing locations and would there have no potential interfere with this planned trail. As a result, no adverse effects on trails would occur, and the lead agency would be in compliance with this EO.

3.12. Executive Order 13007 – Indian Sacred Sites

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

that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site."

The proposed project would not be located on or impact any federal lands and therefore would not affect any Native American sacred sites protected under this EO. As a result, the lead agency would be in compliance with this EO.

3.13. Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the United States Exclusive Economic Zone. It establishes exclusive United States management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation's waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat (EFH), as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

The proposed project would not be located in or impact any United States federal waters regulated under the Magnuson-Stevens Act. EFH includes those habitats that support the different life stages of each managed species. A single species may use many different habitats throughout its life to support breeding, spawning, nursery, feeding, and protection functions. EFH can consist of both the water column and the underlying surface (e.g., streambed) of a particular area. The project area is located within existing developed areas. As described in Section 2.4, *Biological Resources*, the project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the project area. As a result, the lead agency would be in compliance with this Act.

3.14. Environmental Justice

The USEPA defines environmental justice as: "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies" (USEPA 2016). This section describes existing socioeconomic conditions in the project area and the regulatory setting pertaining to environmental justice-related issues. This section also evaluates the potential for the proposed project to disproportionately affect minority or low-income groups.

Minority, Low-Income, and Disadvantaged Communities

According to USEPA guidelines, a minority population is present in a study area if the minority population of the affected area exceeds 50 percent, or if the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis. The project site is located in the

community of Moss Landing in unincorporated Monterey County. Demographics for Moss Landing, as provided in the United States Census Bureau's (Census) American Community Survey (ACS) 5-Year Estimates indicate the local population is comprised of approximately 38.7 percent minority populations (Census 2022a). Therefore, the area surrounding the project site does not have a minority population exceeding 50 percent.

USEPA guidelines recommend that analyses of low-income communities consider the Census' poverty level definitions, as well as applicable State and regional definitions of low-income and poverty communities. According to the Census, approximately 19.4 percent of the population of Moss Landing is at or below the poverty level as of 2020 (Census 2022b). For California as a whole, the percentage of persons in poverty is 12.6 percent as of 2020 (Census 2022b). As a result, the community of Moss Landing has a poverty rate that is above the state average and is therefore considered a low-income community.

A Disadvantaged Community (DAC) is defined as a community with a median household income (MHI) less than 80 percent of the California MHI (Public Resource Code Section 75005[g]). According to ACS data, the statewide MHI was \$75,235 in 2019 (Census 2022b). A DAC would therefore be a community with an MHI of \$62,937 or less. In 2019, the MHI for Moss Landing was \$90,147 (Census 2022b). Therefore, Moss Landing is not a DAC.

Conclusion

For the purposes of this analysis, an impact related to environmental justice would be significant if the proposed project would cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively.

Because Moss Landing has a poverty rate above the state average, it is considered a low-income community subject to an environmental justice analysis. The proposed project includes improvements to the existing MLWWS. Although project has the potential for short-term effects related to temporary construction activities, the provision of an upgraded wastewater system would have the long-term benefit of increasing the reliability of the MLWWS for all Moss Landing community members. Construction would generate localized environmental impacts (e.g., dust, traffic, and noise), but such activities would be intermittent and temporary and would cease upon completion of work activities. These activities would also be typical of construction projects occurring throughout the state on an ongoing basis and therefore would not result in disproportionately high impacts to the community of Moss Landing. Where potential impacts could occur, mitigation measures have been identified throughout this document to reduce such effects to less-than-significant levels. Furthermore, residences are only in close proximity to Lift Station Nos. 1 and 4 and Manholes 41 to 47, which would further limit the extent of localized construction-related impacts. The proposed project would therefore not result in any disproportionately high impacts on minority or low-income communities. Thus, no adverse environmental justice impacts would occur.

4 Environmental Alternative Analysis

Although not required by CEQA, CWSRF funding applicants are required to complete an Environmental Alternative Analysis as part of the Environmental Package of the funding application. The following sections provide descriptions of each project alternative; a comparative environmental analysis among the project alternatives for direct, indirect, and cumulative environmental impacts; potential reasonably foreseeable future environmental impacts for each alternative; suggested mitigation measures beyond those already required for the proposed project, if necessary; and a discussion of the environmental reasoning for selection of the proposed project. This Environmental Alternative Analysis provides a range of reasonable alternatives that meet the District's project needs and objectives, including a "no project/no action" alternative. The build alternatives (Alternatives 2 and 3) are compiled from the available engineering options outlined in the Preliminary Engineering Report prepared for the project by MNS (2022).

4.1. Alternative 1: No Project/No Action

Description

Under this alternative, none of the proposed critical upgrades to the MLWWS would be implemented. The MLWWS would continue to operate in its current condition, and over time, the risk of unexpected leaks or breakages in system components would increase due to aging and deteriorating infrastructure and operational issues adversely impacting the system, such as large volumes of sand and shells that are currently wearing down Lift Station Nos. 2 and 3.

Environmental Analysis

Because this alternative would not require construction activities, none of the proposed project's potentially significant but mitigable construction-related environmental impacts to biological resources, cultural and tribal cultural resources, paleontological resources, and noise would occur. None of the mitigation measures required for the proposed project would apply. However, the risk of unexpected leaks or breakages in MLWWS components would increase over time, and depending on the locations of these leaks and breakages, nearby environmental resources such as Elkhorn Slough, Moss Landing Harbor, and the Monterey Bay National Marine Sanctuary may be adversely affected by unforeseen releases of untreated sewer flows. Therefore, this alternative would potentially result in greater operational impacts to biological resources and water quality as compared to the proposed project should unforeseen releases of untreated sewer flows occur due to the aging system. This alternative may also result in incrementally greater operational transportation impacts given that increasingly frequent leaks and/or breakages may require more frequent lane closures in the area during repair events. Furthermore, this alternative would not result in the project's beneficial impacts of improving the reliability of the MLWWS and reducing the potential for unexpected leaks and/or breakages to affect sensitive environmental resources.

4.2. Alternative 2: Rehabilitation of Lift Station Nos. 1 and 4

Description

Under this alternative, Lift Station Nos. 1 and 4 would be rehabilitated in place instead of being re-located to new sites. Rehabilitation would consist of the replacement of pumps and other components in the wet well, the wet well cover and hatch, the valve vault top and access hatches, and other aboveground features. Similar to the proposed project, new aboveground features would include reconstructed electrical and control panels, four-inch bollards, lighting, local alarms, and wet well air vents. As with the proposed project, a new 50-kW back-up generator would also be installed at each location. For both lift stations, flows would be bypassed temporarily for a greater length of time than under the proposed project while the replacement parts are installed. This temporary bypassing may be accomplished with aboveground pumps and pipelines or by trucking wastewater between manholes upstream and downstream of these lift stations.

Environmental Analysis

Aesthetics

Under this alternative, Lift Station Nos. 1 and 4 would be rehabilitated in place and would therefore result in no change in the existing aesthetic environment. Therefore, aesthetic impacts would be less than significant, similar to the proposed project.

Agriculture and Forestry Resources

Lift Station Nos. 1 and 4 would be rehabilitated in place in areas that are not designated or used for farmland, timberland, or forestland. Therefore, no impacts to Prime Farmland, Unique Farmland, Farmland of Statewide Importance, land under a Williamson Act contract, forestland, or land zoned for agricultural use, forestland, or timberland use would occur, similar to the proposed project.

Air Quality

Construction of Alternative 2 would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips would occur during temporary bypassing of flows at Lift Station Nos. 1 and 4 because bypassing would be required for a longer period. However, the incremental increase in air pollutant emissions associated with Alternative 2 would not be expected to exceed MBARD thresholds for construction activities. This alternative may also not improve the operation of Lift Station Nos. 1 and 4 to the same degree as the proposed project. As a result, this alternative may result in a smaller reduction in operation and maintenance trips and their associated air pollutant emissions as compared to the proposed project. Operational air pollutant emissions associated with the new backup generators would remain the same as those estimated for the proposed project. Therefore, as with the proposed project, impacts to air quality would be less than significant under Alternative 2, although construction-related air pollutant emissions would be incrementally greater.

Biological Resources

Rehabilitation of Lift Station Nos. 1 and 4 in place would result in similar impacts as those identified for demolition and re-location of Lift Station Nos. 1 and 4 under the proposed project because the

current locations of these lift stations are within and near similar vegetation and land cover types as their new locations under the proposed project. However, should Lift Station No. 4 be rehabilitated in place, operation and maintenance activities associated with this project component may result in incrementally greater impacts to special status wildlife species as compared to the proposed project because part of the existing Lift Station No. 4 is located adjacent to coastal scrub that may contain host plants for Smith's blue butterfly, a federally endangered species (Appendix C). Although unlikely given the location of this part of Lift Station No. 4 in a disturbed area adjacent to the road shoulder, incidental impacts to host plants could occur during operation and maintenance activities if plants are damaged or removed, which would result in adverse impacts to Smith's blue butterfly. However, these impacts would not represent a change in existing baseline conditions given operations and maintenance activities are ongoing at the current location of Lift Station No. 4. As with the proposed project, Mitigation Measures BIO-1 through BIO-7 would apply to Alternative 2, which would reduce impacts to biological resources to a less-than-significant level, although impacts to special status wildlife species would be incrementally greater during operation and maintenance. Nevertheless, this alternative would not result in the project's beneficial impacts to biological resources of removing Lift Station No. 4 from an area with potential to support host plants for Smith's blue butterfly.

Cultural Resources

Lift Station Nos. 1 and 4 would be rehabilitated in place and would therefore have similar impacts to cultural resources as the proposed project because they would involve ground disturbance at the same sites. Therefore, as with the proposed project, implementation of Mitigation Measures CR-1 through CR-4 would be required for Alternative 2 to reduce impacts to cultural resources to a less-than-significant level.

Energy

Construction of Alternative 2 would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips would occur during temporary bypassing of flows at Lift Station Nos. 1 and 4 because bypassing would be required for a longer period. However, the incremental increase in energy consumption associated with Alternative 2 would not be wasteful, inefficient, or unnecessary because bypassing would only occur for the minimum timeframe needed to complete rehabilitation activities. This alternative may also not improve operation of Lift Station Nos. 1 and 4 to the same degree as the proposed project. As a result, this alternative may result in a smaller reduction in operation and maintenance trips and their associated energy consumption as compared to the proposed project. Operational energy consumption associated with the new backup generators would remain the same. Therefore, as with the proposed project, impacts to energy would be less than significant under Alternative 2, although construction-related energy consumption would be incrementally greater.

Geology and Soils

Lift Station Nos. 1 and 4 would be rehabilitated in place, and there would be no change in their locations as compared to existing conditions. Therefore, no impacts to geology and soils, including seismic hazards, erosion, unstable soils, expansive soils, septic tanks/alternative wastewater disposal systems, or paleontological resources, would occur as a result of project activities associated with these components. As a result, Mitigation Measure GEO-1 would not be required for this alternative because ground-disturbing activities associated with Lift Station No. 1, which is located in a geologic unit of high paleontological sensitivity, would only affect previously-disturbed

sediments. Therefore, all impacts to geology and soils would be less than significant and therefore less than under the proposed project.

Greenhouse Gas Emissions

Construction of Alternative 2 would require generally similar construction equipment and vehicle trips as the proposed project, although additional truck trips would occur during temporary bypassing of flows at Lift Station Nos. 1 and 4 because bypassing would be required for a longer period. However, the increase in construction-related GHG emissions associated with Alternative 2 would be incremental. This alternative may also not improve operation of Lift Station Nos. 1 and 4 to the same degree as the proposed project. As a result, this alternative may result in a smaller reduction in operation and maintenance trips and their associated GHG emissions as compared to the proposed project. Operational GHG emissions associated with the new backup generators would remain the same as those estimated for the proposed project. As with the proposed project, Alternative 2 would include the applicable project design elements determined by BAAQMD to achieve less-than-significant GHG emissions impacts. Therefore, similar to the proposed project, impacts to GHG emissions would be less than significant under Alternative 2, although construction-related GHG emissions would be incrementally greater.

Hazards and Hazardous Materials

Similar to the proposed project, Alternative 2 would require the limited use, transport, and storage of hazardous materials during construction, which would be regulated by existing laws and requirements. Alternative 2 would not be located on a site that is included on a list of hazardous material sites, near an airport, or in an area subject to wildland fire risk because the alternative occurs on the same site as the proposed project. In addition, Alternative 2 would not include features that would impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. As with the proposed project, impacts related to hazards and hazardous materials under Alternative 2 would be less than significant.

Hydrology and Water Quality

Alternative 2 would require generally similar levels of ground disturbance and associated drainage changes and water quality impacts as the proposed project, although ground disturbance and drainage alterations at Lift Station Nos. 1 and 4 may be incrementally less due to their rehabilitation in place rather than re-location as under the proposed project. Alternative 2 would not require substantial groundwater withdrawals and would not be located within a 100-year flood hazard area (Zone AE) (FEMA 2017). Therefore, similar to the proposed project, Alternative 2 would result in less than significant impacts to hydrology and water quality, although drainage alterations may be incrementally less.

Land Use and Planning

As with the proposed project, Alternative 2 would not result in any barriers that would divide an established community. This alternative would be consistent with the underlying zonings of the project site, subject to compliance with the applicable development standards in the MCC, and consistent with relevant policies of the North County Coastal Land Use Plan. Thus, this alternative would not cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Similar to the proposed project, no land use and planning impacts would occur under Alternative 2.

Mineral Resources

As with the proposed project, Alternative 2 is not underlain by a known mineral resource (CGS 2021). Alternative 2 would not involve mineral extraction, construction, or changes in land use that could affect the availability of mineral resources. Therefore, similar to the proposed project, no impacts to mineral resources would occur under Alternative 2.

Noise

Construction of Alternative 2 would require generally similar construction methods and associated equipment as the proposed project; therefore, construction noise and vibration levels would be the same as those estimated for the proposed project. Therefore, implementation of Mitigation Measure N-1 would also be required for Alternative 2 to avoid substantial construction-related vibration. In addition, operational noise levels associated with the new backup generators would be the same as under the proposed project and would not exceed County of Monterey standards, although the backup generator at Lift Station No. 1 would be in closer proximity to existing residences and the backup generator at Lift Station No. 4 would be located further from existing residences. Overall, noise and vibration impacts would be the same as those of the proposed project and would be less than significant with mitigation incorporated.

Population and Housing

As with the proposed project, Alternative 2 would not directly or indirectly induce population growth because this alternative would not increase pipeline conveyance capacity such that additional flows would be accommodated. In addition, Alternative 2 would not require displacement of existing housing or people. Therefore, similar to the proposed project, no impacts related to population and housing would occur under Alternative 2.

Public Services

Alternative 2 would not change existing demand for public services (e.g., fire and police protection, schools, parks, or libraries) because neither direct nor indirect population growth would result from construction of Alternative 2. As with the proposed project, no impacts to public services would occur.

Recreation

Neither direct nor indirect population growth would result from construction of Alternative 2; therefore, Alternative 2 would not increase the use of existing neighborhood and regional parks or other recreational facilities. In addition, Alternative 2 does not propose recreational facilities and would not require their construction or expansion. Therefore, similar to the proposed project, no impacts related to recreation would occur under Alternative 2.

Transportation

Construction of Alternative 2 would require generally similar construction methods and associated vehicle trips as the proposed project. However, additional truck trips would occur during temporary bypassing of flows at Lift Station Nos. 1 and 4 because bypassing would be required for a longer period. Nevertheless, as with the proposed project, construction-related traffic volumes are not expected to be substantial under Alternative 2. In addition, temporary impacts to the transportation network during construction at Lift Station Nos. 1 and 4 may be incrementally less due to their rehabilitation in place rather than re-location as under the proposed project, which would require

more work within streets. Similar to the proposed project, Alternative 2 would include preparation of traffic control plans to minimize impacts to the transportation network and emergency access. Therefore, as with the proposed project, transportation impacts under Alternative 2 would be less than significant, although construction-related traffic volumes would be incrementally greater.

Tribal Cultural Resources

Lift Station Nos. 1 and 4 would be rehabilitated in place and would therefore have similar impacts to tribal cultural resources as the proposed project because they would involve ground disturbance at the same sites. Therefore, as with the proposed project, implementation of Mitigation Measures CR-1 through CR-4, TCR-1, and TCR-2 would be required for Alternative 2 to reduce impacts to tribal cultural resources to a less-than-significant level.

Utilities and Service Systems

Alternative 2 would not require new water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Alternative 2 would not increase long-term demand for potable water supplies and would generate minimal quantities of solid waste during construction that would be disposed of in accordance with applicable laws and regulations. Therefore, similar to the proposed project, impacts related to utilities and service systems under Alternative 2 would be less than significant.

Wildfire

As with the proposed project, Alternative 2 would not be located in a State Responsibility Area of Very High Fire Hazard Severity Zone. Therefore, similar to the proposed project, no wildfire impacts would occur.

Cumulative Impacts

As discussed in Section 2.21, *Mandatory Findings of Significance*, 14 planned projects are located in the vicinity of the project site, primarily near the Lift Station No. 2 Force Main alignment, Pipe Repairs P-1 and P-2, Manholes 27 to 30, and Manholes 41 to 47. As with the proposed project, the impacts of Alternative 2 would be primarily temporary, localized effects that would occur during construction activities. Similar to the proposed project, cumulative impacts to air quality, biological resources, and GHG emissions would be significant. However, as with the proposed project, Alternative 2 would not result in air pollutant or GHG emissions exceeding the identified thresholds and therefore would not result in cumulatively considerable contributions to these impacts. In addition, Alternative 2 would be required to implement similar mitigation measures related to biological resources as the proposed project, which would reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact. Therefore, the contribution of Alternative 2 to cumulative impacts would be similar to those of the proposed project and would be less than significant with mitigation incorporated.

Conclusion

Alternative 2 would result in incrementally greater construction-related impacts to air quality, energy, and GHG emissions as compared to the proposed project and generally similar impacts to all other environmental resources. The same mitigation measures required for the proposed project would be sufficient to mitigate impacts under Alternative 2 to less-than-significant levels. In

addition, Alternative 2 would result in fewer impacts to paleontological resources such that implementation of Mitigation Measure GEO-1 would not be required. This alternative would generally meet the objectives of the project. However, rehabilitating Lift Station No. 4 in place would result in a continuation of existing environmental constraints for operation and maintenance activities due to its proximity to coastal scrub habitat that may contain host plants for Smith's blue butterfly, a federally endangered species. In addition, rehabilitation of Lift Station No. 4 would perpetuate inefficient system operations because it is located further from existing development than the new site included in the proposed project.

4.3. Alternative 3: Replacement of Manholes 11 through 13

Description

Under Alternative 3, Manholes 11 through 13 would be replaced in their entirety rather than being rehabilitated as under the proposed project. Replacement of these manholes would require bypassing, dewatering, shoring, and excavation. The installation of the new manholes would require placing new base aggregate, installing new pipe segments and couplings to reconnect to the manholes, and compacting fill material around the manholes. A reinforced concrete slab would also be installed to protect the manholes from damage.

Environmental Analysis

Aesthetics

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of aesthetic impacts as compared to the proposed project because they would remain underground. Similar to the proposed project, impacts would be less than significant.

Agriculture and Forestry Resources

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts to agriculture and forestry resources as compared to the proposed project because they would be located at the same sites. Similar to the proposed project, no impacts would occur.

Air Quality

Construction and operation of Alternative 3 would require generally similar construction equipment and vehicle trips as the proposed project, although more intensive equipment usage and additional vehicle trips may be required given that full replacement of Manholes 11 through 13 would be more intensive and likely require a longer construction schedule as compared to rehabilitation activities under the proposed project. However, this incremental increase in air pollutant emissions associated with Alternative 3 would not be expected to exceed MBARD thresholds. Therefore, as with the proposed project, impacts to air quality would be less than significant under Alternative 3, although construction-related air pollutant emissions would be incrementally greater.

Biological Resources

Replacement of Manholes 11 through 13 rather than rehabilitation would result in generally similar impacts to biological resources. However, greater encroachment into the roadway drainage and vegetation immediately to the west of these manholes would likely be required to accomplish full replacement. As discussed in Section 2.4, *Biological Resources*, Manholes 11 to 13 are in close proximity to suitable habitat for Monterey spineflower (federally listed as endangered and CRPR Rank List 1B.1). Greater encroachment into this habitat area may result in greater direct and indirect impacts to this species during construction activities should they be present and subject either to removal or the spread of invasive plant species inadvertently carried by construction equipment. As with the proposed project, implementation of Mitigation Measures BIO-1 through BIO-3 would be required to reduce potential impacts to special status plant species to a less-than-significant level. As noted in Section 2.4, *Biological Resources*, the roadway drainage is likely not under the jurisdiction of the USACE or CDFW but is likely under the jurisdiction of RWQCB and the County of Monterey pursuant to their LCP. Therefore, direct impacts to state protected wetlands may occur due to the additional encroachment required under this alternative, which would necessitate additional mitigation such as in-kind replacement/restoration and preparation of an HMMP to compensate for temporary direct impacts to the drainage as well as Mitigation Measure BIO-7 for indirect impacts. As with the proposed project, Mitigation Measures BIO-4 through BIO-6 that address impacts to Smith's blue butterfly, nesting bird, and sensitive natural communities would also apply to Alternative 3, which would reduce impacts to these biological resources to a less-than-significant level. Overall, impacts of Alternative 3 to biological resources would be greater than those of the proposed project and would require additional mitigation for temporary direct impacts to state protected wetlands.

Cultural Resources

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts to cultural resources as compared to the proposed project because they would be located at the same sites. Therefore, as with the proposed project, implementation of Mitigation Measures CR-1 through CR-4 would be required for Alternative 3 to reduce impacts to cultural resources to a less-than-significant level.

Energy

Construction and operation of Alternative 3 would require generally similar construction equipment and vehicle trips as the proposed project, although more intensive equipment usage and additional vehicle trips may be required given that full replacement would be more intensive as compared to rehabilitation activities under the proposed project. However, this incremental increase in energy consumption associated with Alternative 3 would not be wasteful, inefficient, or unnecessary. Therefore, as with the proposed project, impacts to energy resources would be less than significant under Alternative 3, although construction related energy consumption would be incrementally greater.

Geology and Soils

Replacement of Manholes 11 through 13 in their current location rather than rehabilitation would result in no change in the nature or level of impacts to seismic hazards, erosion, unstable geologic units, soils, and paleontological resources as compared to the proposed project because they would be located in the same sites and would not result in additional ground disturbance in geologic units

with high paleontological sensitivity (Appendix F). Impacts would remain less than significant with incorporation of Mitigation Measure GEO-1.

Greenhouse Gas Emissions

Construction and operation of Alternative 3 would require generally similar construction equipment and vehicle trips as the proposed project, although more intensive equipment usage and additional vehicle trips may be required given that full replacement would be more intensive and require a longer construction schedule as compared to rehabilitation activities under the proposed project. However, this incremental increase in GHG emissions associated with Alternative 3 would be incremental. As with the proposed project, Alternative 3 would include the applicable project design elements determined by BAAQMD to achieve less-than-significant GHG emissions impacts. Therefore, similar to the proposed project, impacts to GHG emissions would be less than significant under Alternative 3, although construction-related GHG emissions would be incrementally greater.

Hazards and Hazardous Materials

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to hazards and hazardous materials as compared to the proposed project. As with the proposed project, impacts to hazards and hazardous materials under Alternative 3 would be less than significant.

Hydrology and Water Quality

Replacement of Manholes 11 through 13 rather than rehabilitation would result in generally similar impacts to hydrology and water quality as compared to the proposed project because they would be located at the same sites. However, full replacement of these manholes would encroach into the banks of the adjacent drainage channel, which could result in an incrementally greater impact to water quality due to the increased potential for sediments or accidental leaks or spills of hazardous materials to enter waterways. However, similar to the proposed project, erosion during project construction would be limited given the relatively small footprint of each project component, and accidental leaks or spills of hazardous materials that may occur during project construction would be cleaned up and disposed of in accordance with applicable regulations. Therefore, impacts to hydrology and water quality would remain less than significant, as with the proposed project, although the potential for incidental impacts to water quality during construction would be incrementally greater.

Land Use and Planning

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to land use and planning as compared to the proposed project. Similar to the proposed project, no impacts to land use and planning would occur under Alternative 3.

Mineral Resources

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the level of impacts related to mineral resources as compared to the proposed project because they would be located at the same sites. Similar to the proposed project, no impacts to mineral resources would occur under Alternative 3.

Noise

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to noise and vibration as compared to the proposed project because this component would require use of the same construction methods and associated equipment in the same locations as the proposed project. Similar to the proposed project, impacts under Alternative 3 would be less than significant with incorporation of Mitigation Measure N-1.

Population and Housing

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to population and housing as compared to the proposed project because Alternative 3 would have the same purpose as the proposed project and would thus not be growth-inducing. Similar to the proposed project, no impacts to population and housing would occur under Alternative 3.

Public Services

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to public services as compared to the proposed project because Alternative 3 would have the same purpose as the proposed project and would thus not be growth-inducing. Similar to the proposed project, no impacts to public services would occur under Alternative 3.

Recreation

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts related to recreation as compared to the proposed project because Alternative 3 would have the same purpose as the proposed project and would thus not be growth-inducing. Alternative 3 also does not include recreational facilities. Similar to the proposed project, no impacts to recreation would occur under Alternative 3.

Transportation

As compared to the proposed project, Alternative 3 would potentially result in greater impacts to the transportation network and local emergency access because the replacement of Manholes 11 through 13 would require more intensive construction activities that would necessitate longer and more extensive lane closures in proximity to this project component. Nevertheless, similar to the proposed project, Alternative 3 would include preparation of traffic control plans to minimize impacts to the transportation network and emergency access. Therefore, as with the proposed project, transportation impacts under Alternative 3 would be less than significant, although longer and more extensive lane closures affecting the transportation network would be required during construction.

Tribal Cultural Resources

Replacement of Manholes 11 through 13 rather than rehabilitation would result in no change in the nature or level of impacts to tribal cultural resources as compared to the proposed project because they would be located at the same sites. Therefore, as with the proposed project, implementation of Mitigation Measures CR-1 through CR-4, TCR-1, and TCR-2 would be required for Alternative 3 to reduce impacts to tribal cultural resources to a less-than-significant level.

Utilities and Service Systems

Alternative 3 would not require new water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Alternative 3 would not increase long-term demand for potable water supplies and would generate minimal quantities of solid waste during construction that would be disposed of in accordance with applicable laws and regulations. Therefore, similar to the proposed project, impacts related to utilities and service systems under Alternative 3 would be less than significant.

Wildfire

As with the proposed project, Alternative 3 would not be located in a State Responsibility Area or Very High Fire Hazard Severity Zone. Therefore, similar to the proposed project, no wildfire impacts would occur under Alternative 3.

Cumulative Impacts

As discussed in Section 2.21, *Mandatory Findings of Significance*, 14 planned projects are located in the vicinity of the project site, primarily near the Lift Station No. 2 Force Main alignment, Pipe Repairs P-1 and P-2, Manholes 27 to 30, and Manholes 41 to 47. As with the proposed project, the impacts of Alternative 3 would be primarily temporary, localized effects that would occur during construction activities. Similar to the proposed project, cumulative impacts to air quality, biological resources, and GHG emissions would be significant. However, as with the proposed project, Alternative 3 would not result in air pollutant or GHG emissions in excess of the identified thresholds and therefore would not result in cumulatively considerable contributions to these impacts. In addition, Alternative 3 would be required to implement similar mitigation measures related to biological resources as the proposed project, which would reduce its impacts to biological resources to a less-than-significant level such that project-level impacts would not result in a cumulatively considerable contribution to this cumulative impact. Therefore, the contribution of Alternative 3 to cumulative impacts would be similar to those of the proposed project and would be less than significant with mitigation incorporated.

Conclusion

Alternative 3 would result in similar environmental impacts as those of the proposed project, except that Alternative 3 would result in incrementally greater construction-related impacts to air quality, biological resources, energy, GHG emissions, water quality, and transportation as compared to the proposed project. The same mitigation measures would apply to Alternative 3 and the proposed project. This alternative would meet the objectives of the project.

4.4. Selection of the Chosen Project Alternative

The District has selected the proposed project (preferred alternative) as the chosen alternative to build and operate. The proposed project, Alternative 2, and Alternative 3 would result in generally similar direct, indirect, and cumulative environmental impacts. Alternative 2 would result in incrementally greater construction-related impacts to air quality, energy, and GHG emissions as compared to the proposed project due to more intensive construction activities; however, Alternative 2 would result in fewer impacts to paleontological resources such that Mitigation Measure GEO-1 would not be required for this alternative. Alternative 2 would also result in a continuation of existing environmental constraints for operations and maintenance activities due to

its proximity to coastal scrub habitat that may contain host plants for Smith's blue butterfly, a federally endangered species. Alternative 3 would result in greater impacts to state protected wetlands due to encroachment into the banks of an adjacent drainage channel and vegetation during replacement of Manholes 11 to 13, which would require additional mitigation for temporary direct impacts to this feature. This alternative would also result in incrementally greater construction-related impacts to air quality, energy, GHG emissions, water quality, and transportation as compared to the proposed project due to more intensive construction activities. The District has selected the proposed project as the thorough analysis demonstrated that this alternative is able to achieve the goal of the project to provide critical upgrades to MLWWS with its environmental impacts mitigated to a less-than-significant level. In addition, as detailed above, neither Alternative 2 nor Alternative 3 are environmentally superior as compared to the proposed project.

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5.2. List of Preparers

Rincon Consultants, Inc. prepared this IS-MND under contract to Castroville Community Services District. Persons involved in data gathering analysis, project management, and quality control are listed below.

RINCON CONSULTANTS, INC.

Megan Jones, Principal
Annaliese Miller, Senior Environmental Planner
Virginia Dussell, Environmental Planner
Ethan Knox, Environmental Planner
Allysen Valencia, GIS Analyst
Max Antono, GIS Analyst

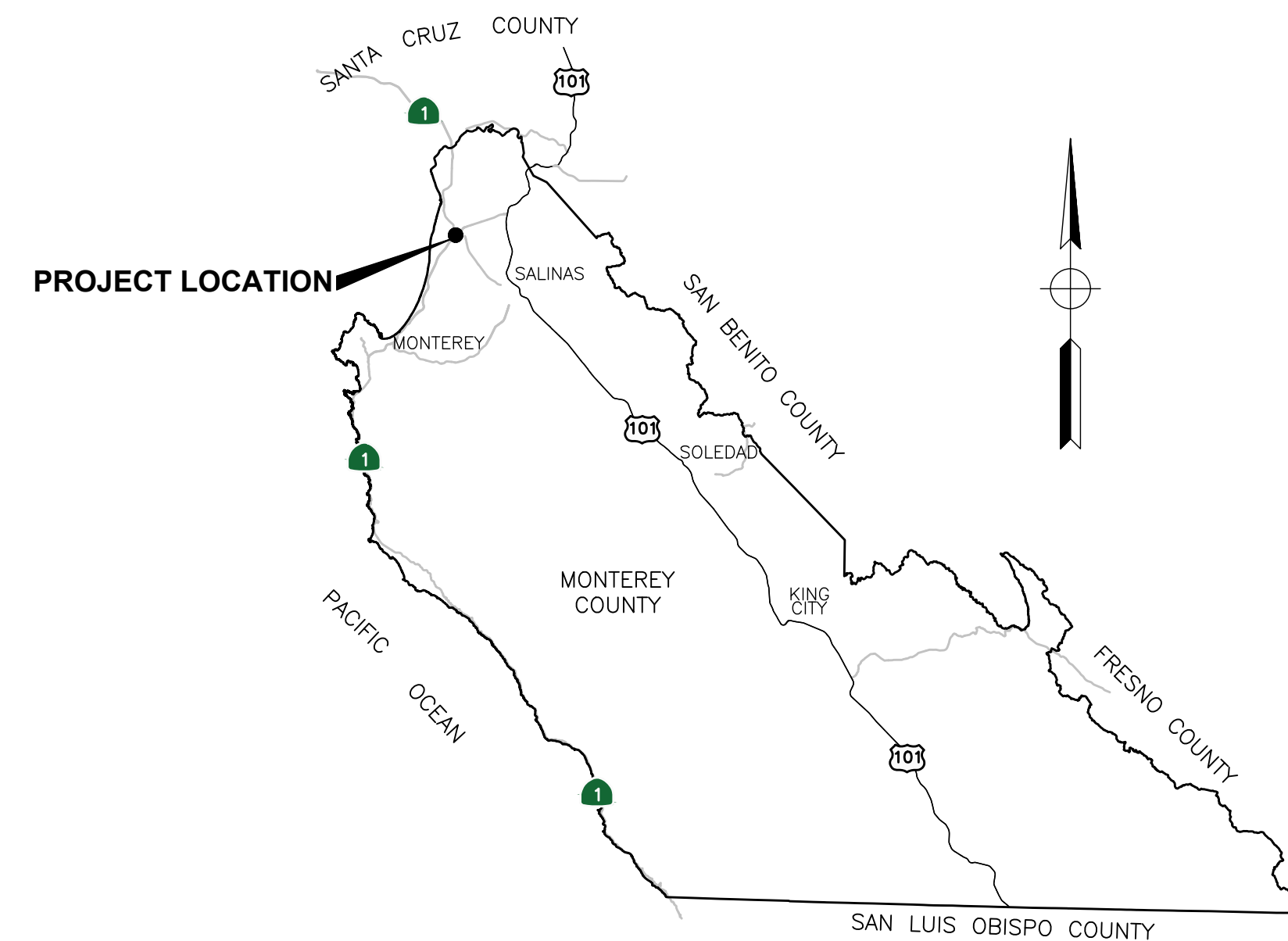
Appendix A

Preliminary Project Plans

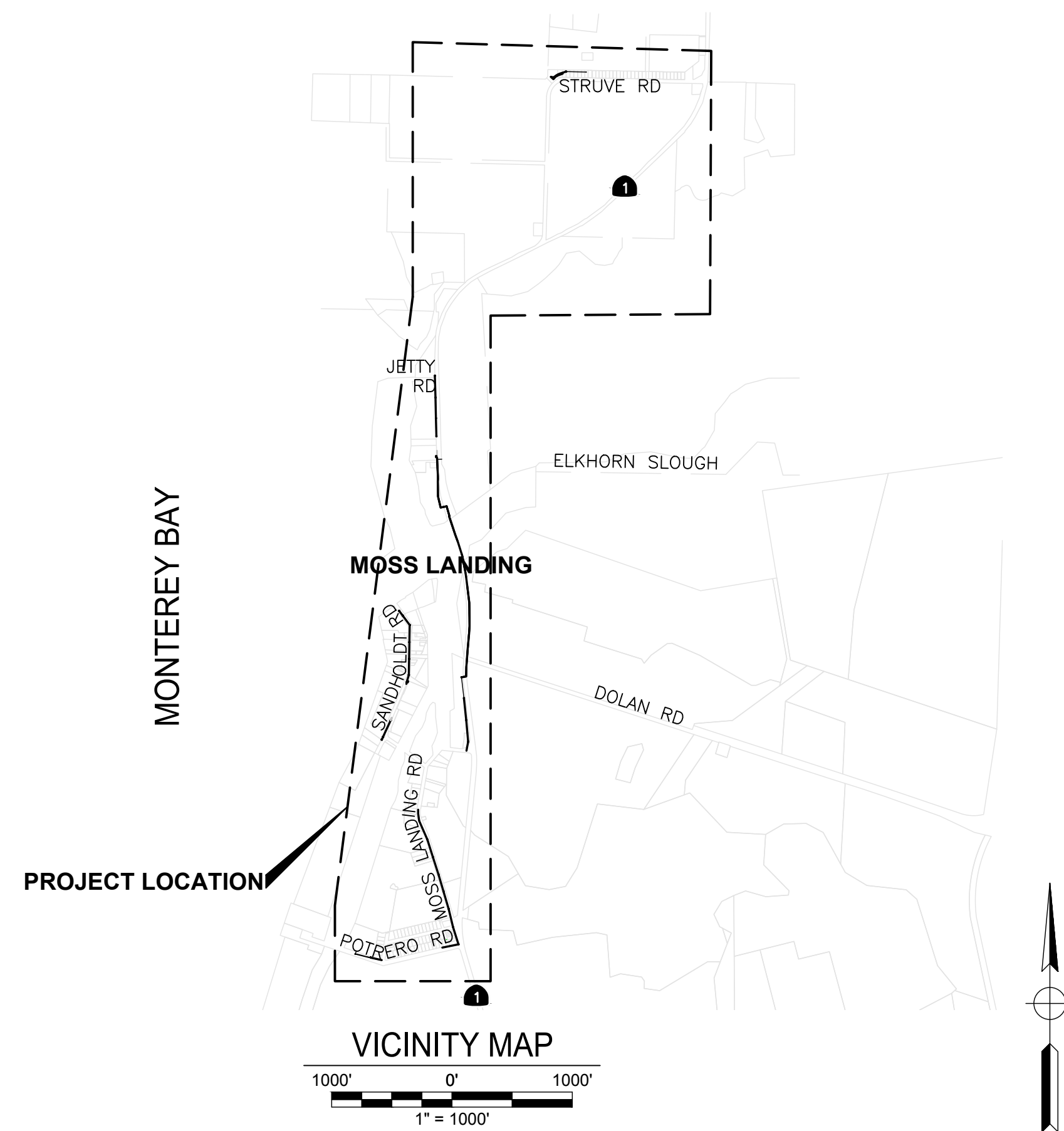
CASTROVILLE COMMUNITY SERVICES DISTRICT

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT

OCTOBER 2022



LOCATION MAP
NOT TO SCALE



VICINITY MAP
1" = 1000'

SHEET INDEX

SHEET NO.	DRAWING NO.	DESCRIPTION
1	G-1	TITLE SHEET, VICINITY, LOCATION MAP AND SHEET INDEX
2	G-2	GENERAL NOTES, LEGEND, AND ABBREVIATIONS
3	G-3	SHEET LAYOUT PLAN
4	C-1.1	LIFT STATION 1 DEMOLITION PLAN
5	C-1.2	LIFT STATION 1 SITE IMPROVEMENT PLAN
6	C-1.3	LIFT STATION 1 SITE GRADING PLAN
7	C-1.4	LIFT STATION 1 SITE PIPING PLAN
8	C-1.5	LIFT STATION 1 MECHANICAL PLAN AND SECTIONS
9	C-2.1	LIFT STATION 2 DEMOLITION PLAN
10	C-2.2	LIFT STATION 2 SITE IMPROVEMENT PLAN
11	C-2.3	LIFT STATION 2 MECHANICAL PLAN AND SECTIONS
12	C-2.4	BRIDGE CROSSING SECTION AND ELEVATIONS
13	C-2.5	FORCE MAIN REHABILITATION STA 10+00 TO 30+00
14	C-2.6	FORCE MAIN REPLACEMENT P&P STA 30+00 TO 36+00
15	C-2.7	FORCE MAIN REPLACEMENT P&P STA 36+00 TO 41+00
16	C-2.8	FORCE MAIN REPLACEMENT P&P STA 41+00 TO 46+00
17	C-2.9	FORCE MAIN REPLACEMENT P&P STA 46+00 TO 49+80
18	C-3.1	LIFT STATION 3 DEMOLITION PLAN
19	C-3.2	LIFT STATION 3 SITE IMPROVEMENT PLAN
20	C-3.3	LIFT STATION 3 MECHANICAL PLAN AND SECTIONS
21	C-4.1	LIFT STATION 4 DEMOLITION PLAN
22	C-4.2	LIFT STATION 4 SITE IMPROVEMENT PLAN
23	C-4.3	LIFT STATION 4 MECHANICAL PLAN AND SECTIONS
24	C-5.1	PIPE REPAIR P-2 PLAN AND PROFILE STA 39+90 TO STA 44+00
25	C-5.2	PIPE REPAIR P-1 PLAN AND PROFILE STA 50+00 TO STA 55+00
26	C-5.3	PIPE REPAIR P-1 PLAN AND PROFILE STA 55+00 TO STA 60+00
27	C-5.4	PIPE REPAIR P-1 PLAN AND PROFILE STA 60+00 TO STA 63+00
28	C-6.1	SEWER MAIN REPLACEMENT GRAVITY SEWER DETAILS
29	C-6.2	CITY STANDARD DETAILS
30	C-7	SEWER MANHOLE REHABILITATION LOCATION MAP AND DETAILS
31	C-8.1	SITE IMPROVEMENT DETAILS
32	C-8.2	MISCELLANEOUS DETAILS
33	C-9.1	EROSION CONTROL PLAN NOTES AND LEGEND
34	C-9.2	LIFT STATION 1-4 EROSION CONTROL PLAN
35	S-0.1	STRUCTURAL NOTES
36	S-0.2	STRUCTURAL NOTES
37	S-1.1	LIFT STATION 1 STRUCTURAL SITE PLAN
38	S-2.1	LIFT STATION 2 STRUCTURAL SITE PLAN
39	S-2.2	BRIDGE CROSSING SECTION & ELEVATION
40	S-3.1	LIFT STATION 3 STRUCTURAL SITE PLAN
41	S-4.1	LIFT STATION 4 STRUCTURAL SITE PLAN
42	S-5.1	DETAILS
43	E-0.0	SYMBOLS & ABBREVIATIONS
44	E-1.0	LIFT STATION 1 SITE IMPROVEMENT PLAN
45	E-1.1	LIFT STATION 1 SINGLE LINE DIAGRAM
46	E-1.2	LIFT STATION 1 POWER PEDESTAL

SHEET NO.	DRAWING NO.	DESCRIPTION
47	E-2.0	LIFT STATION 2 SITE IMPROVEMENT PLAN
48	E-2.1	LIFT STATION 2 SINGLE LINE DIAGRAM
49	E-2.2	LIFT STATION 2 POWER PEDESTAL
50	E-3.0	LIFT STATION 3 SITE IMPROVEMENT PLAN
51	E-3.1	LIFT STATION 3 SINGLE LINE DIAGRAM
52	E-3.2	LIFT STATION 3 POWER PEDESTAL
53	E-4.0	LIFT STATION 4 SITE IMPROVEMENT PLAN
54	E-4.1	LIFT STATION 4 SINGLE LINE DIAGRAM
55	E-4.2	LIFT STATION 4 POWER PEDESTAL
56	E-5.0	ELECTRICAL DETAILS
57	E-6.0	SCHEMATIC CONTROL DIAGRAM

PROJECT CONTACTS

OWNER:
CASTROVILLE COMMUNITY SERVICES DISTRICT
11499 GEIL STREET
CASTROVILLE, CA 95012
MR. ERIC TYNAN
GENERAL MANAGER
OFFICE: (831) 633-2560
CELL: (831) 235-0155

TELECOM UTILITY CONTACTS:
AT&T CORP.
DAWN SIBLEY, ENGINEERING ADMINISTRATOR
559-552-4591

COMCAST
MARK GIBLIN
MARK_GIBLIN@CABLE.COMCAST.COM

EVAN TEUNG-OUK, PLANNING & DESIGN COORDINATOR
3011 RIAD PLACE, LIVERMORE, CA
CAL_DESIGN@COMCAST.COM

GAS AND ELECTRIC CONTACT:
PG&E DAMAGE PREVENTION
EVAN WEBB, LOCATE & MARK SUPERVISOR
661-205-9252

PG&E DELINEATION MAP REQUEST
DELINEATIONMAPREQUESTS@PGE.COM

***60% DESIGN - NOT FOR CONSTRUCTION**

REV	DATE	BY	DESCRIPTION



811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
Phone: 805-787-0326
www.mnsengineers.com



DESIGNED:

NEP

DRAWN:

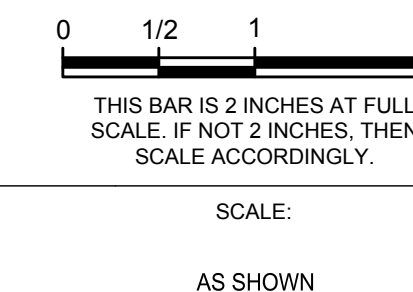
AKV

CHECKED:

BS

NICHOLAS E. PANOFSKY
LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2023

05/05/2022
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT CASTROVILLE COMMUNITY SERVICES DISTRICT	PROJECT NUMBER DICVL.200738.02
TITLE SHEET, VICINITY, LOCATION MAP AND SHEET INDEX	DRAWING NUMBER G-1
SHEET NUMBER 1 OF 57	

GENERAL NOTES

- THESE PLANS ARE PART OF A SET OF CONTRACT DOCUMENTS WHICH INCLUDE GENERAL AND SPECIAL PROVISIONS AND TECHNICAL SPECIFICATIONS. WORK TO BE PERFORMED IS SUBJECT TO PROVISIONS IN ALL OF THE CONTRACT DOCUMENTS. THESE PLANS SHALL NOT BE CONSIDERED THE SOLE SOURCE OF CONSTRUCTION INFORMATION.
- ALL WORK SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 2021 EDITION EXCEPT AS OTHERWISE SPECIFIED BY THE CONTRACT DOCUMENTS. ALL WORK SHALL BE SUBJECT TO THE APPROVAL OF THE OWNER AND THE ENGINEER.
- THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR SAFETY OF THE JOB SITE AND THE CONSTRUCTION WORK. THE CONTRACTOR SHALL DESIGN, CONSTRUCT, AND MAINTAIN ALL SAFETY DEVICES AND SHALL BE SOLELY RESPONSIBLE FOR CONFORMING TO ALL LOCAL, STATE, AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF PUBLIC AND PRIVATE PROPERTY IN THE VICINITY OF THE WORK PERFORMED UNDER THIS CONTRACT AND SHALL EXERCISE DUE CAUTION TO AVOID ALL DAMAGE TO SUCH PROPERTY. THE CONTRACTOR SHALL REPLACE OR REPAIR TO ITS ORIGINAL CONDITION ALL IMPROVEMENTS OR PROPERTY WHICH ARE DAMAGED OR REMOVED AS A RESULT OF HIS OPERATIONS.
- THE CONTRACTOR SHALL CONTINUALLY REVIEW THE JOB SITE CONDITIONS. CONDITIONS REQUIRING CONSTRUCTION DIFFERENT THAN SHOWN ON THE PLANS SHALL BE REPORTED TO THE OWNER. ALL CHANGES TO THE SCOPE OF THE CONSTRUCTION SHALL BE APPROVED BY THE OWNER OR THE OWNER'S DESIGNATED REPRESENTATIVE PRIOR TO PROCEEDING WITH THE CONSTRUCTION.
- AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCING CONSTRUCTION, CONTACT THE REGIONAL NOTIFICATION CENTER (UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA - U.S.A. AT 811) AND REQUEST UTILITY OWNERS MARK OR OTHERWISE INDICATE THE LOCATION OF THEIR FACILITIES. TAKE ALL NECESSARY MEASURES TO PROTECT ALL UTILITIES AND ALL STRUCTURES FOUND AT THE SITE.
- ALL REQUIRED PERMITS AND NECESSARY COUNTY OF SANTA CRUZ BUSINESS LICENSE(S) SHALL BE OBTAINED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
- DURING ALL PHASES OF CONSTRUCTION, INCLUDING SUSPENSION OF WORK, UNTIL FINAL ACCEPTANCE OF THE PROJECT, OBSERVE, FOLLOW AND IMPLEMENT ALL THE REQUIREMENTS OF THE NPDES, CONSTRUCTION GENERAL PERMIT, AND ENVIRONMENTAL PROTECTION PLAN AND KEEP THE WORK SITE CLEAN AND FREE FROM RUBBISH AND DEBRIS. ALSO ABATE DUST NUISANCE BY SPRINKLING WITH WATER AND USING DUST FENCES OR OTHER METHODS AS DIRECTED BY THE DISTRICT'S REPRESENTATIVE THROUGHOUT THE CONSTRUCTION OPERATION.
- KEEP A STRICT RECORD OF ALL CHANGES AND SUBMIT THIS RECORD TO THE DISTRICT. BEFORE THE RELEASE FOR FINAL ACCEPTANCE OF THE PROJECT WILL BE FILED, COORDINATE TRANSFERRING "AS-BUILT" INFORMATION ON THE CONTRACT DRAWINGS AND DELIVER THE CERTIFIED "AS-BUILT" PLANS TO THE DISTRICT.
- EXERCISE DUE CARE TO AVOID DAMAGE TO EXISTING IMPROVEMENTS OR FACILITIES, UTILITY FACILITIES, ADJACENT PROPERTY, AND TREES AND SHRUBBERY TO REMAIN. ALL DAMAGE CAUSED TO PUBLIC STREETS, INCLUDING HAUL ROUTES, ALLEYS, SIDEWALKS, CURBS OR STREET FURNISHINGS, OR TO PRIVATE PROPERTY SHALL BE REPAIRED AT THE SOLE EXPENSE OF THE CONTRACTOR TO THE SATISFACTION OF THE DISTRICT'S REPRESENTATIVE.
- DESIGNATE AND KEEP ON THE PROJECT AT ALL TIMES WHILE WORK IS BEING PERFORMED A COMPETENT SUPERINTENDENT WHO SHALL NOT BE REPLACED WITHOUT WRITTEN NOTICE TO THE DISTRICT'S REPRESENTATIVE. THE SUPERINTENDENT WILL BE THE CONTRACTOR'S REPRESENTATIVE AT THE SITE AND SHALL HAVE AUTHORITY TO ACT ON BEHALF OF THE CONTRACTOR. ALL COMMUNICATIONS GIVEN TO THE SUPERINTENDENT SHALL BE AS BINDING AS IF GIVEN TO THE CONTRACTOR. DURING PERIODS WHEN THE WORK IS SUSPENDED, MAKE APPROPRIATE ARRANGEMENTS FOR ANY EMERGENCY WORK WHICH MAY BE REQUIRED.
- THE COST OF ALL INITIAL TESTING AND RETESTING TO BE PERFORMED UNDER THE DIRECTION OF THE DISTRICT'S REPRESENTATIVE SHALL BE BORNE BY THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED.
- WHEN THE WORK ON ANY PORTION OF THE WORK IS SUFFICIENTLY COMPLETE TO BE UTILIZED OR PLACED INTO SERVICE, THE DISTRICT SHALL HAVE THE RIGHT UPON WRITTEN NOTIFICATION TO THE CONTRACTOR TO UTILIZE SUCH PORTIONS OF THE WORK AND TO PLACE THE OPERABLE PORTIONS INTO SERVICE AND TO OPERATE SAME. UPON SAID NOTICE AND COMMENCEMENT OF UTILIZATION OR OPERATION BY THE DISTRICT, THE CONTRACTOR SHALL BE RELIEVED OF THE DUTY OF MAINTAINING THE PORTIONS SO UTILIZED OR PLACED INTO OPERATION; PROVIDED, HOWEVER, NOTHING IN THIS NOTE SHALL BE CONSTRUED AS RELIEVING THE CONTRACTOR OF THE FULL RESPONSIBILITY FOR COMPLETING THE WORK IN ITS ENTIRETY, FOR MAKING GOOD DEFECTIVE WORK AND MATERIALS, FOR PROTECTING THE WORK FROM DAMAGE, AND FOR BEING RESPONSIBLE FOR DAMAGE.
- CONDUCT OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC, AND HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAN CAN BE EXECUTED PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.

GENERAL NOTES (CONTINUED)

- UNTIL THE ACCEPTANCE OF THE WORK, THE RESPONSIBLE CHARGE AND CARE OF THE WORK AND OF THE MATERIALS TO BE USED THEREIN (INCLUDING MATERIALS FOR WHICH THE CONTRACTOR HAS RECEIVED PARTIAL PAYMENT OR MATERIALS WHICH HAVE BEEN FURNISHED BY THE DISTRICT) SHALL LIE WITH THE CONTRACTOR. THE CONTRACTOR SHALL BEAR THE RISK OF INJURY, LOSS, OR DAMAGE TO ANY PART THEREOF BY THE ACTION OF ELEMENTS OR FROM ANY OTHER CAUSE, WHETHER ARISING FROM THE EXECUTION OR FROM THE NON-EXECUTION OF THE WORK.
- THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS OF THE JOB SITE, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY DURING PERFORMANCE OF THE WORK; AND SHALL FULLY COMPLY WITH ALL STATE, FEDERAL, AND OTHER LAWS, RULES, REGULATIONS, AND ORDERS RELATING TO SAFETY OF WORKERS AND ALL OTHERS. THIS MAY INCLUDE THE ISSUANCE OF PERSONAL PROTECTIVE EQUIPMENT.
- TYPICAL DETAILS APPLY WHETHER OR NOT THEY ARE SPECIFICALLY REFERENCED ON INDIVIDUAL PLANS, DETAILS, OR SECTIONS.
- VERIFY DIMENSIONS AND CONDITIONS AT THE SITE BEFORE STARTING WORK. ANY CONFLICT BETWEEN DETAILS OR DIMENSIONS ON THE DRAWINGS SHALL BE REPORTED PROMPTLY TO THE DISTRICT'S REPRESENTATIVE WHO WILL DETERMINE THE INTENT OF THE DRAWINGS.
- THE CONTRACTOR SHALL MAINTAIN A COMPLETE SET OF CONTRACT DOCUMENTS, INCLUDING PLANS AND SPECIFICATIONS, AT THE JOB SITE WHILE ANY WORK IS BEING CONDUCTED.
- SANITARY SEWER MANHOLE RIMS SHALL BE INSTALLED APPROXIMATELY 6-INCHES ABOVE FINISHED GRADE IN UNIMPROVED AREAS.

ENVIRONMENTAL NOTES

- THIS PROJECT OCCURS WITHIN AN ENVIRONMENTALLY SENSITIVE AREA. THE CONTRACTOR SHALL EXERCISE DUE CAUTION TO PROTECT ENVIRONMENTAL RESOURCES.
- THE CONTRACTOR SHALL COMPLY WITH ALL REQUIREMENTS OF APPLICABLE PERMITS.
- ADDITIONAL ENVIRONMENTAL PROTECTION REQUIREMENTS, INCLUDING A MITIGATION MONITORING AND REPORTING PROGRAM (MMRP), ARE INCLUDED IN THE PROJECT SPECIFICATIONS.

ABBREVIATIONS

AB	AGGREGATE BASE	LF	LINEAR FEET
APPROX	APPROXIMATELY	MAX	MAXIMUM
AVE	AVENUE	MH	MANHOLE
BLVD	BOULEVARD	MJ	MECHANICAL JOINT
CCSD	CASTROVILLE COMMUNITY SERVICE DISTRICT	N	NORTH(ING)
		NO.	NUMBER
CL	CENTERLINE	IN.	MINIMUM
DISTRICT	CASTROVILLE COMMUNITY SERVICE DISTRICT	(N)	NEW
		NTS	NOT TO SCALE
D.I.	DUCTILE IRON	PVC	POLYVINYL CHLORIDE
(E)	EXISTING	RD	ROAD
E	EAST(ING), ELECTRICAL	R.O.W.	RIGHT-OF-WAY
ELEV	ELEVATION	S	SOUTH, SLOPE, SEWER
FLG	FLANGE	SCO	SEWER CLEANOUT
FT.	FOOT, FEET	SDR	STANDARD DIMENSION RATIO
FM	FORCE MAIN	SS	SANITARY SEWER
G	GAS	STA	STATION
HDPE	HIGH DENSITY POLYETHELENE	TYP	TYPICAL
INV	INVERT	VCP	VITRIFIED CLAY PIPE
LAT	LATERAL		

LEGEND

-----	PARCEL BOUNDARY
---G---	EXISTING GAS LINE
---E---	EXISTING BURIED ELECTRIC
---E---(OH)	EXISTING OVERHEAD POWER
---S---	EXISTING GRAVITY SANITARY SEWER MAIN/LATERAL
---FM---	EXISTING FORCE MAIN
⊙	EXISTING SANITARY SEWER MANHOLE
---S---	GRAVITY SANITARY SEWER MAIN
---FM---	FORCE MAIN
⊙	SANITARY SEWER MANHOLE
////	DEMOLISH
\\	ABANDON

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NICHOLAS E. PANOFSKY LEAD ENGINEER R.C.E. 75006 EXP. 12/31/2021	05/05/2022 DATE
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0 1/2 1 2 THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.
SCALE: AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

GENERAL NOTES, LEGEND, AND ABBREVIATIONS

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER G-2
SHEET NUMBER 2 OF 57

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 05/05/2022 09:01 AM by: Nicholas Panofsky

BASIS OF BEARINGS AND MEASUREMENTS

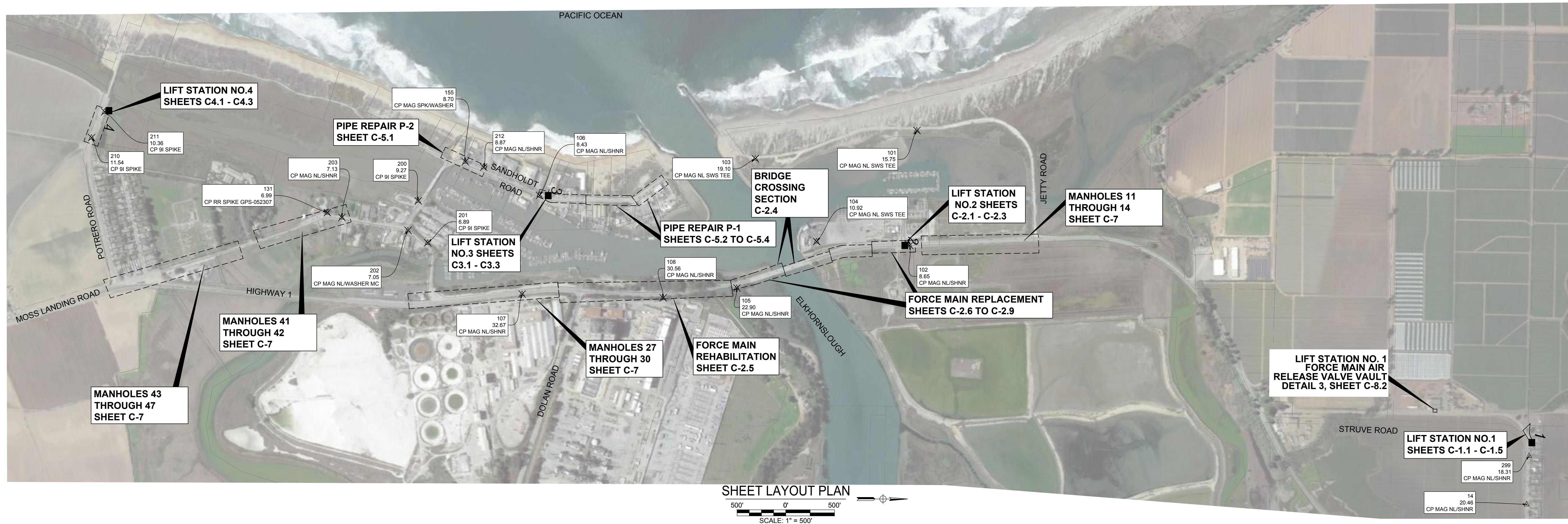
ALL DISTANCES, BEARINGS, AND COORDINATES ARE BASED ON ZONE 4 OF THE CALIFORNIA COORDINATE SYSTEM (CCS), NAD83 (2011), EPOCH 2017.50. THE HORIZONTAL ADJUSTMENT WAS PERFORMED BY UTILIZING 3 CONTINUOUS GLOBAL POSITIONING SYSTEM (CGPS) STATIONS TO ESTABLISH HORIZONTAL COORDINATE VALUES. THE VALUES FOR THESE CGPS STATIONS (P211, P212 & P787) WERE PROVIDED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC). THE MEASURED DISTANCES FOR THE PROJECT ARE GRID DISTANCES. GROUND DISTANCES CAN BE OBTAINED BY DIVIDING THE GRID DISTANCES USING THE COMBINATION FACTOR OF 0.99995054 CALCULATED USING THE PROJECT AVERAGE.

BASIS OF BEARINGS AND MEASUREMENTS

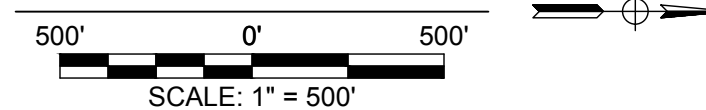
ELEVATIONS ARE BASED ON THE CGPS STATIONS (P211, P212 & P787) PROVIDED BY THE CALIFORNIA SPATIAL REFERENCE CENTER (CSRC) ON THE NAVD88 VERTICAL DATUM.

**LOCAL HORIZONTAL AND VERTICAL CONTROL MONUMENTS
(U.S. SURVEY FEET)**

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
14	2197365.69	5748976.41	20.45	CP MAG NL/SHNR
101	2191105.08	5745138.29	15.75	CP MAG NL/SWS TEE
102	2191030.40	5746317.58	8.65	CP MAG NL/SHNR
103	2190074.78	5745426.80	19.10	CP MAG NL SWS TEE
104	2190074.78	5746277.56	10.92	CP MAG NL SWS TEE
105	2189255.96	5746754.30	22.90	CP MAG NL/SHNR
106	2187229.07	5745803.59	8.43	CP MAG NL/SHNR
107	2187051.15	5746817.80	32.67	CP MAG NL/SHNR
108	2188498.93	5746855.84	30.56	CP MAG NL/SHNR
109	2188376.85	5745745.54	13.62	CP MAG NL/SHNR
110	2190600.71	5746310.28	10.62	CP MAG NL/SHNR
155	2186467.48	5745458.06	8.70	CP MAG SPK/WASHER
160	2197134.98	5748188.86	13.36	CP 60D WSKR
200	2185984.42	5745861.02	9.27	CP 9I SPIKE
201	2186081.74	5746290.81	6.89	CP 9I SPIKE
202	2185879.56	5746162.73	7.05	CP MAG NL/WASHER MC
203	2185200.45	5746030.57	7.13	CP MAG NL/SHNR
210	2182630.95	5745211.35	11.54	CP 9I SPIKE
211	2182765.17	5744945.87	10.36	CP 9I SPIKE
212	2186656.17	5745514.55	8.87	CP MAG NL/SHNR
299	2197391.45	5748479.53	18.32	CP MAG NL/SHNR

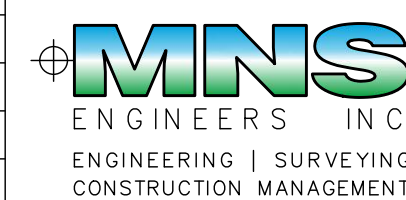


SHEET LAYOUT PLAN



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REV	DATE	BY	DESCRIPTION



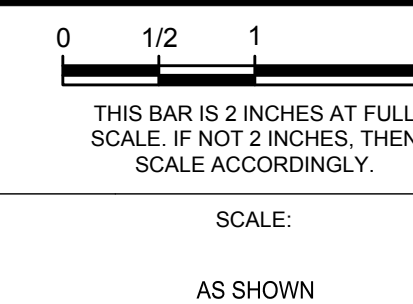
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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE



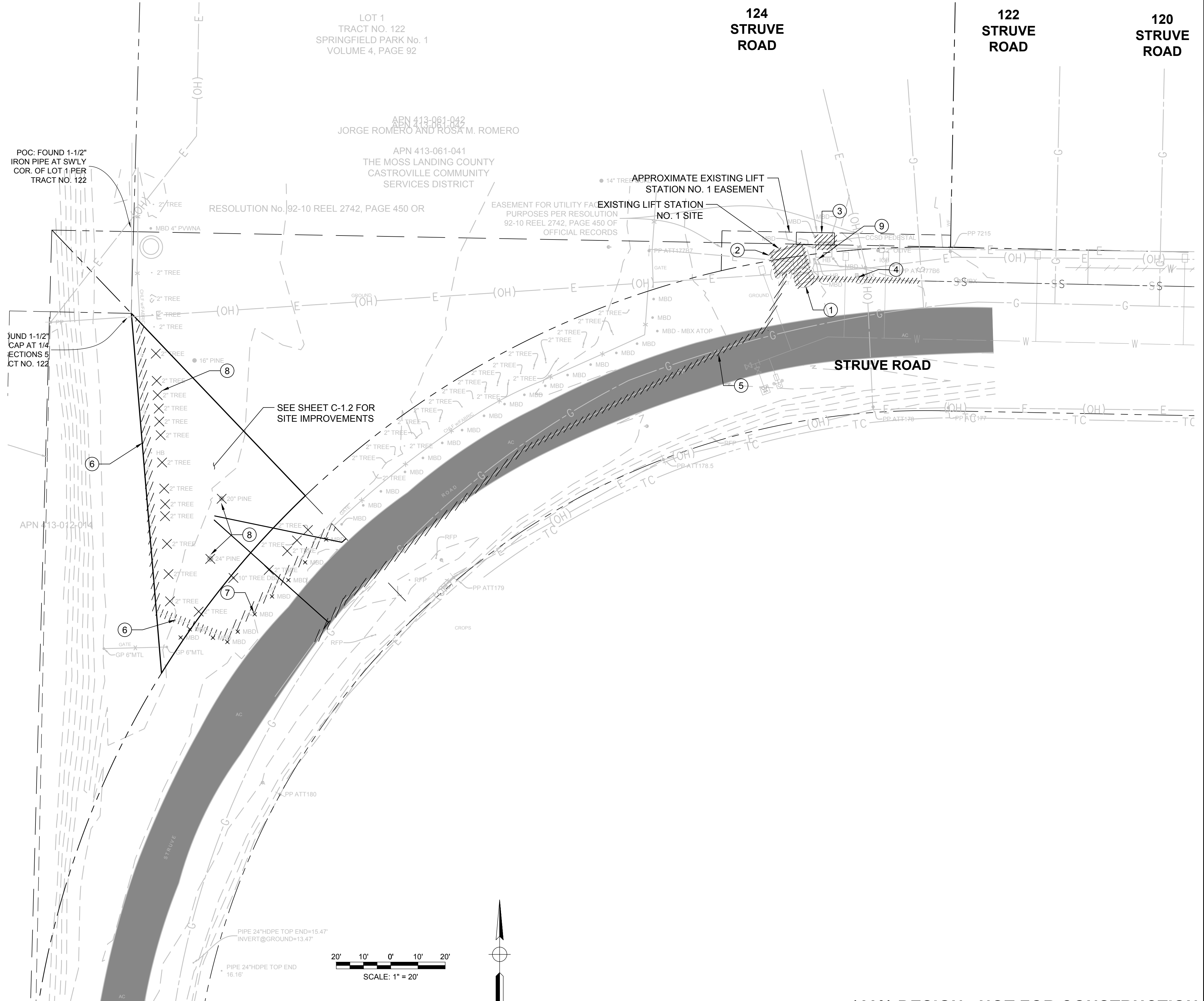
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

SHEET LAYOUT PLAN

PROJECT NUMBER: DICVL.200738.02
DRAWING NUMBER: G-3
SHEET NUMBER: 3 OF 57

DEMOLITION NOTES

- 1 REMOVE AND DISPOSE OF HATCHES, METAL, PIPING, VALVES, AND EQUIPMENT WITHIN THE LIFT STATION. CLEAN AND SALVAGE PUMPS AND RETURN TO THE DISTRICT. REMOVE AND DISPOSE OF WET WELL WALLS AND LID TO MIN 3' BELOW GRADE. BREAK LIFT STATION BASE AND/OR DRILL MIN FIFTEEN 2" DIAMETER HOLES TO ALLOW FOR GROUNDWATER MOVEMENT. COMPLETELY FILL LIFT STATION INTERIOR WITH PEA GRAVEL AND WRAP WITH MIRAFI 140N FILTER FABRIC OR APPROVED EQUAL. BACKFILL AND COMPACT ABOVE LIFT STATION TO MATCH EXISTING CONDITIONS.
- 2 REMOVE AND DISPOSE OF VALVE VAULT. REMOVE AND DISPOSE OF HATCHES, METAL, PIPING, VALVES, AND EQUIPMENT WITHIN THE VAULT. REMOVE AND DISPOSE OF WALLS AND LID TO MIN 3' BELOW GRADE. BREAK VAULT BASE AND/OR DRILL MIN FIFTEEN 2" DIAMETER HOLES TO ALLOW FOR GROUNDWATER MOVEMENT. COMPLETELY FILL VAULT INTERIOR WITH PEA GRAVEL AND WRAP WITH MIRAFI 140N FILTER FABRIC OR APPROVED EQUAL. BACKFILL AND COMPACT ABOVE VAULT TO MATCH EXISTING CONDITIONS.
- 3 REMOVE AND DISPOSE OF EXISTING ELECTRICAL CONTROL PANEL AND ALL ELECTRICAL EQUIPMENT. DEMOLISH AND REMOVE BOLLARDS AND CONCRETE SLAB. BACKFILL AND COMPACT VOIDS TO MATCH EXISTING CONDITIONS.
- 4 ABANDON EXISTING 8" VCP SEWER MAIN TO APPROXIMATE LIMITS SHOWN.
- 5 ABANDON EXISTING 4" DI FORCE MAIN TO APPROXIMATE LIMITS SHOWN.
- 6 REMOVE AND DISPOSE OF EXISTING FENCE.
- 7 REMOVE AND DISPOSE OF EXISTING BOLLARDS.
- 8 REMOVE AND DISPOSE OF EXISTING TREES.
- 9 REMOVE AND DISPOSE OF EXISTING HOSE BIB AND ASSOCIATED WATER SERVICE. EXCAVATE TO WATER MAIN AND CLOSE CORPORATION STOP. COORDINATE WORK WITH THE PAJARO SUNNY MESA COMMUNITY SERVICES DISTRICT.



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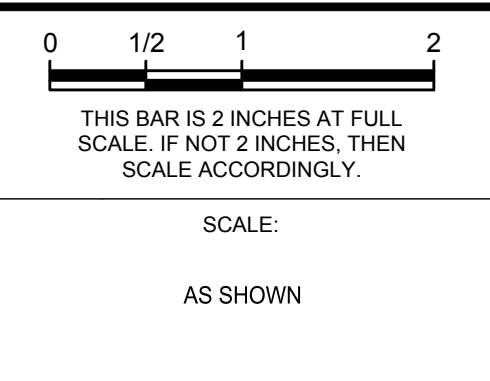


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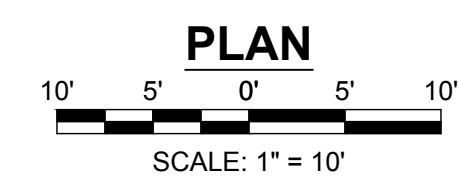
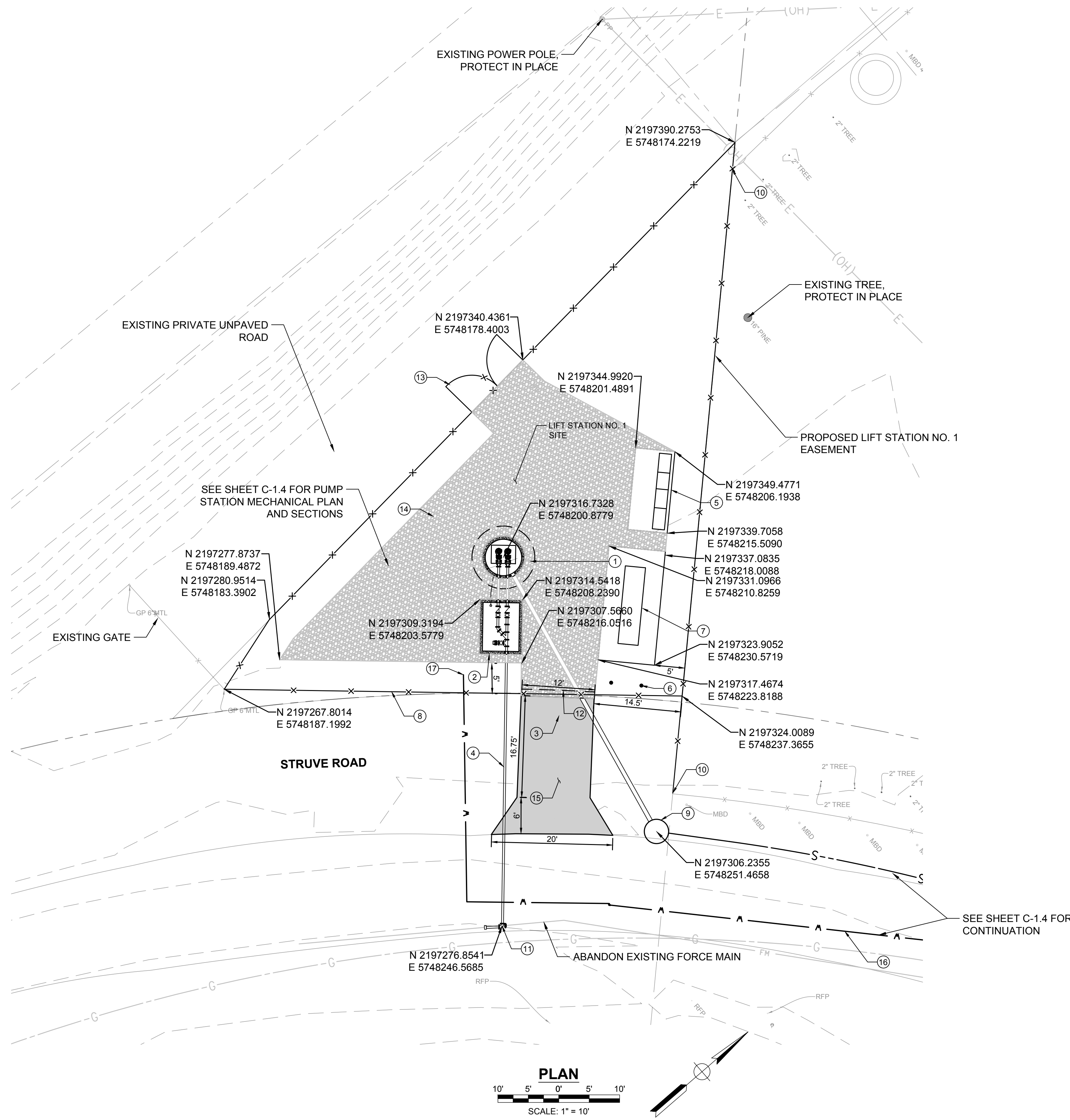
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 DEMOLITION PLAN

PROJECT NUMBER: **DICVL.200738.02**
DRAWING NUMBER: **C-1.1**
SHEET NUMBER: **4** OF **57**



CONSTRUCTION NOTES

- ① CONSTRUCT 6' Ø POLYMER CONCRETE WET WELL PER DETAIL 1 SHEET C-6.1.
- ② CONSTRUCT PRECAST CONCRETE VALVE VAULT.
- ③ CONSTRUCT 8" PVC SEWER MAIN.
- ④ CONSTRUCT 4" DI FORCE MAIN.
- ⑤ ELECTRICAL PANEL PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ⑥ INSTALL 6" BOLLARDS PER DETAIL 5, SEE SHEET C-8.1.
- ⑦ INSTALL BACKUP GENERATOR PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ⑧ INSTALL 8' HIGH SITE SECURITY FENCE WITH SLIDING ACCESS GATE.
- ⑨ INSTALL NEW 48"Ø CONCRETE MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-1.
- ⑩ MODIFY EXISTING FENCE. INSTALL NEW FENCE POST AND CONNECT EXISTING FENCE TO NEW FENCE. MATCH EXISTING FENCE FOR CONNECTING SEGMENT.
- ⑪ CONNECT TO EXISTING FM PER DETAIL 2, SEE SHEET C-8.2.
- ⑫ INSTALL 12' WIDE SLIDING GATE PER DETAIL 1, SEE SHEET C-8.1.
- ⑬ INSTALL 12' WIDE DOUBLE LEAF SWING GATE PER DETAIL 2, SEE SHEET C-8.1.
- ⑭ CLASS II AB GRAVEL SURFACE PER DETAIL 7 SHEET C-8.1. GRADE SITE PER SHEET C-1.3.
- ⑮ PAVED ASPHALT DRIVEWAY PER DETAIL 4, SHEET C-8.1.
- ⑯ INSTALL 1" WATER SERVICE LATERAL, 1" METER AND METER BOX PER PAJARO SUNNY MESA COMMUNITY SERVICES DISTRICT STANDARD PLAN NO. 3-02.03.
- ⑰ INSTALL 1" HOSE BIB, HOSE RACK, AND HOSE.

SEE SHEET C-1.4 FOR CONTINUATION

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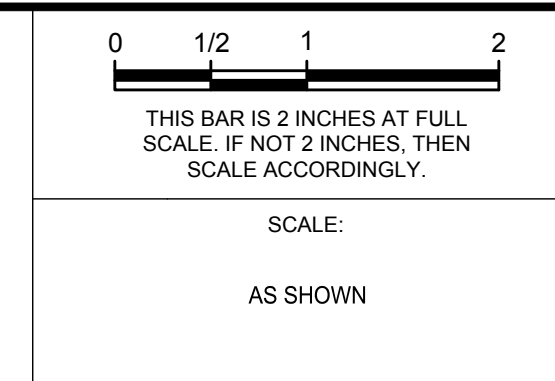
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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

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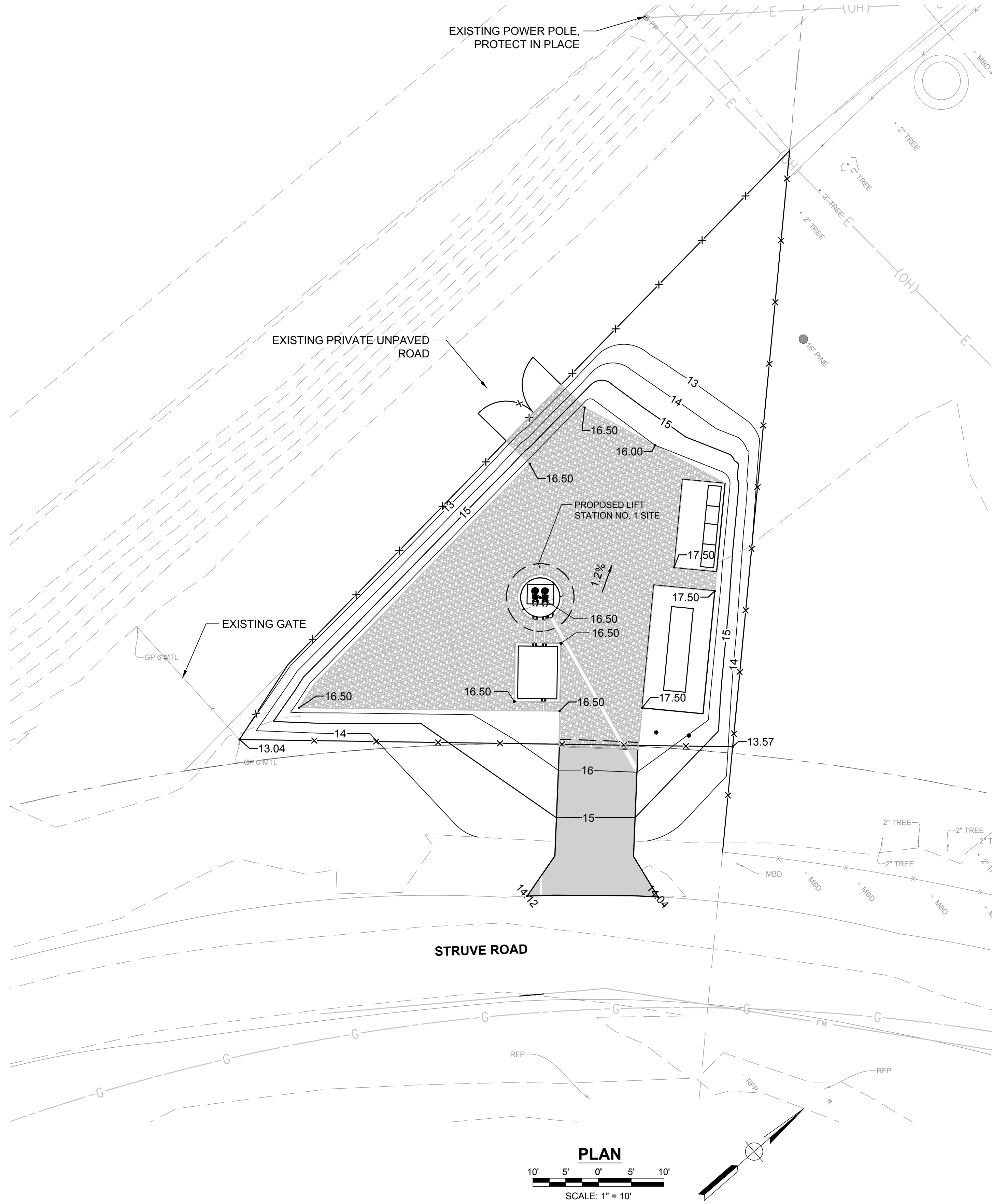


MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 SITE IMPROVEMENT PLAN

PROJECT NUMBER: DICVL.200738.02
DRAWING NUMBER: C-1.2
SHEET NUMBER: 5 OF 57

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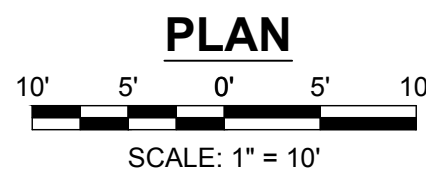
GENERAL SITE GRADING NOTES

1. ALL GRADING, EROSION CONTROL, SITE PREPARATION, AND PLACING AND COMPACTION OF FILL SHALL BE DONE IN ACCORDANCE WITH CHAPTER 16.08 OF THE MONTEREY COUNTY MUNICIPAL CODE AND GEOTECHNICAL REPORT WRITTEN BY YEH AND ASSOCIATES, INC. DATED AUGUST 19, 2022.
2. CONTRACTOR SHALL NOTIFY THE ENGINEER AND THE OWNER AT LEAST TWO WORKING DAYS PRIOR TO THE START OF WORK.
3. ANY DEVIATION FROM THE APPROVED PLAN REQUIRES WRITTEN APPROVAL OF THE ENGINEER PRIOR TO MAKING ANY CHANGES IN THE FIELD.
4. THE CONTRACTOR IS RESPONSIBLE FOR MATCHING EXISTING STREETS, SURROUNDING LANDSCAPING, AND OTHER IMPROVEMENTS WITH A SMOOTH TRANSITION IN PAVING, GRADING, ETC. AND FOR AVOIDING THE CREATION OF ANY LOW SPOTS OR HAZARDOUS CONDITIONS OR ABRUPT OR APPARENT CHANGES IN APPEARANCE, GRADES, OR GROSS SLOPES.
5. ALL EARTHWORK SHALL BE CONSTRUCTED PER THE GRADING SPECIFICATIONS. ALL FILL MATERIAL SHALL BE COMPACTED TO A MINIMUM OF 90% OF RELATIVE COMPACTION, AS DETERMINED BY ASTM D1557, MODIFIED PROCTOR, EXCEPT PAVEMENT SUBGRADE AND STRUCTURAL FILL, WHICH SHALL BE COMPACTED TO 95% OF RELATIVE COMPACTION. LIFTS SHALL NOT EXCEED 8 INCHES IN DEPTH, UNLESS OTHERWISE SPECIFIED BY THE ENGINEER.
6. CLEAR SURFACE VEGETATION AND STRIP TOPSOIL TO BOTTOM OF ROOT ZONE WITHIN GRADING AREAS.
7. STRUCTURAL FILL AREAS SHALL BE SCARIFIED TO A DEPTH OF 18 INCHES, MOISTURE CONDITIONED AND COMPACTED.
8. ALL SURPLUS AND UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE SITE AND SHALL BE DISPOSED OF IN A LAWFUL MANNER.
9. CONTRACTOR SHALL NEITHER WASTE NOR DEPOSIT ANY HAZARDOUS MATERIALS ON THE GRADING SURFACES OR WITHIN THE GRADED CUT AND FILL AREAS OF THIS PROJECT. HAZARDOUS MATERIAL SPILLS THAT OCCUR AS A RESULT EQUIPMENT FAILURES SHALL BE EXCAVATED AND PACKAGED FOR DISPOSAL AT AN ENVIRONMENTALLY APPROVED DISPOSAL SITE.
10. IRRIGATION MAY BE EXISTING ON THE PROJECT FOOTPRINT THAT IS NOT SHOWN. LOCATE EXISTING IRRIGATION AND DEMOLISH AND RELOCATE TO MAINTAIN FUNCTIONALITY.

EARTHWORK VOLUMES

TYPE	VOLUME (CU. YD.)
OVER-EXCAVATION	19.3
RECOMPACTION	0
IMPORT MATERIAL	252.8

STRUVE ROAD



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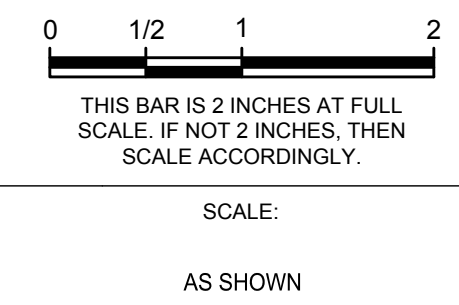
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 R.C.E. 75006 EXP. 12/31/2021

05/05/2022
 DATE

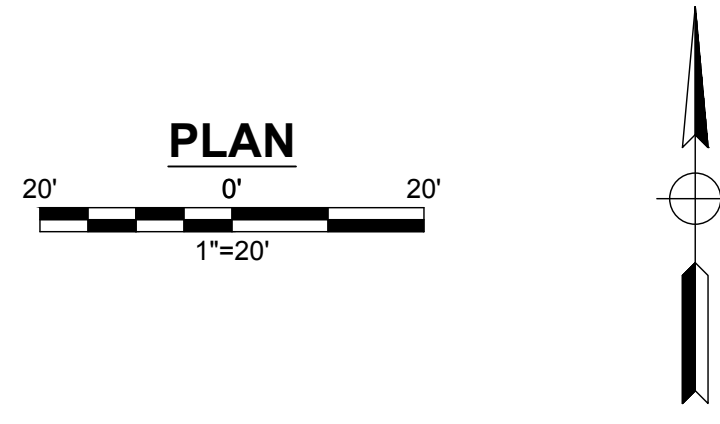
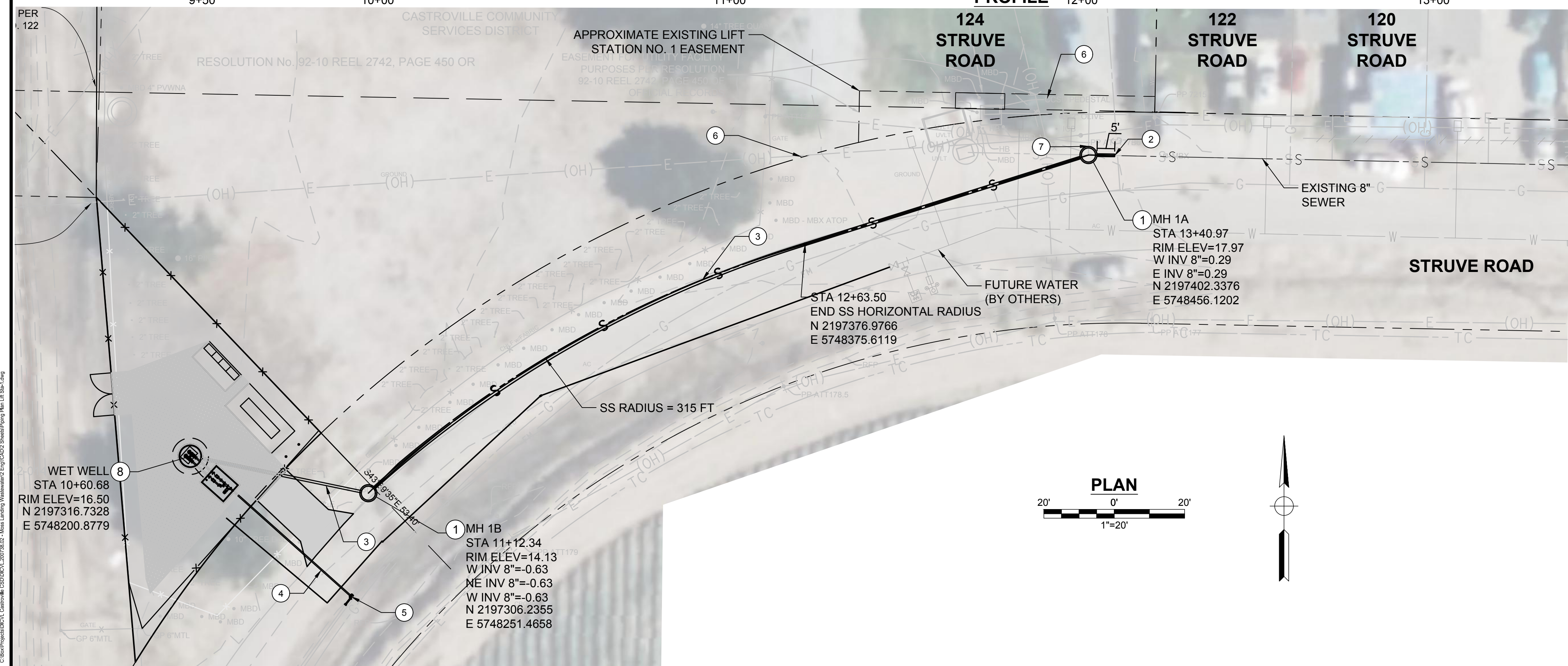
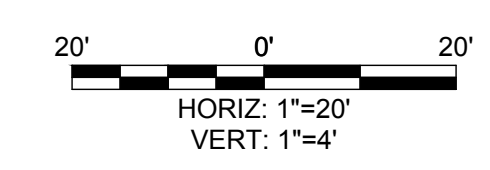
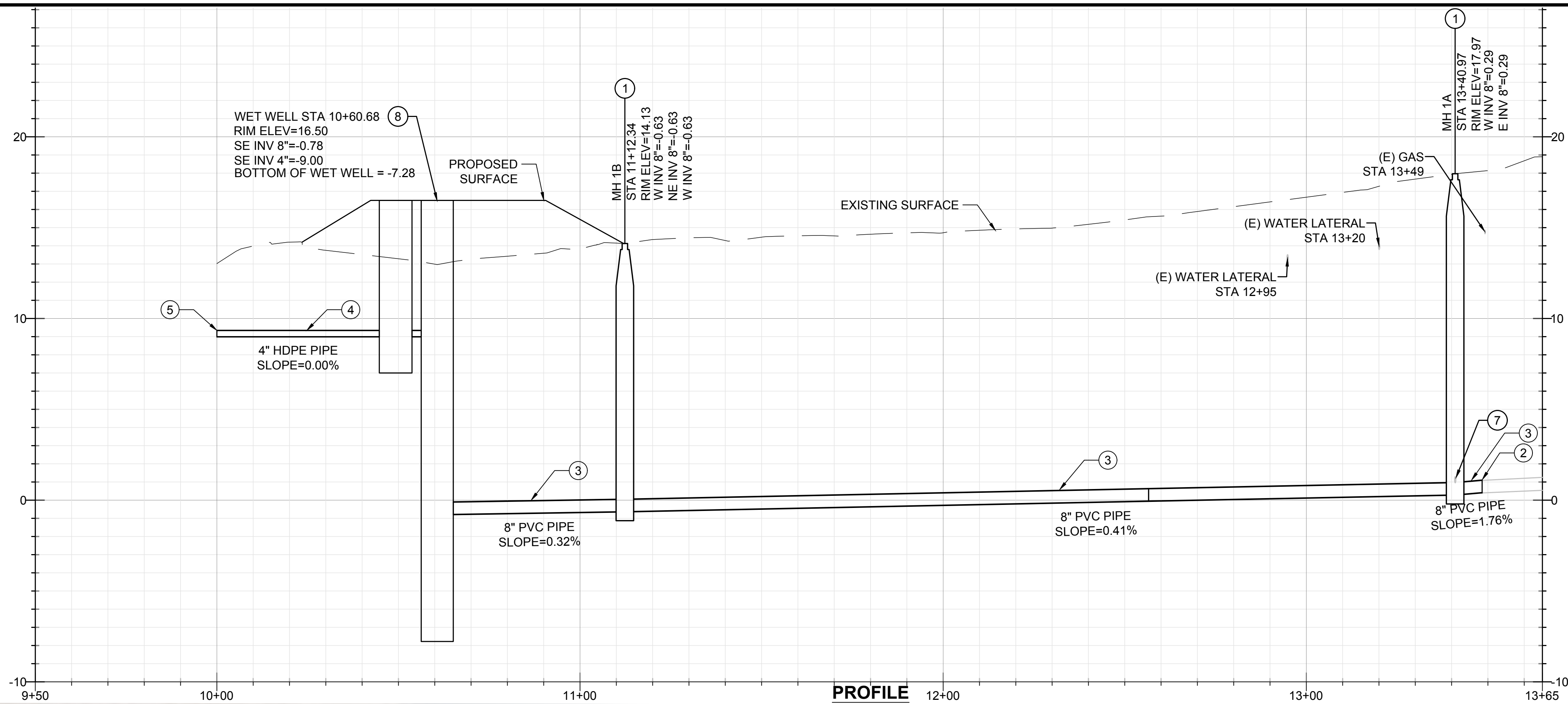


MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 SITE GRADING PLAN

PROJECT NUMBER: DICVL.200738.02
 DRAWING NUMBER: C-1.3
 SHEET NUMBER: 6 OF 57

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CONSTRUCTION NOTES

- ① INSTALL 48" DIAMETER CONCRETE MANHOLE PER PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-1.
- ② INSTALL 5' OF 8" PVC SEWER MAIN AND CONNECT SEWER TO MH 1A.
- ③ INSTALL 8" PVC SANITARY SEWER MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ④ INSTALL 4" HDPE SEWER FORCE MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ⑤ CONNECT TO EXISTING SEWER FORCE MAIN, PER DETAIL 2, SHEET C-8.2.
- ⑥ MAINTAIN ACCESS TO PRIVATE DRIVEWAY THROUGHOUT CONSTRUCTION.
- ⑦ RECONNECT EXISTING 4" SEWER LATERAL TO MANHOLE.
- ⑧ SEE SHEETS C-1.2 AND C-1.5 FOR WET WELL LOCATION AND DETAILS.

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 LEAD ENGINEER
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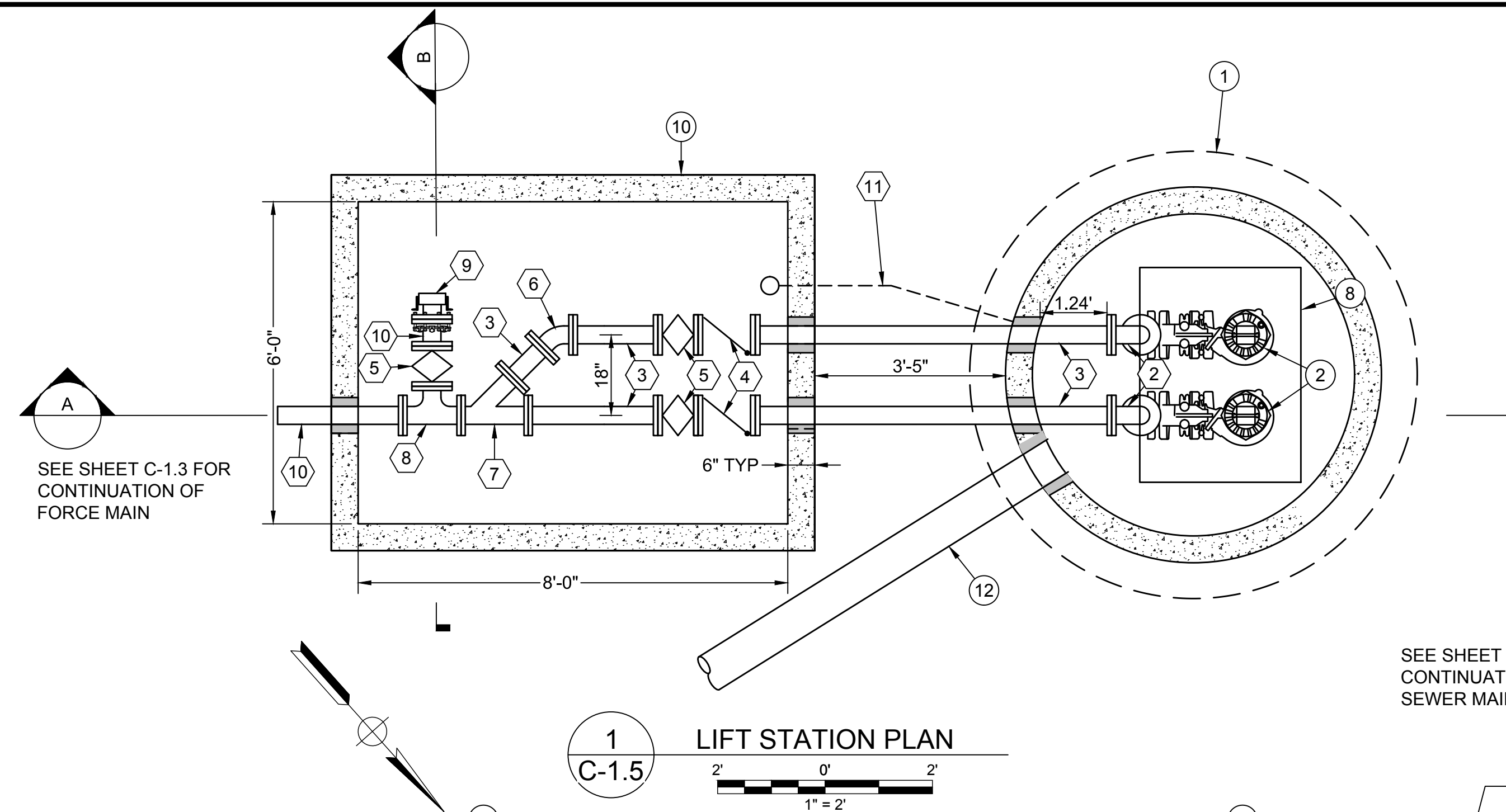
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 SITE PIPING PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-1.4

SHEET NUMBER
7 OF 57



PIPING MATERIALS LIST

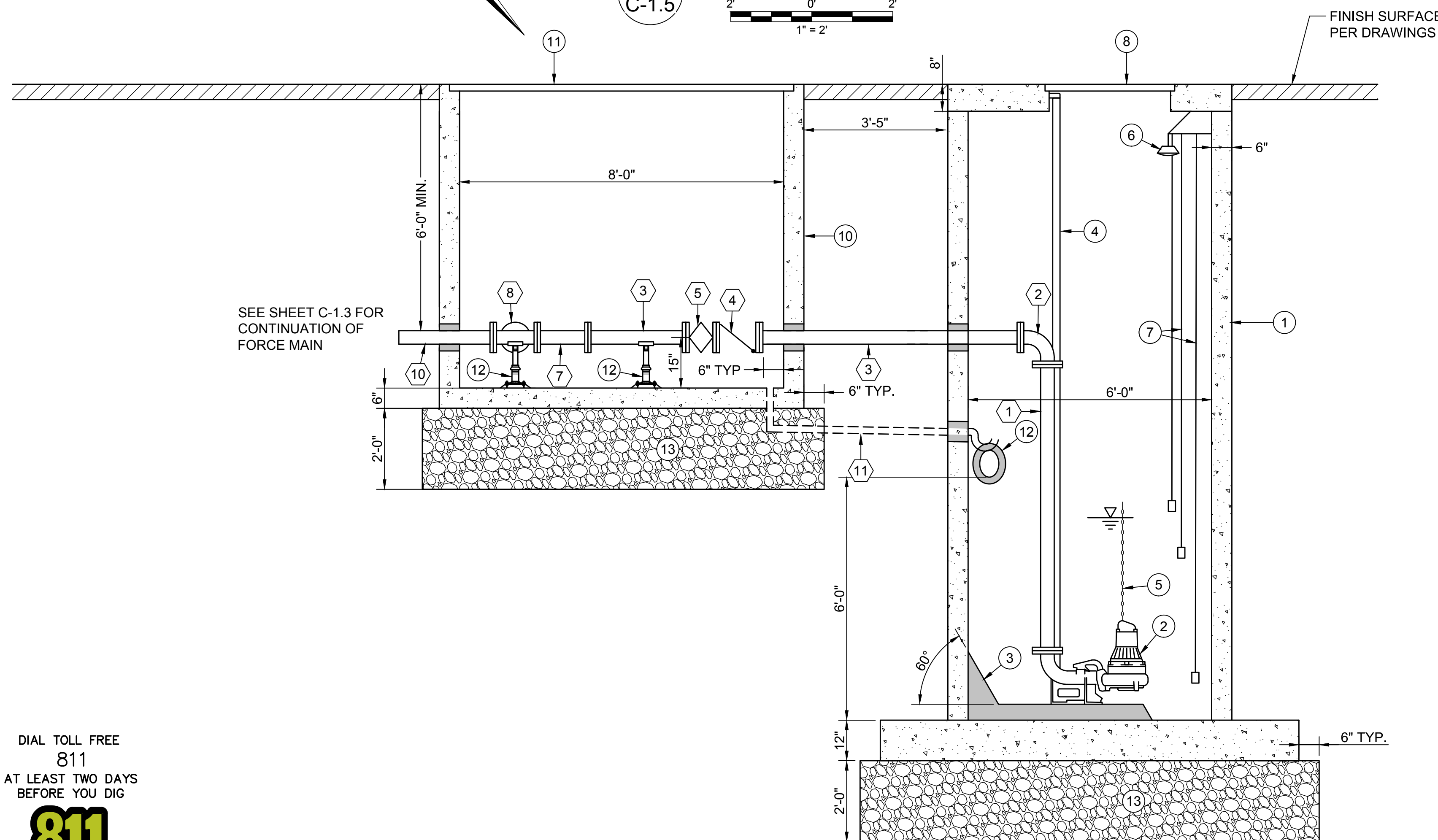
- ① 4" D.I. RISER (FLG)
- ② 4" 90-DEGREE D.I. ELBOW (FLG)
- ③ 4" D.I. SPOOL (FLG)
- ④ 4" CHECK VALVE (FLG)
- ⑤ 4" PLUG VALVE (FLG)
- ⑥ 4" 45-DEGREE D.I. ELBOW (FLG)
- ⑦ 4" D.I. WYE (FLG)
- ⑧ 4" D.I. TEE (FLG)
- ⑨ 4" CAM-LOCK CONNECTION (FLG) AND CAP
- ⑩ 4" D.I. SPOOL (FLG X PE) WITH RESTRAINED FLANGE ADAPTER
- ⑪ 2" PVC SCH 80 DRAIN WITH P TRAP

LIFT STATION MATERIALS LIST

- ① WET WELL, POLYMER CONCRETE, 6' INTERIOR DIAMETER
- ② SUBMERSIBLE PUMP, FLYGT MODEL NP 3153 SH 3 - 275, OR APPROVED EQUAL
- ③ SUMP LINER, FLYGT TOP 100, OR APPROVED EQUAL
- ④ PUMP RAIL, 2" 316 SS TUBING
- ⑤ LIFTING CHAIN, 316 SS
- ⑥ LEVEL SENSOR, SIEMENS XPS 15 ULTRASONIC LEVEL TRANSDUCER, OR APPROVED EQUAL
- ⑦ ALARM FLOAT AND BACKUP CONTROL PUMP, FLYGT ENM-10, OR APPROVED EQUAL
- ⑧ H-20 TRAFFIC RATED 316 STAINLESS STEEL HATCH WITH LOCK AND SAFE-HATCH GRATE, 3' X 4'
- ⑨ PRECAST CONCRETE VALVE VAULT, 6' X 8' X 7'
- ⑩ H-20 TRAFFIC RATED DOUBLE-LEAF ALUMINUM HATCH, 6' X 8'
- ⑪ SADDLE PIPE SUPPORT PER DETAIL 4, DRAWING C-8.2
- ⑫ 8" PVC SDR 26 SANITARY SEWER MAIN SEE SHEET C-1.3 FOR CONTINUATION. FILL WITH ANNULAR SPACE WITH NON-SHRINK GROUT
- ⑬ CLASS 2 AGGREGATE BASE, COMPACTED TO 95% RELATIVE COMPACTION

1
C-1.5
LIFT STATION PLAN
1" = 2"

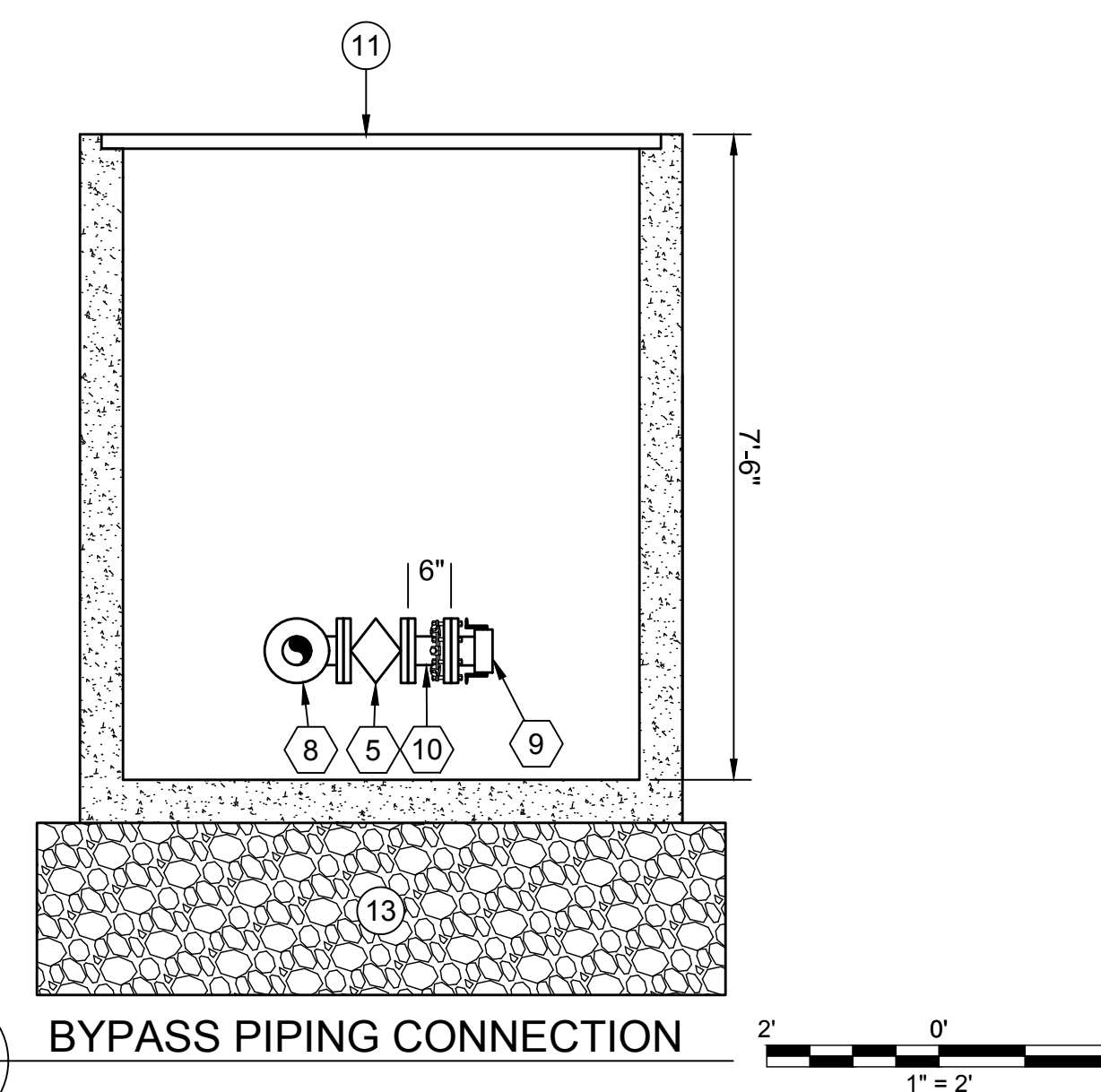
SEE SHEET C-1.3 FOR CONTINUATION OF SEWER MAIN



SEE SHEET C-1.3 FOR CONTINUATION OF FORCE MAIN

FINISH SURFACE PER DRAWINGS

A
-
LIFT STATION SECTION
1" = 4"



B
-
BYPASS PIPING CONNECTION
1" = 2"

LIFT STATION ELEVATIONS	
DESCRIPTION	VALUE (FT)
RIM ELEV	16.50
PROPOSED GRADE	16.50
WET WELL FLOOR ELEV	(-7.28)
TOTAL MANHOLE DEPTH	23.78
INVERT IN	(-0.78)
BOTTOM OF WET WELL	(-7.28)
HIGH WATER ALARM	(-2.78)
LAG PUMP ON	(-3.78)
LEAD PUMP ON	(-4.78)
LAG PUMP OFF	(-6.78)
LEAD PUMP OFF	(-6.78)

SYSTEM CHARACTERISTICS	
DESCRIPTION	VALUE
DESIGN FLOW	150 GPM
STATIC HEAD	30.33 FT
TOTAL DYNAMIC HEAD	157 FT
FORCE MAIN LENGTH	6511 LF
MOTOR SIZE	3 HP

DIAL TOLL FREE
811
AT LEAST TWO DAYS
BEFORE YOU DIG

Know what's below.
Call before you dig.

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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021



0 1/2 1 2
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SCALE:
AS SHOWN

**MOSS LANDING WASTEWATER
SYSTEM REHABILITATION PROJECT**
CASTROVILLE COMMUNITY SERVICE DISTRICT

**LIFT STATION 1
MECHANICAL PLAN AND SECTIONS**

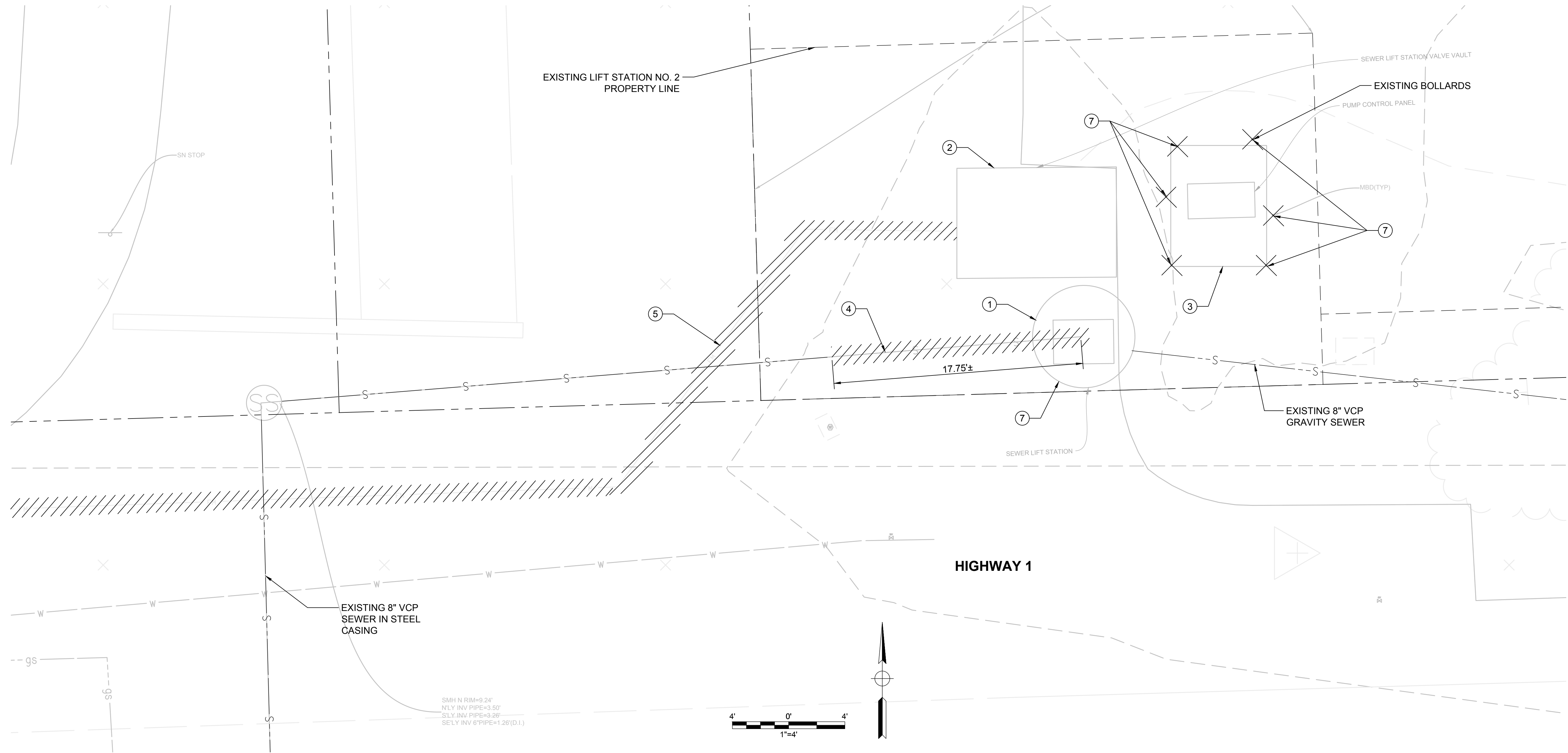
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-1.5

SHEET NUMBER
8 OF **57**

DEMOLITION NOTES

- ① REMOVE AND SALVAGE SUBMERSIBLE PUMPS IN WET WELL. REMOVE AND DISPOSE OF HATCHES AND EQUIPMENT WITHIN THE WET WELL. DEMOLISH, REMOVE AND DISPOSE OF TOP OF WET WELL. REPLACE TOP WITH PRE-CAST CONCRETE TOP WITH HATCH CAST IN.
- ② REMOVE AND DISPOSE OF HATCHES AND EQUIPMENT WITH THE VALVE VAULT. DEMOLISH, REMOVE, AND DISPOSE OF TOP OF VAULT. REPLACE TOP WITH PRE-CAST CONCRETE TOP WITH HATCH CAST IN.
- ③ REMOVE AND DISPOSE OF EXISTING ELECTRICAL CONTROL PANEL AND ALL ELECTRICAL EQUIPMENT. DEMOLISH AND REMOVE EXISTING CONCRETE SLAB. BACKFILL AND COMPACT VOIDS TO MATCH EXISTING CONDITIONS.
- ④ DEMOLISH AND REMOVE EXISTING 8" VCP SEWER MAIN TO APPROXIMATE LIMITS SHOWN.
- ⑤ DEMOLISH AND REMOVE EXISTING 4" DI FORCE MAIN SEE SHEET C-2.9.
- ⑥ DEMOLISH AND REMOVE EXISTING BOLLARDS.
- ⑦ BYPASS LIFT STATION DURING DEMOLITION AND CONSTRUCTION PER SPECIFICATIONS



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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

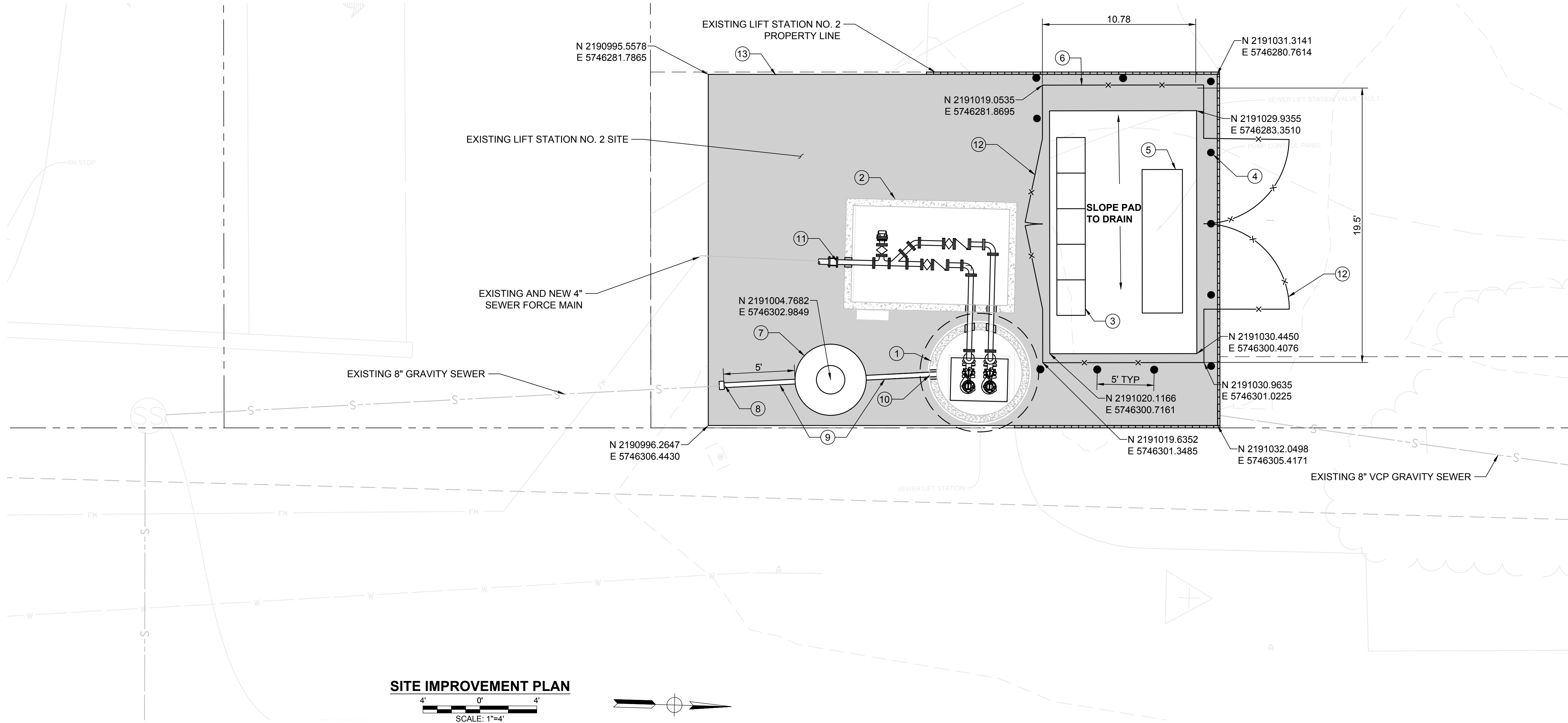
**LIFT STATION 2
DEMOLITION PLAN**

PROJECT NUMBER
DICVL.200738.02
DRAWING NUMBER
C-2.1
SHEET NUMBER
9 OF 57

11/23/2021 10:10 AM by: Jeremy Nelson
 C:\bbs\project\2021\Castroville\020738.02\MOSS Landing Wastewater\ES\020738.dwg

CONSTRUCTION NOTES

- ① LINE AND REHABILITATE CONCRETE WET WELL PER SPECIFICATIONS.
- ② REHABILITATE CONCRETE VALVE VAULT PER SPECIFICATIONS.
- ③ ELECTRICAL PANEL PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ④ INSTALL 6" REMOVABLE BOLLARDS, PER DETAIL 6, SEE SHEET C-8.1.
- ⑤ INSTALL BACKUP GENERATOR PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ⑥ INSTALL 8' HIGH SITE SECURITY FENCE WITH SWING ACCESS GATES.
- ⑦ INSTALL 48"Ø POLYMER CONCRETE MANHOLE WITH THE BASE SET 2' BELOW INLET INVERT. DO NOT PROVIDE CHANNELING.
- ⑧ INSTALL 5' OF 8" PVC SEWER MAIN AND CONNECT SEWER TO NEW MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-2.
- ⑨ CONSTRUCT 8" PVC SEWER MAIN.
- ⑩ RECONNECT 8" PVC SEWER MAIN TO EXISTING CONCRETE WET WELL.
- ⑪ DEMOLISH AND REMOVE EXISTING 4" FORCE MAIN AND INSTALL 4" HDPE SEWER FORCE MAIN. SEE SHEET C-2.8 FOR CONTINUATION.
- ⑫ 12' WIDE DOUBLE SWING GATE PER DETAIL 2, SHEET C-8.1.
- ⑬ PAVE AND REPAVE SURFACE TO LIMITS SHOWN PER DETAIL 4, SHEET C-8.1.



SITE IMPROVEMENT PLAN

SCALE: 1"=4'

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REV	DATE	BY	DESCRIPTION



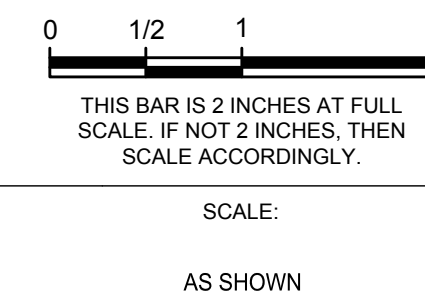
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05/05/2022
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

PROJECT NUMBER
DICVL.200738.02
DRAWING NUMBER
C-2.2
SHEET NUMBER
10 OF **57**

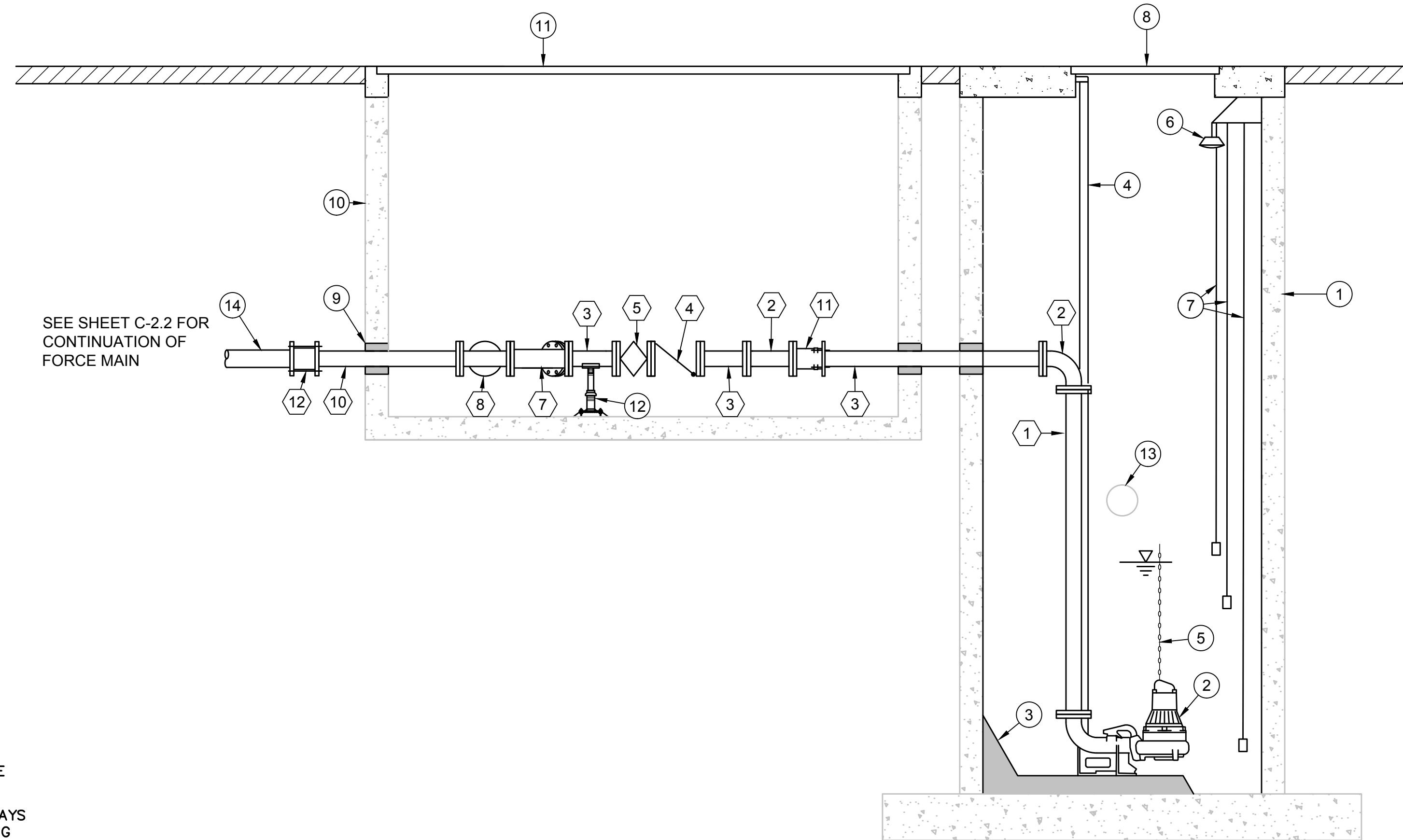
**LIFT STATION 2
SITE IMPROVEMENT PLAN**

PIPING MATERIALS LIST

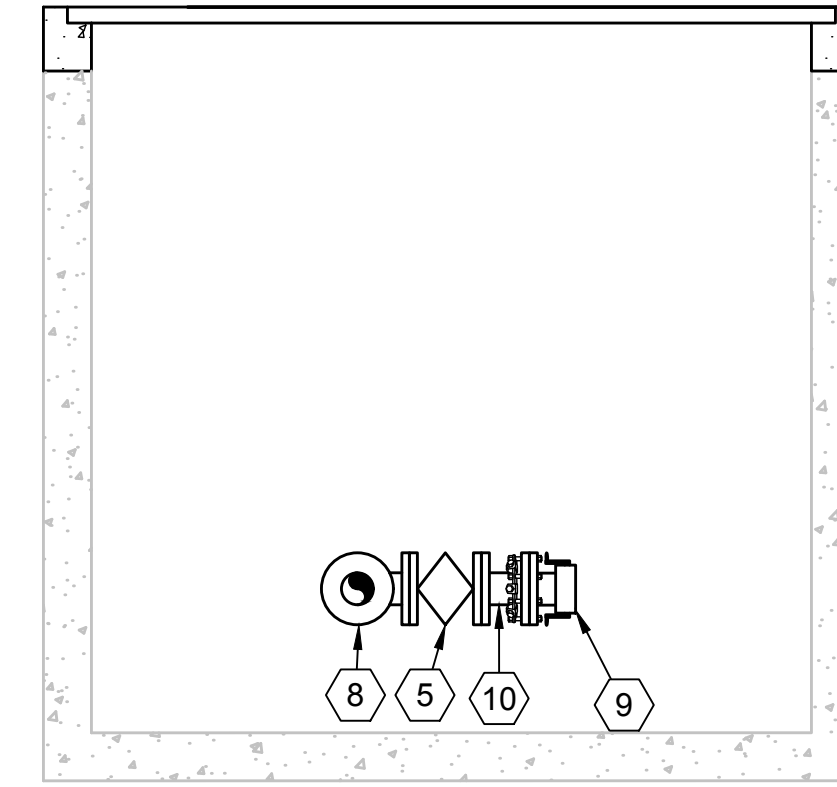
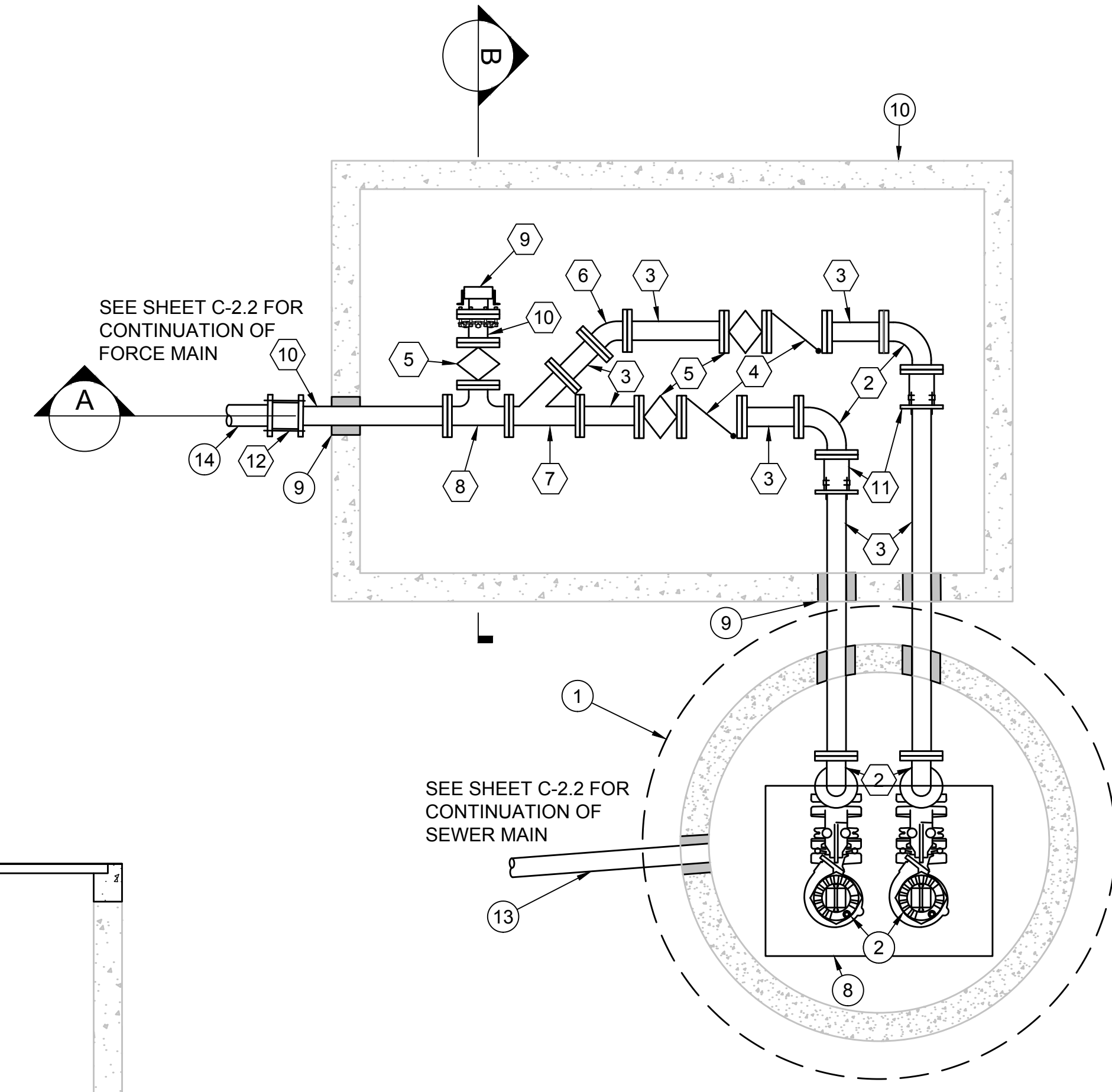
- ① 4" D.I. RISER (FLG)
- ② 4" 90-DEGREE D.I. ELBOW (FLG)
- ③ 4" D.I. SPOOL (FLG)
- ④ 4" CHECK VALVE (FLG)
- ⑤ 4" PLUG VALVE (FLG)
- ⑥ 4" 45-DEGREE D.I. ELBOW (FLG)
- ⑦ 4" D.I. WYE (FLG)
- ⑧ 4" D.I. TEE (FLG)
- ⑨ 4" CAM-LOCK CONNECTION (FLG) AND CAP
- ⑩ 4" D.I. SPOOL (FLG X PE)
- ⑪ 4" RESTRAINED FLANGE COUPLING ADAPTER
- ⑫ 4" D.I. X HDPE RESTRAINED ADAPTER

LIFT STATION MATERIALS LIST

- ① REMOVE EXISTING LINER AND RELINE AND REHABILITATE EXISTING WET WELL PER SPECIFICATIONS. REMOVE AND REPLACE TOP SLAB AND HATCH
- ② SUBMERSIBLE PUMP, FLYGT MODEL NP 3127 SH 3 - ADAPTIVE 248, OR APPROVED EQUAL
- ③ SUMP LINER, FLYGT TOP 100, OR APPROVED EQUAL
- ④ PUMP RAIL, 2" 316 SS TUBING
- ⑤ LIFTING CHAIN, 316 SS
- ⑥ LEVEL SENSOR, SIEMENS XPS 15 ULTRASONIC LEVEL TRANSDUCER, OR APPROVED EQUAL
- ⑦ ALARM FLOAT, FLYGT ENM-10, OR APPROVED EQUAL
- ⑧ H-20 TRAFFIC RATED 316 STAINLESS STEEL HATCH WITH LOCK AND SAFE-HATCH GRATE, 3' X 4'
- ⑨ FILL ANNULAR SPACE WITH NON-SHRINK GROUT
- ⑩ REHABILITATE EXISTING CONCRETE VALVE VAULT PER SPECIFICATIONS. REMOVE AND REPLACE TOP SLAB AND HATCH.
- ⑪ H-20 TRAFFIC RATED DOUBLE-LEAF ALUMINUM HATCH
- ⑫ SADDLE PIPE SUPPORT PER DETAIL 4, DRAWING C-8.2
- ⑬ 8" VCP GRAVITY SANITARY SEWER MAIN
- ⑭ 4" HDPE FORCE MAIN



A LIFT STATION SECTION
 - 1" = 2'



B BYPASS PIPING CONNECTION
 - 1" = 2'

1 LIFT STATION PLAN
 C-2.3 1" = 2'

LIFT STATION ELEVATIONS	
DESCRIPTION	VALUE (FT)
RIM ELEV	8.83
EXISTING GRADE	8.83
PROPOSED GRADE	8.83
WET WELL FLOOR ELEV	(-)12.27
TOTAL MANHOLE DEPTH	21.10
INVERT 1 IN	(-)6.04
INVERT 2 IN	(-)8.80
HIGH WATER ALARM	(-)8.80
LAG PUMP ON	(-)9.30
LEAD PUMP ON	(-)9.80
LAG PUMP OFF	(-)11.80
LEAD PUMP OFF	(-)11.80

SYSTEM CHARACTERISTICS	
DESCRIPTION	VALUE
DESIGN FLOW	150 GPM
STATIC HEAD	14.0 FT
TOTAL DYNAMIC HEAD	115 FT
FORCE MAIN LENGTH	1,084 LF
MOTOR SIZE	3 HP

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 LEAD ENGINEER
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 CASTROVILLE COMMUNITY SERVICE DISTRICT

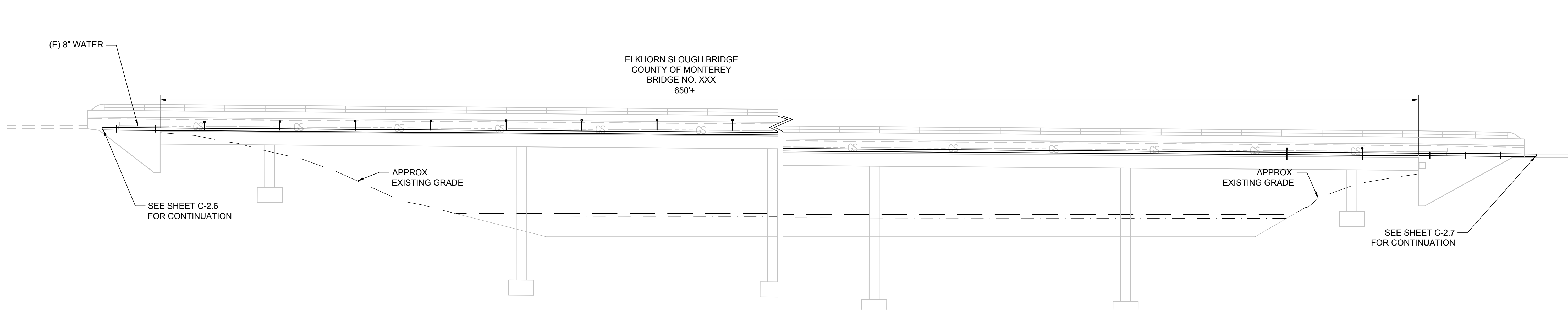
LIFT STATION 2 MECHANICAL PLAN AND SECTIONS

PROJECT NUMBER
DICVL.200738.02

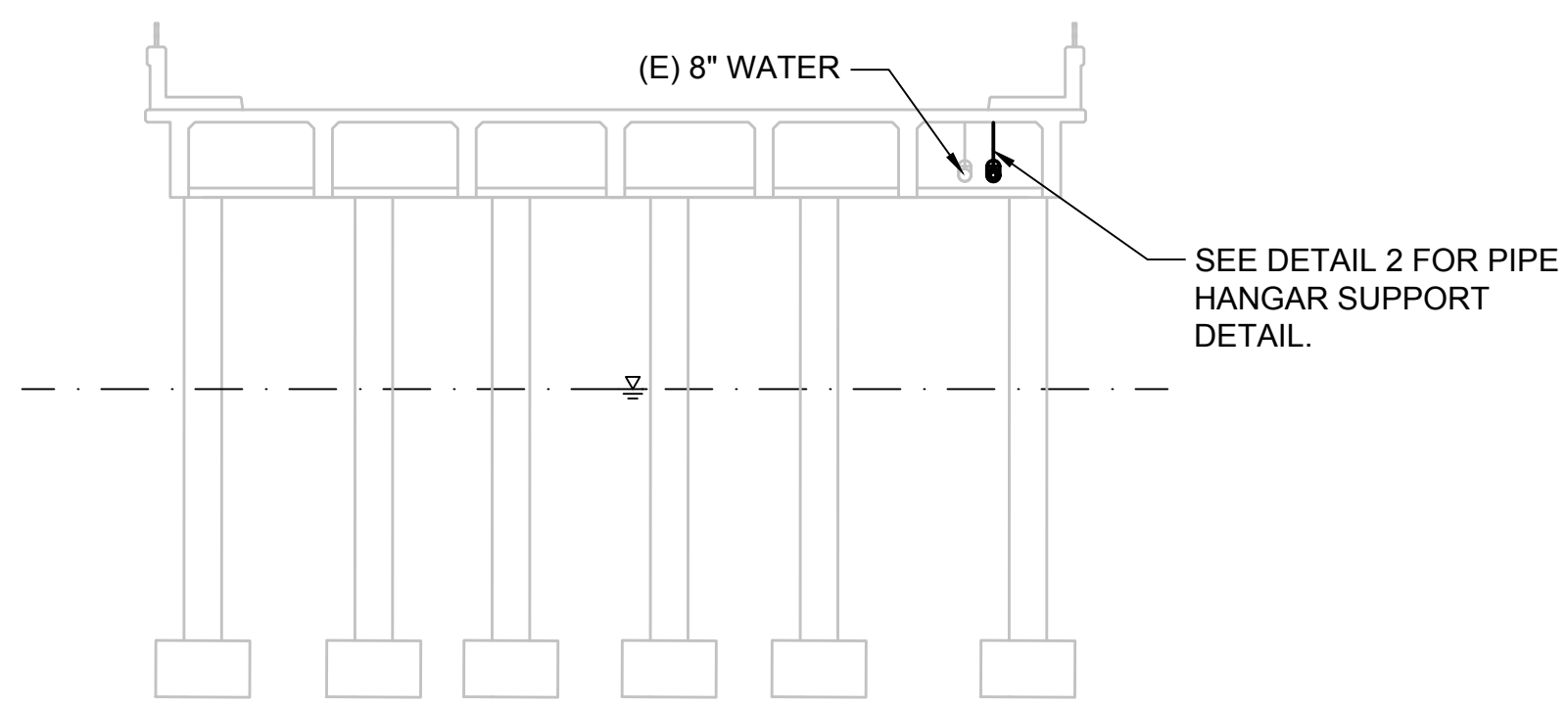
DRAWING NUMBER
C-2.3

SHEET NUMBER
11 OF 57

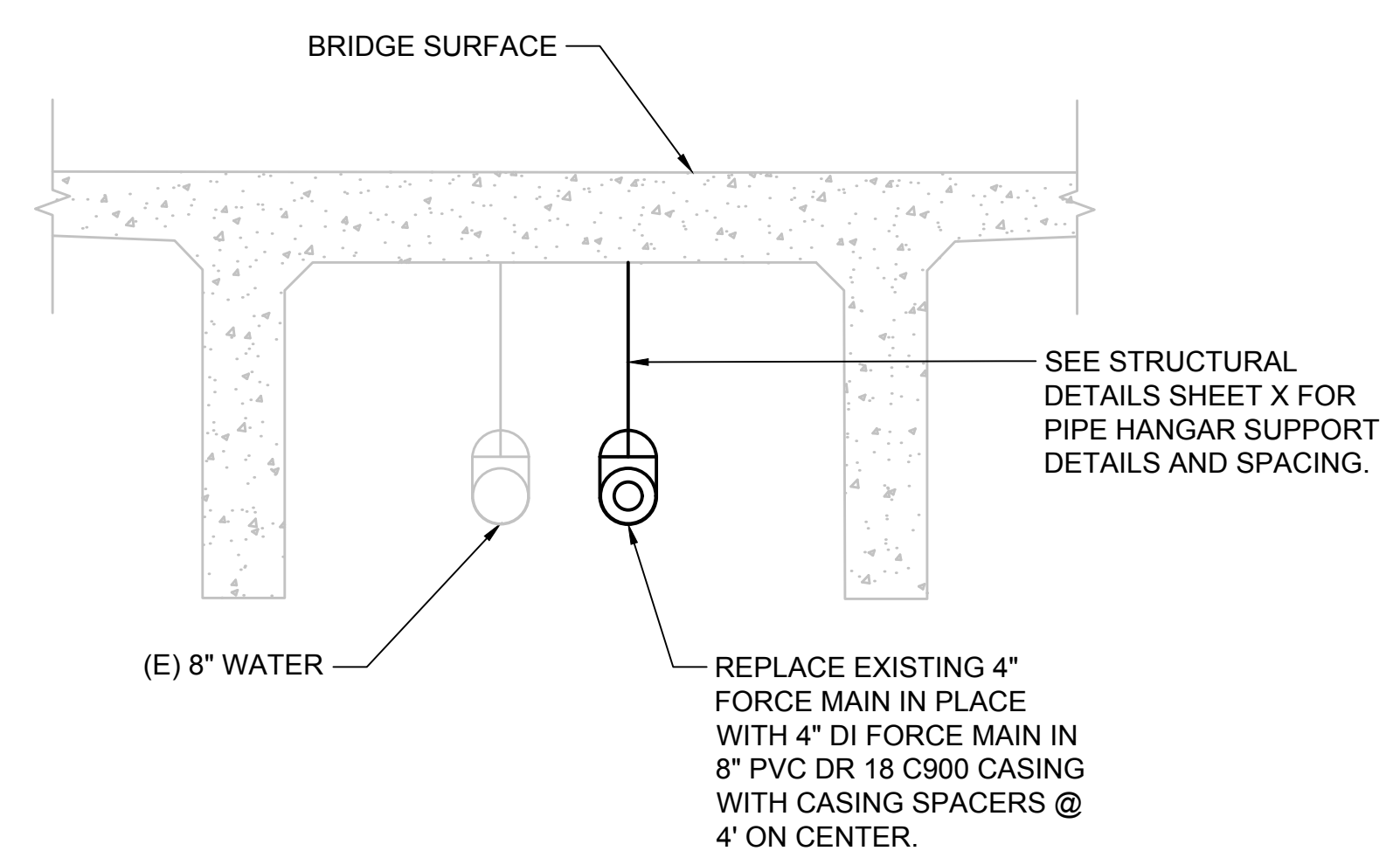
This drawing was prepared by: Anthony Rector, Civil Engineer (C.E. 75006), California (C.E. 75006), 2021/03/01. AutoCAD using AutoCAD LT 2021.02.01.



1 BRIDGE CROSSING - ELEVATION VIEW
 C-02
 SCALE: 1" = 10'



A BRIDGE CROSS SECTION
 1 IN. = 5 FT.



2 PIPE HANGER SUPPORT DETAIL
 SCALE: 1/2" = 1'-0"

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 CASTROVILLE COMMUNITY SERVICE DISTRICT

BRIDGE CROSSING SECTION AND ELEVATIONS

PROJECT NUMBER
DICVL.200738.02

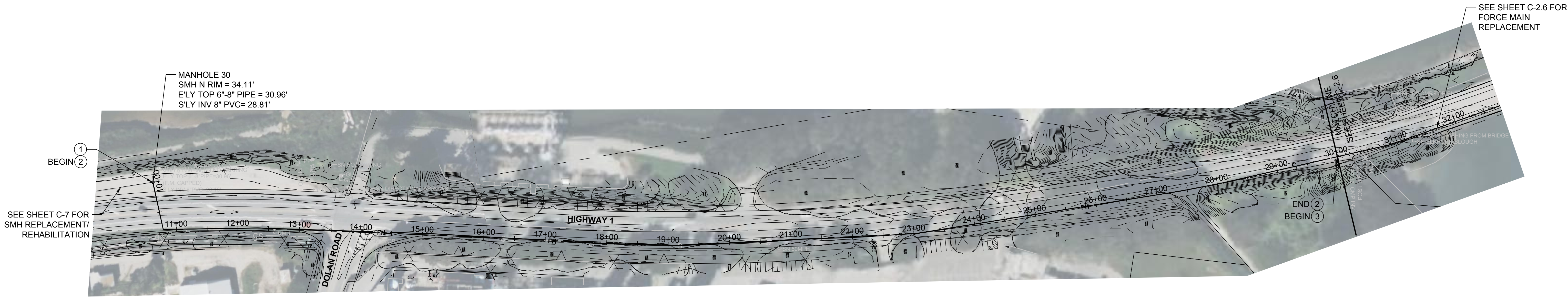
DRAWING NUMBER
C-2.4

SHEET NUMBER
12 OF 57

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CONSTRUCTION NOTES

- ① REMOVE AND REPLACE FORCE MAIN DISCHARGE MANHOLE PER SHEET C-7.
- ② INSTALL CIPP LINER IN EXISTING 4" DI FORCE MAIN PER SPECIFICATIONS.
- ③ CONSTRUCT 4" DI FORCE MAIN.



SEE SHEET C-7 FOR SMH REPLACEMENT/REHABILITATION

SEE SHEET C-2.6 FOR FORCE MAIN REPLACEMENT



MANHOLE 30

FORCE MAIN REHABILITATION



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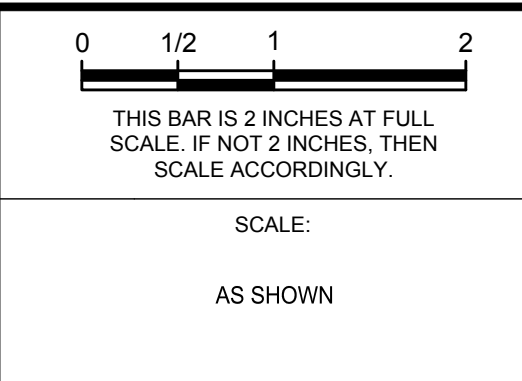
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05/05/2022
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

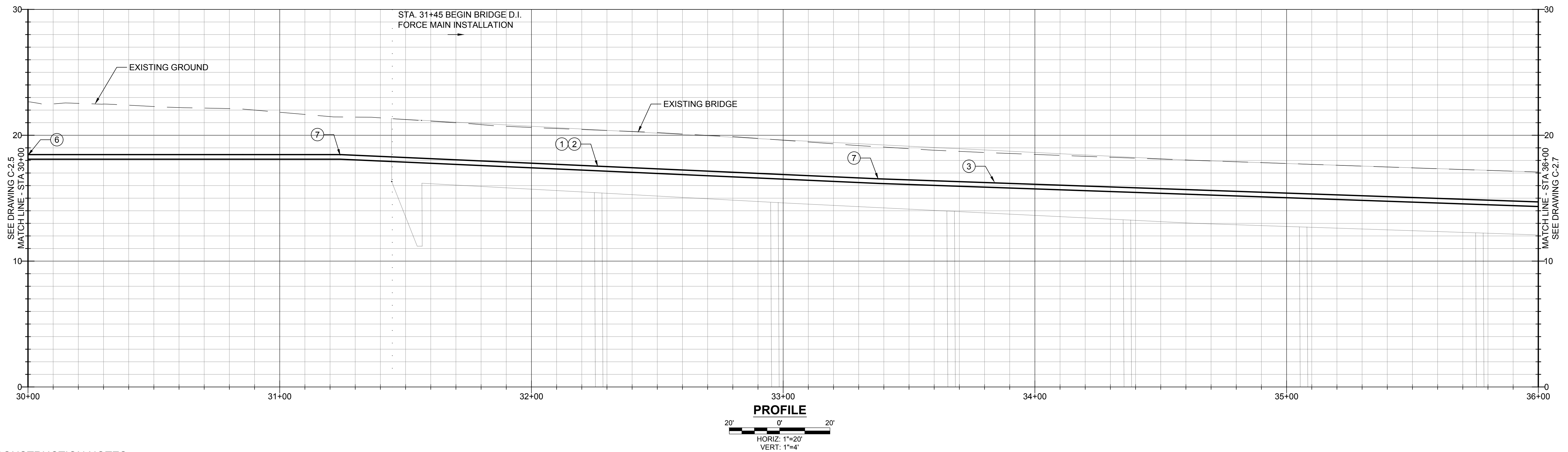
FORCE MAIN REHABILITATION LOCATION MAP AND DETAILS

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-2.5

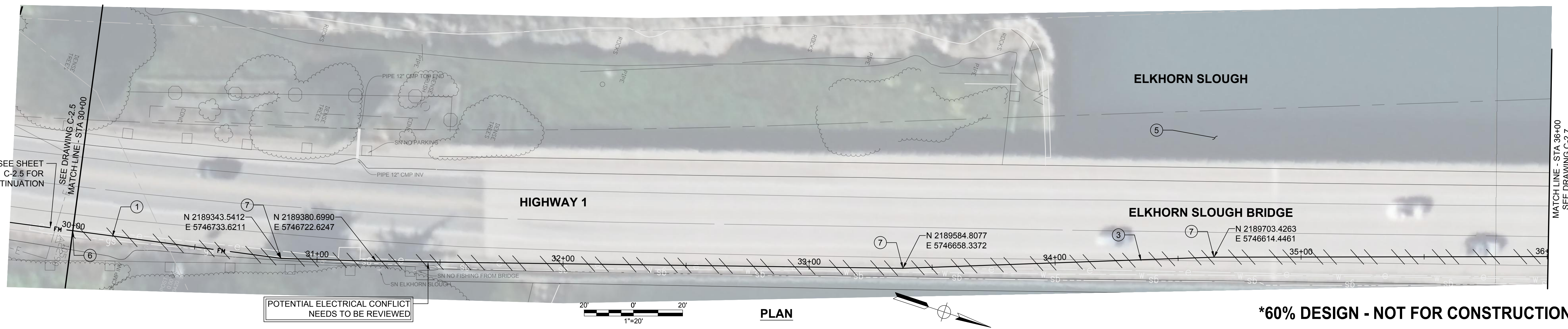
SHEET NUMBER
13 OF 57

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CONSTRUCTION NOTES

- ① DEMOLISH AND REMOVE EXISTING 4" HDPE SEWER FORCE MAIN AS NECESSARY FOR CONSTRUCTION.
- ② INSTALL 4" HDPE DR 21 SEWER FORCE MAIN WITH TRACER WIRE BY OPEN TRENCH CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS AND PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ③ INSTALL 4" HDPE SEWER FORCE MAIN INSIDE 8" PVC CASING WITH CASING SPACERS ACROSS BRIDGE PER SPECIFICATIONS. SEE SHEET C-2.4 FOR BRIDGE CROSSING ELEVATION, SECTION, AND DETAILS.
- ⑤ ENVIRONMENTALLY SENSITIVE HABITAT. SEE ENVIRONMENTAL NOTES, SHEET G-2.
- ⑥ CONNECT TO EXISTING SEWER FORCE MAIN WITH RESTRAINED TRANSITION COUPLING.
- ⑦ DEFLECT PIPE AS SHOWN TO FOLLOW ALIGNMENT OF EXISTING FORCE MAIN. MINIMUM PIPE BENDING RADIUS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.



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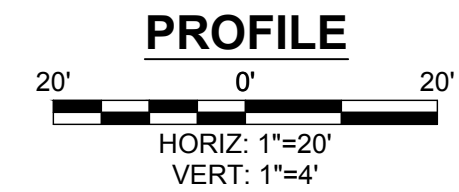
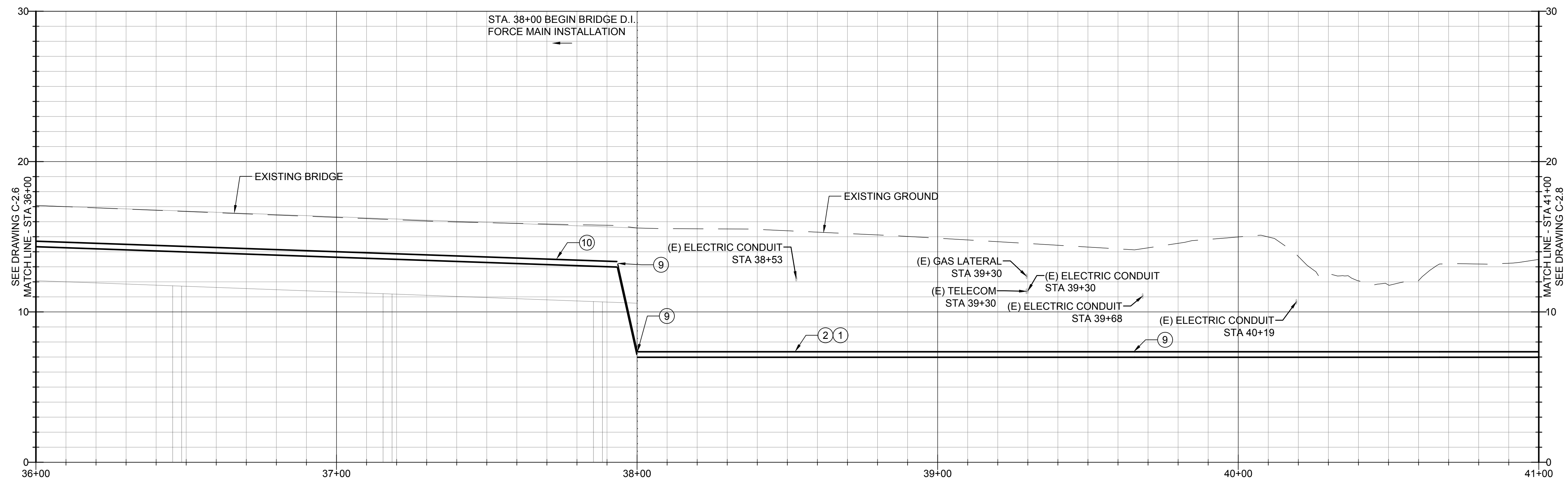
FORCE MAIN REPLACEMENT P&P
 STA 30+00 TO 36+00

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-2.6

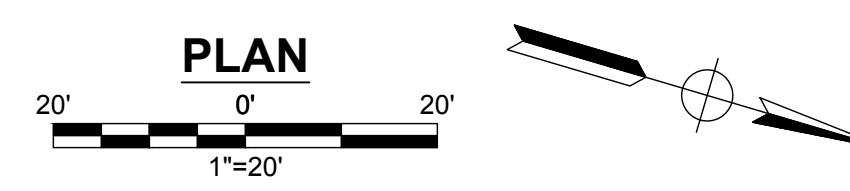
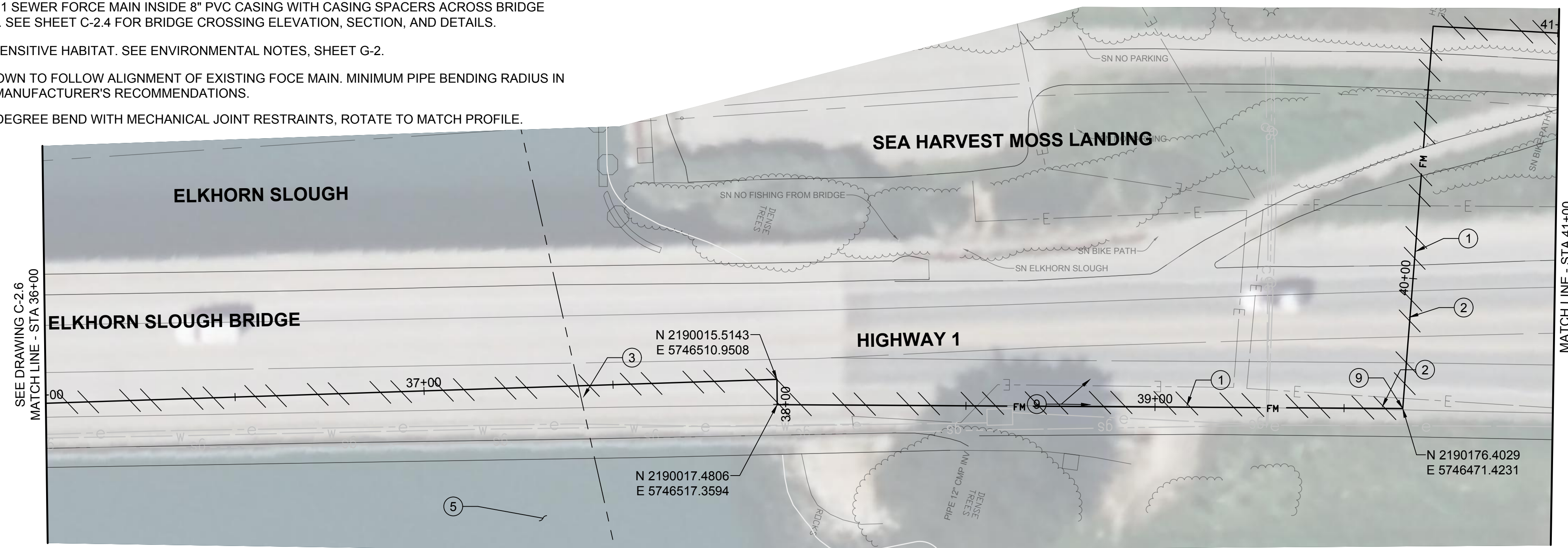
SHEET NUMBER
14 OF 57

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CONSTRUCTION NOTES

- ① DEMOLISH AND REMOVE EXISTING 4" HDPE SEWER FORCE MAIN AS NECESSARY FOR CONSTRUCTION.
- ② INSTALL 4" HDPE DR 21 SEWER FORCE MAIN WITH TRACER WIRE BY OPEN TRENCH CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS AND PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ③ INSTALL 4" HDPE DR 21 SEWER FORCE MAIN INSIDE 8" PVC CASING WITH CASING SPACERS ACROSS BRIDGE PER SPECIFICATIONS. SEE SHEET C-2.4 FOR BRIDGE CROSSING ELEVATION, SECTION, AND DETAILS.
- ⑤ ENVIRONMENTALLY SENSITIVE HABITAT. SEE ENVIRONMENTAL NOTES, SHEET G-2.
- ⑦ DEFLECT PIPE AS SHOWN TO FOLLOW ALIGNMENT OF EXISTING FOCE MAIN. MINIMUM PIPE BENDING RADIUS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ⑨ INSTALL 4" D.I. MJ 90-DEGREE BEND WITH MECHANICAL JOINT RESTRAINTS, ROTATE TO MATCH PROFILE.



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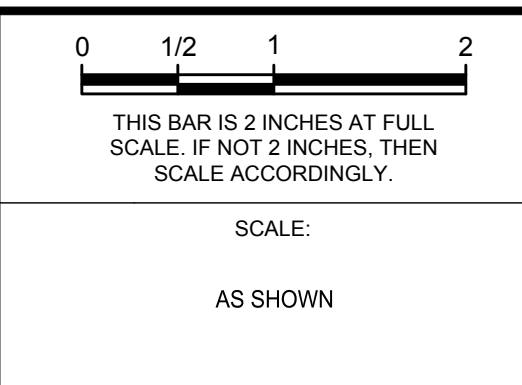
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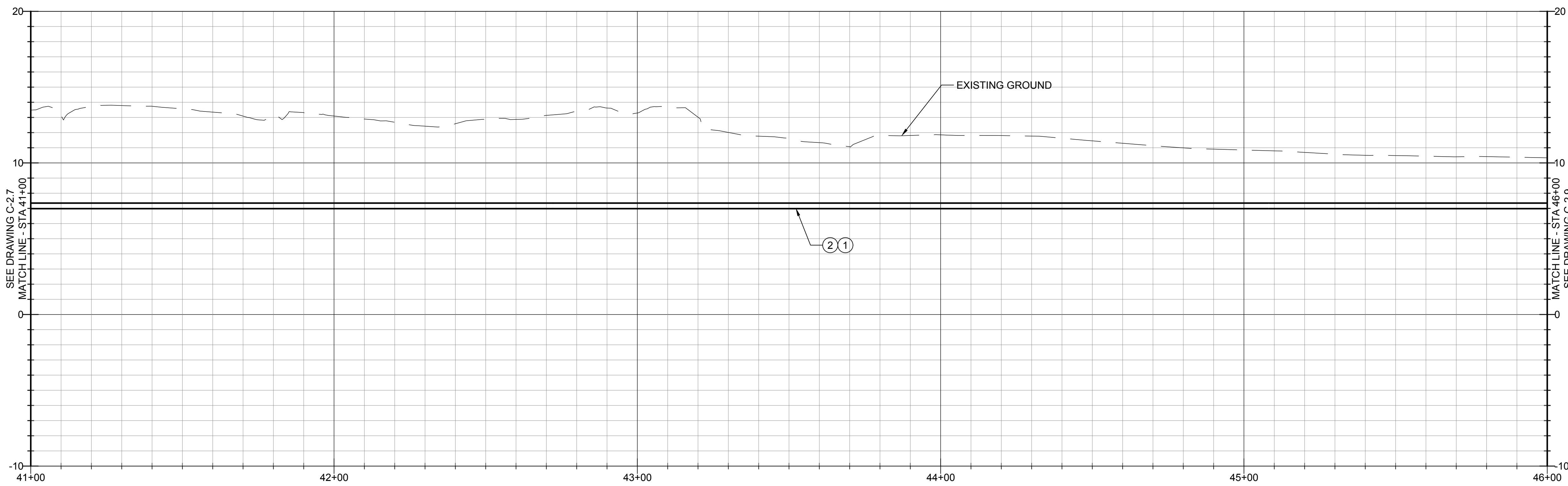
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

FORCE MAIN REPLACEMENT P&P
STA 36+00 TO 41+00

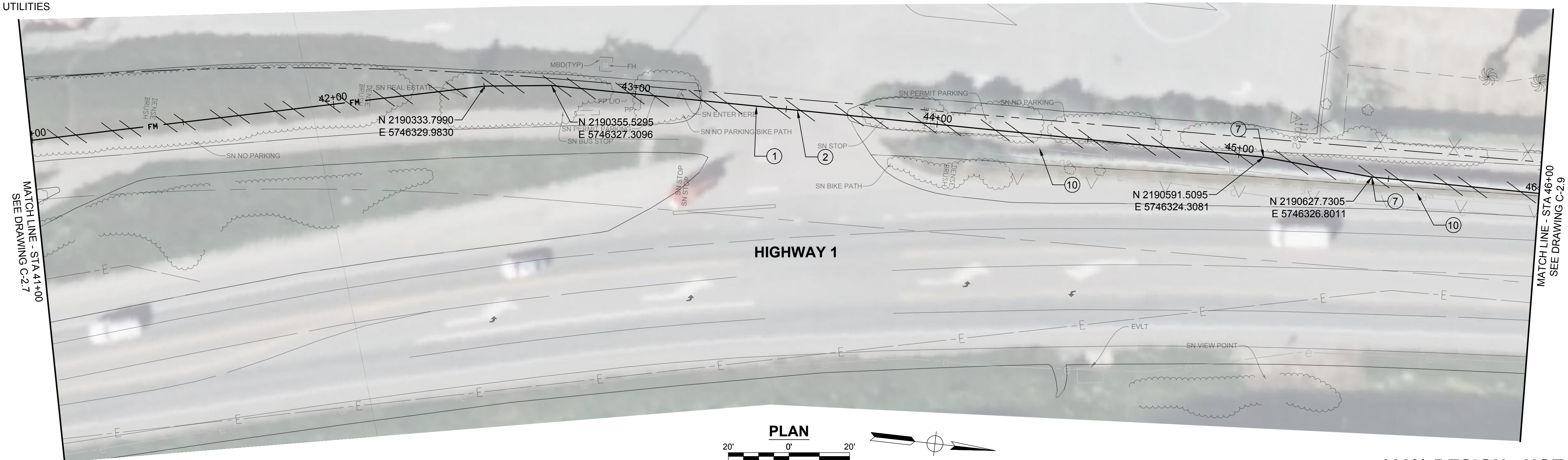
PROJECT NUMBER: DICVL.200738.02
DRAWING NUMBER: C-2.7
SHEET NUMBER: 15 OF 57



PROFILE
 20' 0' 20'
 HORIZ: 1"=20'
 VERT: 1"=4'

CONSTRUCTION NOTES

- ① DEMOLISH AND REMOVE EXISTING 4" HDPE SEWER FORCE MAIN AS NECESSARY FOR CONSTRUCTION.
- ② INSTALL 4" HDPE DR 21 SEWER FORCE MAIN WITH TRACER WIRE BY OPEN TRENCH CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS AND PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ⑦ DEFLECT PIPE AS SHOWN TO FOLLOW ALIGNMENT OF EXISTING FORCE MAIN. MINIMUM PIPE BENDING RADIUS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ⑩ PROTECT EXISTING UTILITIES



PLAN
 20' 0' 20'
 1"=20'

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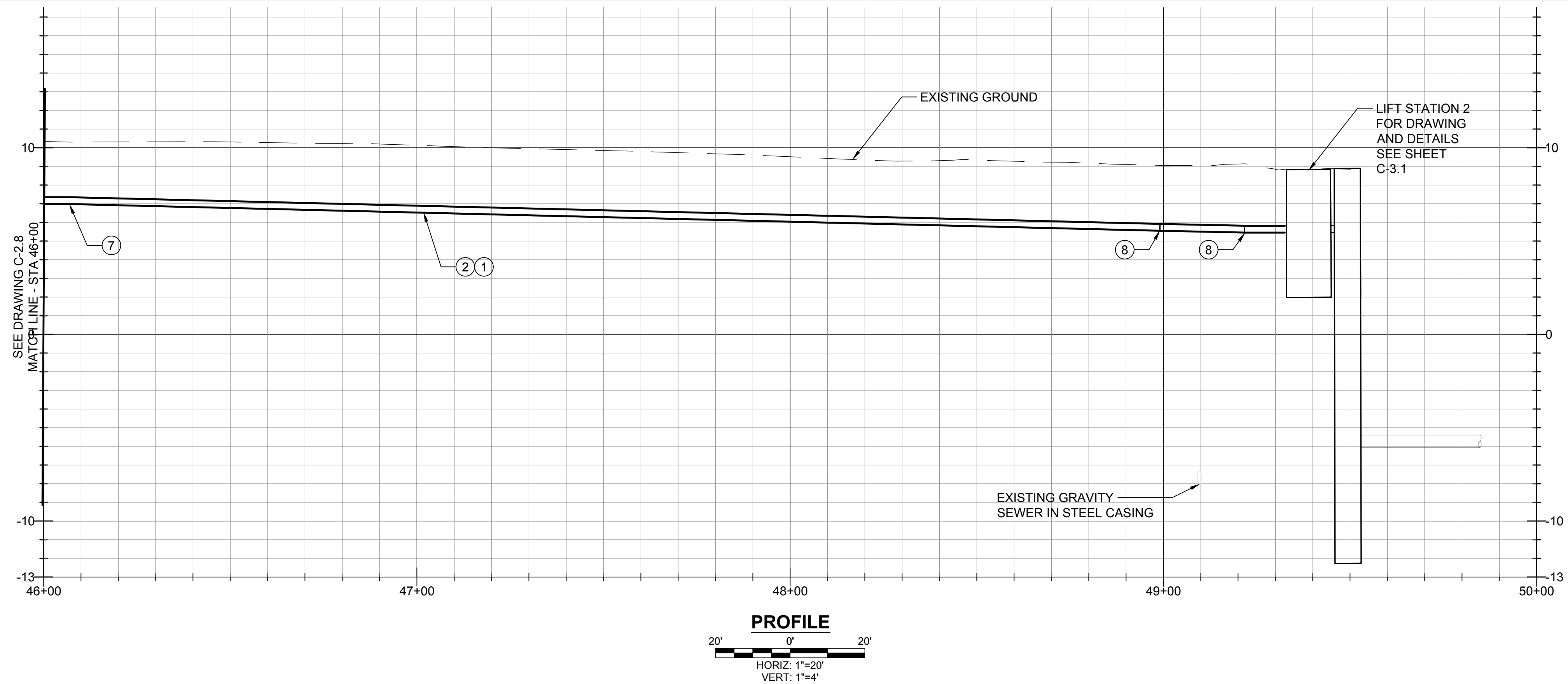
SCALE:
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 CASTROVILLE COMMUNITY SERVICE DISTRICT

FORCE MAIN REPLACEMENT P&P
 STA 41+00 TO 46+00

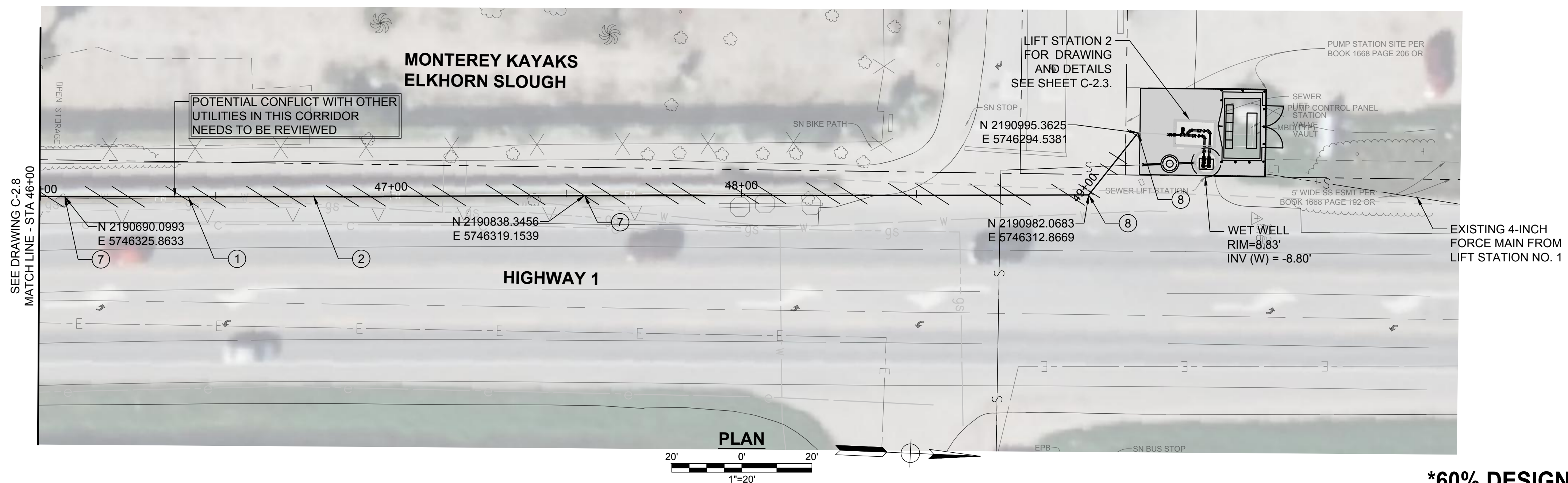
PROJECT NUMBER: DICVL.200738.02
 DRAWING NUMBER: C-2.8
 SHEET NUMBER: 16 OF 57

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CONSTRUCTION NOTES

- ① DEMOLISH AND REMOVE EXISTING 4" HDPE SEWER FORCE MAIN AS NECESSARY FOR CONSTRUCTION.
- ② INSTALL 4" HDPE DR 21 SEWER FORCE MAIN WITH TRACER WIRE BY OPEN TRENCH CONSTRUCTION IN ACCORDANCE WITH SPECIFICATIONS AND PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ⑦ DEFLECT PIPE AS SHOWN TO FOLLOW ALIGNMENT OF EXISTING FORCE MAIN. MINIMUM PIPE BENDING RADIUS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- ⑧ INSTALL 4" MJ D.I. 45-DEGREE BEND WITH MECHANICAL JOINT RESTRAINTS.



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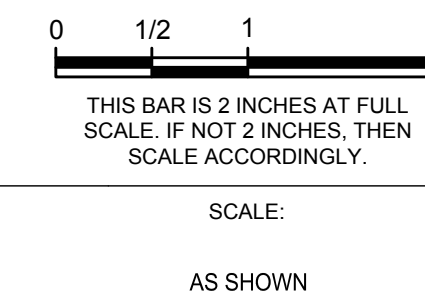


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CASTROVILLE COMMUNITY SERVICE DISTRICT

FORCE MAIN REPLACEMENT P&P
STA 46+00 TO 49+80

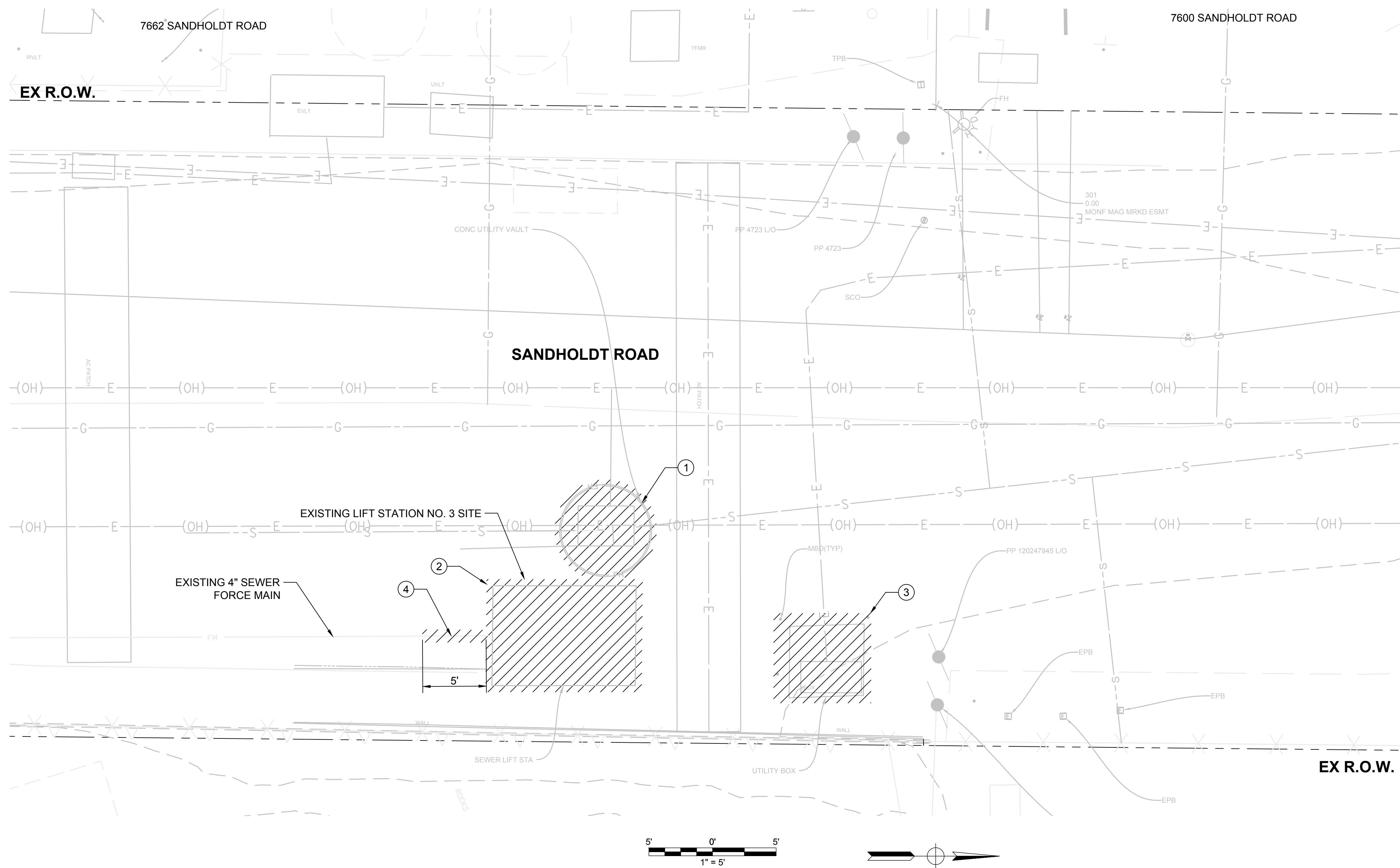
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-2.9

SHEET NUMBER
17 OF 57

DEMOLITION NOTES

- ① DEMOLISH AND REMOVE WET WELL. REMOVE AND DISPOSE OF HATCHES, METAL, PIPING, VALVES AND EQUIPMENT WITHIN THE LIFT STATION. CLEAN AND SALVAGE PUMPS AND RETURN TO THE DISTRICT.
- ② DEMOLISH AND REMOVE VALVE VAULT. REMOVE AND DISPOSE OF HATCHES, METAL, PIPING, VALVES AND EQUIPMENT WITHIN THE VAULT. DEMOLISH AND REMOVE FORCE MAIN TO NEW LOCATION OF VALVE VAULT.
- ③ REMOVE AND DISPOSE OF EXISTING ELECTRICAL CONTROL PANEL AND ALL ELECTRICAL EQUIPMENT. DEMOLISH AND REMOVE BOLLARDS AND CONCRETE SLAB.
- ④ DEMOLISH 5' OF EXISTING FORCE MAIN.



REV	DATE	BY	DESCRIPTION

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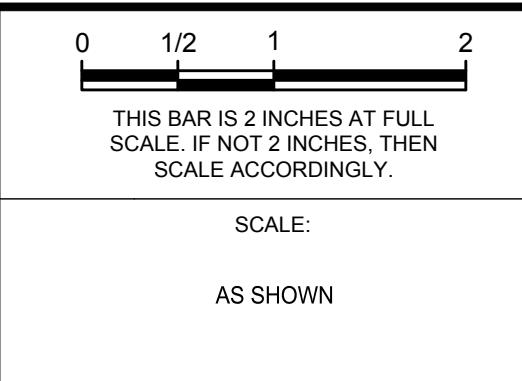
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DRAWN: AKV
CHECKED: BS

NICHOLAS E. PANOFSKY
LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 3 DEMOLITION PLAN

PROJECT NUMBER
DICVL.200738.02

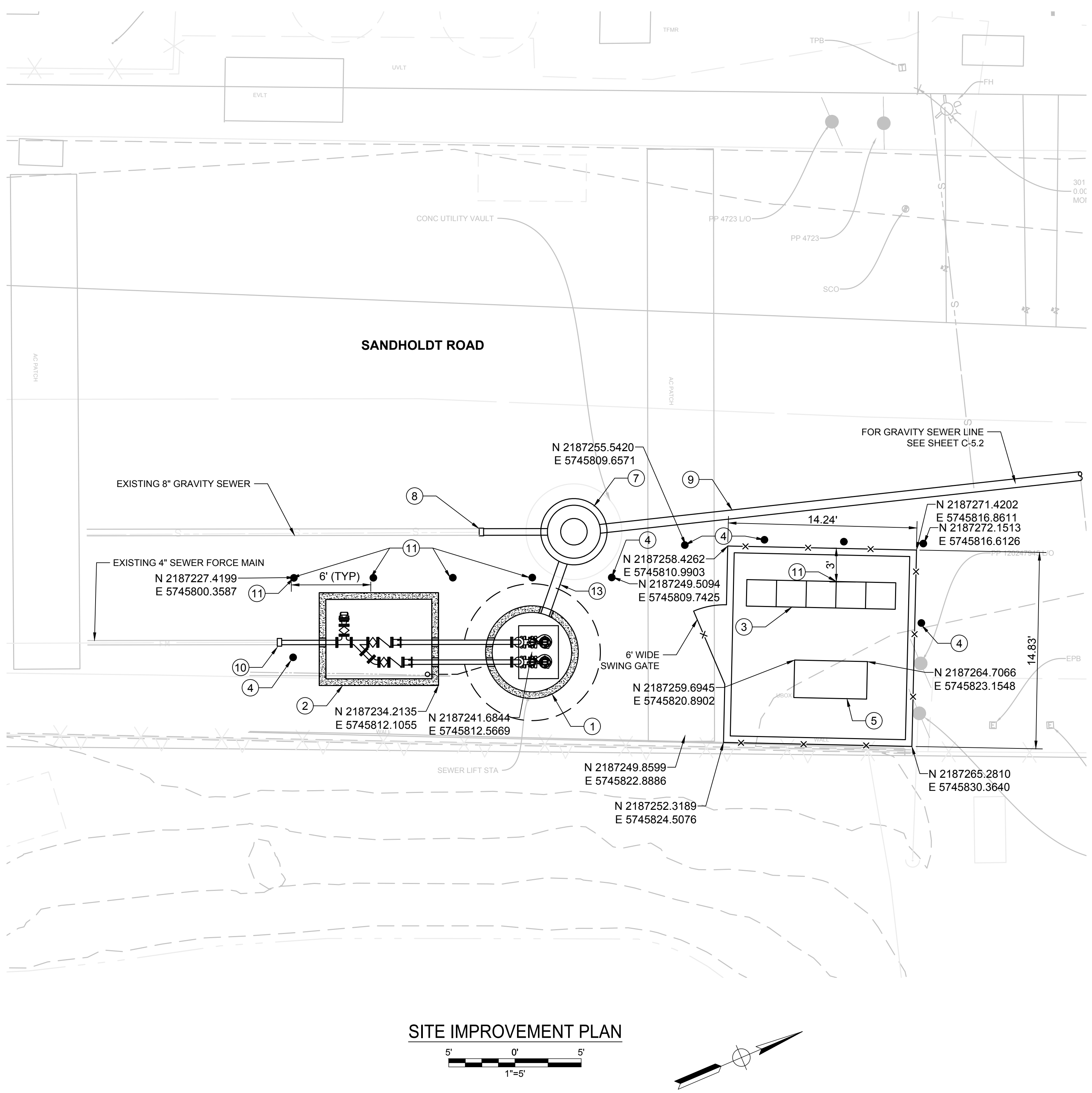
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C-3.1

SHEET NUMBER
18 OF 57

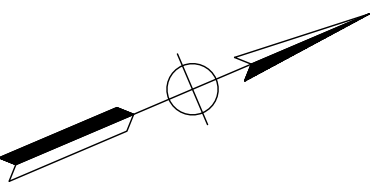
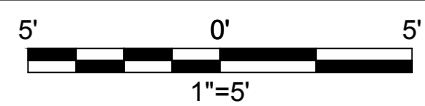
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 Plot Date: 05/05/2022 10:17:58 AM by: Nicholas Panofsky

CONSTRUCTION NOTES

- ① CONSTRUCT POLYMER CONCRETE WET WALL, 6' INTERIOR DIAMETER PER DETAIL 1 SHEET C-6.1.
- ② CONSTRUCT PRECAST CONCRETE VALVE VAULT.
- ③ ELECTRICAL PANEL PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ④ INSTALL 6" BOLLARDS PER DETAIL 5, SHEET C-8.1.
- ⑤ INSTALL BACKUP GENERATOR PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ⑥ INSTALL 8' HIGH SECURITY FENCE WITH SWING ACCESS GATE PER DETAIL 3, SHEET C-8.1.
- ⑦ INSTALL NEW 48"Ø GRIT CAPTURE POLYMER CONCRETE MANHOLE WITH THE BASE SET 2' BELOW INLET INVERT PER DETAIL 1, SHEET C-6.1. DO NOT PROVIDE CHANNELING.
- ⑧ DEMOLISH, REMOVE, AND DISPOSE OF 5' OF EXISTING 8" PVC SEWER MAIN. CONNECT 8" PVC SEWER TO EXISTING USING RESTRAINED COUPLING.
- ⑨ CONSTRUCT 8" PVC SEWER MAIN. SEE SHEET C-5.2.
- ⑩ CONNECT TO EXISTING SEWER FORCE MAIN PER SPECIFICATIONS WITH RESTRAINED COUPLING.
- ⑪ INSTALL 6" REMOVABLE BOLLARDS PER DETAIL 6, SHEET C-8.1.
- ⑬ CONNECT MANHOLE TO WET WELL WITH 8" PVC SEWER.



SITE IMPROVEMENT PLAN



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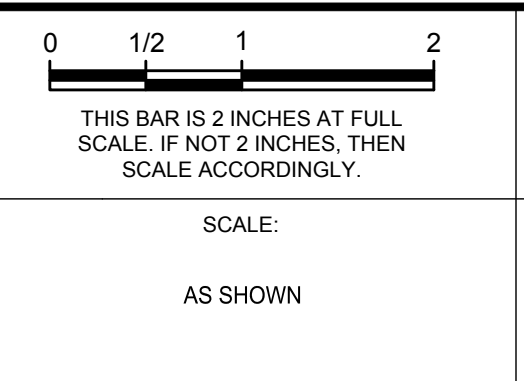
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 LEAD ENGINEER
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05/05/2022
 DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

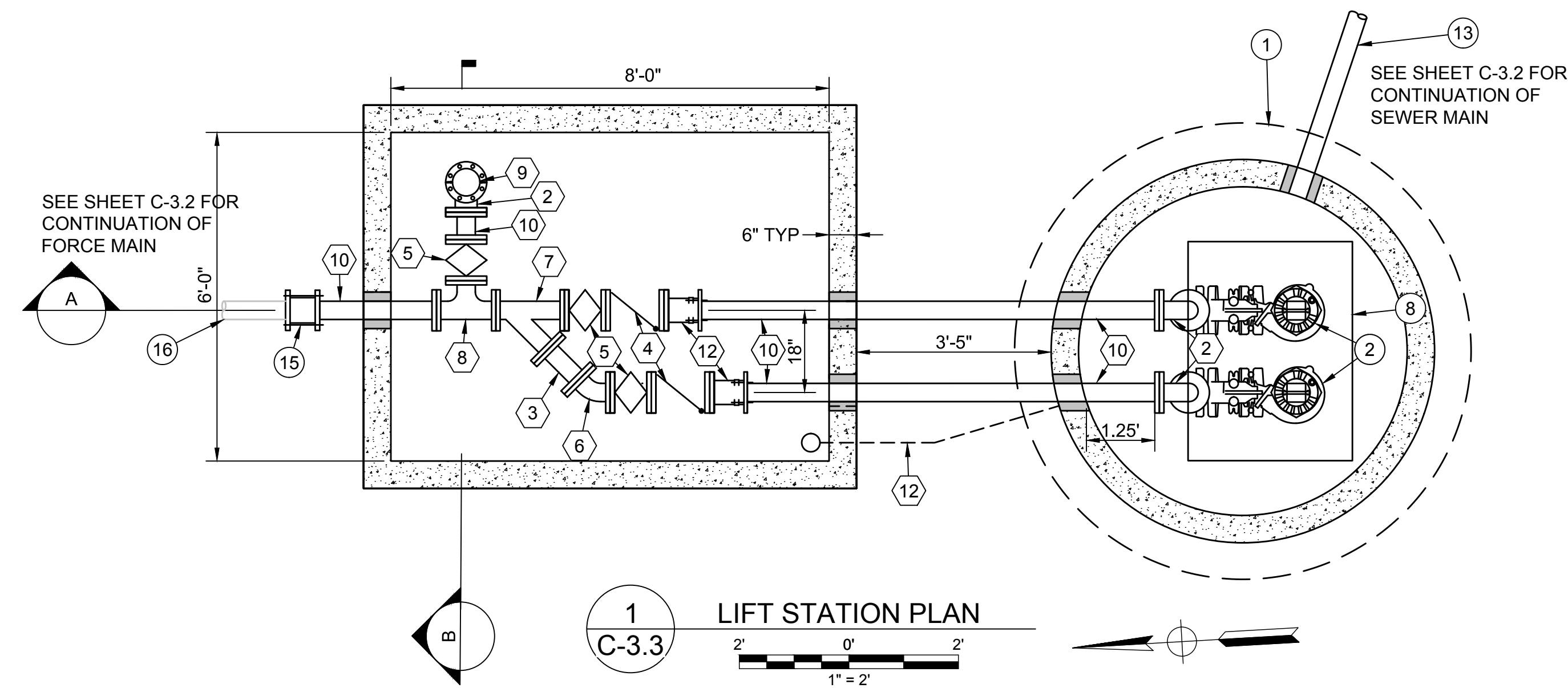
LIFT STATION 3 SITE IMPROVEMENT PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-3.2

SHEET NUMBER
19 OF 57

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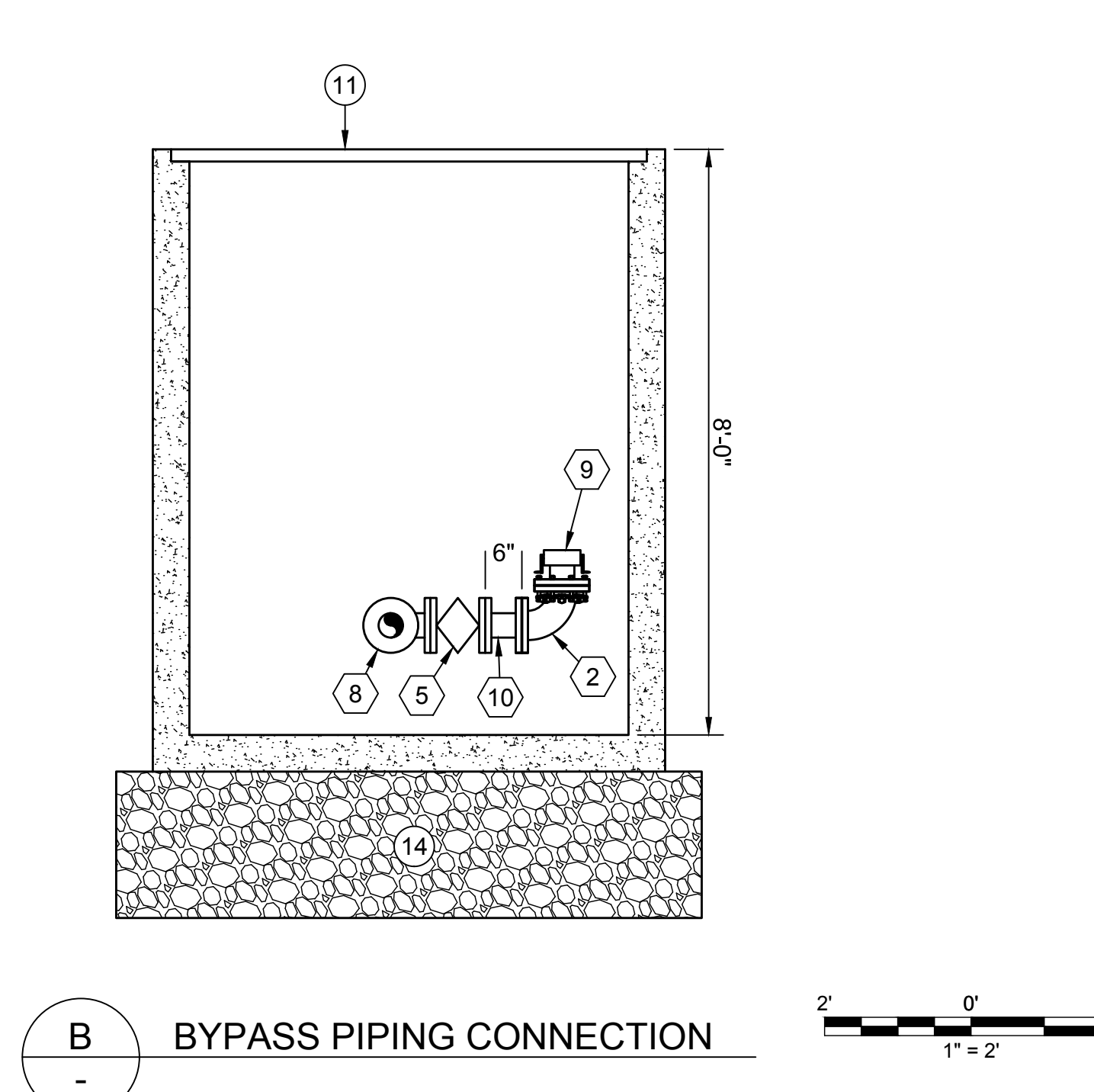
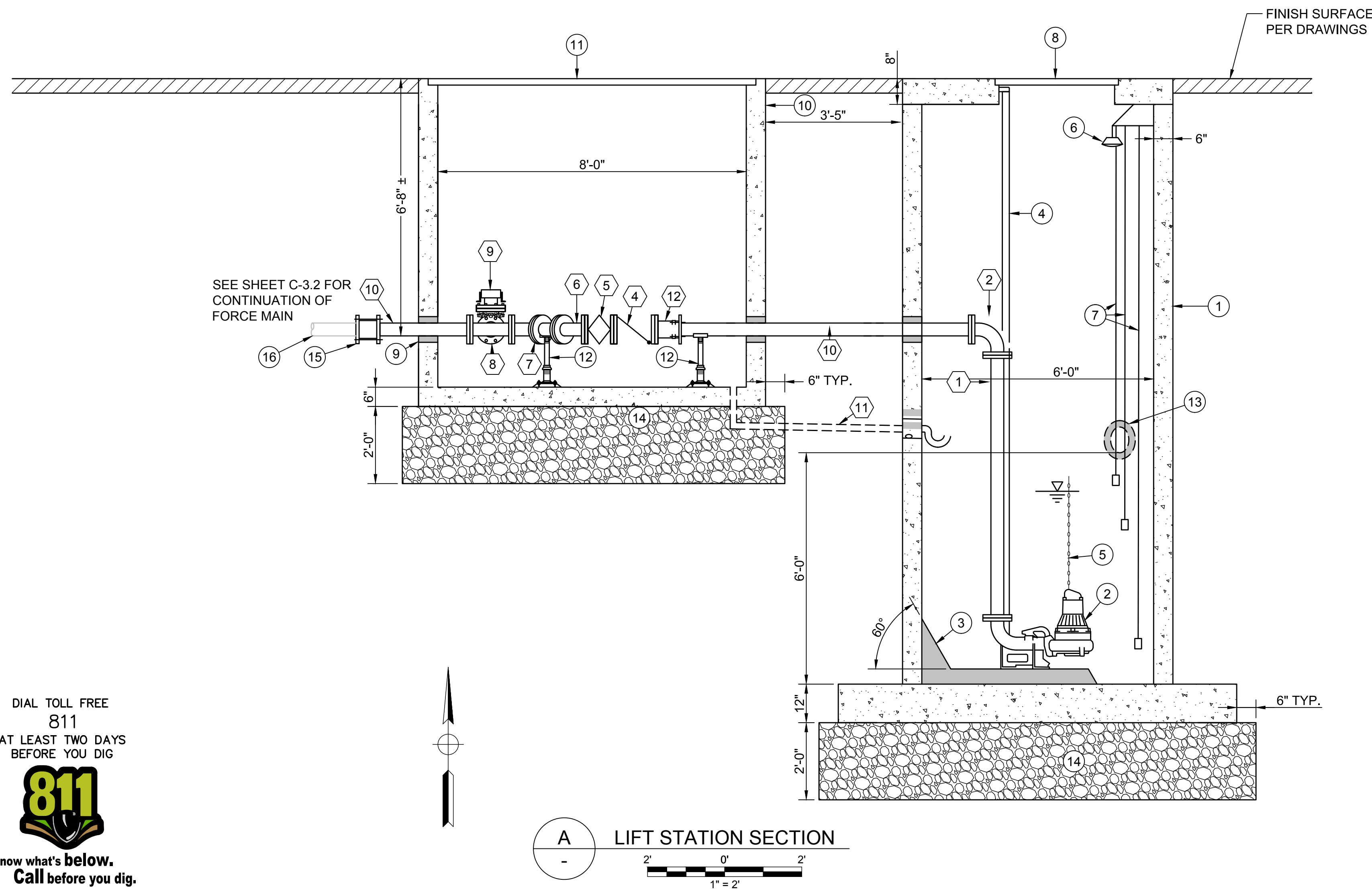


PIPING MATERIALS LIST

- ① 4" D.I. RISER (FLG)
- ② 4" 90-DEGREE D.I. ELBOW (FLG)
- ③ 4" D.I. SPOOL (FLG)
- ④ 4" CHECK VALVE (FLG)
- ⑤ 4" PLUG VALVE (FLG)
- ⑥ 4" 45-DEGREE D.I. ELBOW (FLG)
- ⑦ 4" D.I. WYE (FLG)
- ⑧ 4" D.I. TEE (FLG)
- ⑨ 4" CAM-LOCK CONNECTION (FLG) AND CAP
- ⑩ 4" D.I. SPOOL (FLG X PE)
- ⑪ 2" PVC SCH 80 DRAIN
- ⑫ 4" D.I. RESTRAINED FLANGE COUPLING ADAPTER

LIFT STATION MATERIALS LIST

- ① WET WELL, POLYMER CONCRETE MANHOLE, 6' DIAMETER
- ② SUBMERSIBLE PUMP, FLYGT MODEL N100-1650, OR APPROVED EQUAL
- ③ SUMP LINER, FLYGT TOP 100, OR APPROVED EQUAL
- ④ PUMP RAIL, 2" 316 SS TUBING
- ⑤ LIFTING CHAIN, 316 SS
- ⑥ LEVEL SENSOR, SIEMENS XPS 15 ULTRASONIC LEVEL TRANSDUCER, OR APPROVED EQUAL
- ⑦ ALARM FLOAT, FLYGT ENM-10, OR APPROVED EQUAL
- ⑧ H-20 TRAFFIC RATED 316 STAINLESS STEEL HATCH WITH LOCK AND SAFE-HATCH GRATE, 3' X 4'
- ⑨ FILL ANNULAR SPACE WITH NON-SHRINK GROUT
- ⑩ PRECAST CONCRETE VALVE VAULT, 6' X 8' X 8'
- ⑪ H-20 TRAFFIC RATED DOUBLE-LEAF ALUMINUM HATCH 6' X 8'
- ⑫ SADDLE PIPE SUPPORT PER DETAIL 4, DRAWING C-8.2
- ⑬ 8" PVC SDR 26 SANITARY SEWER MAIN
- ⑭ CLASS 2 AGGREGATE BASE, COMPACTED TO 95% RELATIVE COMPACTION
- ⑮ RESTRAINED COUPLING TO CONNECT TO EXISTING FORCE MAIN, CONTRACTOR TO VERIFY DEPTH.
- ⑯ EXISTING 4" FORCE MAIN



LIFT STATION ELEVATIONS

DESCRIPTION	VALUE (FT)
RIM ELEV	8.43
EXISTING GRADE	8.43
PROPOSED GRADE	8.43
WET WELL FLOOR ELEV	(-)6.15
TOTAL MANHOLE DEPTH	14.58
INVERT IN	(-)1.40
HIGH WATER ALARM	-2.40
LAG PUMP ON	(-)3.40
LEAD PUMP ON	(-)4.40
LAG PUMP OFF	(-)5.65
LEAD PUMP OFF	(-)5.65

SYSTEM CHARACTERISTICS

DESCRIPTION	VALUE
DESIGN FLOW	100 GPM
STATIC HEAD	14.0 FT
TOTAL DYNAMIC HEAD	26 FT
FORCE MAIN LENGTH	1,084 LF
MOTOR SIZE	3 HP

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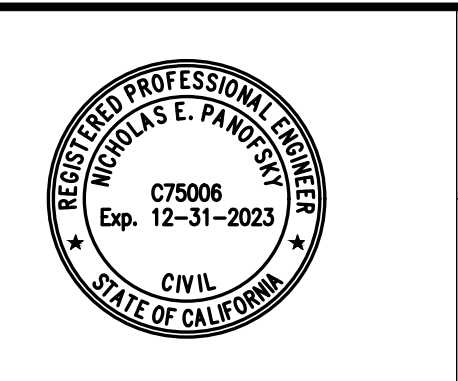
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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 3 MECHANICAL PLAN AND SECTIONS

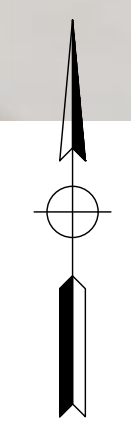
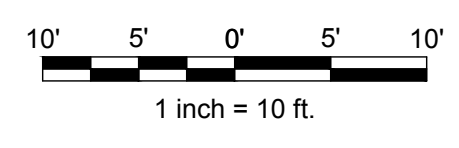
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-3.3

SHEET NUMBER
20 OF **57**

DEMOLITION NOTES

- ① REMOVE AND DISPOSE OF LIFT STATION STAIRS, HANDRAIL, HATCHES, METAL, PIPING, VALVES AND EQUIPMENT WITHIN THE LIFT STATION. DEMOLISH AND DISPOSE OF WET WELL WALLS AND LID TO MIN 3' BELOW GRADE. BREAK LIFT STATION BASE AND/OR DRILL MIN FIFTEEN 2" DIAMETER HOLES TO ALLOW FOR GROUNDWATER MOVEMENT. COMPLETELY FILL LIFT STATION INTERIOR WITH PEA GRAVEL. BACKFILL AND COMPACT ABOVE LIFT STATION TO MATCH EXISTING CONDITIONS.
- ② REMOVE AND DISPOSE OF HATCHES, METAL, AND EQUIPMENT WITHIN EXISTING VALVE VAULT. DEMOLISH AND DISPOSE OF VALVE VAULT WALLS AND LID TO MIN 3' BELOW GRADE. BREAK VAULT BASE AND/OR DRILL MIN FIFTEEN 2" DIAMETER HOLES TO ALLOW FOR GROUNDWATER MOVEMENT. COMPLETELY FILL VAULT INTERIOR WITH PEA GRAVEL. BACKFILL AND COMPACT ABOVE VAULT TO MATCH EXISTING CONDITIONS.
- ③ ABANDON EXISTING 4" DI FORCE MAIN TO APPROXIMATE LIMITS SHOWN. PLUG ENDS OF PIPE WITH MINIMUM OF 18" OF CONCRETE.
- ④ ABANDON EXISTING 8" VCP SEWER MAIN TO APPROXIMATE LIMITS SHOWN.
- ⑤ REMOVE AND DISPOSE OF EXISTING ELECTRICAL CONTROL PANEL AND ALL ELECTRICAL EQUIPMENT. DEMOLISH AND REMOVE EXISTING BOLLARDS AND EQUIPMENT SLAB. BACKFILL AND COMPACT VOIDS TO MATCH EXISTING CONDITIONS.
- ⑥ DEMOLISH AND REMOVE MANHOLE TO MIN 3' BELOW GRADE. BREAK VAULT BASE AND/OR DRILL MIN FIFTEEN 2" DIAMETER HOLES TO ALLOW FOR GROUNDWATER MOVEMENT. COMPLETELY FILL VAULT INTERIOR WITH PEA GRAVEL. BACKFILL AND COMPACT ABOVE VAULT TO MATCH EXISTING CONDITIONS.



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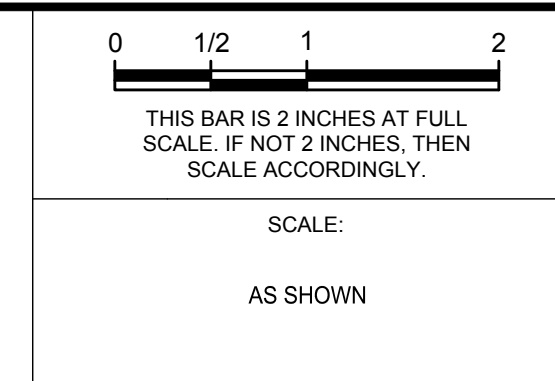
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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

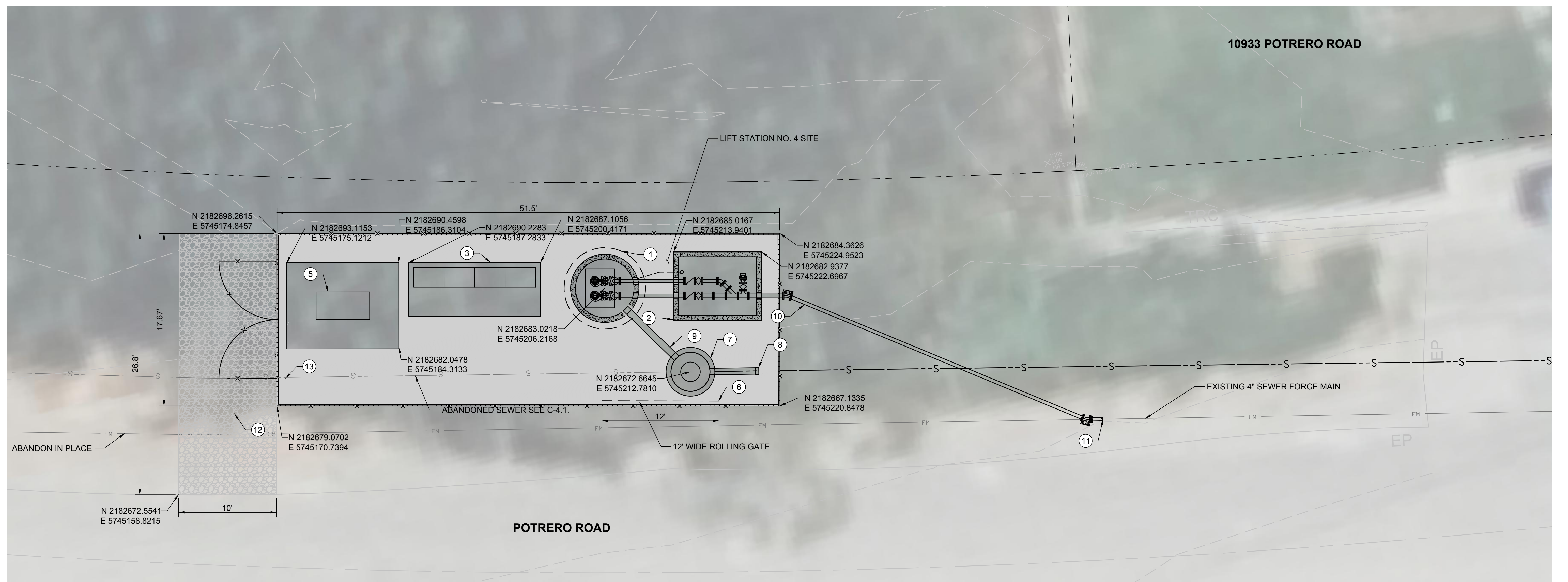
LIFT STATION 4 DEMOLITION PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-4.1

SHEET NUMBER
21 OF 57

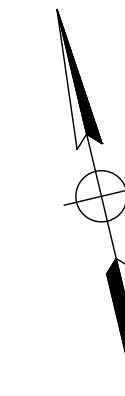
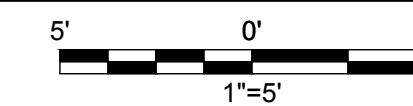
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CONSTRUCTION NOTES

- ① CONSTRUCT POLYMER CONCRETE WET WALL, 6" INTERIOR DIAMETER PER DETAIL 1, SHEET C-6.1.
- ② CONSTRUCT PRECAST CONCRETE VALVE VAULT.
- ③ ELECTRICAL PANEL PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ④ INSTALL 6" BOLLARDS. PER DETAIL 5, SHEET C-8.1.
- ⑤ INSTALL BACKUP GENERATOR PER ELECTRICAL PLANS. SEE STRUCTURAL PLANS FOR ELECTRICAL EQUIPMENT SLAB DETAILS.
- ⑥ INSTALL 8' HIGH SECURITY FENCE WITH ROLLING ACCESS GATE PER DETAIL 1, SEE SHEET C-8.1.
- ⑦ INSTALL 48"Ø CONCRETE MANHOLE. PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ⑧ INSTALL 5' OF 8" PVC SEWER MAIN AND CONNECT SEWER TO NEW MANHOLE.
- ⑨ CONSTRUCT 8" PVC SEWER MAIN. CONNECT TO EXISTING SEWER COUPLING.
- ⑩ CONSTRUCT 4" DI FORCE MAIN. PER SPECIFICATIONS AND PER DETAIL 4, SHEET C-6.
- ⑪ CONNECT TO EXISTING 4 INCH SEWER FORCE MAIN PER DETAIL 5, SEE SHEET C-8.2.
- ⑫ CLASS II AGGREGATE BASE, PER DETAIL 7, SHEET C-6.1.
- ⑬ 12' DOUBLE SWING GATE PER DETAIL 2, SHEET 8.1.
- ⑭ PAVE SURFACE INSIDE FENCED AREA AND INSTALL REDWOOD HEADERS ON THE PERIMETER PER DETAIL 4, SHEET C-8.1.

SITE IMPROVEMENT PLAN



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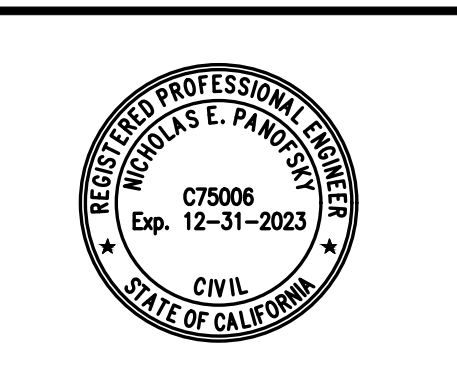
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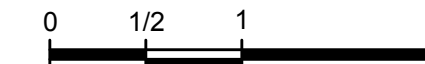

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DRAWN: AKV	
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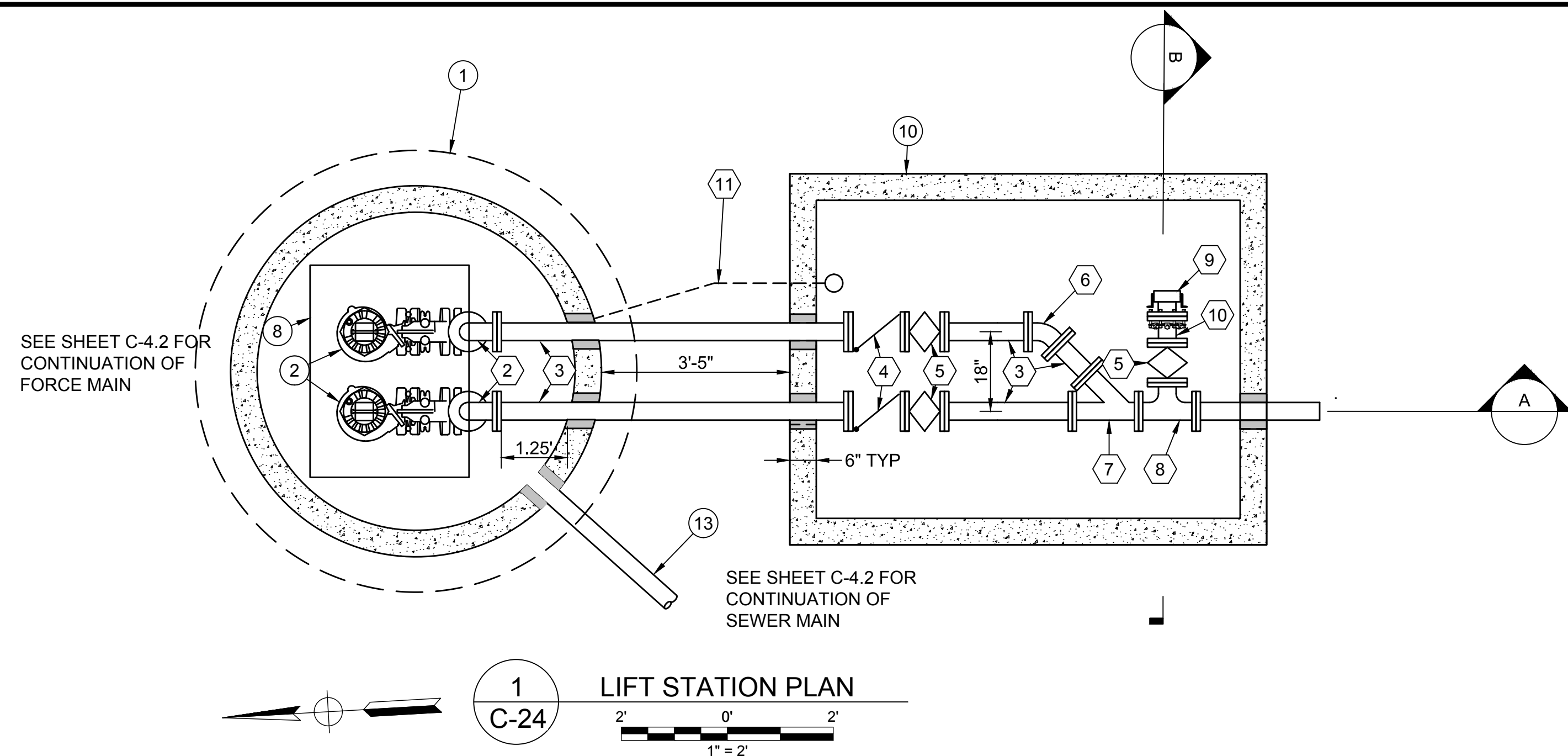


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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 4 SITE IMPROVEMENT PLAN

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER C-4.2
SHEET NUMBER 22 OF 57

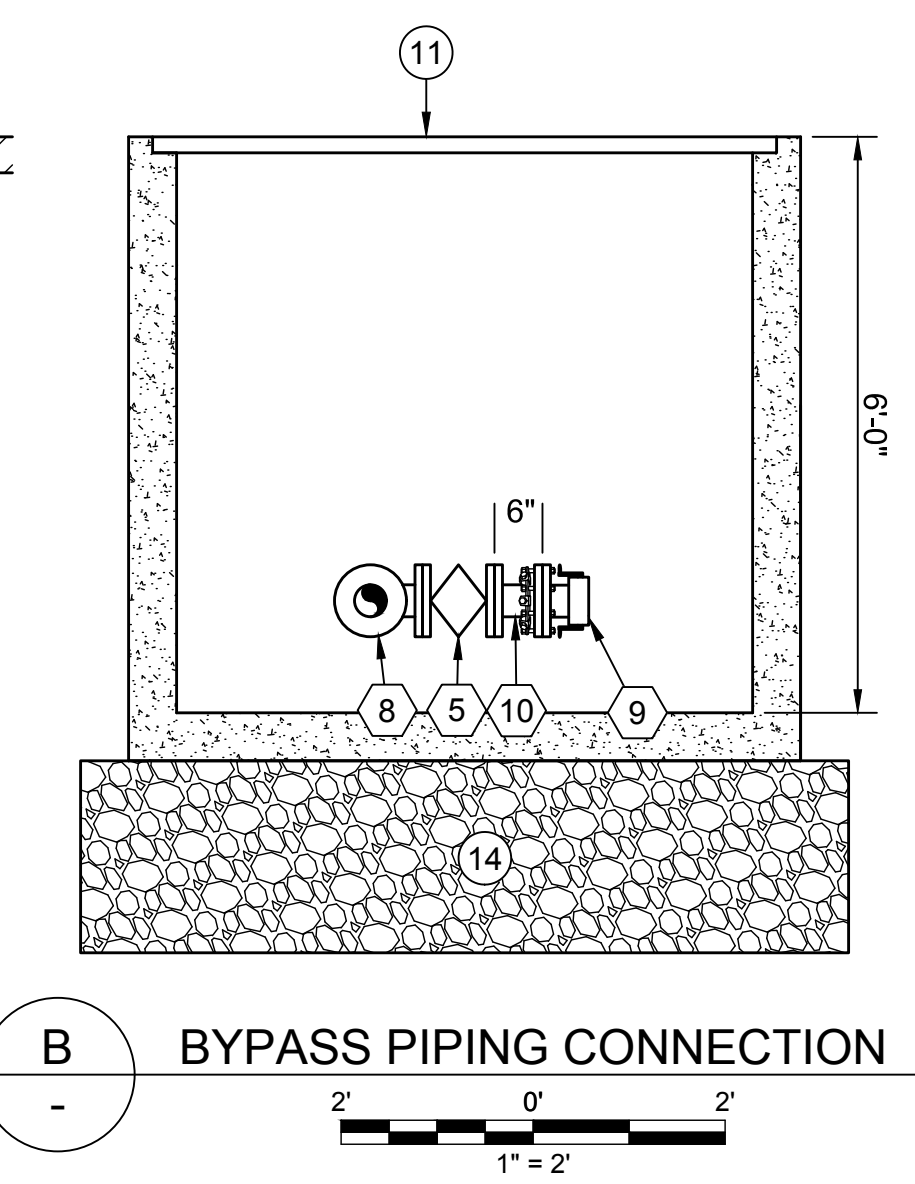
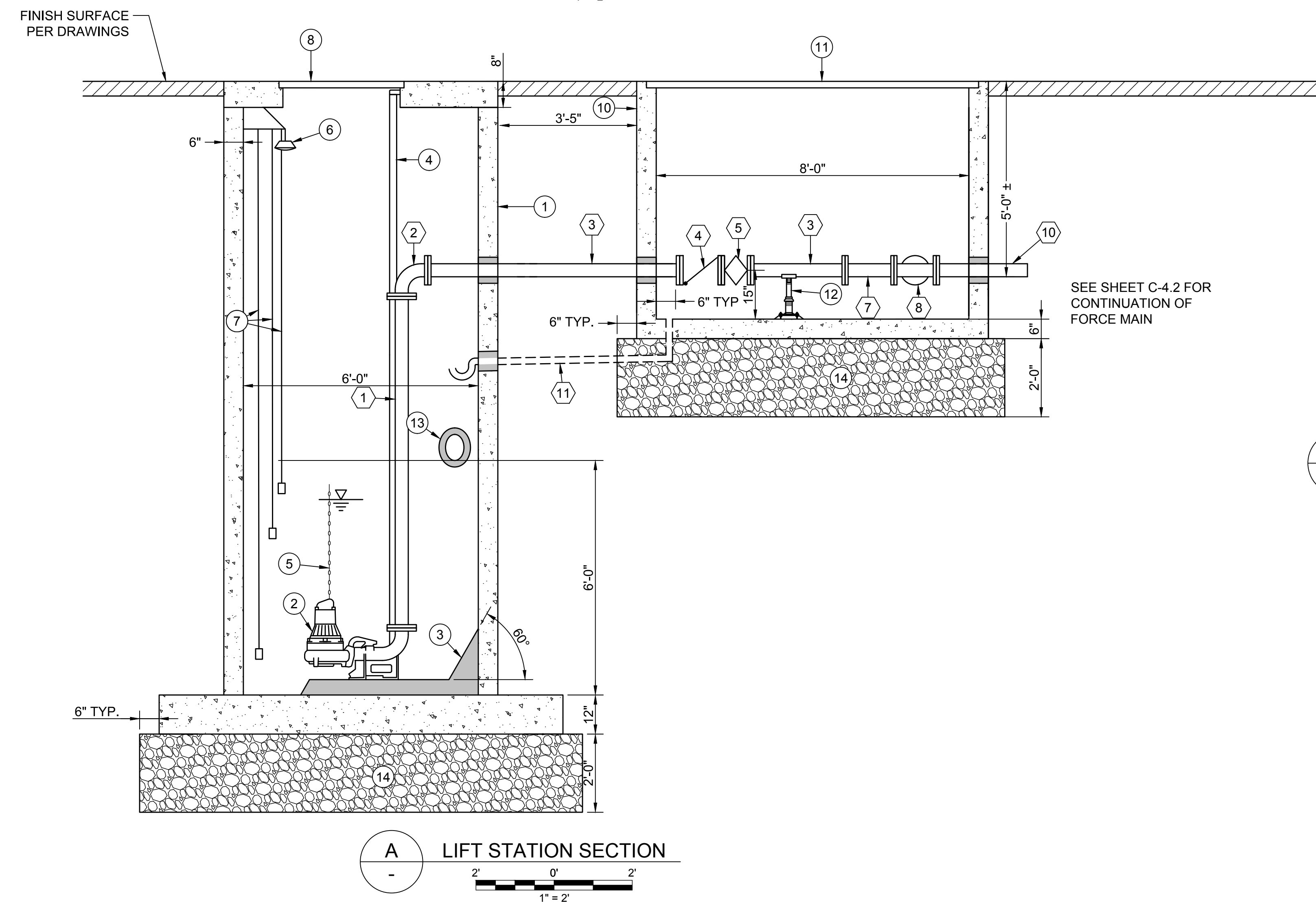


PIPING MATERIALS LIST

- ① 4" D.I. RISER (FLG)
- ② 4" 90-DEGREE D.I. ELBOW (FLG)
- ③ 4" D.I. SPOOL (FLG)
- ④ 4" CHECK VALVE (FLG)
- ⑤ 4" PLUG VALVE (FLG)
- ⑥ 4" 45-DEGREE D.I. ELBOW (FLG)
- ⑦ 4" D.I. WYE (FLG)
- ⑧ 4" D.I. TEE (FLG)
- ⑨ 4" CAM-LOCK CONNECTION (FLG) AND CAP
- ⑩ 6" D.I. SPOOL (FLG X PE)
- ⑪ 2" PVC SCH 80 DRAIN

LIFT STATION MATERIALS LIST

- ① WET WELL, POLYMER CONCRETE, 6' DIAMETER
- ② SUBMERSIBLE PUMP, FLYGT MODEL N80-1800, OR APPROVED EQUAL
- ③ SUMP LINER, FLYGT TOP 100, OR APPROVED EQUAL
- ④ PUMP RAIL, 2" 316 SS TUBING
- ⑤ LIFTING CHAIN, 316 SS
- ⑥ LEVEL SENSOR, SIEMENS XPS 15 ULTRASONIC LEVEL TRANSDUCER, OR APPROVED EQUAL
- ⑦ ALARM FLOAT AND BACKUP PUMP CONTROL, FLYGT ENM-10, OR APPROVED EQUAL
- ⑧ H-20 TRAFFIC RATED 316 STAINLESS STEEL HATCH WITH LOCK AND SAFE-HATCH GRATE, 3' X 4'
- ⑨ NOT USED
- ⑩ PRECAST CONCRETE VALVE VAULT, 6' X 8' X 7'
- ⑪ H-20 TRAFFIC RATED DOUBLE-LEAF ALUMINUM HATCH 6' X 8'
- ⑫ SADDLE PIPE SUPPORT PER DETAIL 4, DRAWING C-8.2
- ⑬ 8" PVC SDR 26 SANITARY SEWER MAIN. SEE SHEET C-4.2 FOR CONTINUATION
- ⑭ CLASS 2 AGGREGATE BASE, COMPACTED TO 95% RELATIVE COMPACTION



LIFT STATION ELEVATIONS	
DESCRIPTION	VALUE (FT)
RIM ELEV	9.60
EXISTING GRADE	9.60
PROPOSED GRADE	9.60
WET WELL FLOOR ELEV	(-1.40)
TOTAL MANHOLE DEPTH	11.00
INVERT IN	4.60
HIGH WATER ALARM	2.60
LAG PUMP ON	1.60
LEAD PUMP ON	0.60
LAG PUMP OFF	(-0.90)
LEAD PUMP OFF	(-0.90)

SYSTEM CHARACTERISTICS	
DESCRIPTION	VALUE
DESIGN FLOW	100 GPM
STATIC HEAD	14.0 FT
TOTAL DYNAMIC HEAD	38 FT
FORCE MAIN LENGTH	1,084 LF
MOTOR SIZE	3 HP

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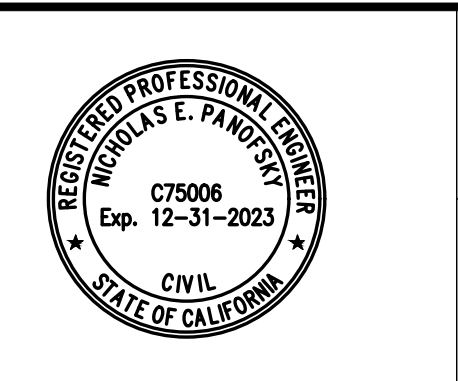
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LEAD ENGINEER
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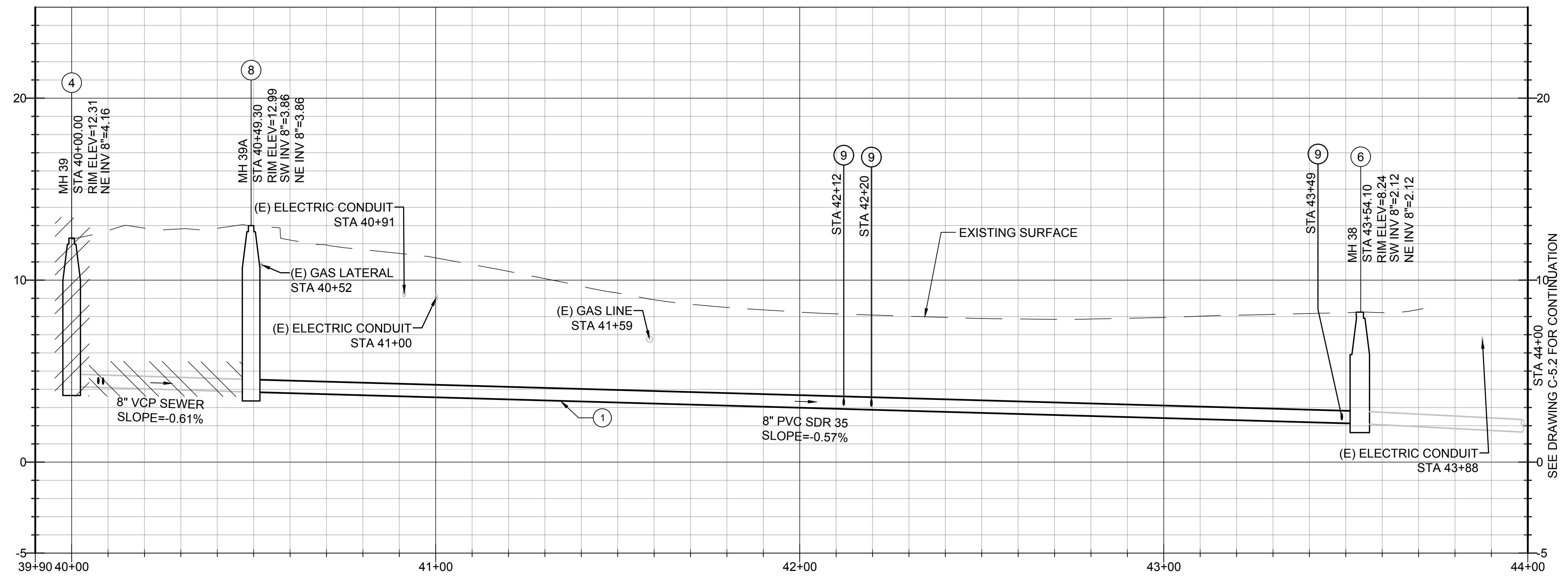
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 4 MECHANICAL PLAN AND SECTIONS

PROJECT NUMBER
DICVL.200738.02

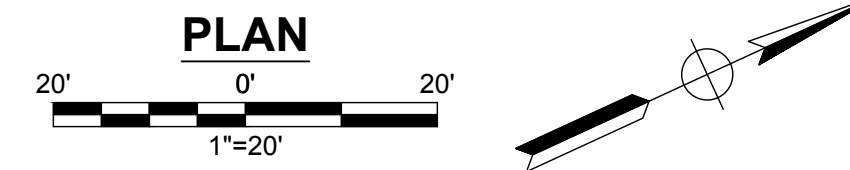
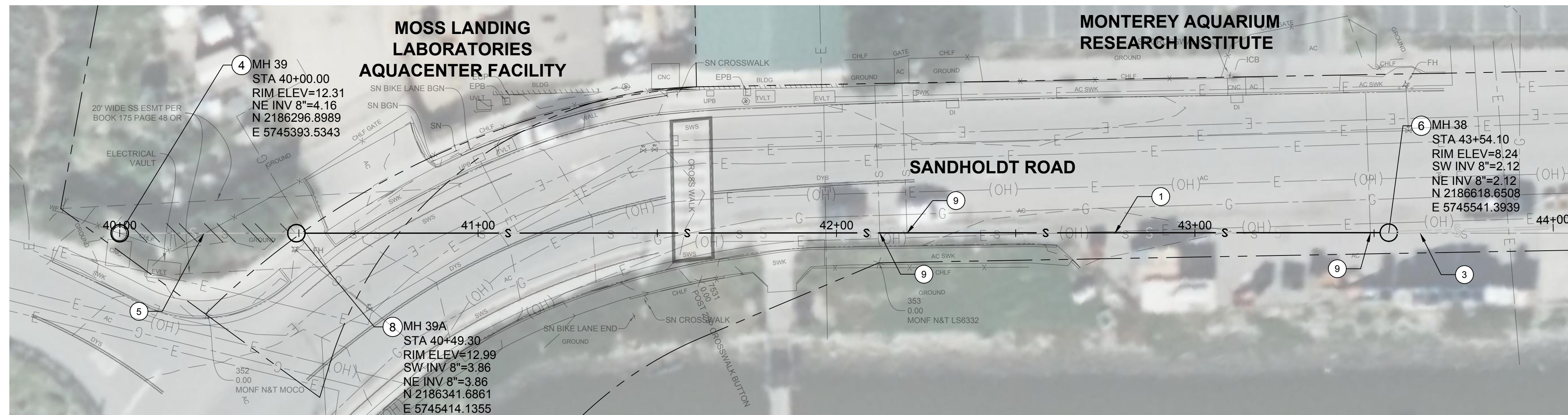
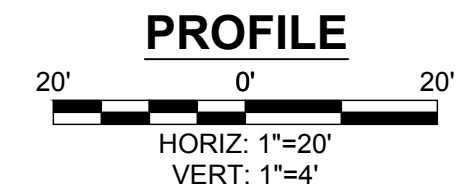
DRAWING NUMBER
C-4.3

SHEET NUMBER
23 OF 57



CONSTRUCTION NOTES

- ① DEMOLISH EXISTING 8" PVC SANITARY SEWER AND INSTALL 8" PVC SANITARY SEWER MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4 .
- ③ PROTECT EXISTING UTILITY IN PLACE.
- ④ ABANDON EXISTING MANHOLE IN PLACE. DEMOLISH AND REMOVE MANHOLE FRAME, COVER, AND CONE. CRACK MANHOLE BASE OR DRILL HOLES. FILL MANHOLE WITH PEA GRAVEL. BACKFILL TO MATCH SURROUNDINGS.
- ⑤ ABANDON EXISTING 8" PVC SEWER IN PLACE.
- ⑥ REMOVE AND REPLACE FRAME AND COVER OF 48" DIAMETER MANHOLE. LINE THE INTERIOR OF THE MANHOLE WITH EPOXY COATING. PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-3.
- ⑧ CONSTRUCT 48" DIAMETER MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-1. CONNECT EXISTING SEWER TO NEW MANHOLE.
- ⑨ RECONNECT EXISTING SEWER LATERAL.



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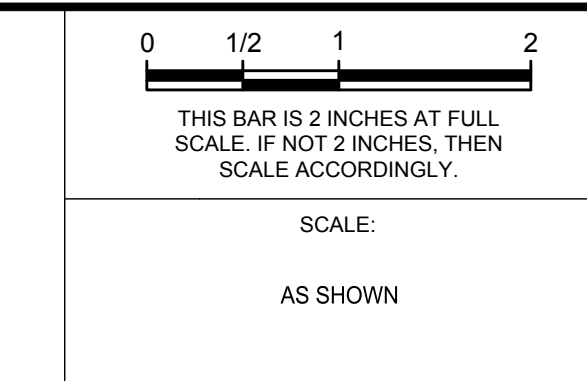
811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
Phone: 805-787-0326
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DESIGNED: NEP
DRAWN: AKV
CHECKED: BS

NICHOLAS E. PANOFSKY
LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

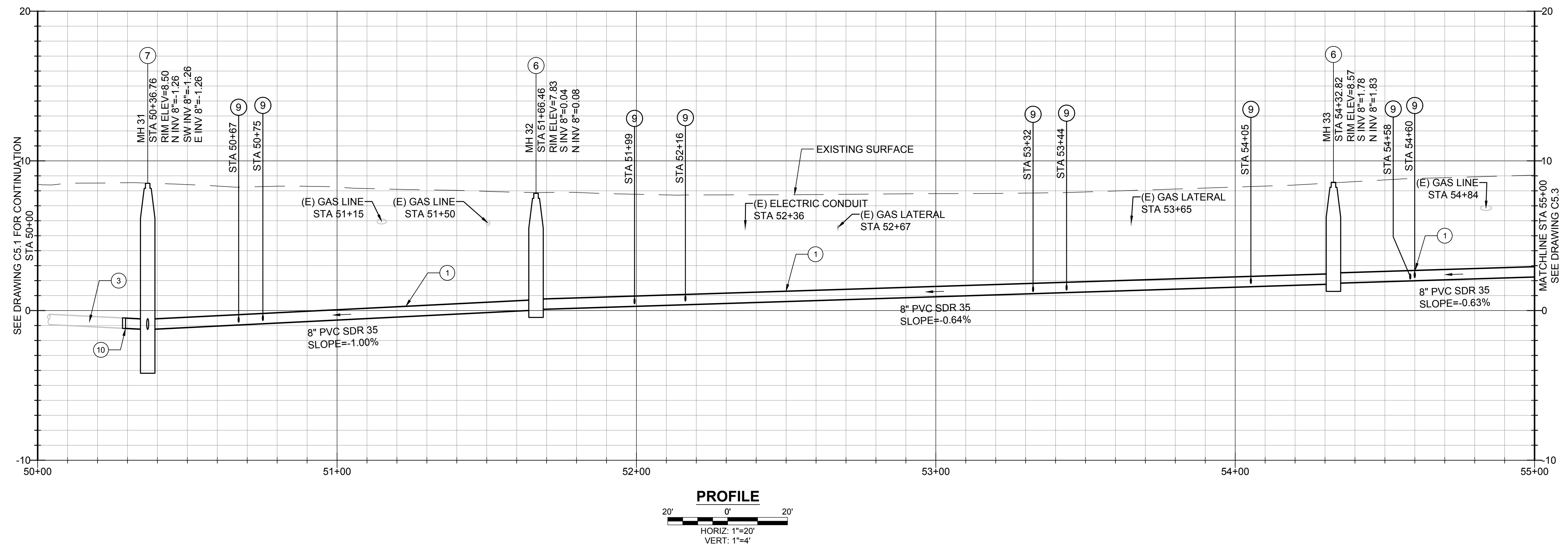
05/05/2022
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

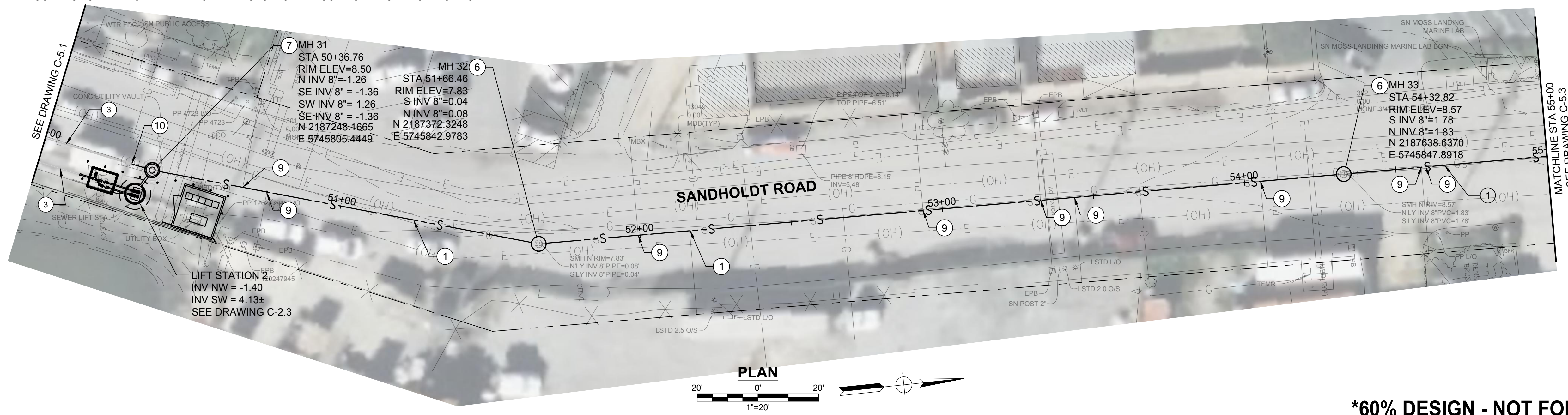
SEWER MAIN REPLACEMENT PIPE REPAIR P-2 PLAN AND PROFILE
STA 39+90 TO STA 44+00

PROJECT NUMBER: DICVL.200738.02
DRAWING NUMBER: C-5.1
SHEET NUMBER: 24 OF 57



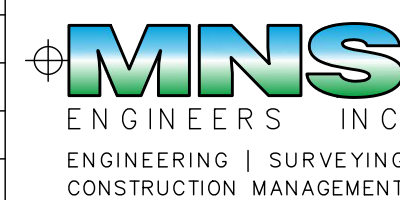
CONSTRUCTION NOTES

- ① REMOVE 8" PVC SEWER MAIN AND INSTALL 8" PVC SEWER MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ③ PROTECT EXISTING UTILITY IN PLACE.
- ⑥ REMOVE AND REPLACE FRAME AND COVER OF 48" DIAMETER MANHOLE CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-2. LINE THE INTERIOR OF THE MANHOLE WITH EPOXY COATING.
- ⑦ RECONNECT SEWER MAIN TO LIFT STATION PER SHEET C-4.2.
- ⑨ RECONNECT EXISTING SEWER LATERAL CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-6.
- ⑩ INSTALL 5' OF 8" PVC SEWER MAIN AND CONNECT SEWER TO NEW MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-2.



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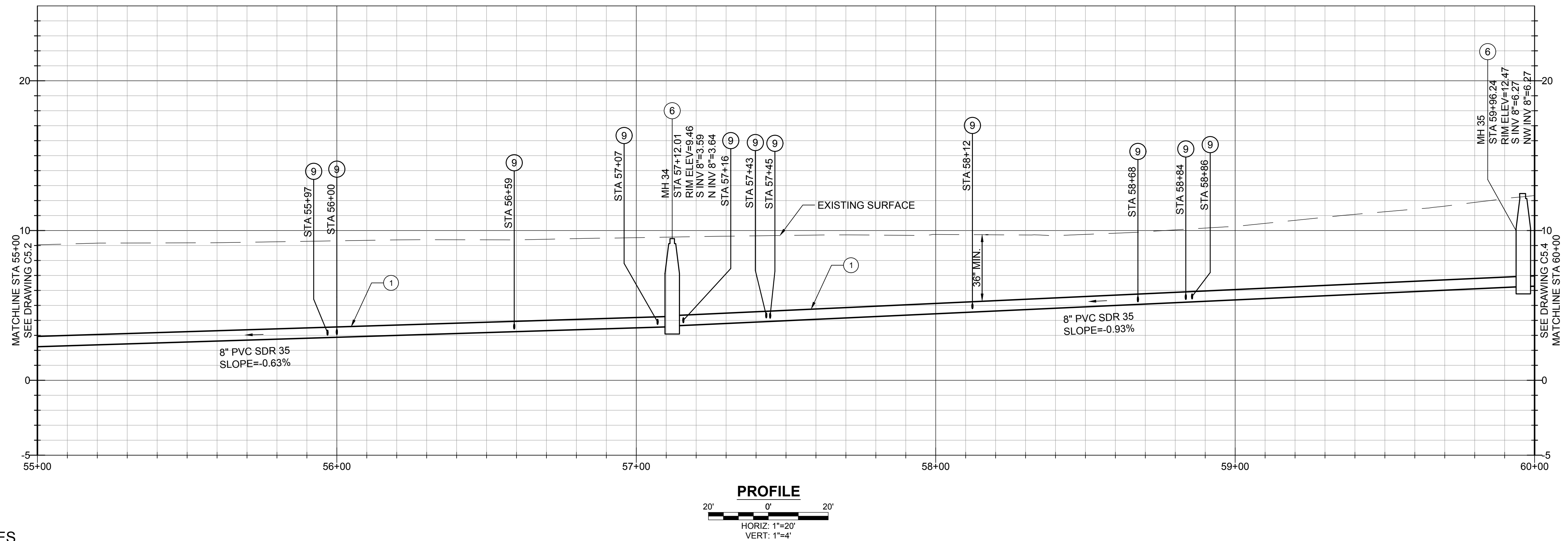
05/05/2022
DATE



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SCALE:
AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT
SEWER MAIN REPLACEMENT PIPE REPAIR P-1 PLAN AND PROFILE
STA 50+00 TO STA 55+00

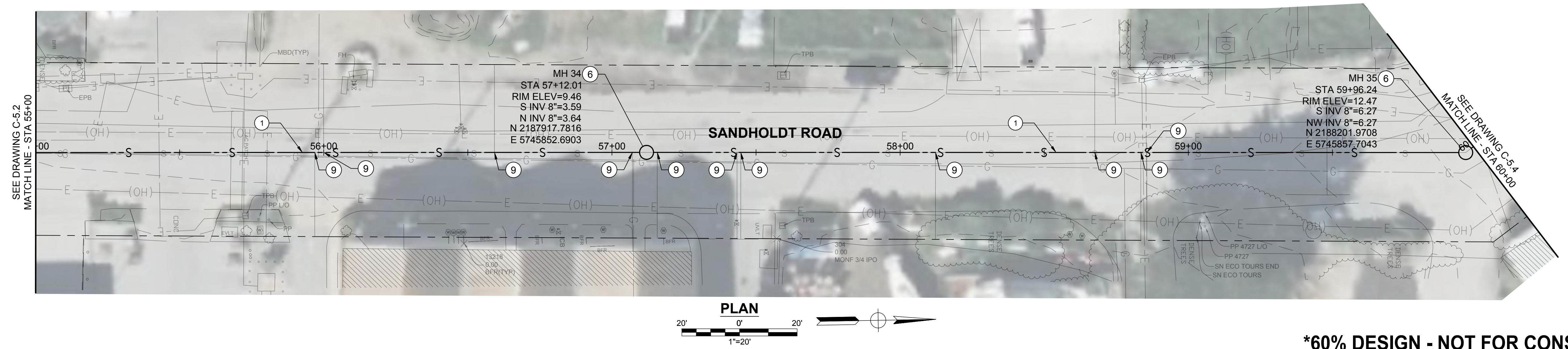
PROJECT NUMBER
DICVL.200738.02
DRAWING NUMBER
C-5.2
SHEET NUMBER
25 OF **57**



PROFILE
 20' 0' 20'
 HORIZ: 1"=20'
 VERT: 1"=4'

CONSTRUCTION NOTES

- ① REMOVE 8" PVC SEWER MAIN AND INSTALL 8" PVC SEWER MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ⑥ REMOVE AND REPLACE FRAME AND COVER OF 48" DIAMETER MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-2. LINE THE INTERIOR OF THE MANHOLE WITH EPOXY COATING



PLAN
 20' 0' 20'
 1"=20'

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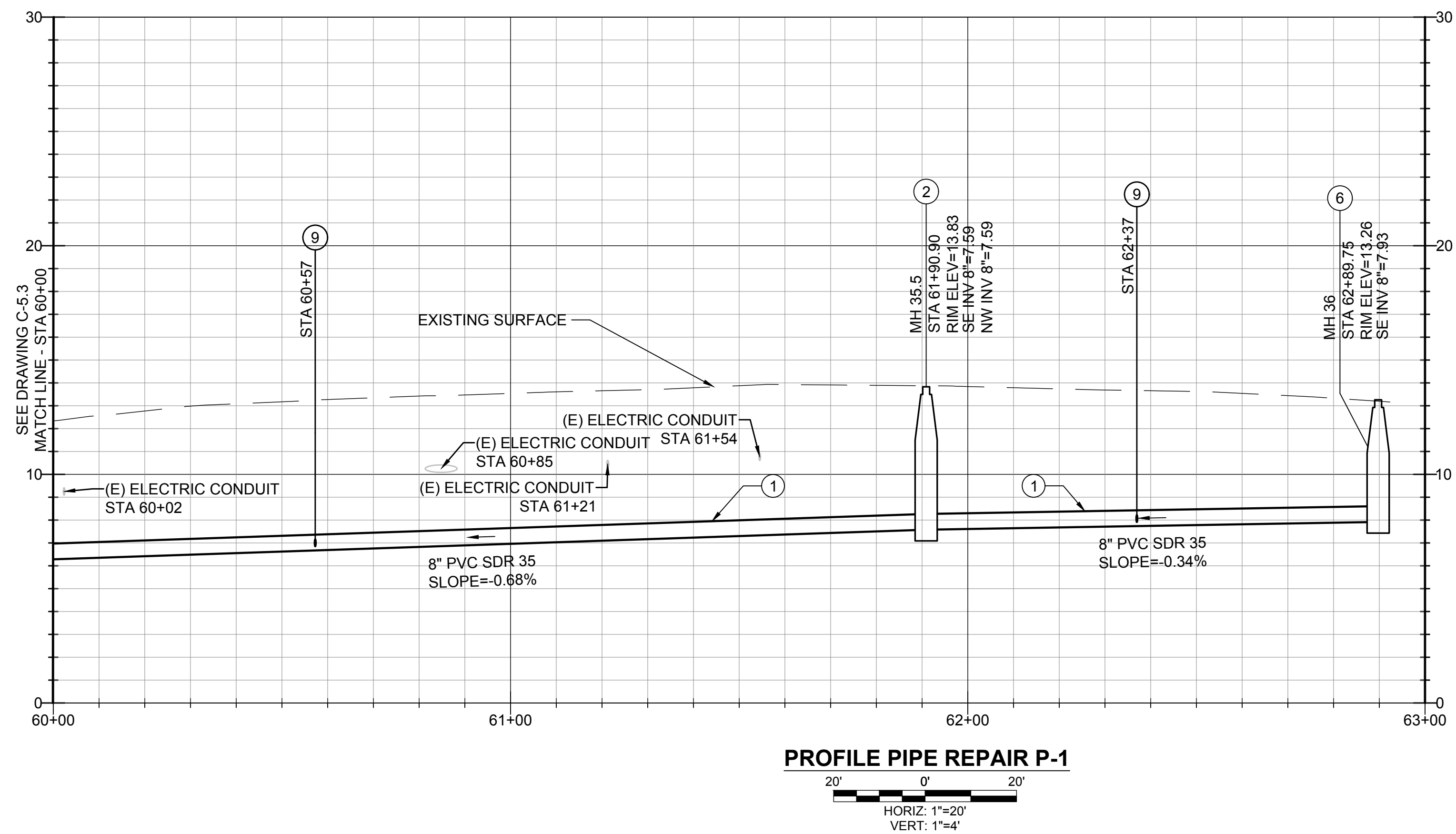
05/05/2022
 DATE



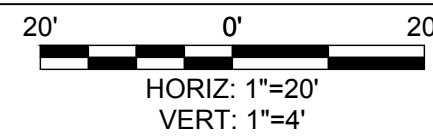
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 SCALE:
 AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT
SEWER MAIN REPLACEMENT PIPE REPAIR P-1 PLAN AND PROFILE
 STA 55+00 TO STA 60+00

PROJECT NUMBER
DICVL.200738.02
 DRAWING NUMBER
C-5.3
 SHEET NUMBER
26 OF 57

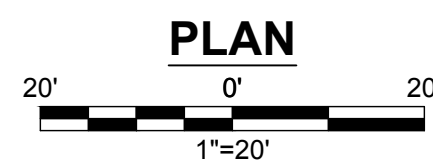
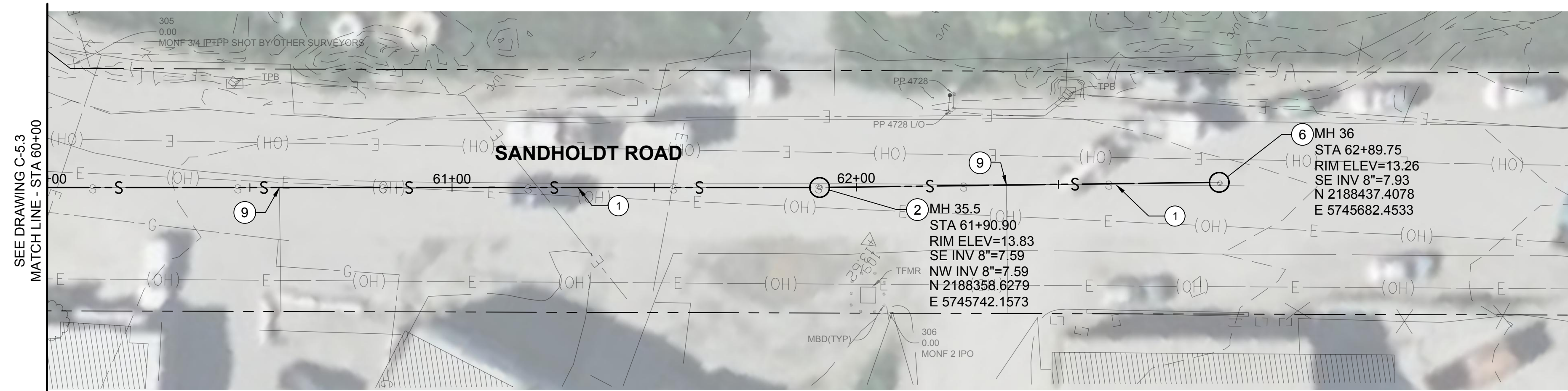


PROFILE PIPE REPAIR P-1



CONSTRUCTION NOTES

- ① REMOVE 8" PVC SEWER MAIN AND INSTALL 8" PVC SEWER MAIN BY OPEN TRENCH CONSTRUCTION PER SPECIFICATIONS AND CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-4.
- ② PROTECT EXISTING MANHOLE IN PLACE.
- ⑥ REMOVE AND REPLACE FRAME AND COVER OF 48" DIAMETER MANHOLE PER CASTROVILLE COMMUNITY SERVICE DISTRICT STANDARD PLAN NO. S-2. LINE THE INTERIOR OF THE MANHOLE WITH EPOXY COATING



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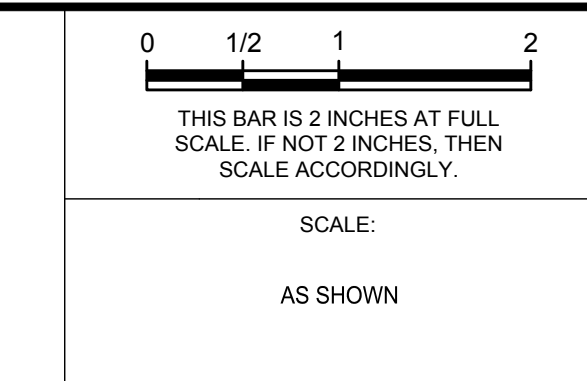
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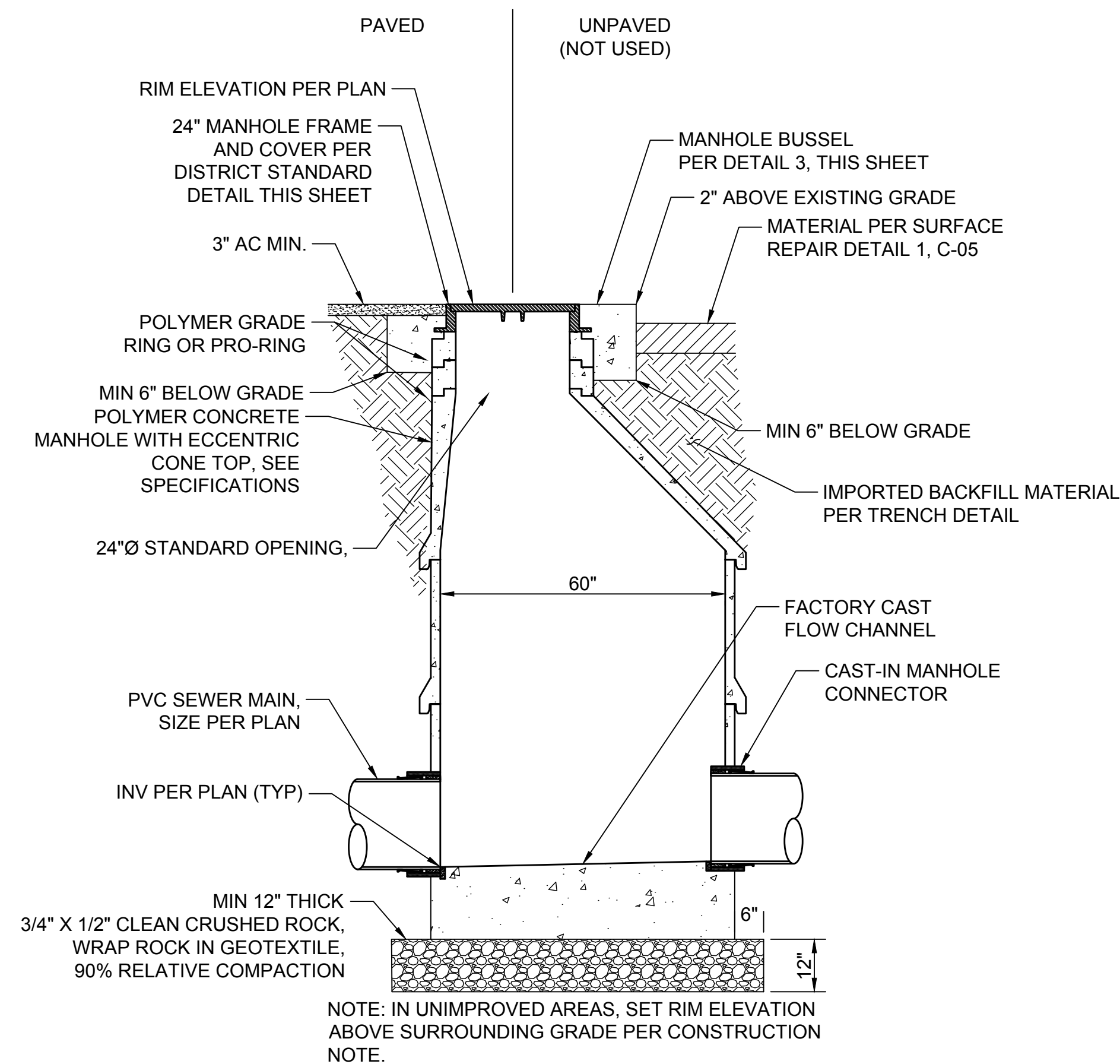
05/05/2022
DATE



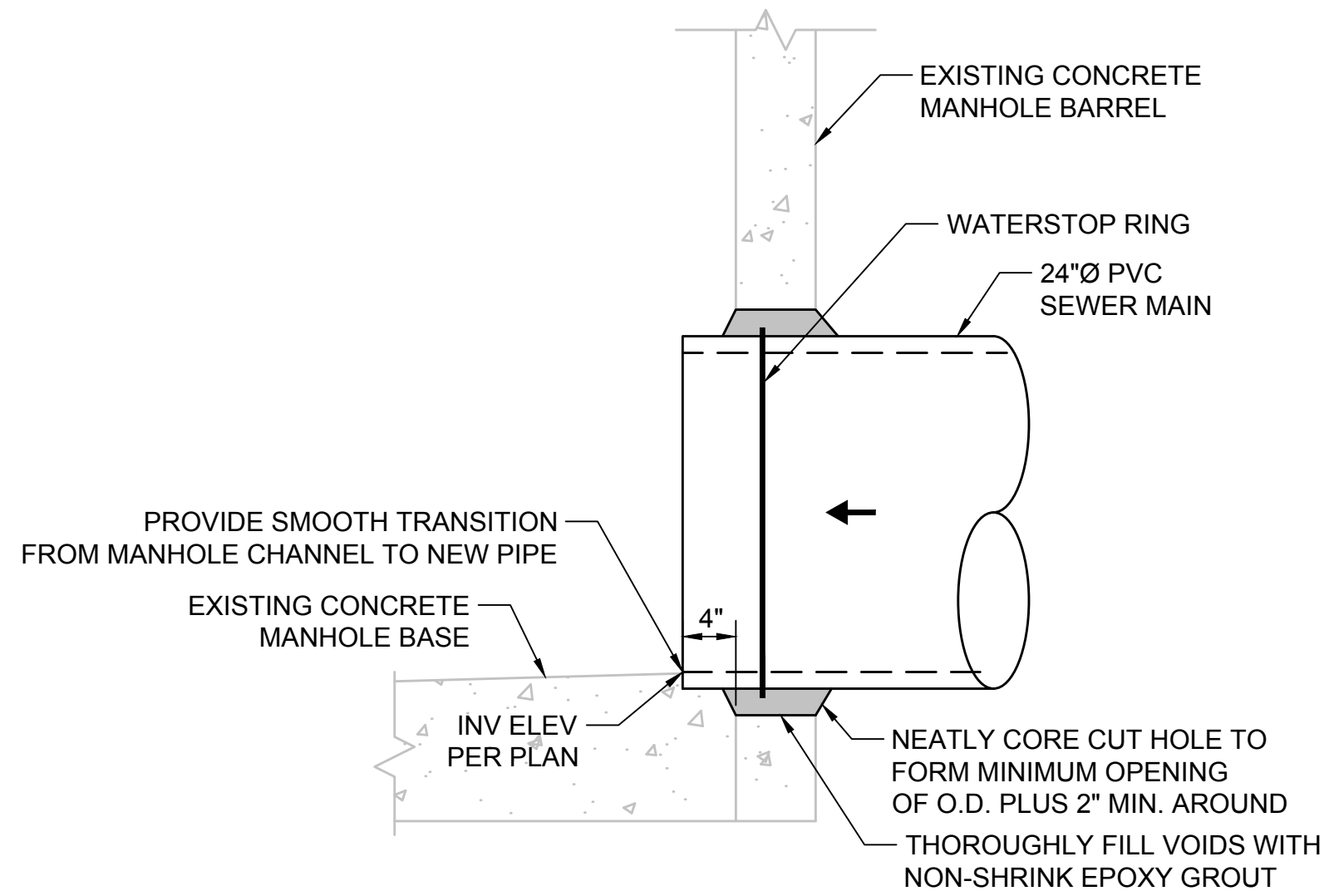
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

SEWER MAIN REPLACEMENT PIPE REPAIR P-1 PLAN AND PROFILE
STA 60+00 TO STA 63+00

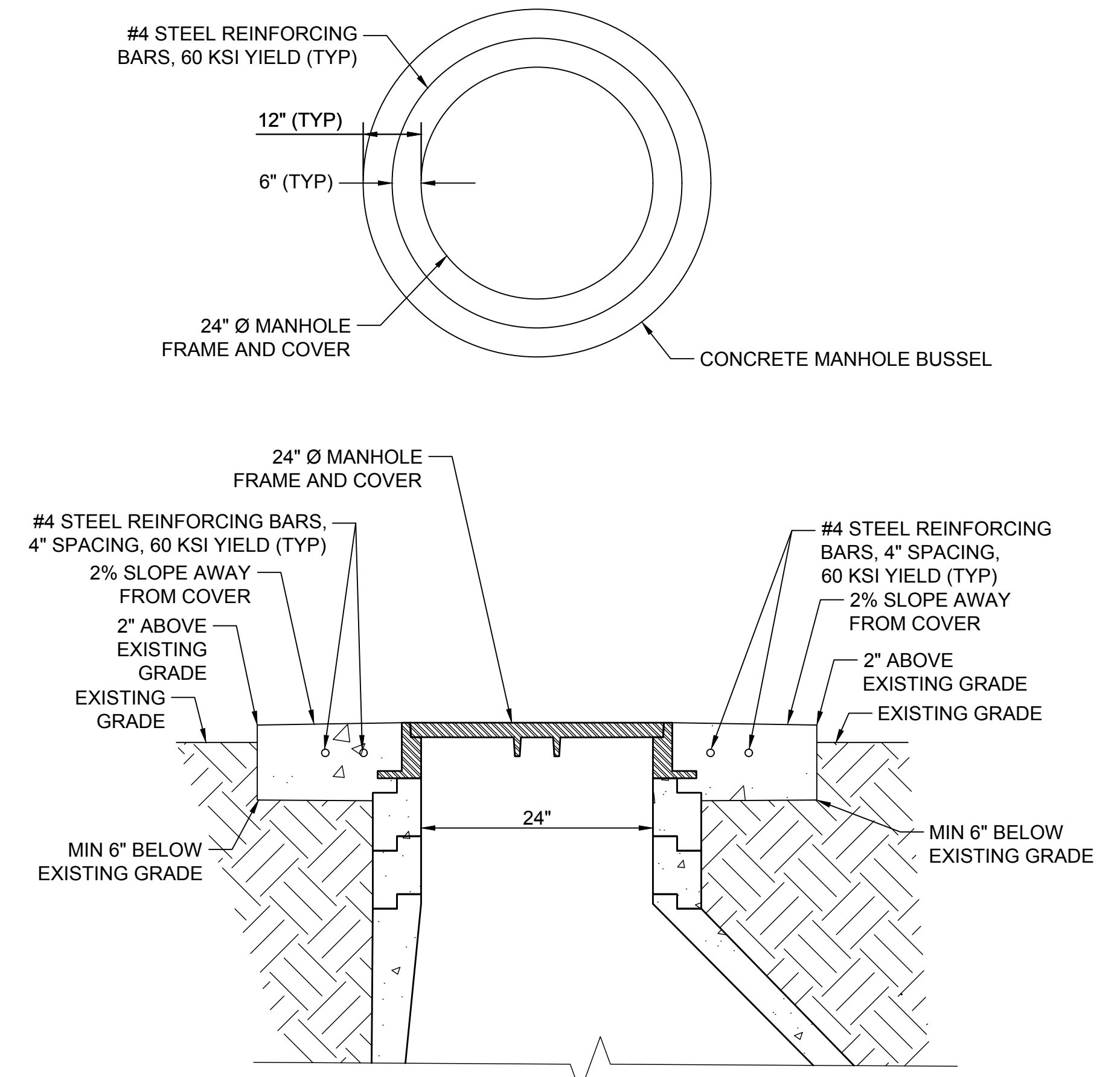
PROJECT NUMBER: DICVL.200738.02
DRAWING NUMBER: C-5.4
SHEET NUMBER: 27 OF 57



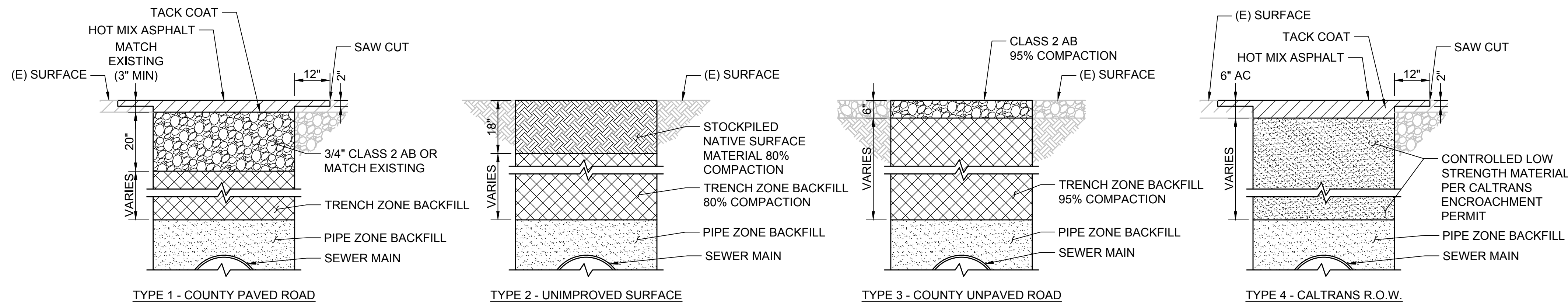
1 TYPICAL POLYMER CONCRETE MANHOLE DETAIL
VARIOUS NOT TO SCALE



2 MANHOLE CONNECTION
VARIOUS 1" = 1 ft.



3 MANHOLE BUSSEL
VARIOUS 1" = 1 ft.



4 TRENCH SURFACE REPAIR DETAIL
VARIOUS NOT TO SCALE

REV	DATE	BY	DESCRIPTION



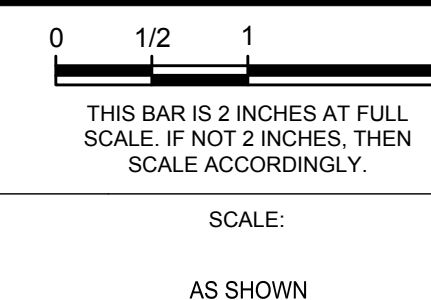
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DATE



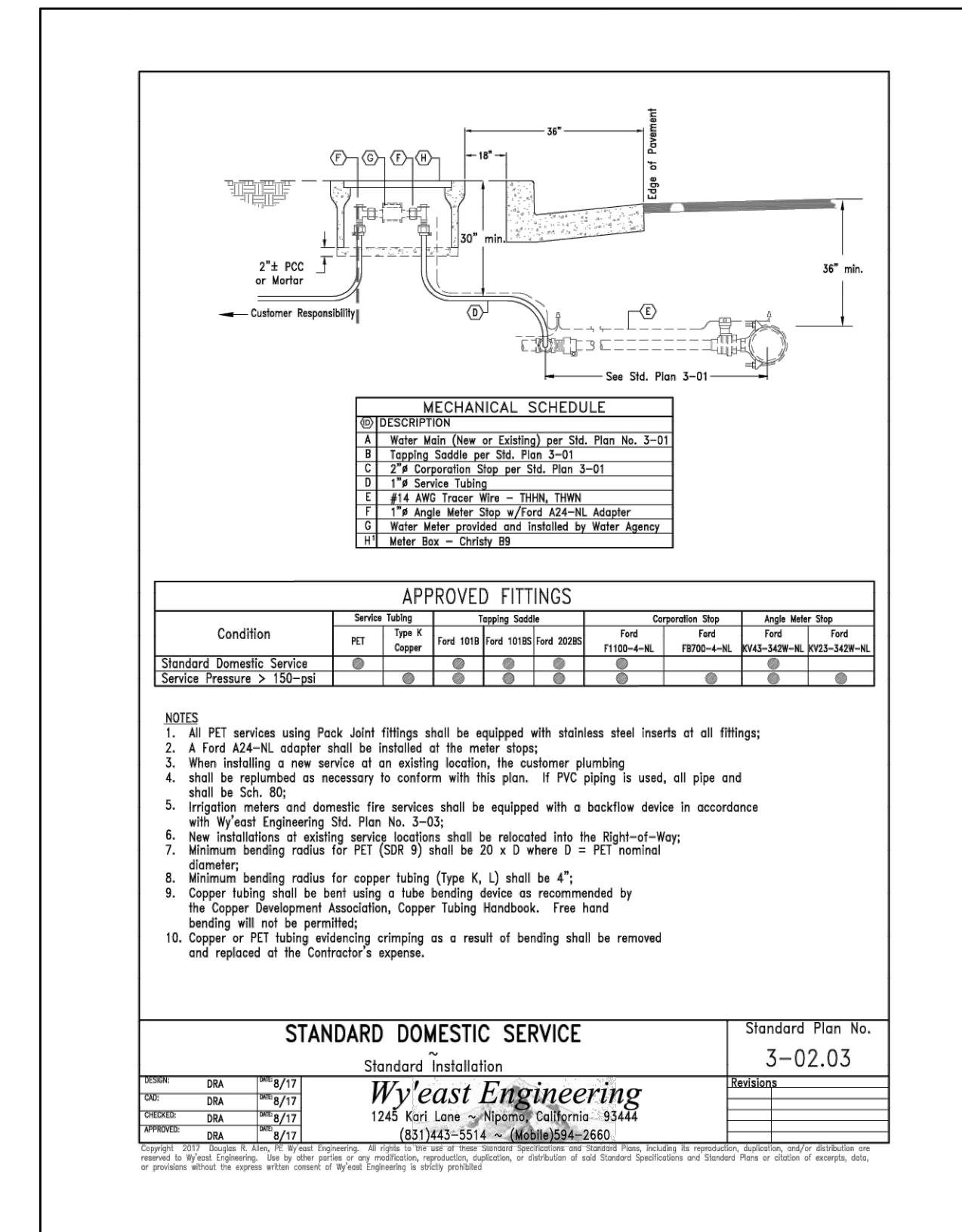
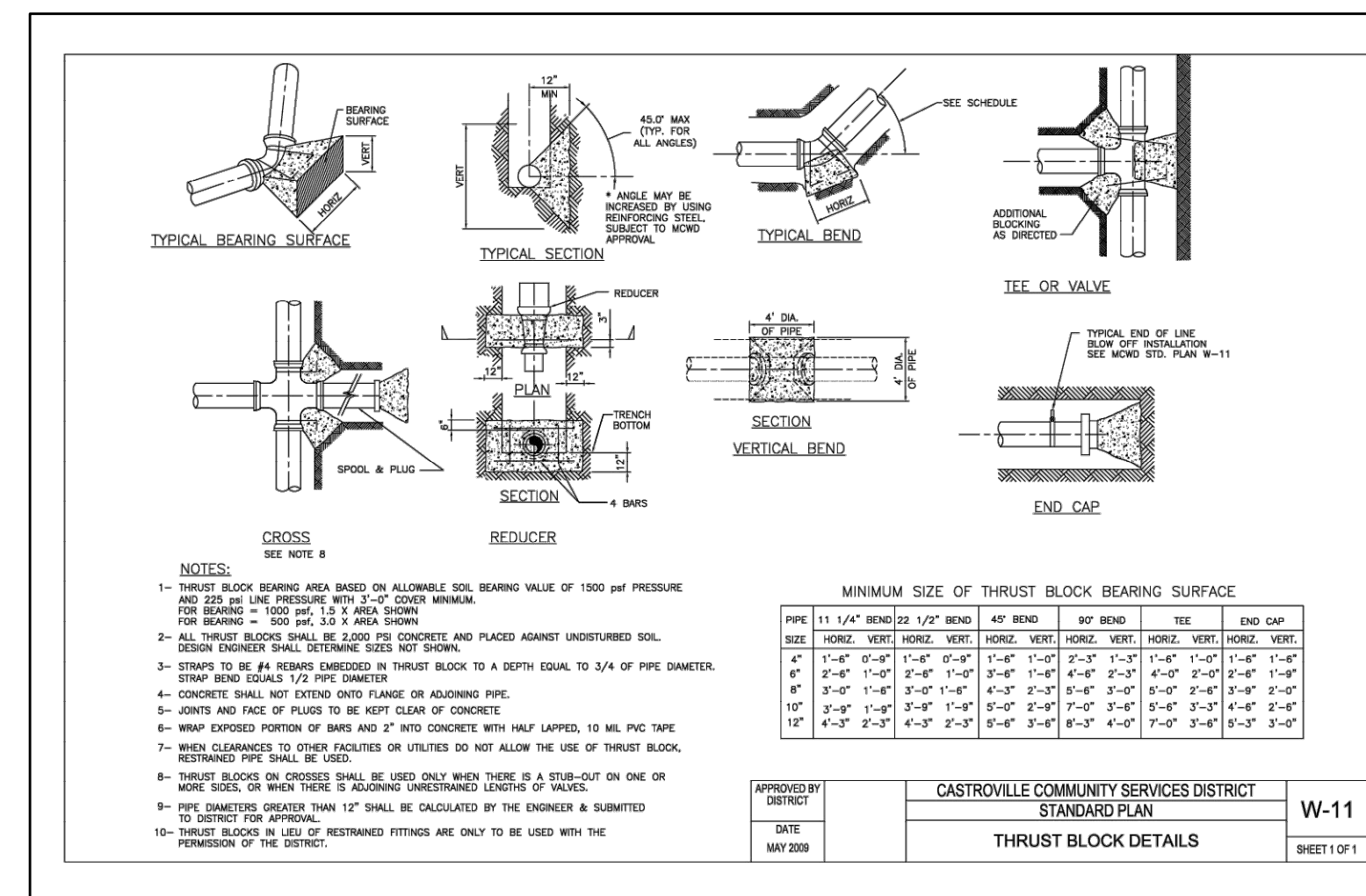
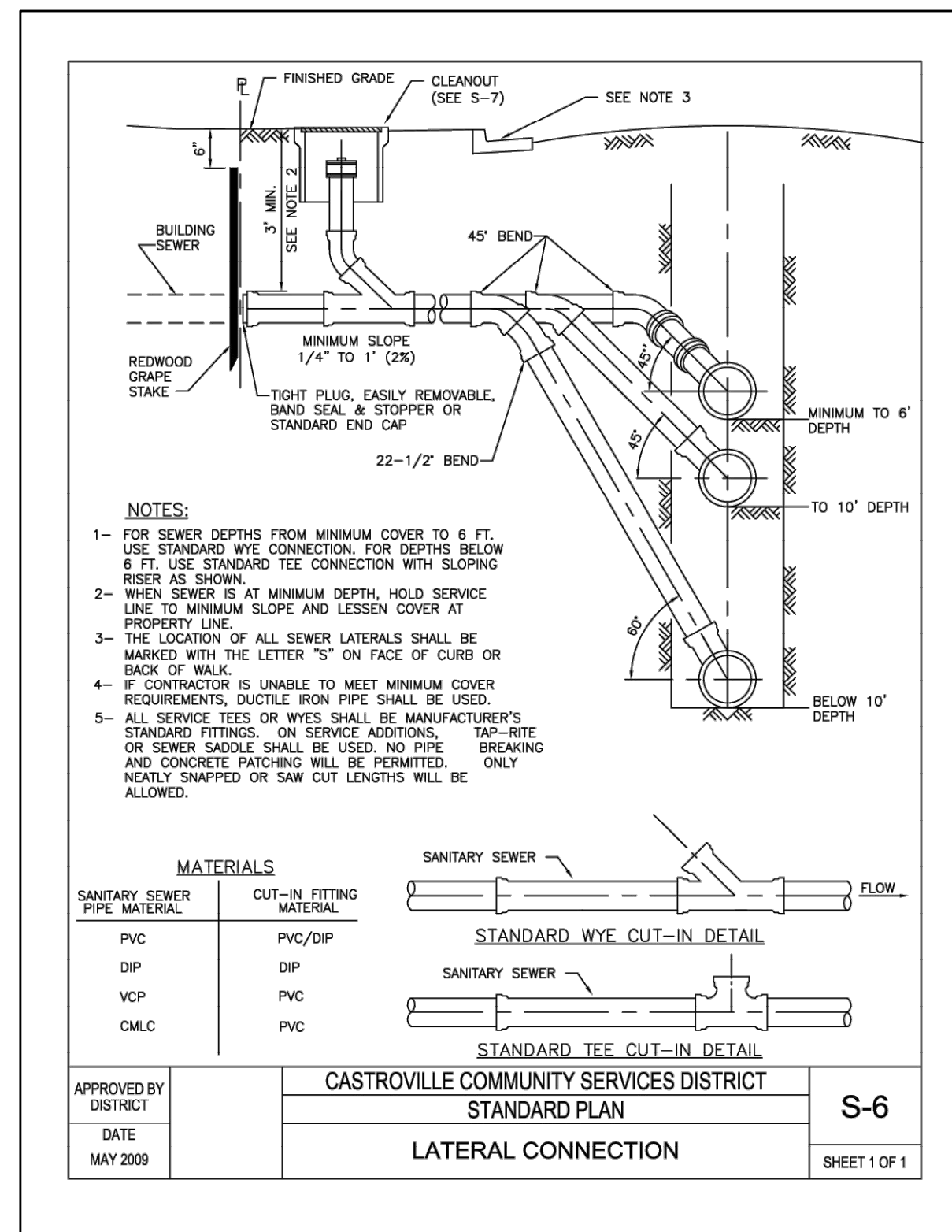
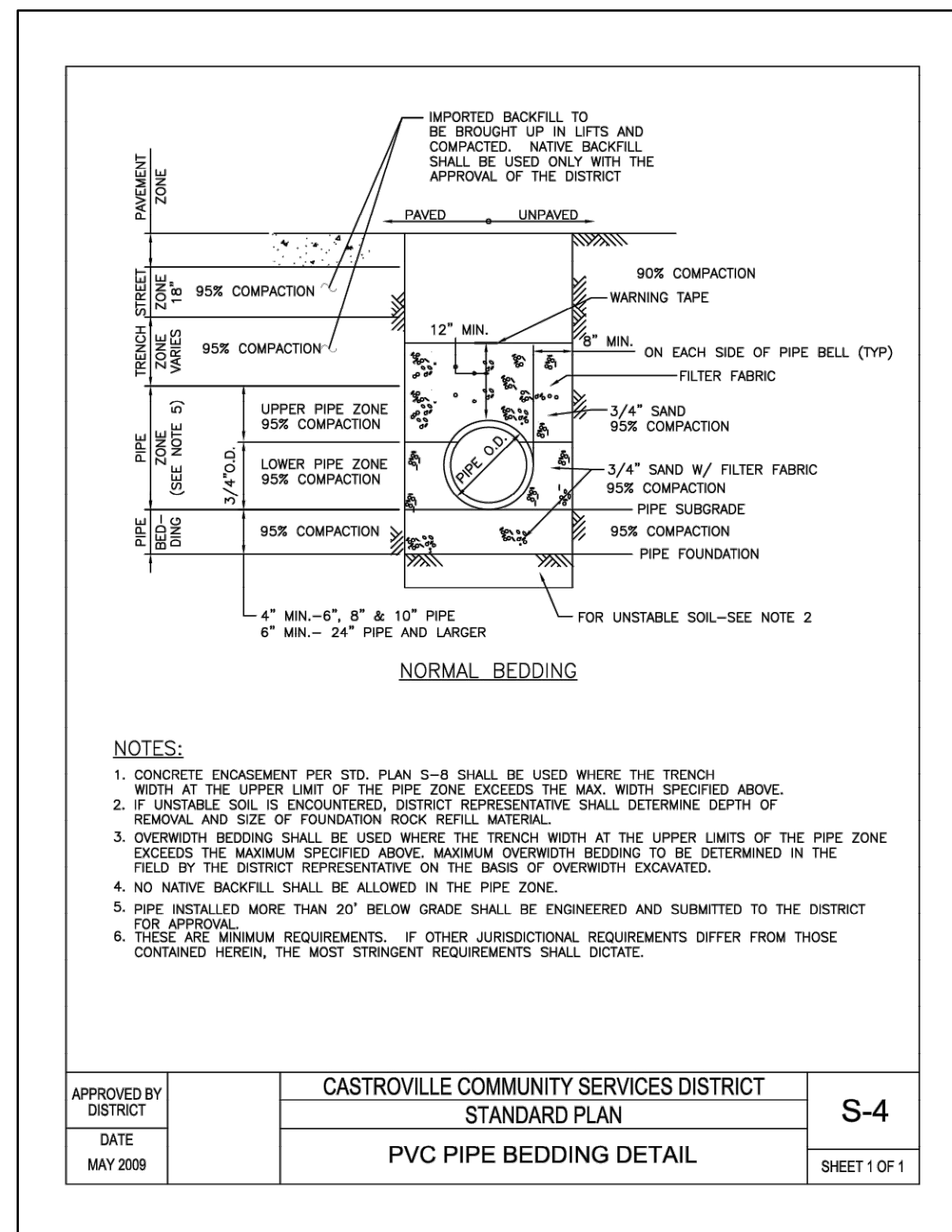
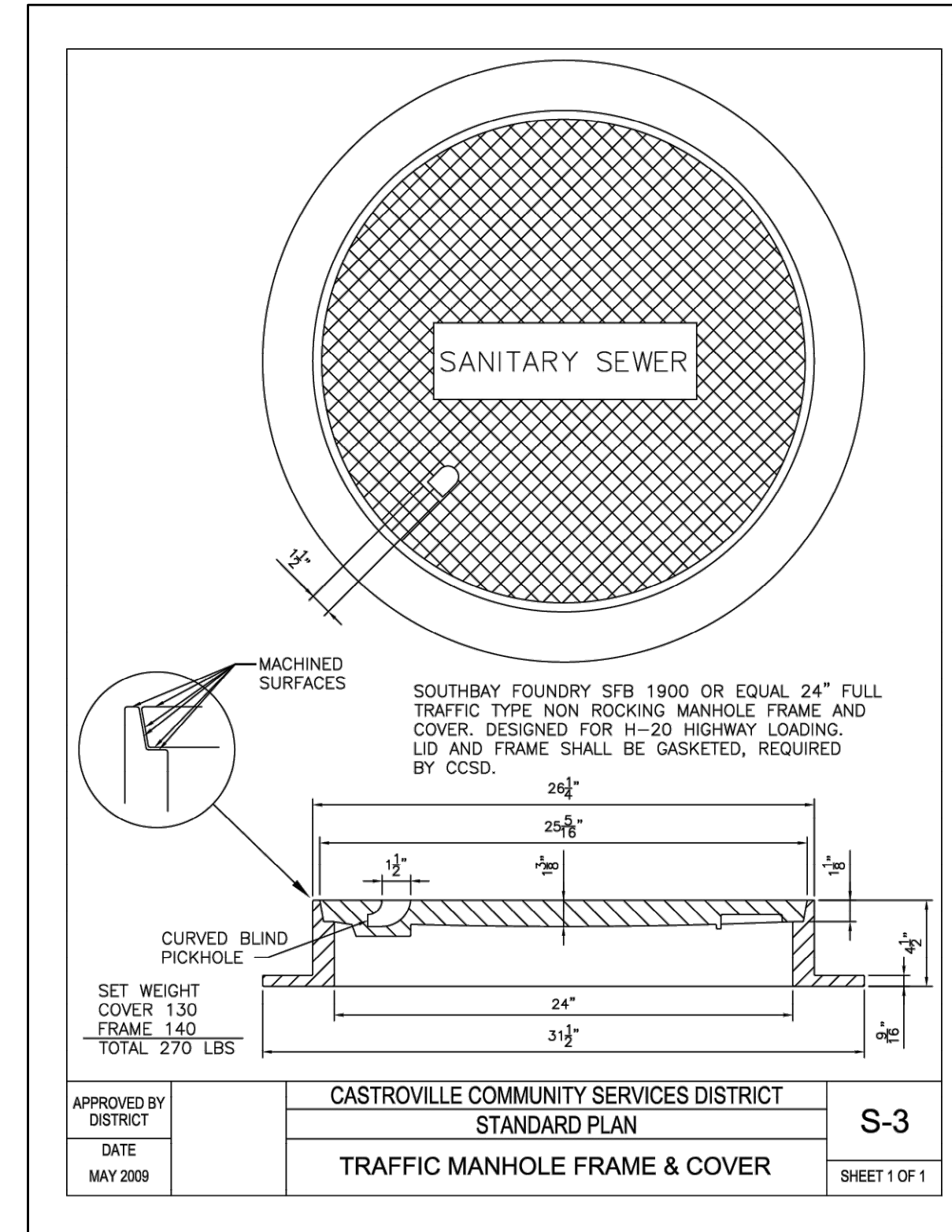
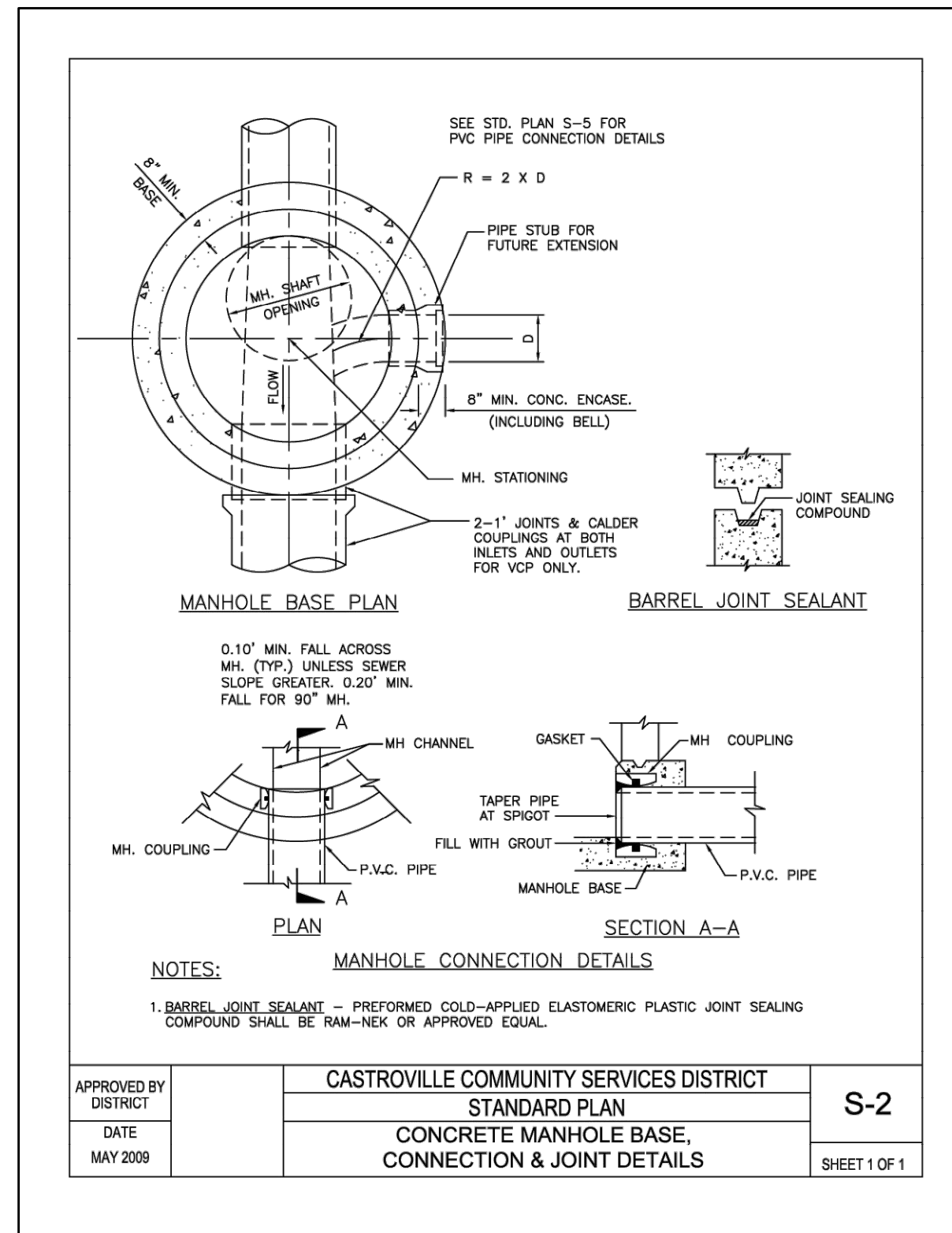
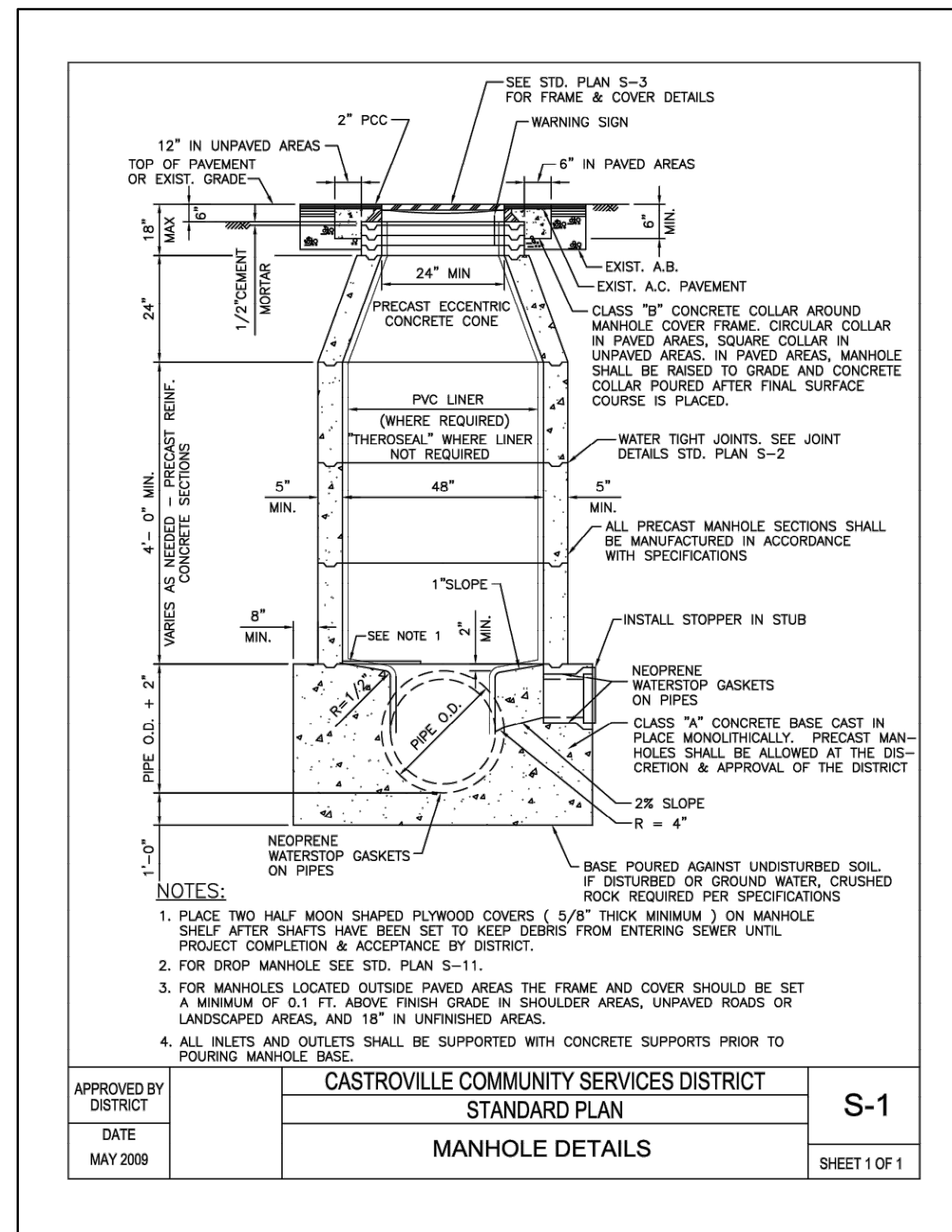
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

SEWER MAIN REPLACEMENT GRAVITY SEWER DETAILS

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-6.1

SHEET NUMBER
28 OF **57**



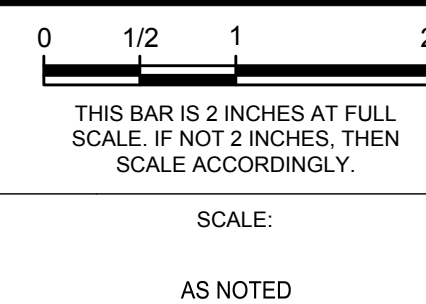
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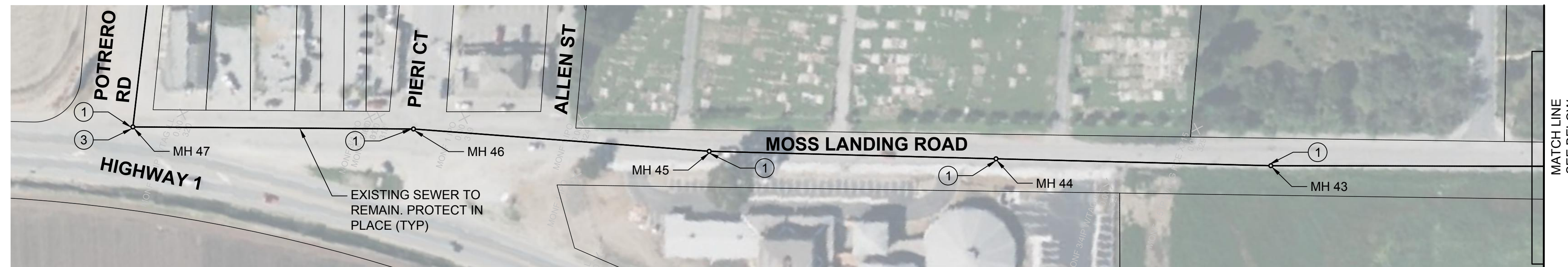


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 CHECKED: TNH
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 R.C.E. 75006 EXP. 12/31/2021

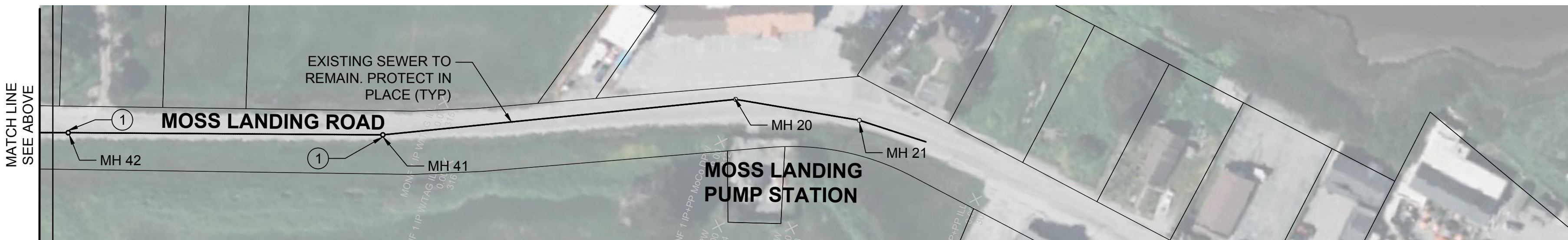
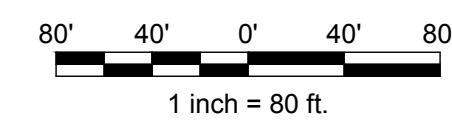


MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT
CITY STANDARD DETAILS

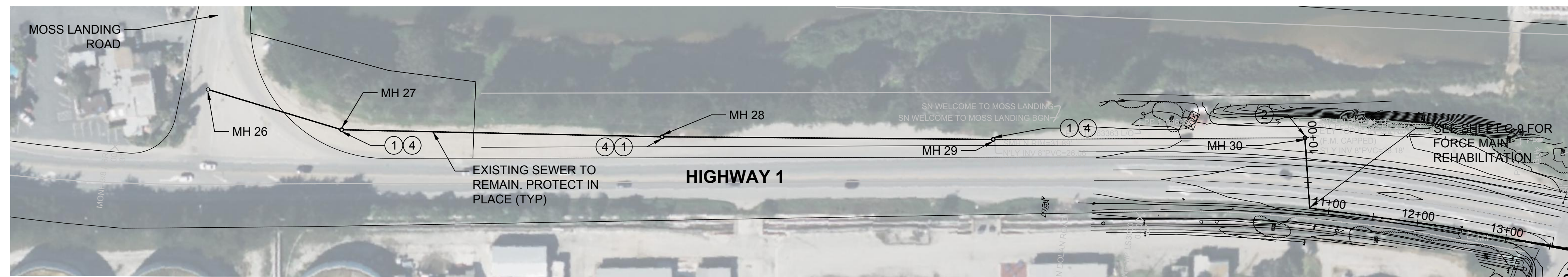
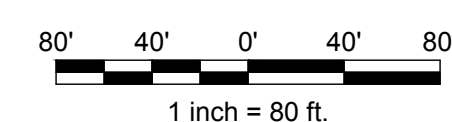
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 DRAWING NUMBER: C-6.2
 SHEET NUMBER: 29 OF 57



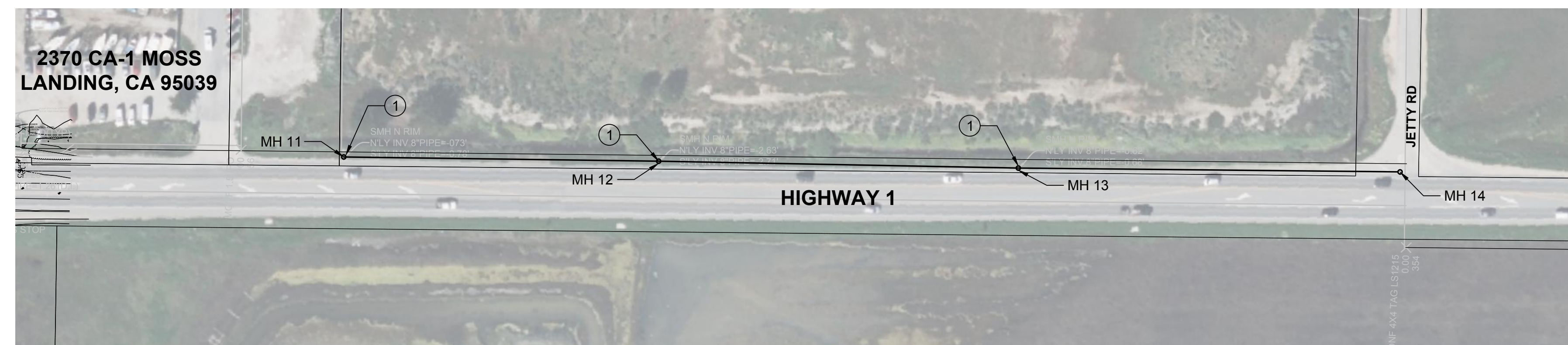
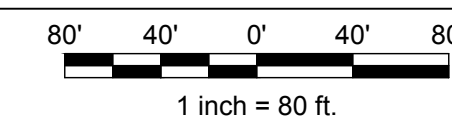
MANHOLES 43 THROUGH 47



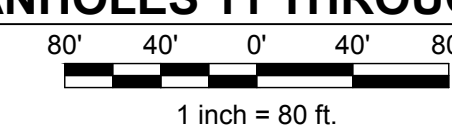
MANHOLES 41 THROUGH 42



MANHOLES 27 THROUGH 30



MANHOLES 11 THROUGH 14



CONSTRUCTION NOTES

- ① REHABILITATE EXISTING MANHOLE PER SCHEDULE.
- ② REPLACE MANHOLE WITH POLYMER CONCRETE MANHOLE PER DETAIL 1, SHEET C-6.1.
- ③ RAISE MANHOLE TO GRADE.
- ④ INSTALL MANHOLE BUSSEL PER DETAIL 3, SHEET C-6.1.

MANHOLE REHABILITATION SCHEDULE				
MANHOLE NUMBER	RAISE FRAME TO GRADE	EPOXY LINE INTERIOR	MANHOLE BUSSEL	REPLACE MANHOLE
11		X		
12		X		
13		X		
21		X		
22		X		
23		X		
24		X		
25		X		
27		X	X	
28		X	X	
29		X	X	
30				X
41		X		
42		X		
43		X		
44		X		
45		X		
46		X		
47	X	X		

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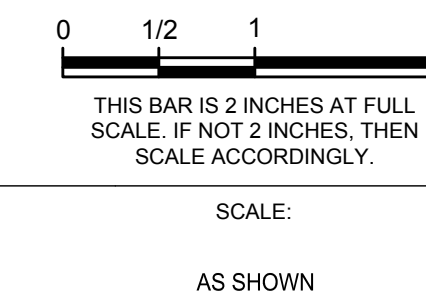
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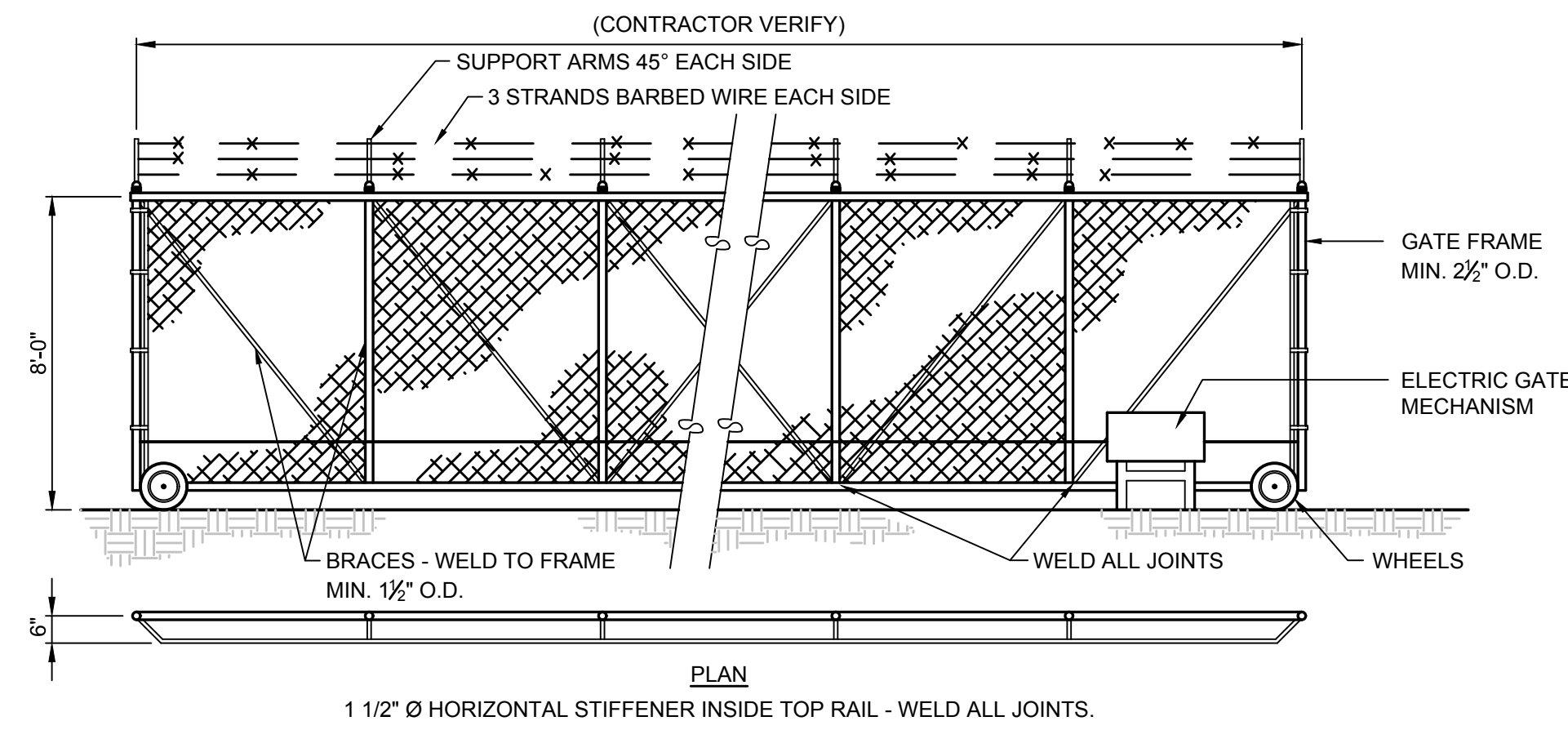
DESIGNED:
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 LEAD ENGINEER
 R.C.E. 75006 EXP. 12/31/2023

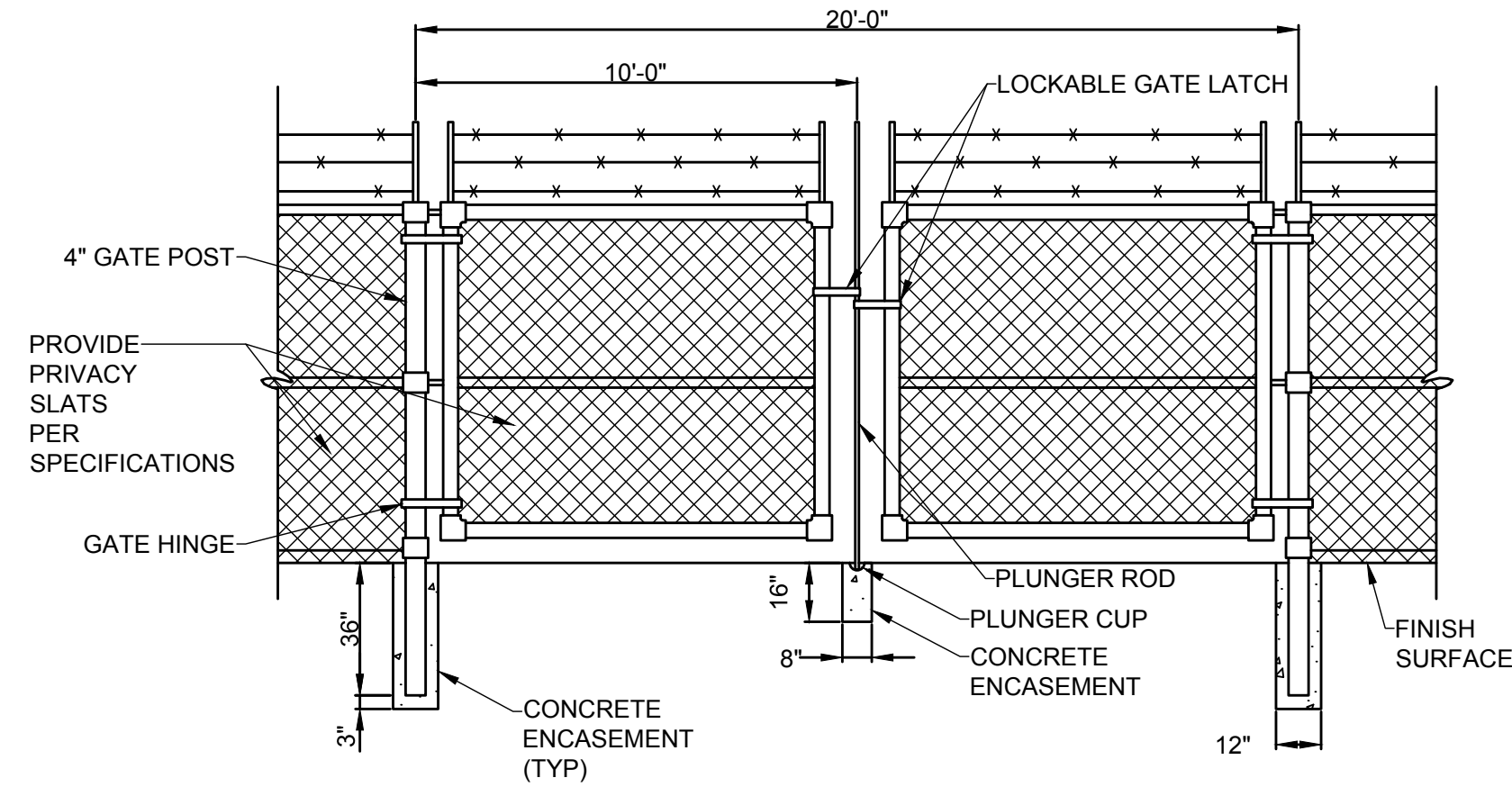
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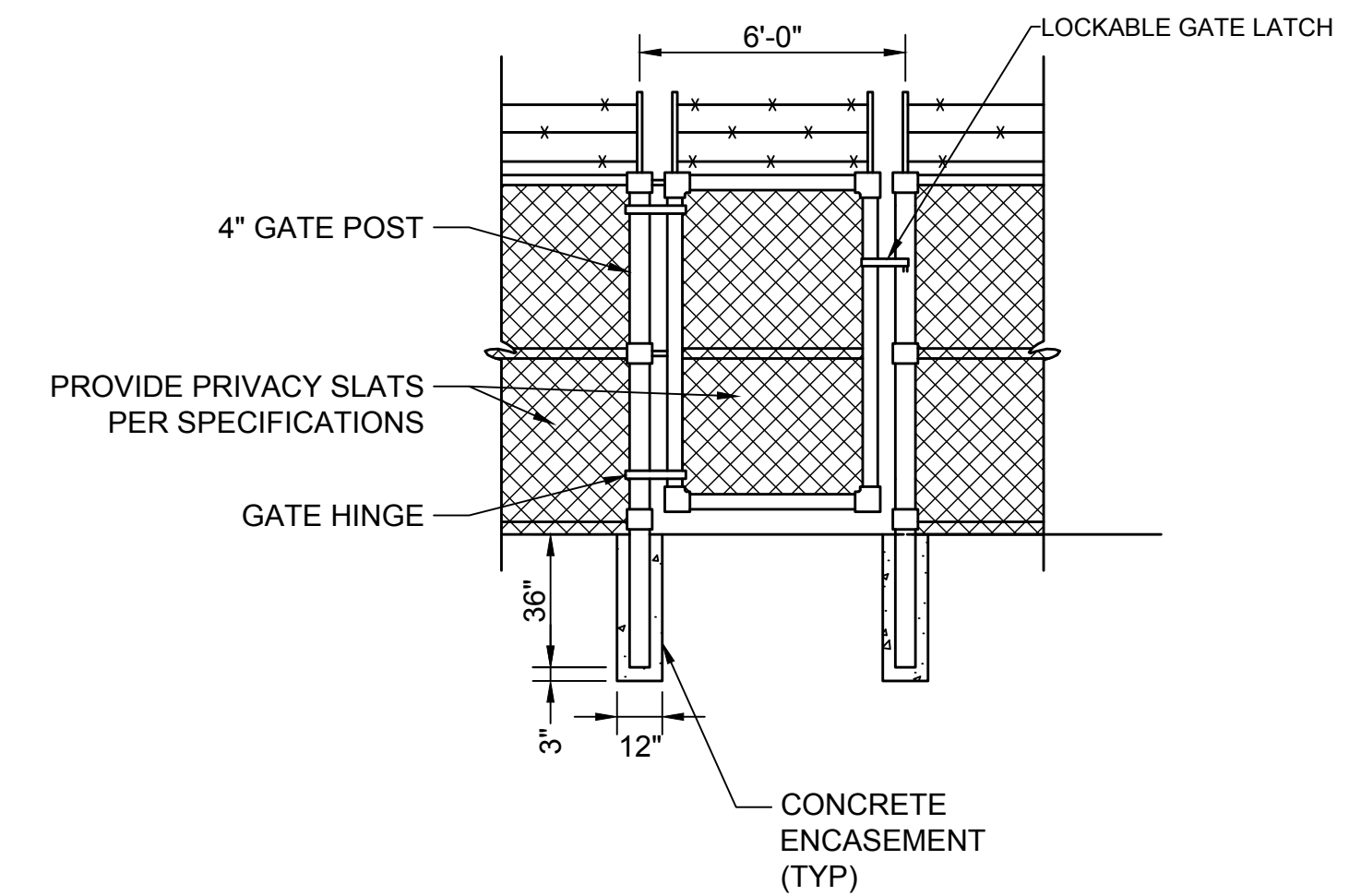
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT CASTROVILLE COMMUNITY SERVICE DISTRICT		PROJECT NUMBER DICVL.200738.02
SEWER MANHOLE REHABILITATION LOCATION MAP AND DETAILS		DRAWING NUMBER C-7
		SHEET NUMBER 30 OF 57



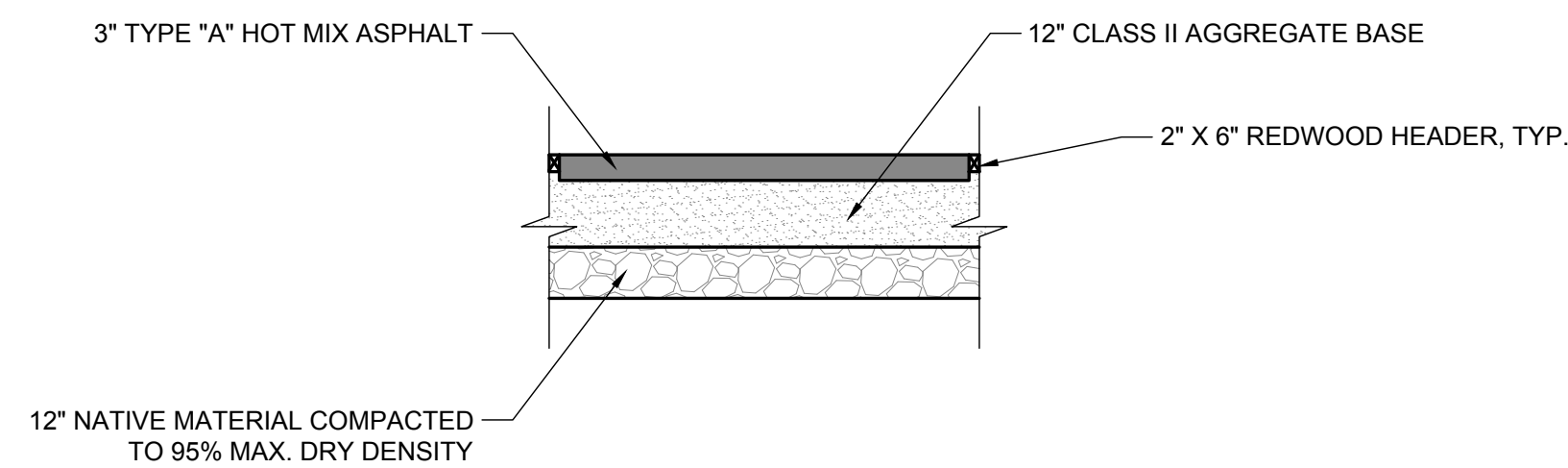
1 ROLLING GATE CHAINLINK FENCE DETAIL
C-1.2, C-3.2, C-4.2 NOT TO SCALE



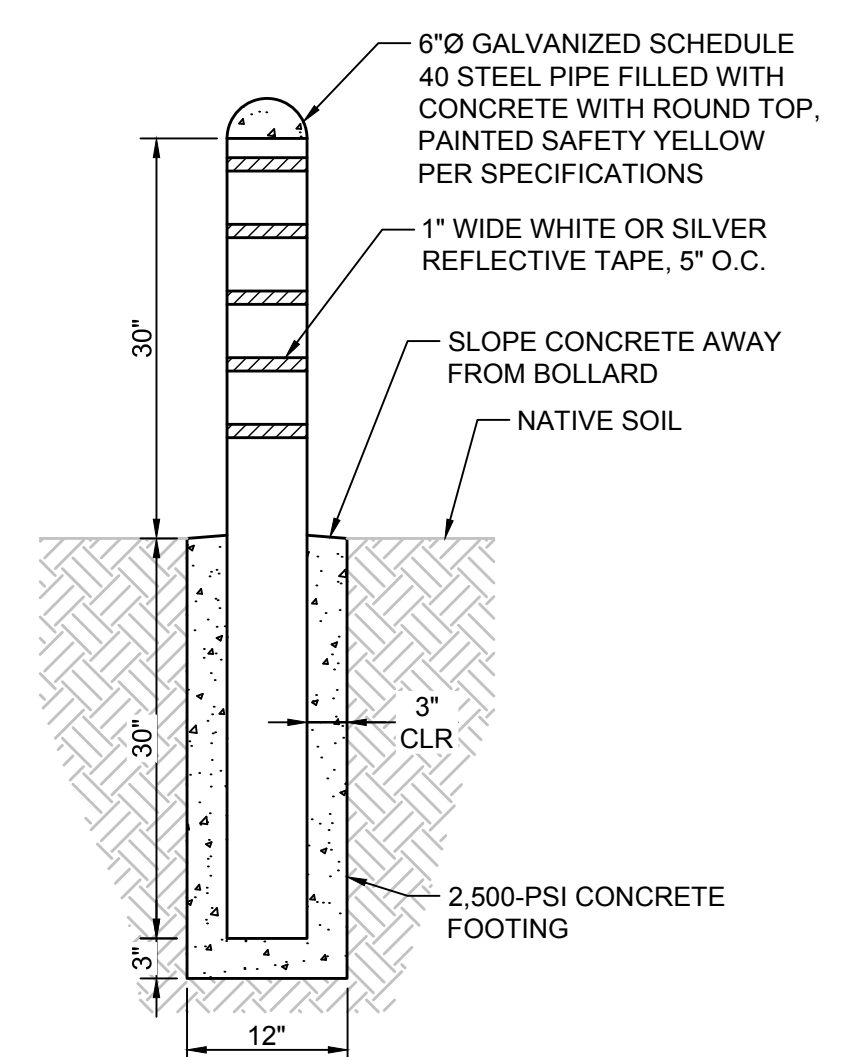
2 DOUBLE SWING GATE CHANLINK FENCE DETAIL
C-1.2, C-2.2 NOT TO SCALE



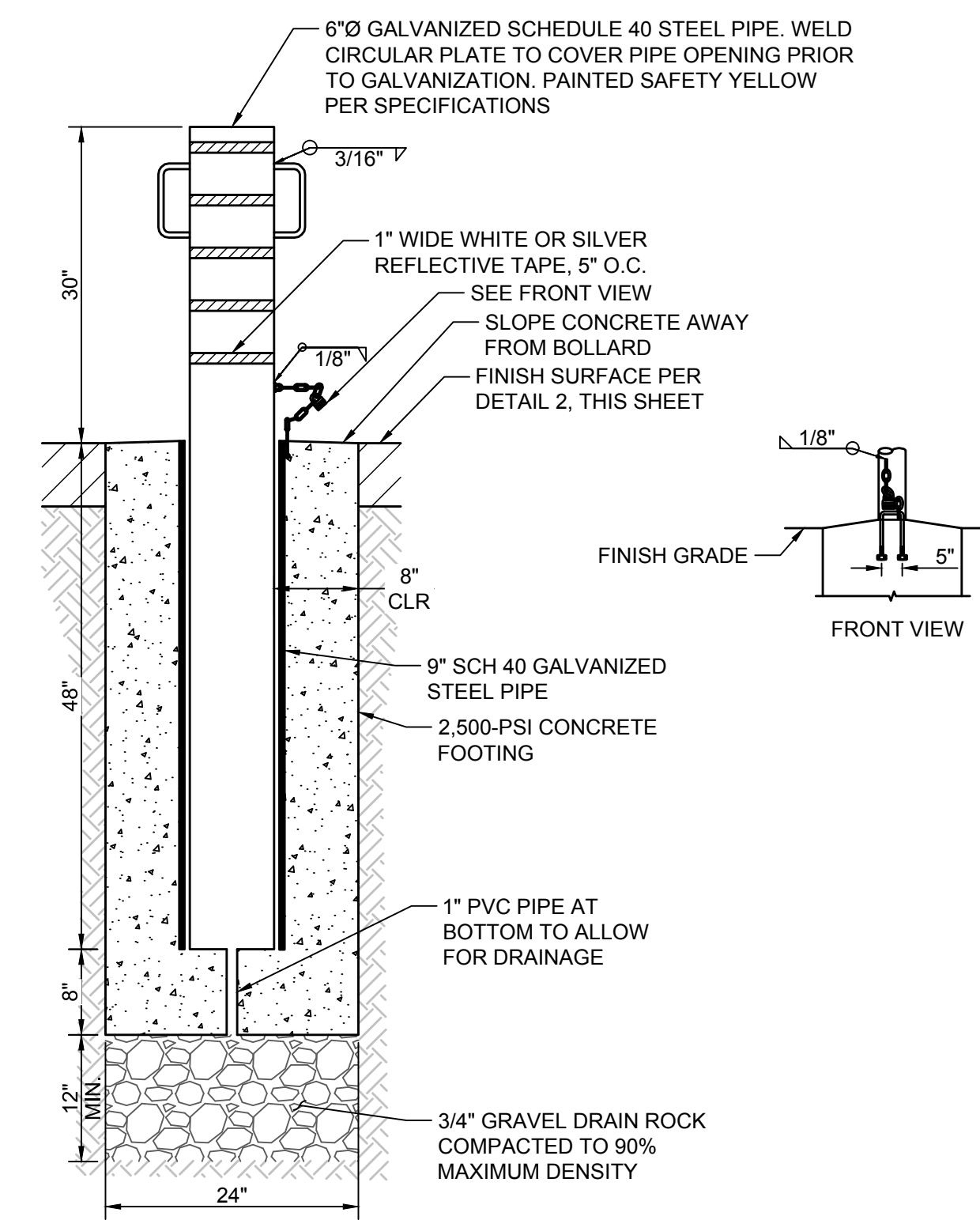
3 SINGLE SWING GATE CHAINLINK FENCE DETAIL
C-2.2, C-3.2 NOT TO SCALE



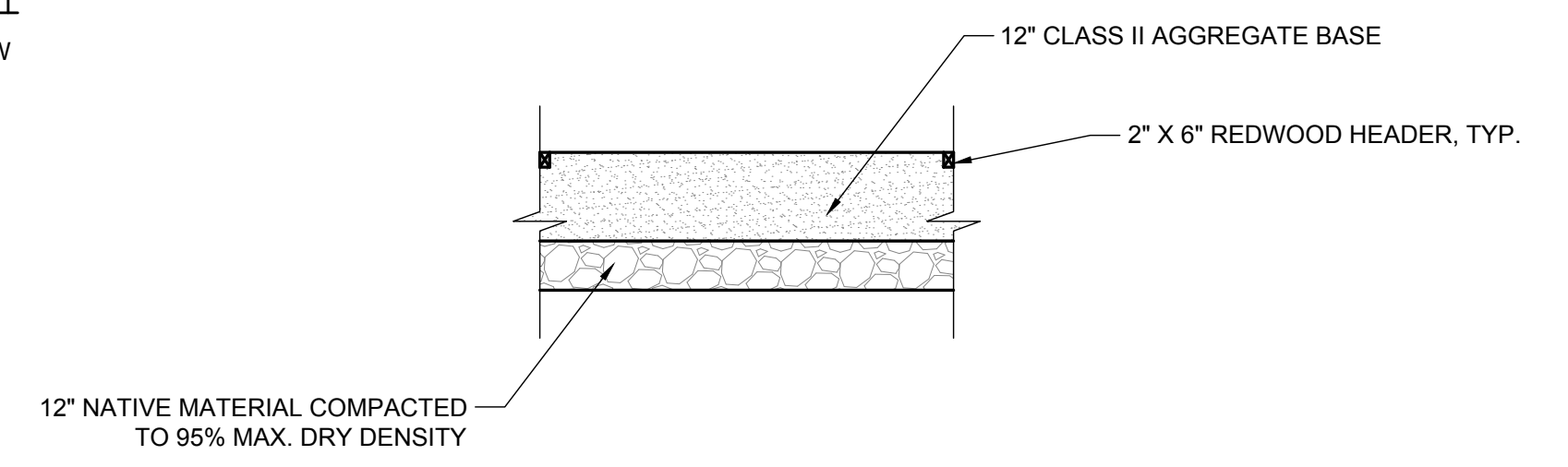
4 PAVEMENT SECTION DETAILS
VARIOUS NOT TO SCALE



5 BOLLARD DETAIL
C-1.2, C-2.2, C-3.2, C-4.2 NOT TO SCALE



6 REMOVABLE BOLLARD DETAIL
C-2.2, C-3.2 NOT TO SCALE



7 GRAVEL SECTION DETAILS
C-1.2 NOT TO SCALE

REV	DATE	BY	DESCRIPTION

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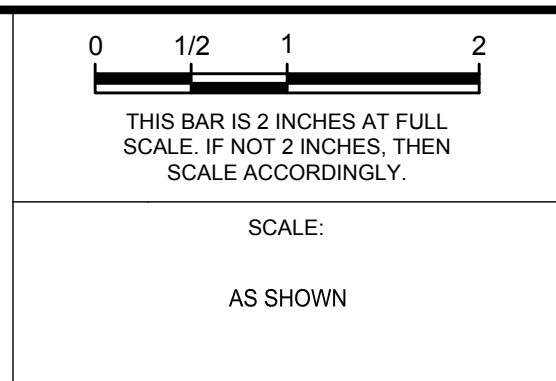
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CHECKED: TNH

NICHOLAS E. PANOFSKY
LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE

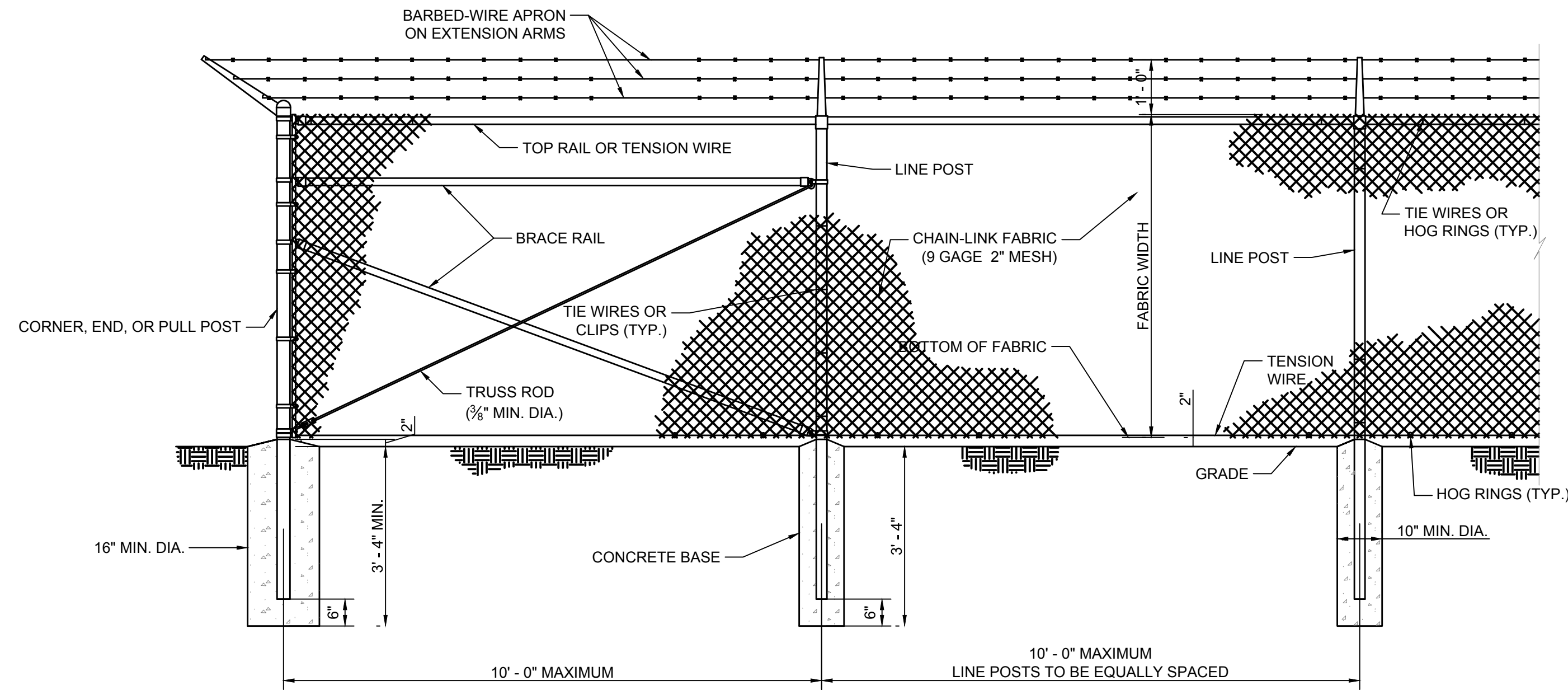


MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTOVILLE COMMUNITY SERVICE DISTRICT

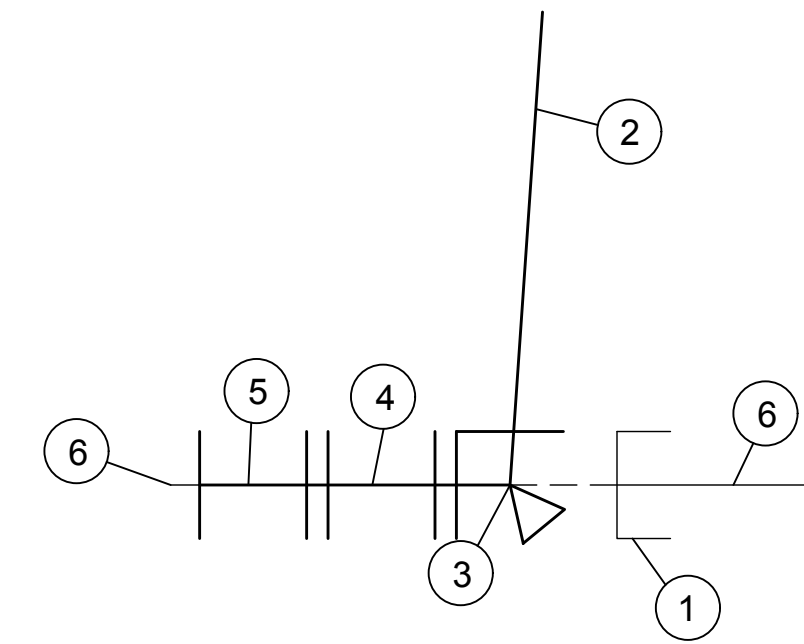
SITE IMPROVEMENT DETAILS

PROJECT NUMBER: **DICVL.200738.02**
DRAWING NUMBER: **C-8.1**
SHEET NUMBER: **31 OF 57**

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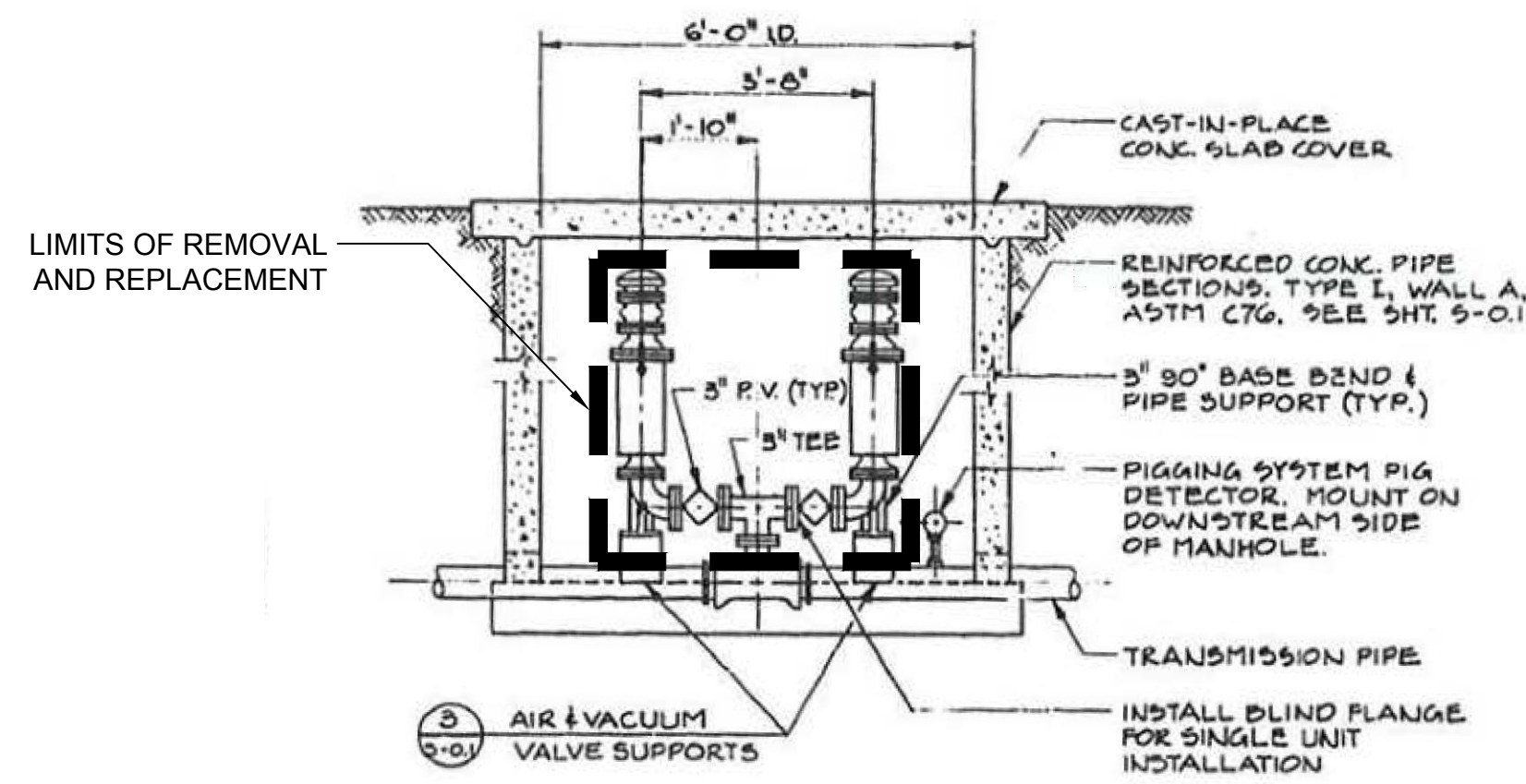
1 CHAIN LINK FENCE DETAIL
VARIOUS NOT TO SCALE



2 STA. 10+02 CONNECTION DETAIL
C-1.2, C-1.4 NOT TO SCALE

SEWER FORCE MAIN CONNECTION NOTES

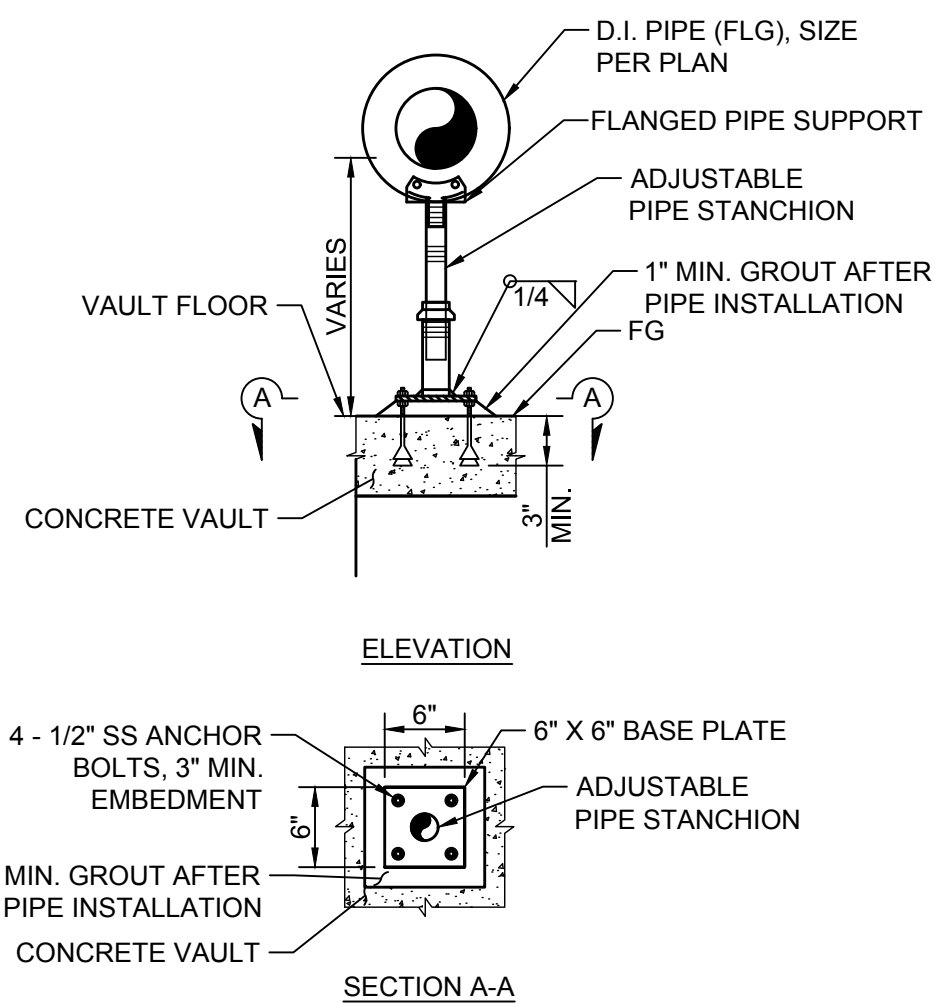
- ① CUT AND PLUG EXISTING 4" Ø SEWER FORCE MAIN. CONCRETE PLUG LENGTH MUST BE A MINIMUM OF 18".
- ② 4" Ø HDPE SEWER FORCE MAIN.
- ③ 90° PUSH ON OR MECHANICAL JOINT DUCTILE IRON FITTING WITH THRUST BLOCK PER CASTROVILLE COMMUNITY SERVICES DISTRICT STANDARD DETAIL W-11.
- ④ 24" MINIMUM LENGTH 4" Ø HDPE SPOOL PIECE.
- ⑤ 4" Ø RESTRAINED TRANSITION COUPLING. CONTRACTOR TO VERIFY EXISTING FORCE MAIN MATERIAL.
- ⑥ EXISTING 4" Ø SEWER FORCE MAIN.



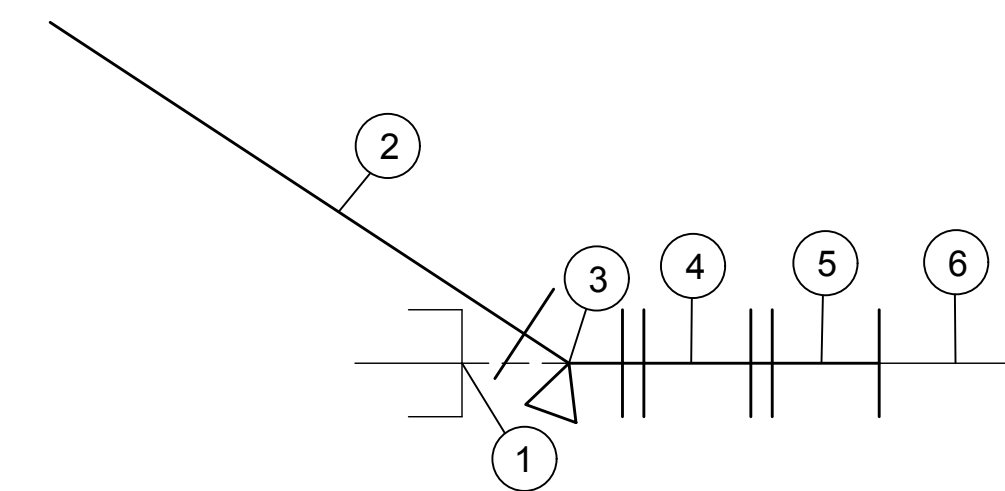
NOTES

- 1. PROTECT EXISTING PIPE AND CONCRETE IN VAULT.
- 2. REPLACE VALVES, PLUG AND TEE.

3 AIR RELEASE AND VACUUM VALVE DETAIL
G-3 NOT TO SCALE



4 PIPE SUPPORT DETAIL
VARIOUS NOT TO SCALE



5 LIFT STATION 4 CONNECTION DETAIL
C-4.2 NOT TO SCALE

SEWER FORCE MAIN CONNECTION NOTES

- ① CUT AND PLUG EXISTING 4" Ø SEWER FORCE MAIN. CONCRETE PLUG LENGTH MUST BE A MINIMUM OF 18".
- ② 4" Ø HDPE SEWER FORCE MAIN.
- ③ 22° PUSH ON OR MECHANICAL JOINT DUCTILE IRON FITTING WITH THRUST BLOCK PER CASTROVILLE COMMUNITY SERVICES DISTRICT STANDARD DETAIL W-11.
- ④ 24" MINIMUM LENGTH 4" Ø HDPE SPOOL PIECE.
- ⑤ 4" Ø RESTRAINED TRANSITION COUPLING. CONTRACTOR TO VERIFY EXISTING FORCE MAIN MATERIAL.
- ⑥ EXISTING 4" Ø SEWER FORCE MAIN.

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DRAWN: AKV
CHECKED: TNH

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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE



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SCALE:
AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

MISCELLANEOUS DETAILS

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-8.2

SHEET NUMBER
32 OF 57

CASQA BMP SELECTION		
BMP #	BMP NAME	TYPE
EC-1	SCHEDULING	EROSION CONTROL
EC-4	HYDROSEED	EROSION CONTROL
WE-1	WIND EROSION CONTROL	WIND EROSION CONTROL
SE-1	SILT FENCE	SEDIMENT CONTROL
SE-3	SEDIMENT TRAP	SEDIMENT CONTROL
SE-5	FIBER ROLLS	SEDIMENT CONTROL
SE-7	STREET SWEEPING	SEDIMENT CONTROL
SE-10	STORM DRAIN INLET PROTECTION	SEDIMENT CONTROL
TC-1	STABILIZED CONSTRUCTION ENTRANCE	TRACKING CONTROL
NS-1	WATER CONSERVATION PRACTICES	NON-STORMWATER
NS-3	PAVING AND GRINDING OPERATION	NON-STORMWATER
NS-6	ILLICIT CONNECTION/DISCHARGE	NON-STORMWATER
NS-9	VEHICLE AND EQUIPMENT FUELING	NON-STORMWATER
NS-12	CONCRETE CURING	NON-STORMWATER
NS-13	CONCRETE FINISHING	NON-STORMWATER

CASQA BMP SELECTION		
BMP #	BMP NAME	TYPE
WM-1	MATERIAL DELIVERY AND STORAGE	WASTE MANAGEMENT
WM-2	MATERIAL USE	WASTE MANAGEMENT
WM-3	STOCKPILE MANAGEMENT	WASTE MANAGEMENT
WM-4	SPILL PREVENTION AND CONTROL	WASTE MANAGEMENT
WM-5	SOLID WASTE MANAGEMENT	WASTE MANAGEMENT
WM-8	CONCRETE WASTE MANAGEMENT	WASTE MANAGEMENT
WM-9	SANITARY-SEPTIC WASTE MANAGEMENT	WASTE MANAGEMENT
WM-10	LIQUID WASTE MANAGEMENT	WASTE MANAGEMENT

LEGEND

	SHEET FLOW DIRECTION		SEDIMENT FILTER BAG LOCATION
	PAVEMENT		SILT FENCE
	SANITARY SEPTIC WASTE		STABILIZED CONSTRUCTION ENTRANCE
	MATERIAL STORAGE		
	SOLID WASTE MANAGEMENT		



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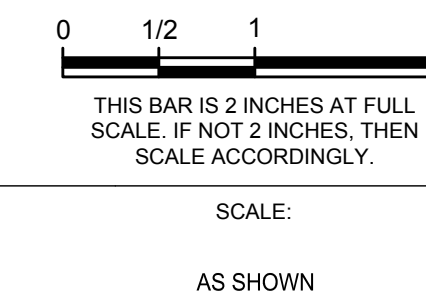
811 El Capitan Way, Suite 130
 San Luis Obispo, CA 93401
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 www.mnsengineers.com



DESIGNED: NEP
 DRAWN: AKV
 CHECKED: TNH

NICHOLAS E. PANOFSKY
 LEAD ENGINEER
 R.C.E. 75006 EXP. 12/31/2021

05/05/2022
 DATE

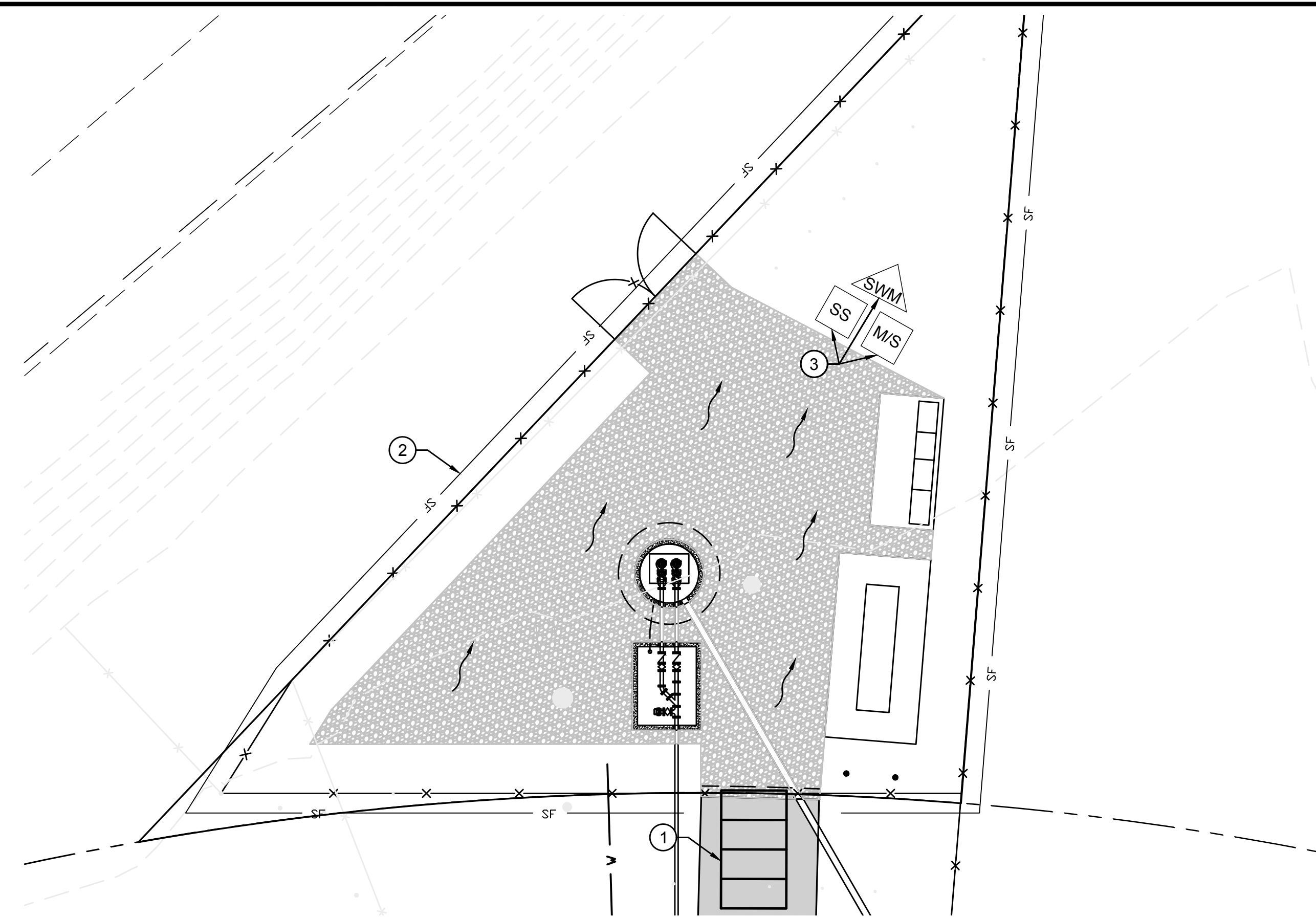


MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT CASTROVILLE COMMUNITY SERVICE DISTRICT EROSION CONTROL - PLAN, NOTES, AND LEGEND	PROJECT NUMBER DICVL.200738.02
	DRAWING NUMBER C-9.1
	SHEET NUMBER 33 OF 57

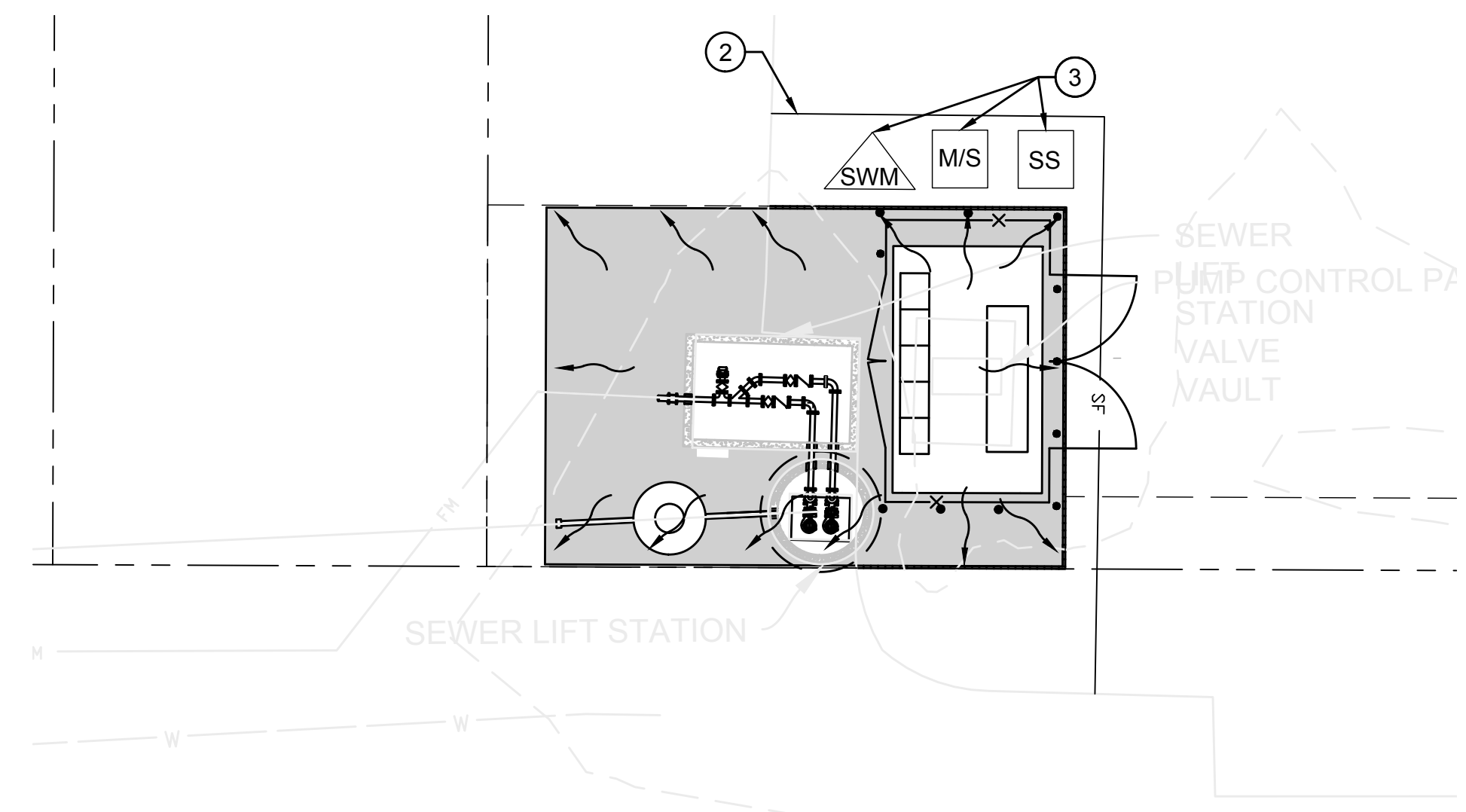
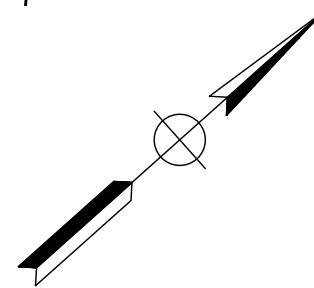
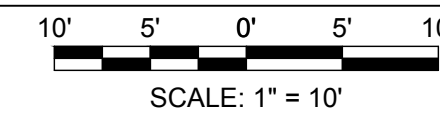
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CONSTRUCTION KEY NOTES

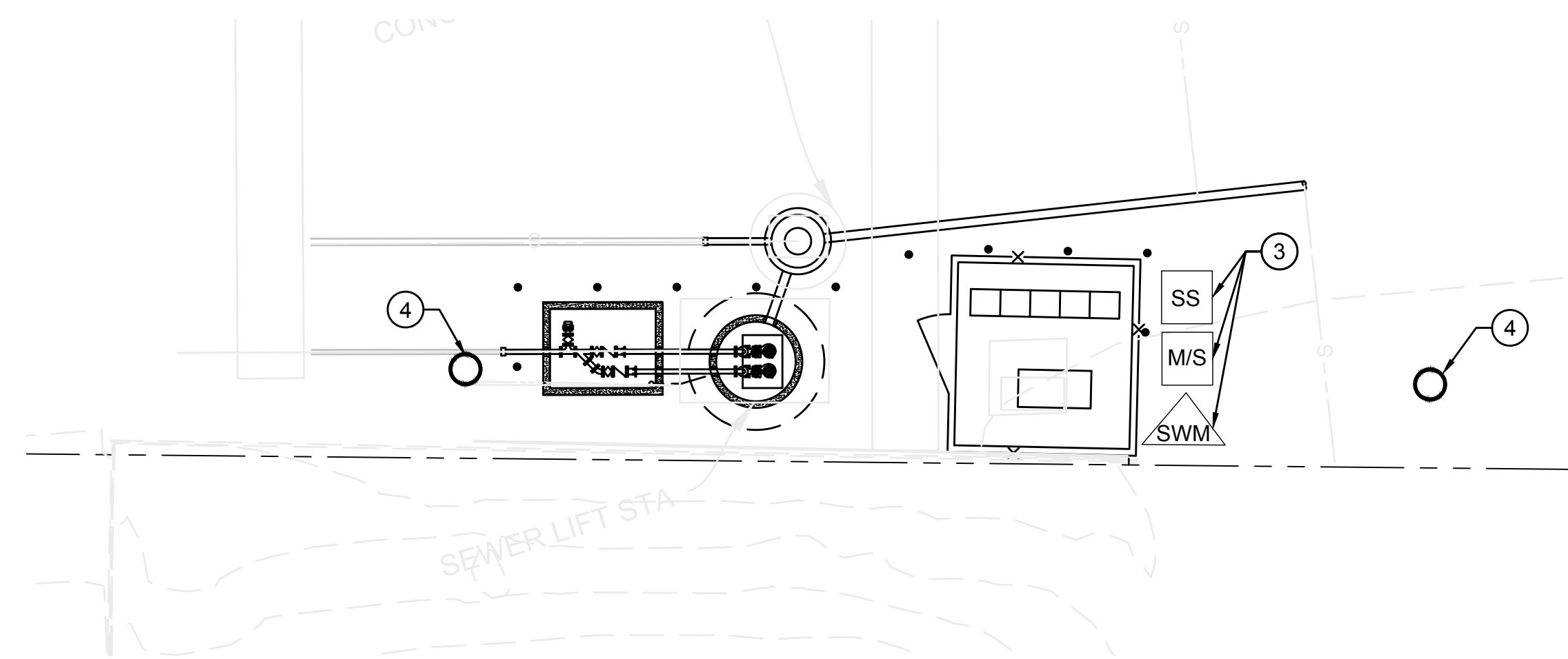
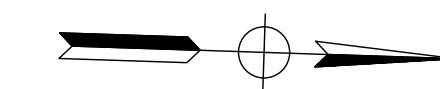
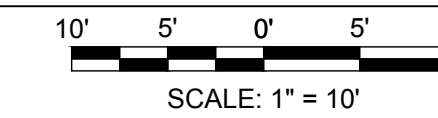
- ① INSTALL STABILIZED CONSTRUCTION ENTRANCE WITH STEEL SHAKER PLATES PER CASQA BMP TC-1.
- ② INSTALL SILT FENCE PER CASQA BMP SE-1.
- ③ WITHIN STAGING AREAS CONTRACTOR SHALL COMPLY WITH TYPICAL GOOD HOUSEKEEPING PROCEDURES. AT A MINIMUM THE FOLLOWING CASQA STANDARD BMPs SHALL BE USED (IF APPLICABLE): NS-1, NS-3, NS-6, NS-8, NS-9, NS-10, WM-1, WM-2, WM-3, WM-4, WM-5, WM-8, WM-9, WM-10.
- ④ INSTALL SEDIMENT FILTER BAG FOR DEWATERING.



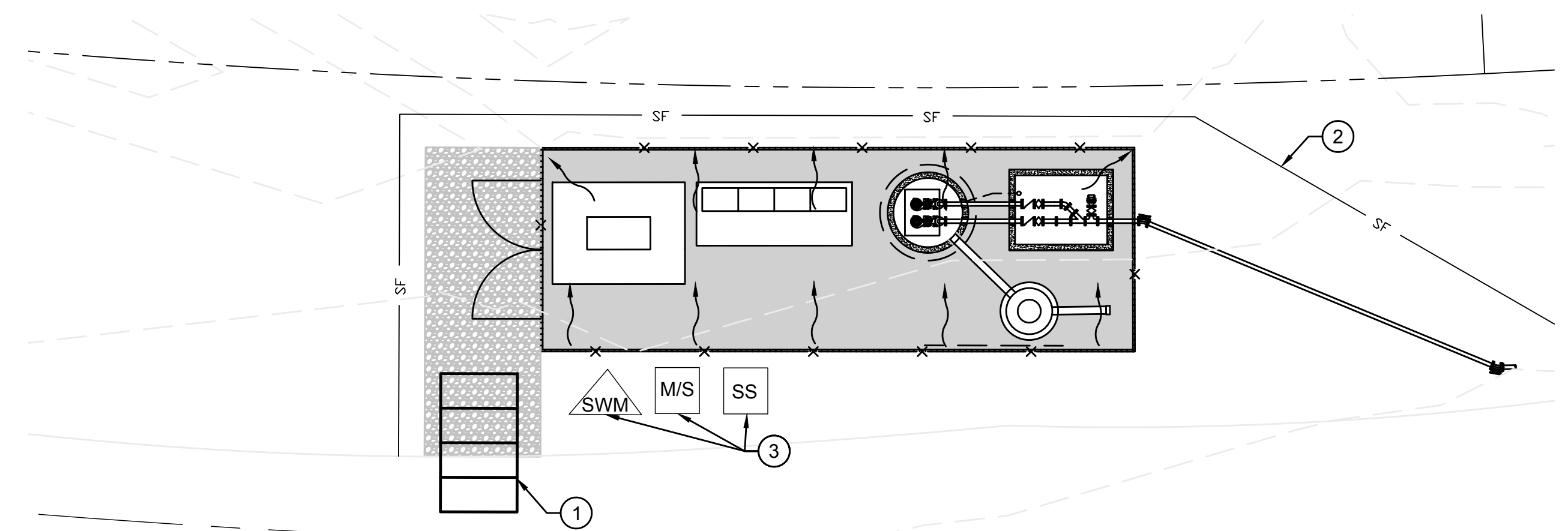
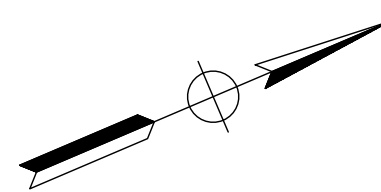
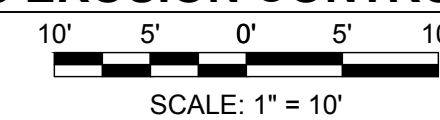
SITE 1 EROSION CONTROL PLAN



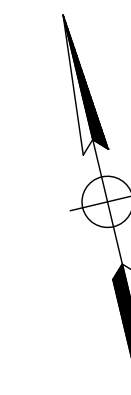
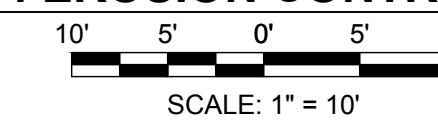
SITE 2 EROSION CONTROL PLAN



SITE 3 EROSION CONTROL PLAN



SITE 4 EROSION CONTROL PLAN



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CHECKED:
TNH

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LEAD ENGINEER
R.C.E. 75006 EXP. 12/31/2021

05/05/2022
DATE



SCALE:
AS SHOWN

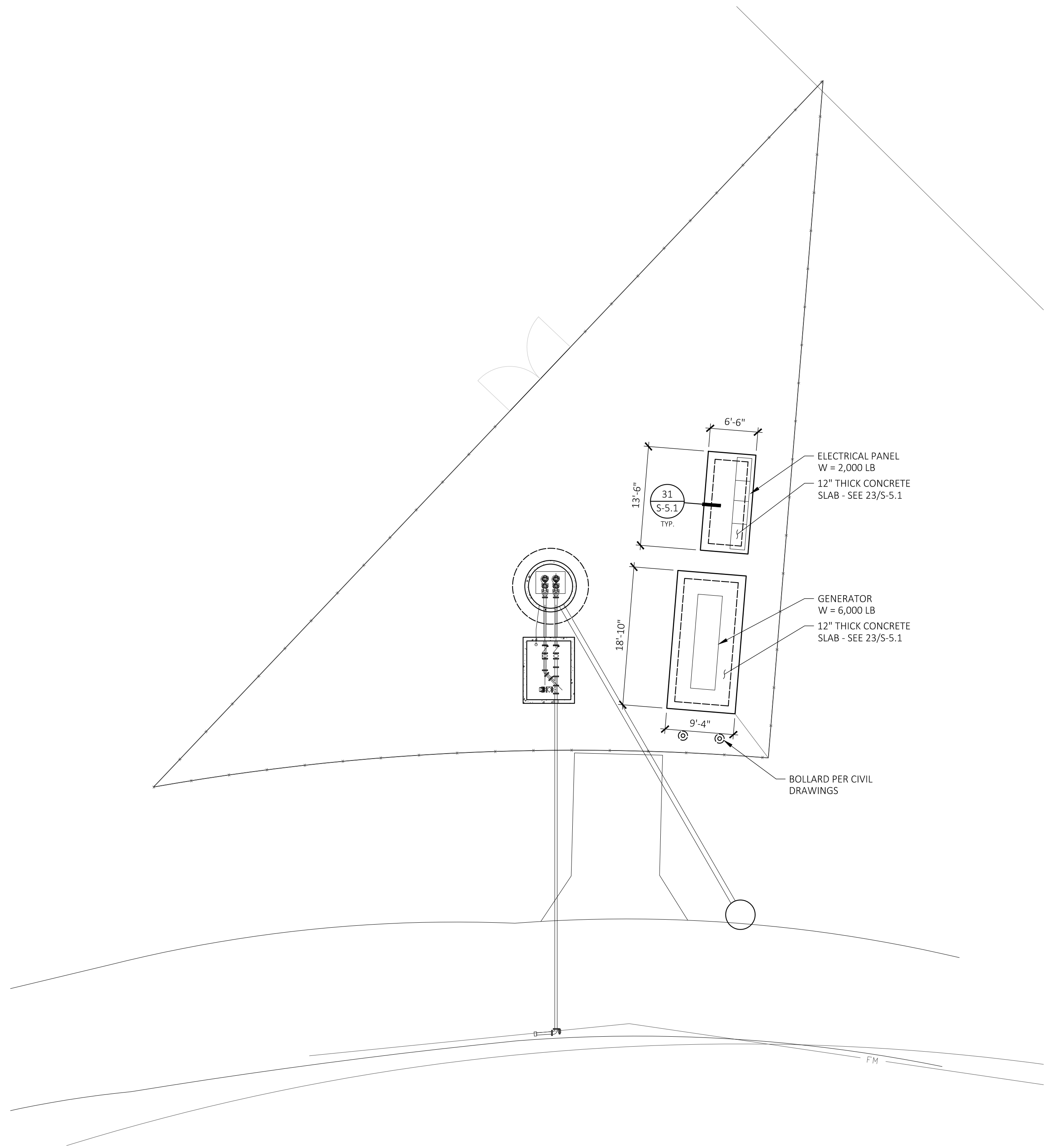
**MOSS LANDING WASTEWATER
SYSTEM REHABILITATION PROJECT**
CASTROVILLE COMMUNITY SERVICE DISTRICT

**LIFT STATION 1-4 EROSION CONTROL
PLAN**

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
C-9.2

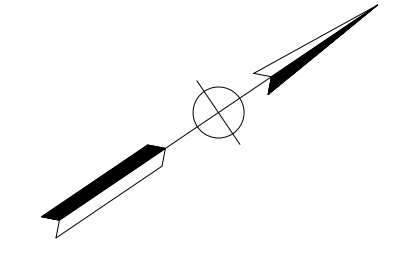
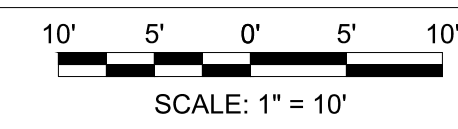
SHEET NUMBER
34 OF 57



FOUNDATION NOTES:

1. SEE CIVIL AND ELECTRICAL DRAWINGS FOR INFORMATION NOT SHOWN
2. SEE S-0.1 FOR STRUCTURAL NOTES
3. SEE 11, 12, AND 13/S-5.1 FOR TYPICAL REINFORCING DETAILS.
4. SEE 22/S-5.1 FOR PAD PREPARATION FOR SLABS AT ELECTRICAL EQUIPMENT.

STRUCTURAL SITE PLAN



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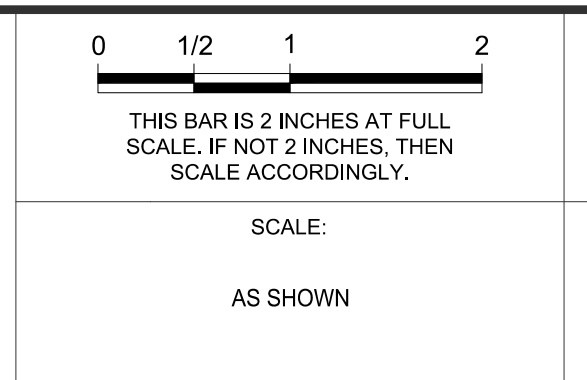
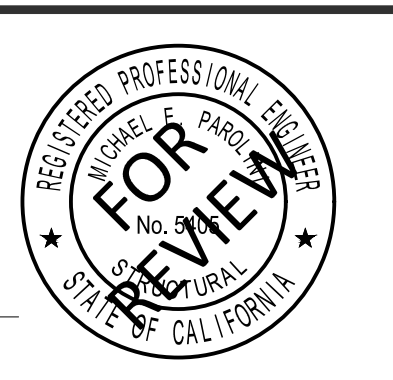


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CHECKED: BS

SSG
SSG Structural Engineers, LLP
805.439.2110
811 El Capitan Way, Suite 340
San Luis Obispo, CA 93401

MICHAEL F. PAROLINI
STRUCTURAL ENGINEER
S.E. 5405

10/03/2020
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICES DISTRICT

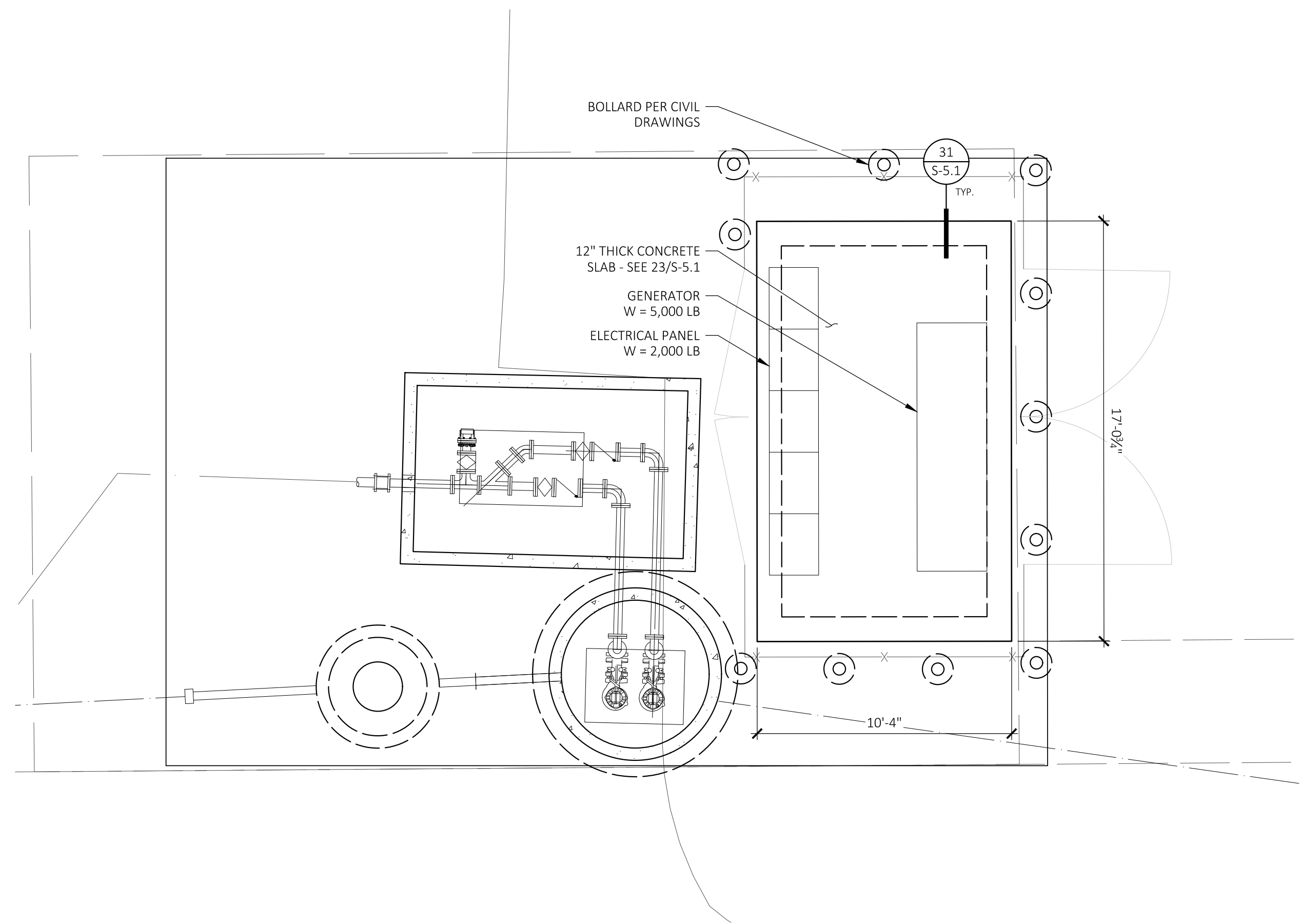
**LIFT STATION 1
STRUCTURAL SITE PLAN**

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
S-1.1

SHEET NUMBER
37 OF 57

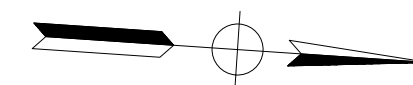
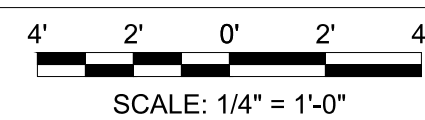
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STRUCTURAL SITE PLAN



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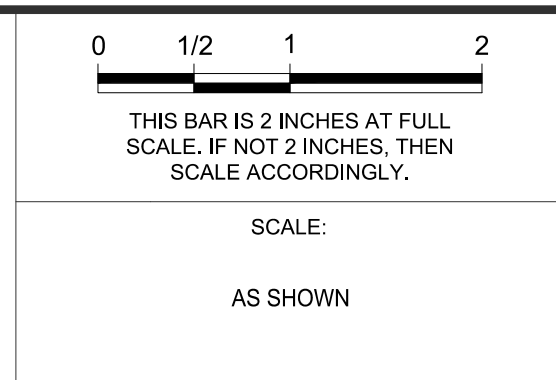
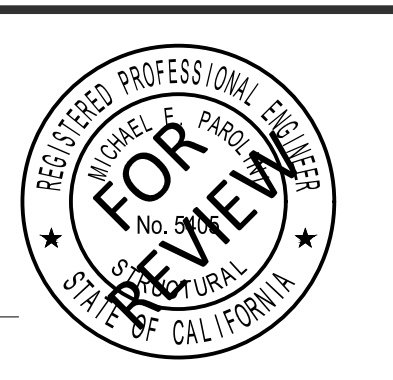


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SSG
 SSG Structural Engineers, LLP
 805.439.2110
 811 El Capitan Way, Suite 340
 San Luis Obispo, CA 93401

MICHAEL F. PAROLINI
 STRUCTURAL ENGINEER
 S.E. 5405

10/03/2020
 DATE

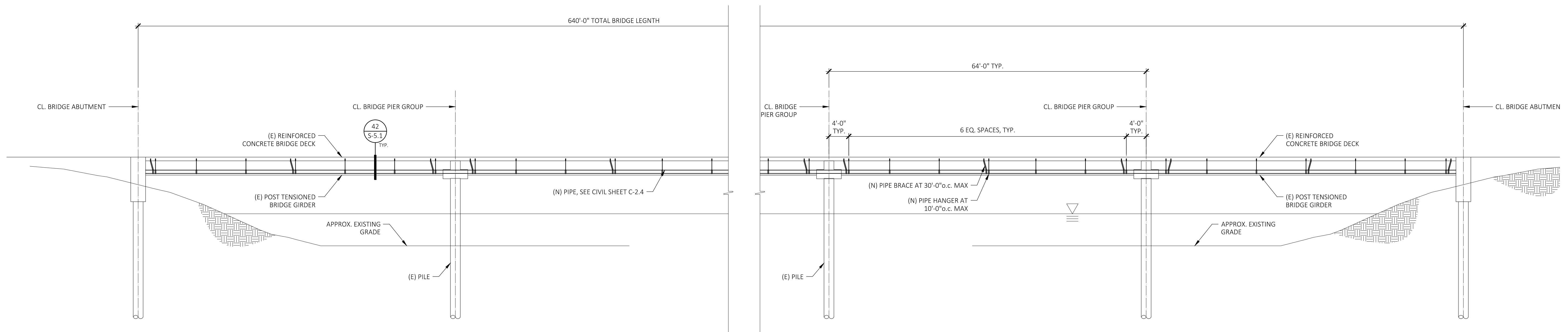


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 CASTROVILLE COMMUNITY SERVICES DISTRICT

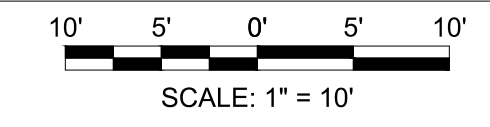
LIFT STATION 2
STRUCTURAL SITE PLAN

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER S-2.1
SHEET NUMBER 38 OF 57

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PIPE SUPPORT - BRIDGE ELEVATION



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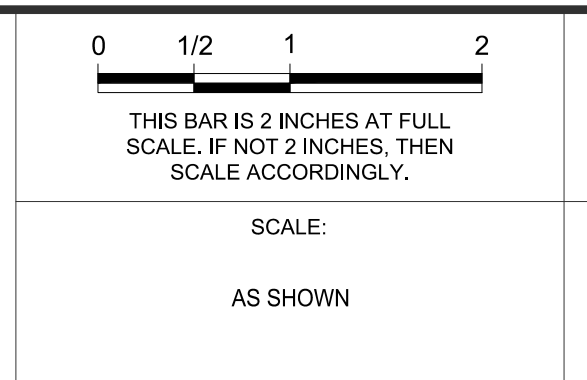
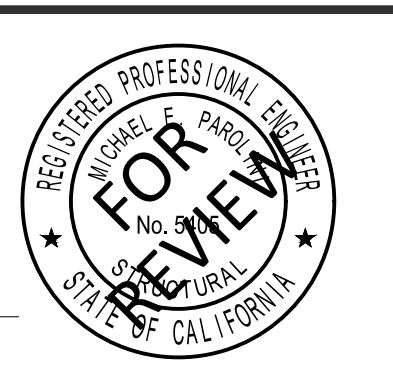


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SSG
SSG Structural Engineers, LLP
805.439.2110
811 El Capitan Way, Suite 340
San Luis Obispo, CA 93401

MICHAEL F. PAROLINI
STRUCTURAL ENGINEER
S.E. 5405

10/03/2020
DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICES DISTRICT

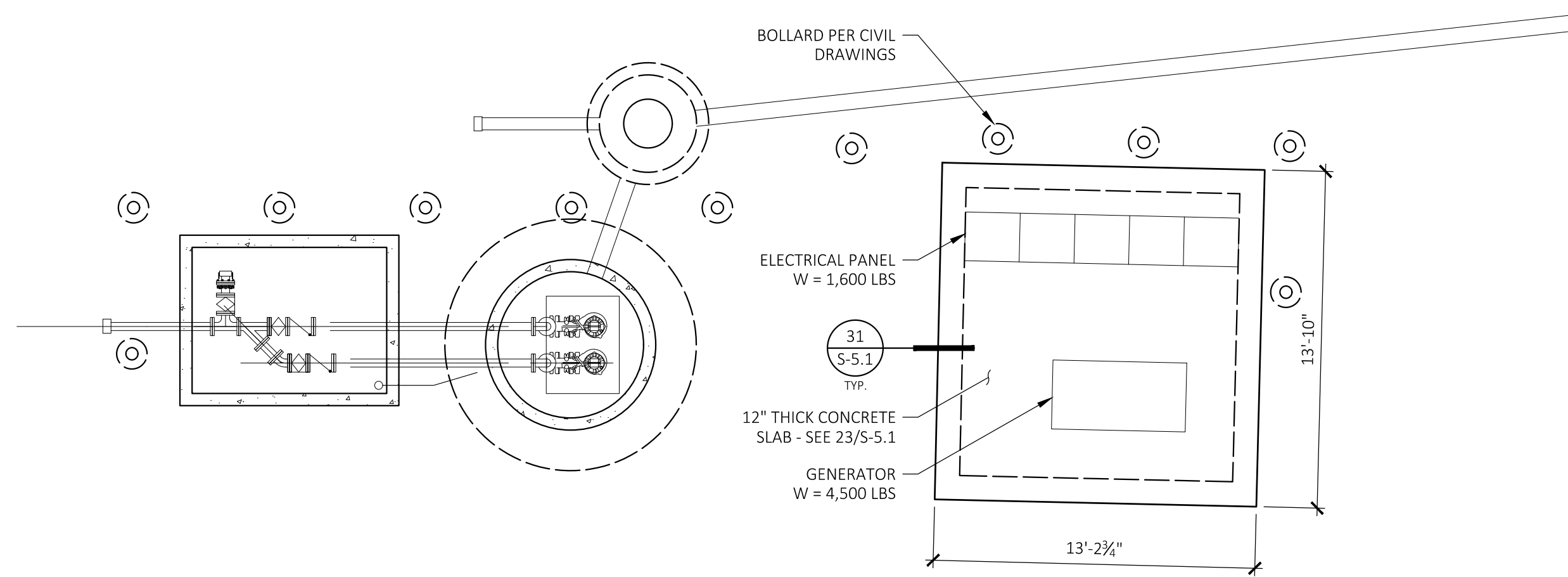
BRIDGE CROSSING SECTION & ELEVATION

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
S-2.2

SHEET NUMBER
39 OF 57

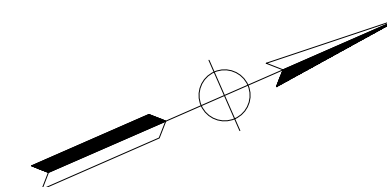
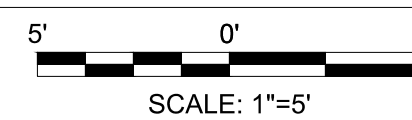
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FOUNDATION NOTES:

1. SEE CIVIL AND ELECTRICAL DRAWINGS FOR INFORMATION NOT SHOWN
2. SEE S-0.1 FOR STRUCTURAL NOTES
3. SEE 11, 12, AND 13/S-5.1 FOR TYPICAL REINFORCING DETAILS.
4. SEE 22/S-5.1 FOR PAD PREPARATION FOR SLABS AT ELECTRICAL EQUIPMENT.

STRUCTURAL SITE PLAN



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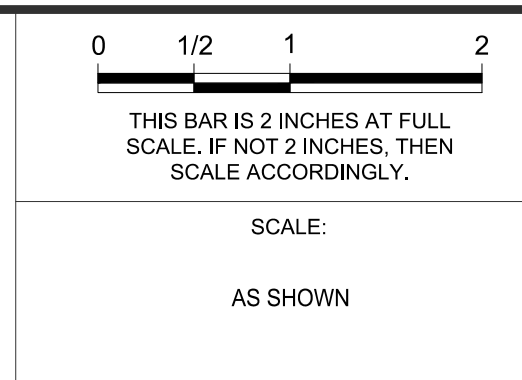
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805.439.2110 sigse.com
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 San Luis Obispo, CA 93401 Fresno, CA 93720

MICHAEL F. PAROLINI
 STRUCTURAL ENGINEER
 S.E. 5405

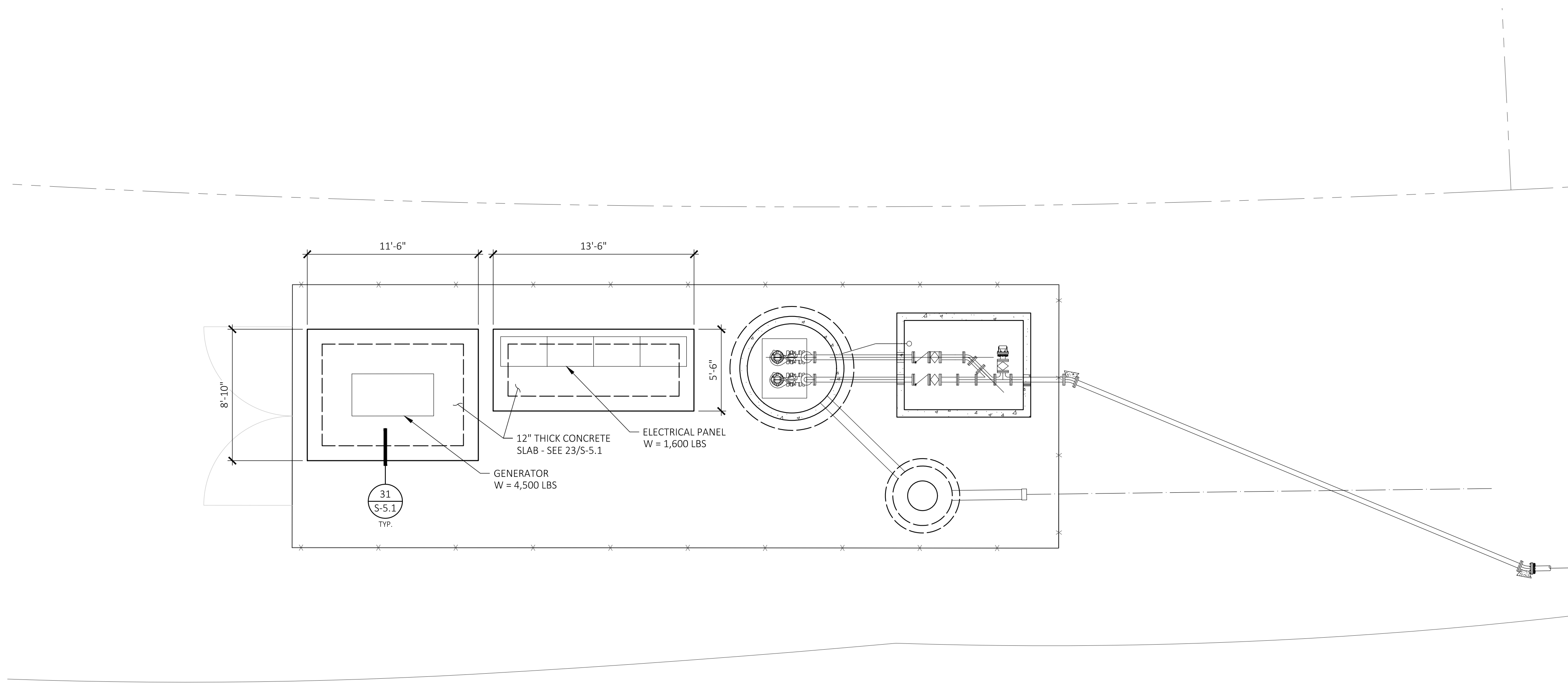
10/03/2020
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICES DISTRICT

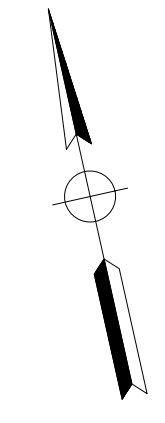
**LIFT STATION 3
 STRUCTURAL SITE PLAN**

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER S-3.1
SHEET NUMBER 40 OF 57



- FOUNDATION NOTES:**
1. SEE CIVIL AND ELECTRICAL DRAWINGS FOR INFORMATION NOT SHOWN
 2. SEE S-0.1 FOR STRUCTURAL NOTES
 3. SEE 11, 12, AND 13/S-5.1 FOR TYPICAL REINFORCING DETAILS.
 4. SEE 22/S-5.1 FOR PAD PREPARATION FOR SLABS AT ELECTRICAL EQUIPMENT.

SCALE: 1"=5'
STRUCTURAL SITE PLAN



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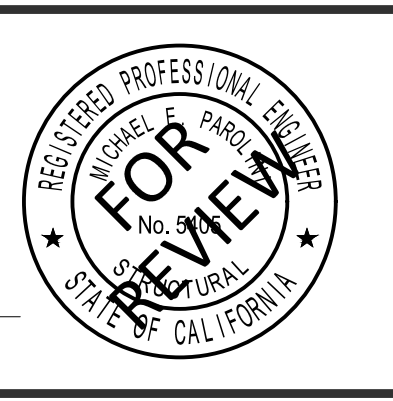


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SSG
 SSG Structural Engineers, LLP
 805.439.2110
 811 El Capitan Way, Suite 340
 San Luis Obispo, CA 93401

MICHAEL F. PAROLINI
 STRUCTURAL ENGINEER
 S.E. 5405

10/03/2020
 DATE



THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.

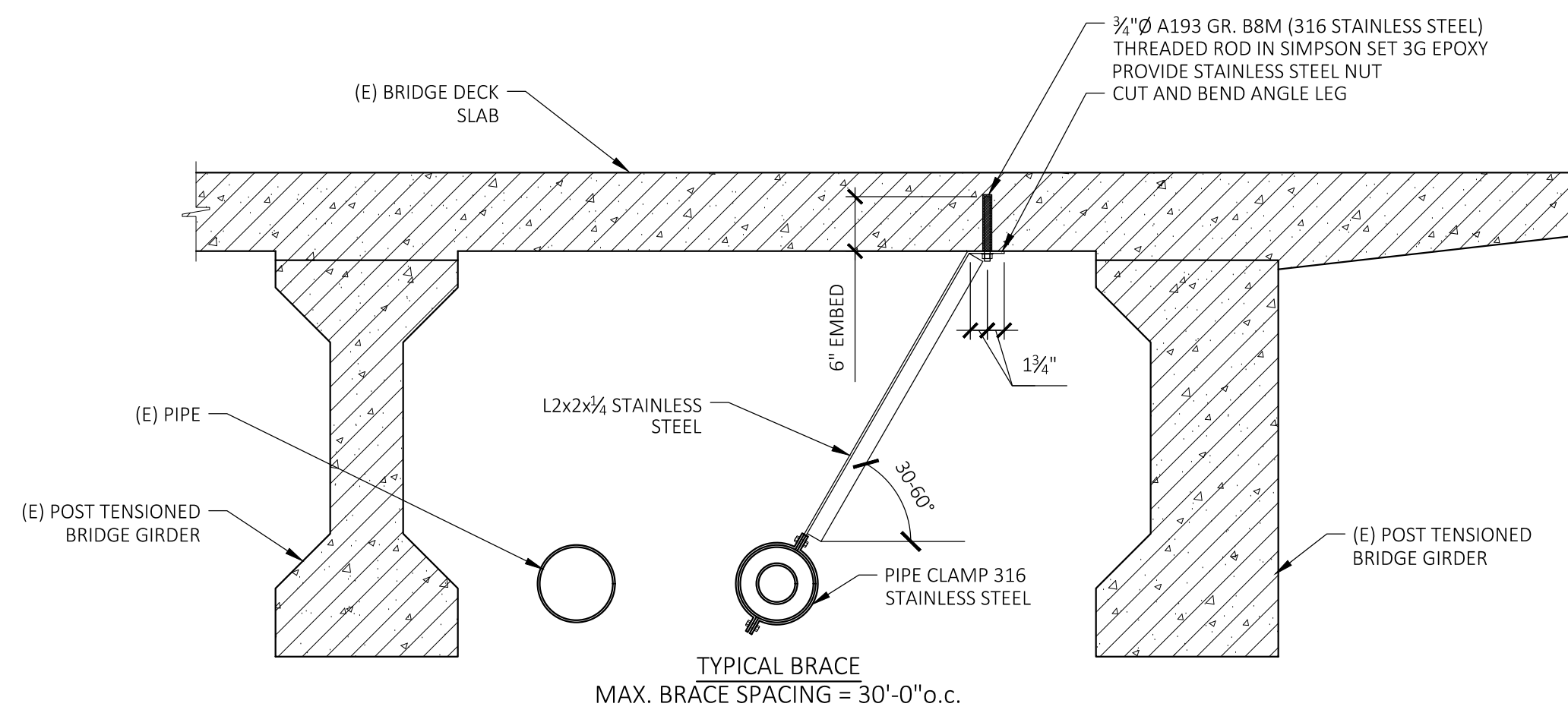
SCALE:
 AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICES DISTRICT

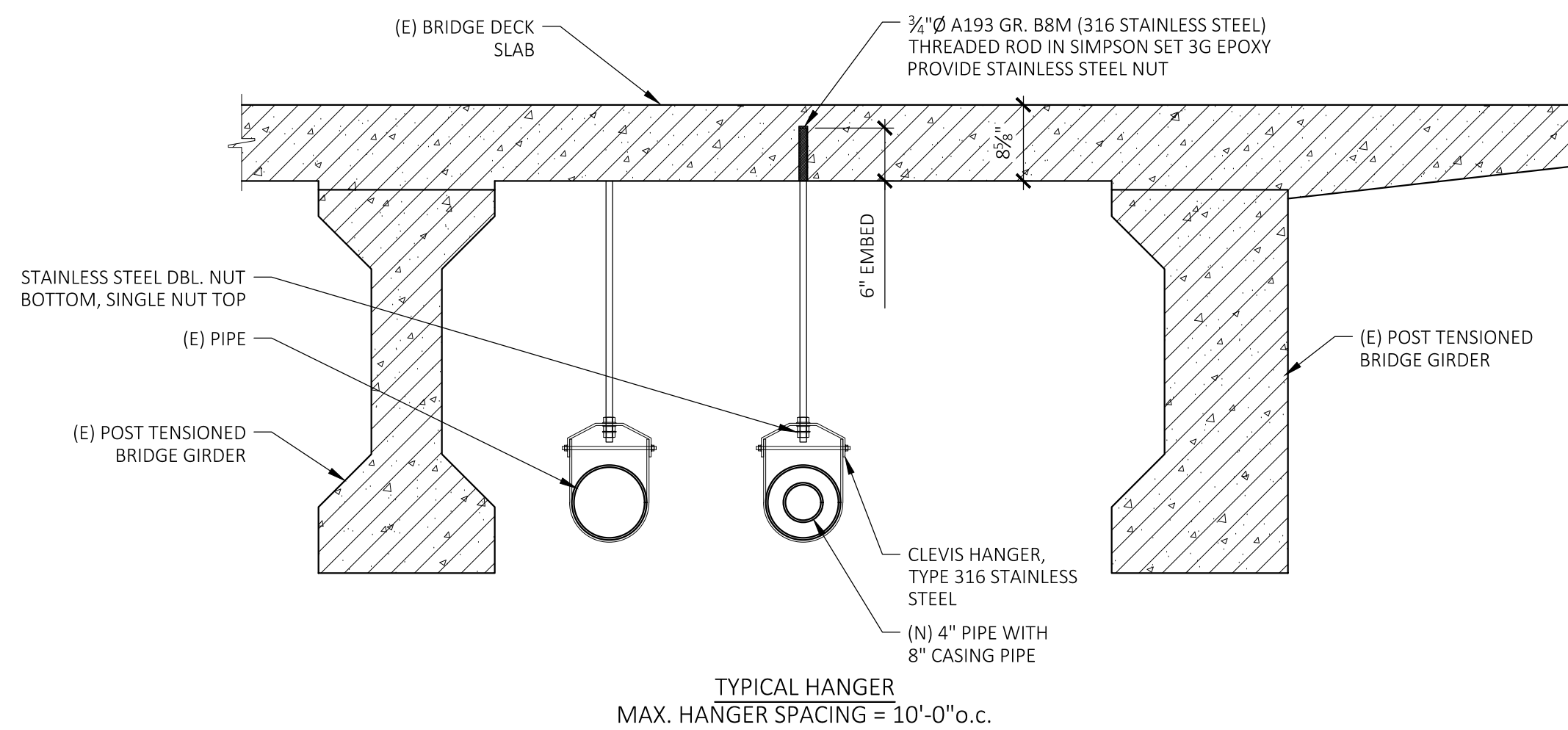
**LIFT STATION 4
 STRUCTURAL SITE PLAN**

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER S-4.1
SHEET NUMBER 41 OF 57

P:\02022\04757\Plan by: akv\Revision



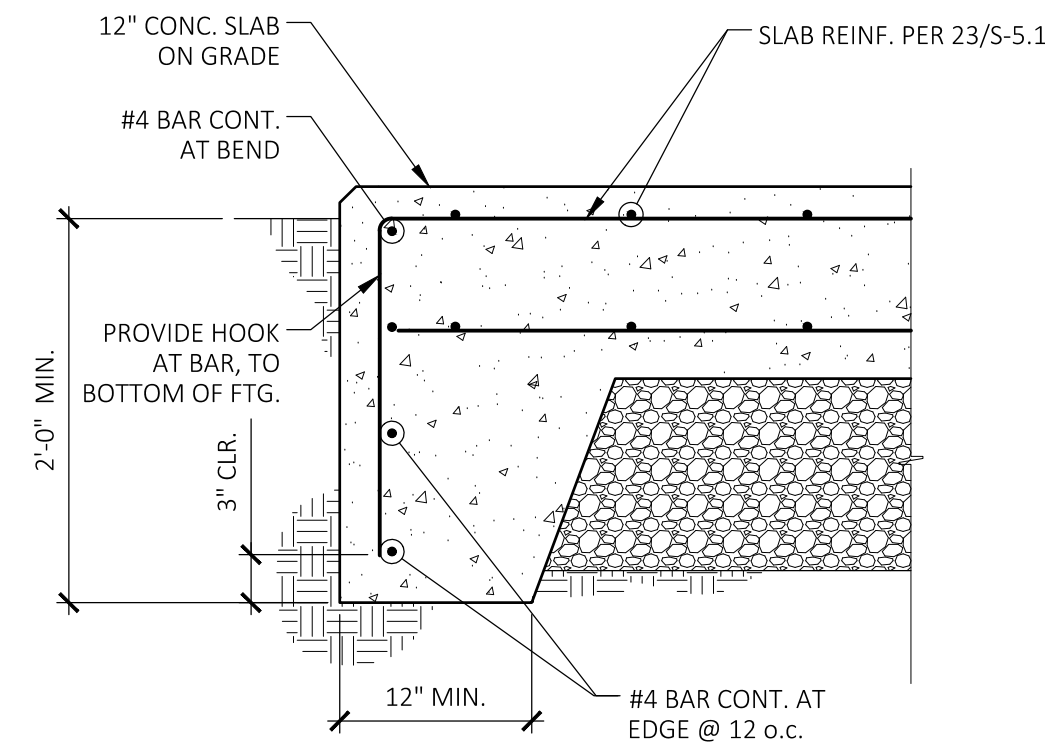
TYPICAL BRACE
MAX. BRACE SPACING = 30'-0" o.c.



TYPICAL HANGER
MAX. HANGER SPACING = 10'-0" o.c.

NEW PIPE ATTACHMENT TO (E) BRIDGE DECK

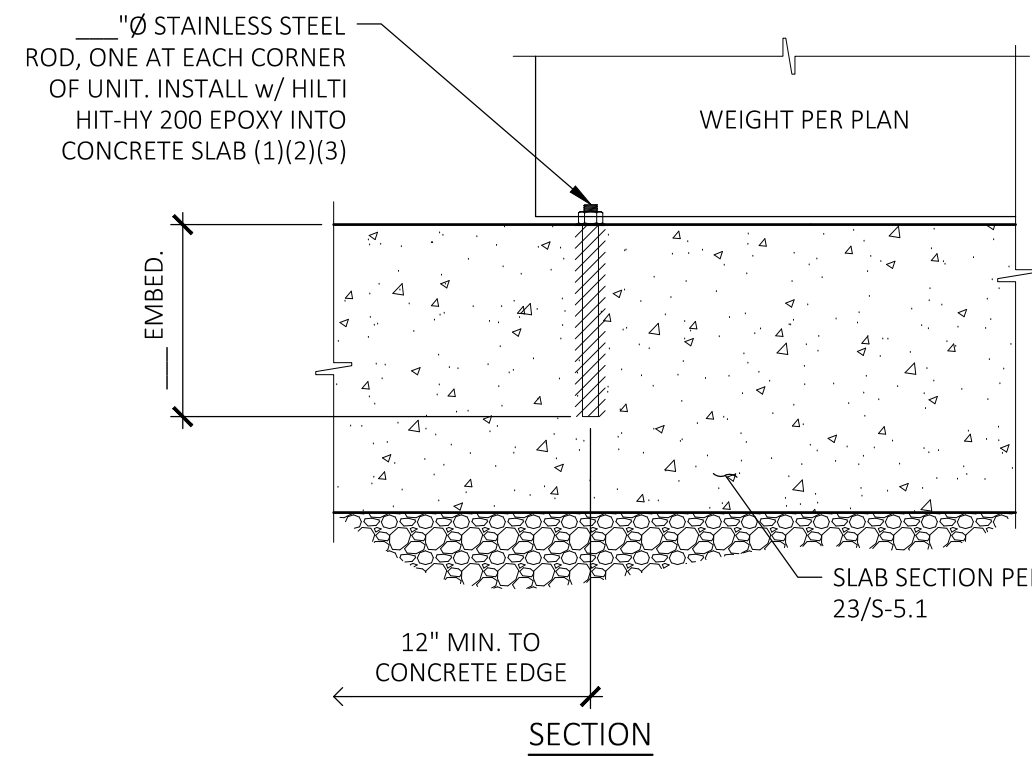
N.T.S.



NOTES: (#)
1. SUBGRADE SHALL BE PREPARED AS PER MINIMUM REQUIREMENTS SHOWN IN DETAIL 22/S-5.1

SLAB EDGE - 12"

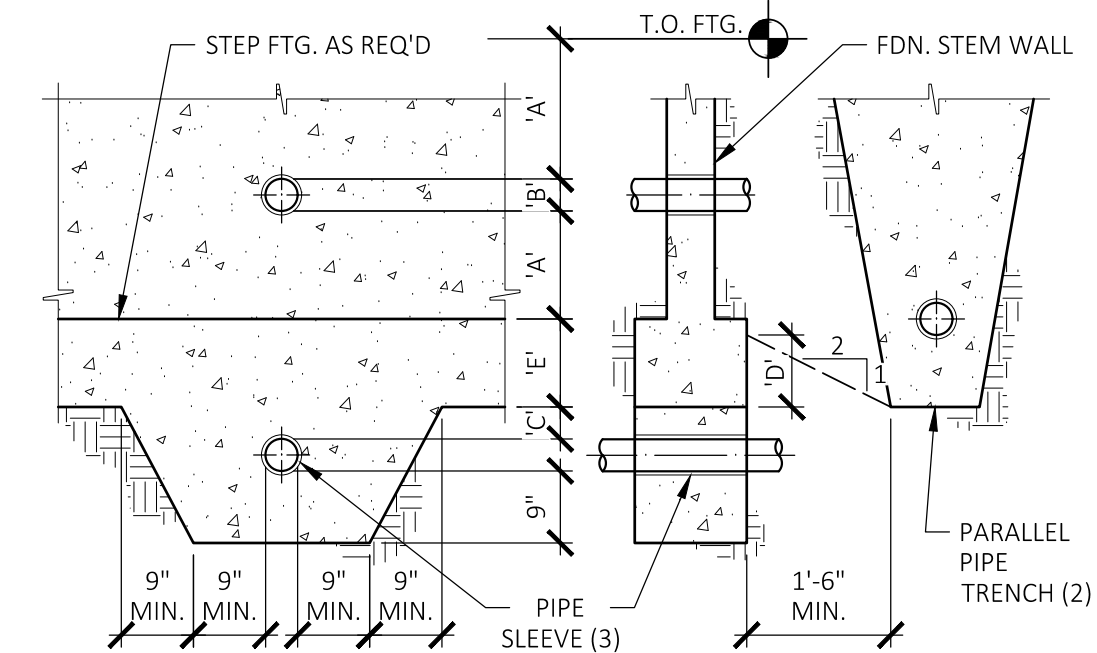
N.T.S.



NOTES: (#)
1. CONCRETE SHALL BE CURED FOR A MINIMUM OF 21 DAYS PRIOR TO EPOXY INSTALLATION
2. SPECIAL INSPECTION IS REQUIRED
3. EPOXY INSTALLATION SHALL FOLLOW MANUFACTURER'S RECOMMENDATIONS AND ICC-ES ESR-3187

EQUIPMENT ANCHORAGE

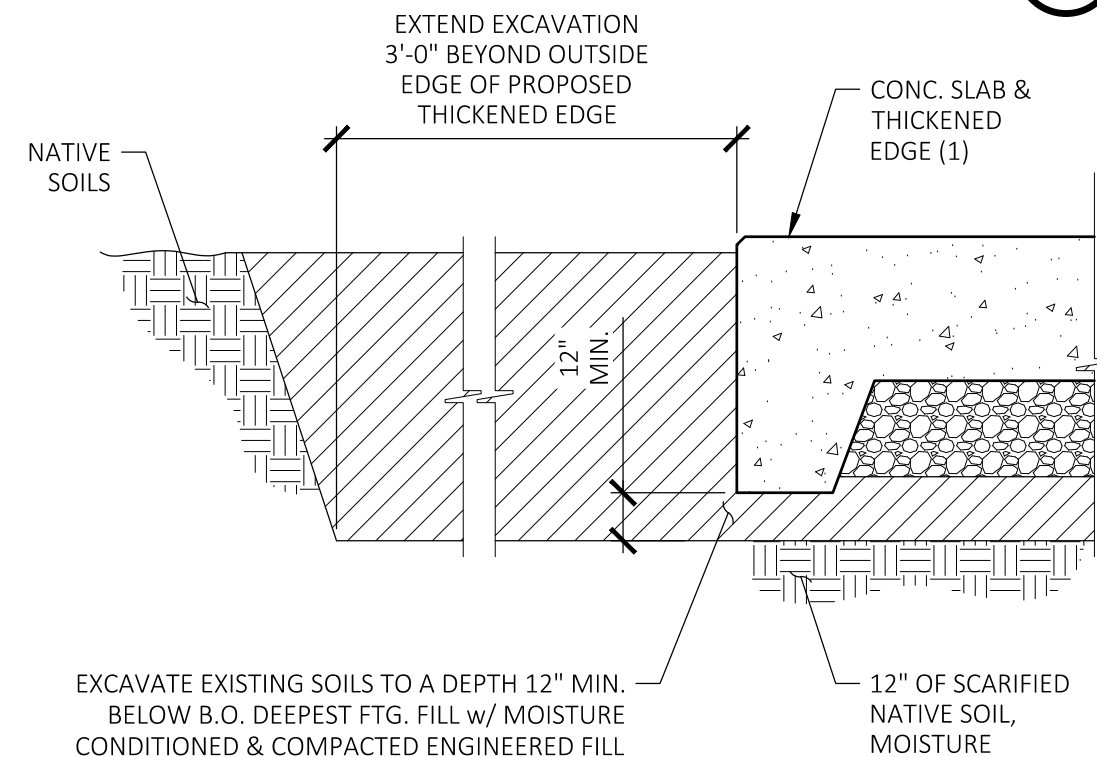
N.T.S.



NOTES: (#)
1. DIMENSION 'A' 1/2" MIN. OVERALL FOOTING DEPTH
'B' 1/2" MAX. OVERALL FOOTING DEPTH
'C' 4" MIN.
'D' 9" MIN.
'E' NO PIPE TO BE PLACED IN THIS AREA
2. PIPE TRENCHES PARALLEL TO FOOTING NOT PERMITTED BETWEEN LINES ON EACH SIDE OF FOOTING
3. G.I.S.M. OR EQUIVALENT PIPE SLEEVE, WITH 1/2" CLEAR ALL AROUND PIPE

PIPE THROUGH FOOTING

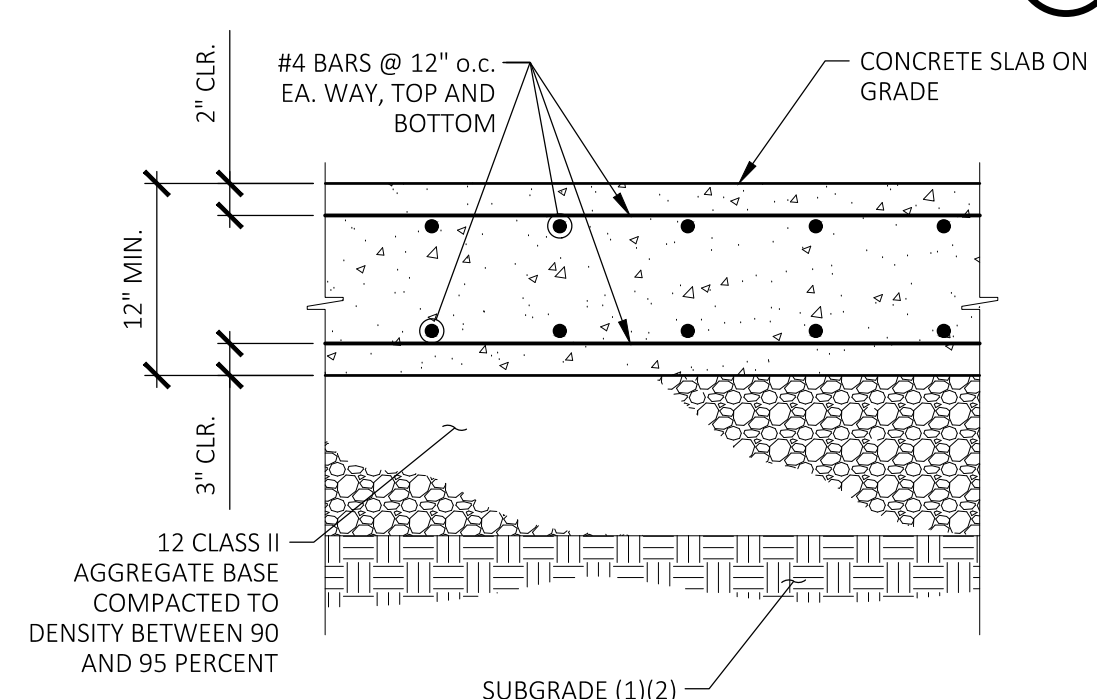
N.T.S.



NOTES: (#)
1. SEE FOUNDATION PLAN AND NOTES

PAD PREPARATION

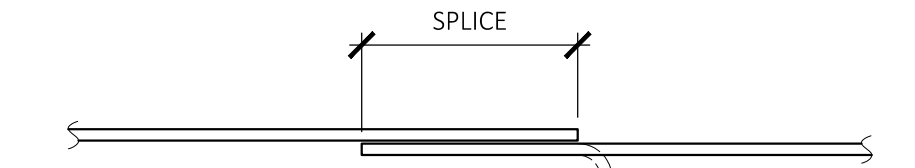
N.T.S.



NOTES: (#)
1. SUBGRADE SHALL BE PREPARED AS PER MINIMUM REQUIREMENTS OF DETAIL 22/S-5.1
2. DO NOT INSTALL SLAB CONTROL JOINT

12" SLAB ON GRADE

N.T.S.

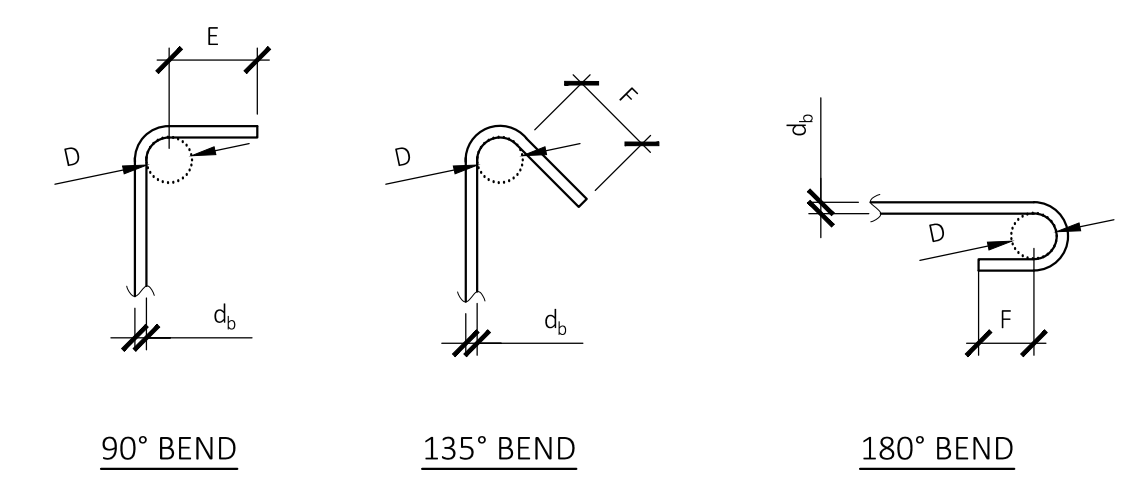


Bar Size	Concrete Reinforcing Splices (1)(2)		f _y (Min.)
	Class A Splice (3)(4)	Class B Splice (3)	
#3	15"	19"	40 ksi
#4	29"	38"	60 ksi
#5	36"	47"	60 ksi
#6	43"	56"	60 ksi
#7	63"	81"	60 ksi

NOTES: (#)
1. LAP LENGTHS LISTED APPLY TO ALL LOCATIONS: VERTICAL, HORIZONTAL, TOP, BOTTOM, AND SITE WALLS
2. WHERE BARS OF A DIFFERENT SIZE ARE LAPPED, THE LAP LENGTH SHALL BE THE LENGTH REQUIRED BY THE LARGER BAR
3. ALL SPLICES SHALL BE CONSIDERED CLASS B UNLESS SPECIFICALLY NOTED OTHERWISE
4. SPLICES OF SLAB ON GRADE REINFORCEMENT MAY UTILIZE CLASS A SPLICE LENGTHS

TYPICAL LAP SPLICES

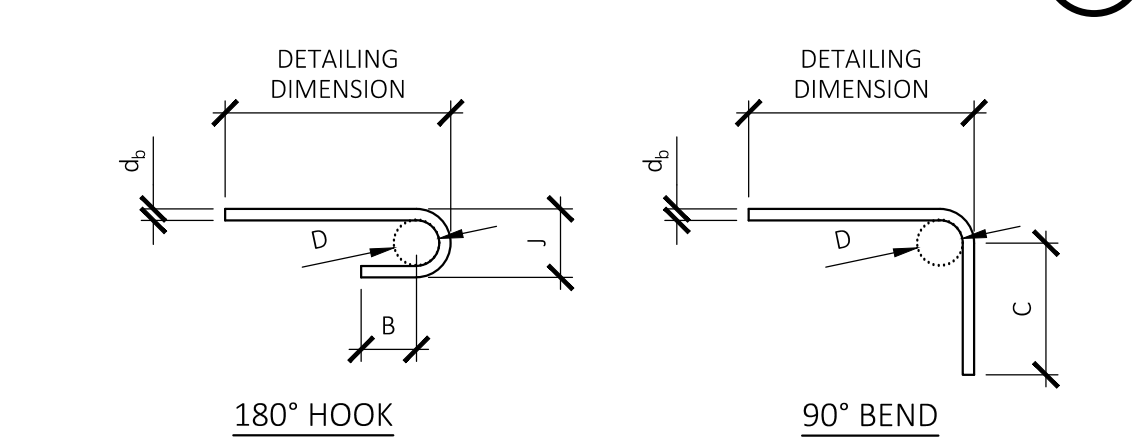
N.T.S.



Bar Size	Dimension of Standard Bends		
	D	E	F (6d _b) [3" min.]
#3	1 1/2" Ø	2 1/4"	3"
#4	2" Ø	3"	3"
#5	2 1/2" Ø	3 3/4"	3 3/4"

TIE AND STIRRUP BENDS

N.T.S.



Bar Size	Dimension of Standard Hooks and Bends			
	D	J	B (4d _b) [2 1/2" min.]	C (12d _b)
#3	1 1/2" Ø	2 1/4"	2 1/2"	4 1/2"
#4	2" Ø	3"	2 1/2"	6"
#5	2 1/2" Ø	3 3/4"	2 1/2"	7 1/2"
#6	4 1/2" Ø	6"	3"	9"
#7	5 1/2" Ø	7"	3 1/2"	10 1/2"
#8	6" Ø	8"	4"	12"
#9	9" Ø	11 1/2"	4 1/2"	13 1/2"
#10	10" Ø	12 1/2"	5"	15"

REBAR HOOKS & BENDS

N.T.S.

*60% DESIGN - NOT FOR CONSTRUCTION

REV	DATE	BY	DESCRIPTION

MNS ENGINEERS INC
ENGINEERING | SURVEYING
CONSTRUCTION MANAGEMENT

811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
Phone: 805-787-0326
www.mnsengineers.com



DESIGNED: NEP
DRAWN: AKV
CHECKED: BS

SSG
Structural Engineers, LLP
805.439.2110
811 El Capitan Way, Suite 340
San Luis Obispo, CA 93401

MICHAEL F. PAROLINI
STRUCTURAL ENGINEER
S.E. 5405

10/03/2020
DATE

REGISTERED PROFESSIONAL ENGINEER
FOR REVIEW
MICHAEL F. PAROLINI
No. 10000
STATE OF CALIFORNIA

0 1/2 1 2
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SCALE:
AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICES DISTRICT

DETAILS

PROJECT NUMBER
DICVL.200738.02

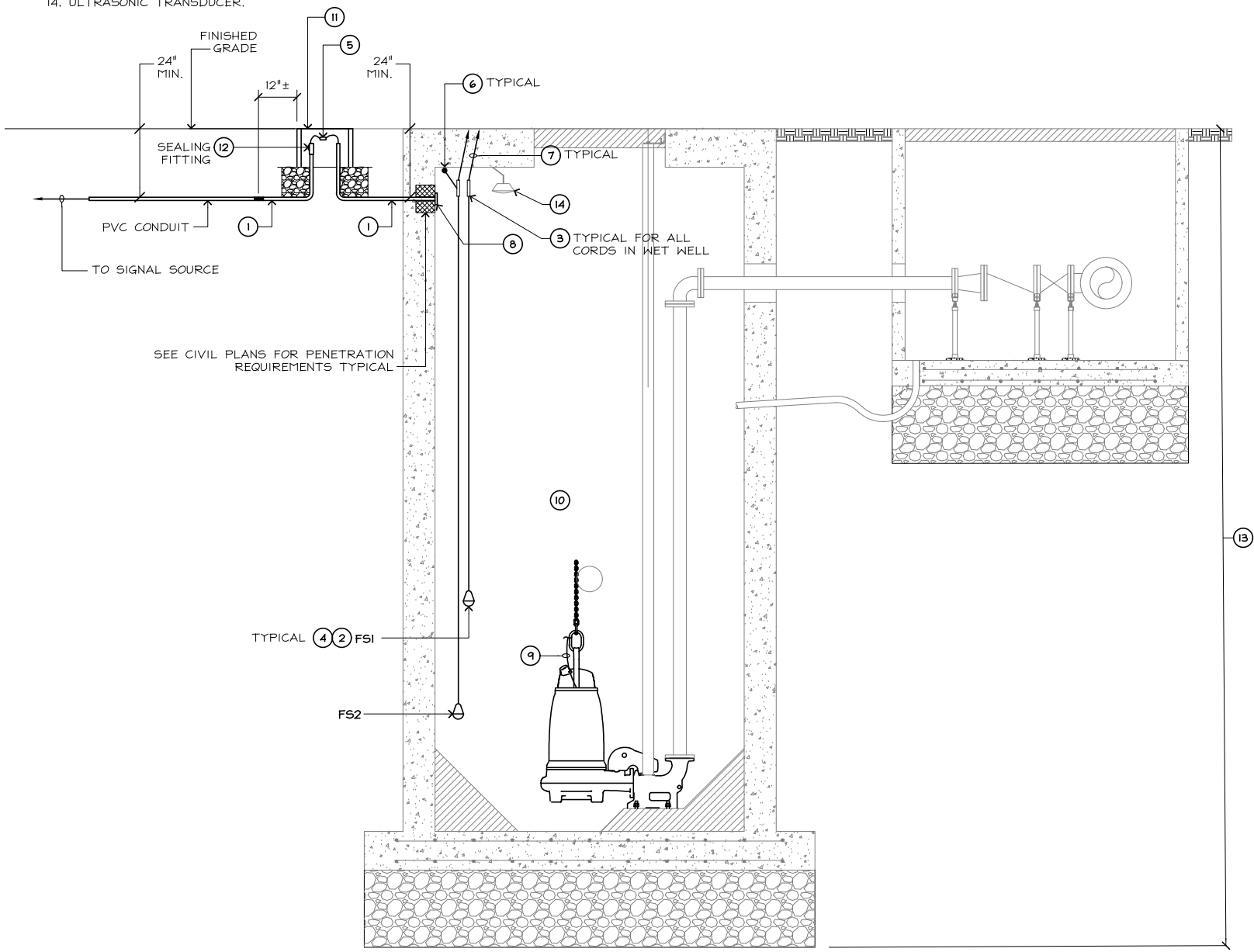
DRAWING NUMBER
S-5.1

SHEET NUMBER
42 OF 57

DETAIL NOTES:

- PVC COATED GALVANIZED RIGID STEEL CONDUITS (POWER AND SIGNAL) TO PULLBOX; EXACT ROUTE OF CONDUIT TO BE DETERMINED IN FIELD.
- FLOAT SWITCH; SEE ELECTRICAL SPECIFICATION.
- CABLE SUPPORT GRIP, HEAVY DUTY STAINLESS STEEL, OFFSET EYE SPLIT MESH. ROD CLOSING "KELLUMS" OR APPROVED EQUAL
- COORDINATE FS MOUNTING HEIGHT WITH CIVIL PLANS.
- CONDUCTOR SPLICE; SEE ELECTRICAL SPECIFICATION.
- SECURE CABLE GRIP TO WET WELL STRUCTURE.
- SIGNAL CIRCUIT THROUGH WETWELL WALL; PENETRATE WALL AS SHOWN FOR POWER CORD.
- BELL ADAPTER SET FLUSH INTO GROUT OF WALL PENETRATION.
- PUMP POWER CORD; SEE STATION SINGLE LINE DIAGRAM FOR CONNECTION REQUIREMENTS.
- WET WELL IS A HAZARDOUS (CLASSIFIED) LOCATION; CLASS I DIVISION 1; ELECTRICAL INSTALLATION SHALL COMPLY ACCORDINGLY.
- CONCRETE PULLBOX; SEE STATION SITE PLAN FOR SIZE AND COUNT & DETAIL 3/E5.0 SIMILAR INSTALLATION.
- EYS SEALING FITTING; SIZED FOR FEEDER CONDUIT; SEE SINGLE LINE DIAGRAM. SEAL ALL CONDUITS THAT ARE ROUTED TO SIGNAL SOURCE.
- DETAIL IS CONCEPTUAL IN NATURE TO REPRESENT WETWELL ELECTRICAL INSTALLATION REQUIREMENTS; COORDINATE WITH CIVIL PLANS FOR EXACT WETWELL CONFIGURATION.
- ULTRASONIC TRANSDUCER.

ELECTRICAL IMPROVEMENTS FOR LIFT STATIONS 1,2,3 & 4;
SEE CIVIL PLANS FOR LIFT STATION LOCATIONS.



1 WET WELL SECTION
NO SCALE

SYMBOLS AND ABBREVIATIONS

SYMBOLS & ABBREVIATIONS SHOWN ARE FOR GENERAL USE
DISREGARD THOSE WHICH DO NOT APPEAR ON THE PLANS

LIGHT FIXTURES

- FLUORESCENT - ANY MOUNT
- ▬ FLUORESCENT STRIP - ANY MOUNT
- ◻ INCAND. OR HID - CEILING RECESSED
- INCAND. OR HID - SURF. OR SUSP.
- ◻ INCAND. OR HID - WALL MOUNT
- SITE LIGHT - ARM MOUNTED ON POLE
- ⊙ SITE LIGHT - GROUND, POST OR POLE MOUNTED
- ⊕ EXIT LIGHT - ANY MOUNT SEE PLANS FOR MTG.
- ⊕ EMERGENCY LIGHTING SET

SWITCHES

ALL SWITCHES 20A - 120/277V - U.O.N.
SWITCH MOUNTING = +48" TO TOP OF ELECTRICAL BOX U.O.N.

- \$ S.P.S.T.
- \$s SINGLE LOAD MOTION SENSOR SWITCH
- \$b DOUBLE LOAD MOTION SENSOR SWITCH

ABBREVIATIONS

AFG	ABOVE FINISHED GRADE	(N)	NEW
ARCH.	ARCHITECT	NIC	NOT IN CONTRACT
AWG	AMERICAN WIRE GAUGE	NL	NIGHT LIGHT
BC	BARE COPPER	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED EQUIPMENT
C.	CONDUIT	PH.	PHASE
CKT	CIRCUIT	POC	POINT OF CONNECTION
CO	CONDUIT ONLY	P/O	PART OF CONNECTION
CONC.	CONCRETE	SW	SWITCH
CONTR.	CONTRACTOR	SWBD	SWITCHBOARD
DISC.	DISCONNECT	TBD	TO BE DETERMINED
(E)	EXISTING	T., TELE.	TELEPHONE
ELEC.	ELECTRICAL	TERM.	TERMINAL
EM	EMERGENCY	TSP	TERMINAL TWISTED SHIELDED PAIR
(F)	FUTURE	TV	TELEVISION
FA	FIRE ALARM	UG	UNDERGROUND
G, GND.	GROUND (ELEC)	UON	UNDERGROUND UNLESS OTHERWISE NOTED
GEC	GROUNDING ELECTRODE CONDUCTOR	WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPT	XFMR	TRANSFORMER
ID	INSIDE DIMENSION		
ISO GND.	ISOLATED GND.		
MECH.	MECHANICAL		
MCP	MOTOR CIRCUIT PROTECTOR		

CONDUIT/WIRING

- CONCEALED IN WALLS OR CEILING; OR EXPOSED WHEN SPECIFICALLY NOTED
- - - UNDER FLOOR SLABS OR UNDERGROUND
- HOMERUN TO PANEL, TERMINAL OR EQUIPMENT INDICATED
- DENOTES NEUT. WIRE
- DENOTES PHASE WIRES
- BRANCH CIRCUIT WIRING ID.
- CONDUIT STUB-OUT
- CONDUIT UP OR DOWN-AS NOTED
- EXISTING CONDUIT/WIRING
- ////// INDICATES (E) TO BE REMOVED

MISCELLANEOUS

- ⊙ MOTOR CONNECTION
- ⊕ FUSED DISCONNECT SWITCH-FUSED WITH DUAL-ELEMENT TIME DELAY FUSES, SIZED PER EQUIP. MFGR'S NAME PLATE DATA
- ⊕ DISCONNECT SWITCH-NONFUSED U.O.N.
- ⊕ MAGNETIC MOTOR STARTER
- ⊕ COMBINATION MAG STARTER & FUSED DISCONNECT SWITCH
- GROUND ROD-DIRECT BURIED
- GROUND ROD-WITH ACCESSIBLE BOX
- FEEDER TAG
- EQUIP. ID TAG-SEE SHEET NOTES ON SAME SHEET WHERE SYMBOL APPEARS U.O.N.
- ⬡ SHEET NOTE TAG
- ⊕ TRANSFORMER PAD MOUNT OR DRY TYPE
- ⊕ SWITCHGEAR OR MCC
- PANELBOARD - FLUSH MOUNTED
- PANELBOARD - SURFACE MOUNTED
- SPECIAL PURPOSE EQUIP., DEVICE, PANEL OR TERMINAL CABINET (F.A., LIGHTING CONTROL, ETC.) EQUIPMENT PARAMETERS INDICATED ON PLANS
- ⊕ CONCRETE PULLBOX SIZE INDICATED ON PLANS
- +48" INDICATES MOUNTING HEIGHT TO CENTER OF DEVICE OR EQUIP. ABOVE FINISHED FLOOR.
- ⊕ \$b SUBSCRIPT LETTER INDICATES CONTROL NUMBER
- ⊕ \$2 FIGURE INDICATES BRANCH CIRCUIT NUMBER

FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 Aptos, California, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
 EMAIL: Tpinkerton@fehengineering.com
 CONSULTING ELECTRICAL ENGINEERS
 FE JOB No. 20063.00

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 San Luis Obispo, CA 93401
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DESIGNED: TEP
 DRAWN: CL
 CHECKED: TEP

THOMAS E. PINKERTON
 ELECTRICAL ENGINEER
 #014906 EXP. 6/30/2023

05/05/2022
 DATE



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 AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

SYMBOLS & ABBREVIATIONS

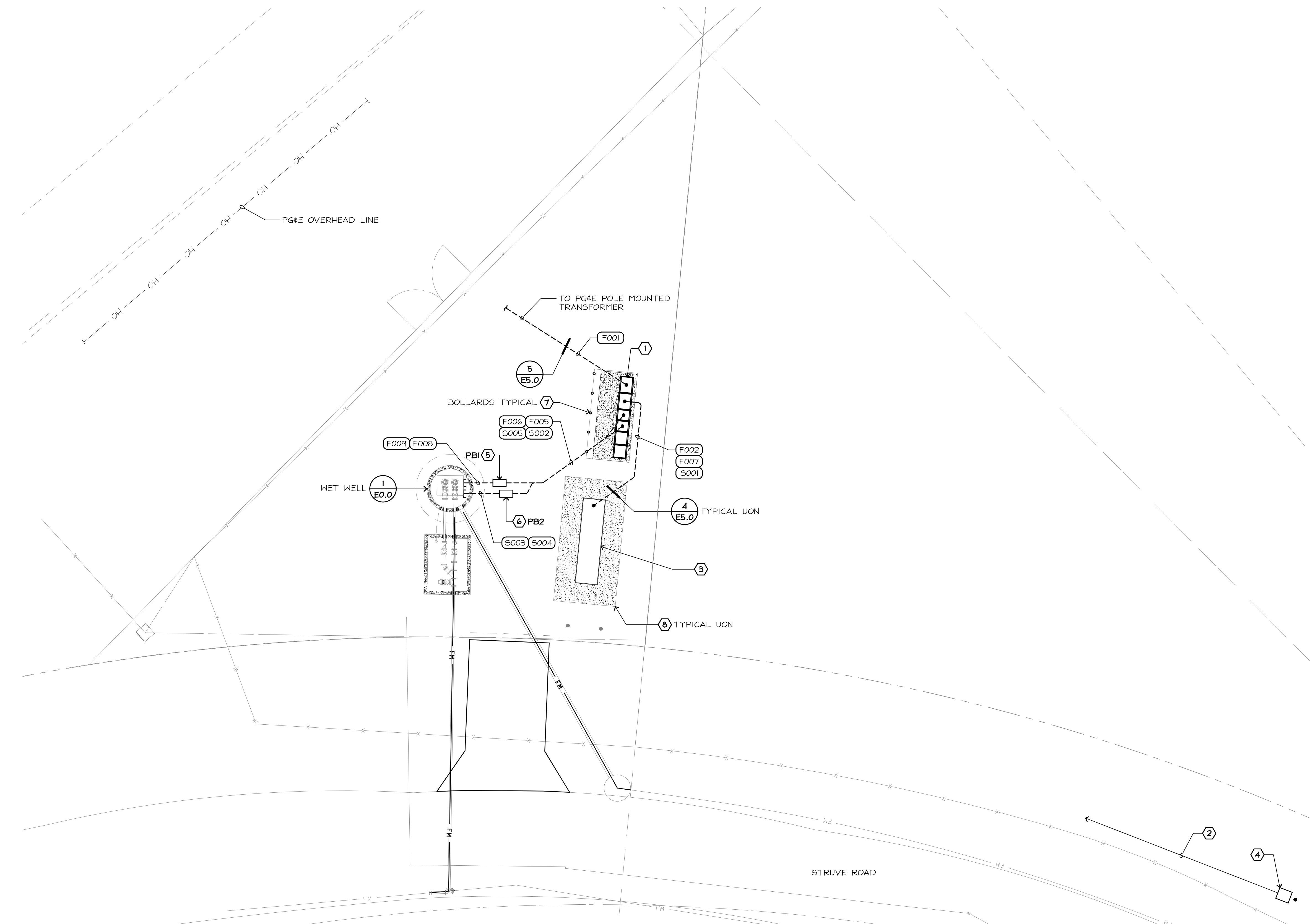
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DICVL.200738.02

DRAWING NUMBER
E0.0

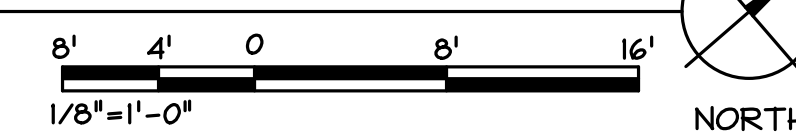
SHEET NUMBER
43 OF 57

○ SHEET NOTES

1. (N) ELECTRICAL PANEL; SEE DETAIL 1/E1.1. (2,000lbs).
2. (E) STATION APPROXIMATELY 225' FROM (N) LOCATION.
3. INSTALL BACK-UP GENERATOR. (6,000lbs).
4. (E) LIFT STATION TO BE DEMOLISHED UNDER CIVIL PLANS; DISCONNECT POWER AS NECESSARY; COORDINATE WITH CIVIL PLANS.
5. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "POWER"; SEE DETAIL 3/E5.0.
6. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "SIGNAL"; SEE DETAIL 3/E5.0.
7. BOLLARDS PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE WITH CIVIL PLANS TO ENSURE WORKING CLEARANCE & ACCESS TO ELECTRICAL EQUIPMENT IS MAINTAINED.
8. CONCRETE EQUIPMENT PADS PROVIDED UNDER CIVIL PLANS, COORDINATE.



1 LIFT STATION 1 SITE IMPROVEMENT PLAN (STRUVE)
1/8"=1'-0"



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9057 SOQUEL DRIVE,
BLDG. B, SUITE G
APTOS, CALIFORNIA, 95003
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FE JOB No. 20063.00

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ELECTRICAL ENGINEER
#014906 EXP. 6/30/2023

05/05/2022
DATE

REGISTERED PROFESSIONAL ENGINEER
THOMAS E. PINKERTON
No. 014906
EXP. 30 JUNE 23
ELECTRICAL
STATE OF CALIFORNIA

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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 SITE IMPROVEMENT PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E1.0

SHEET NUMBER
44 OF 57

GENERAL SINGLE LINE NOTES

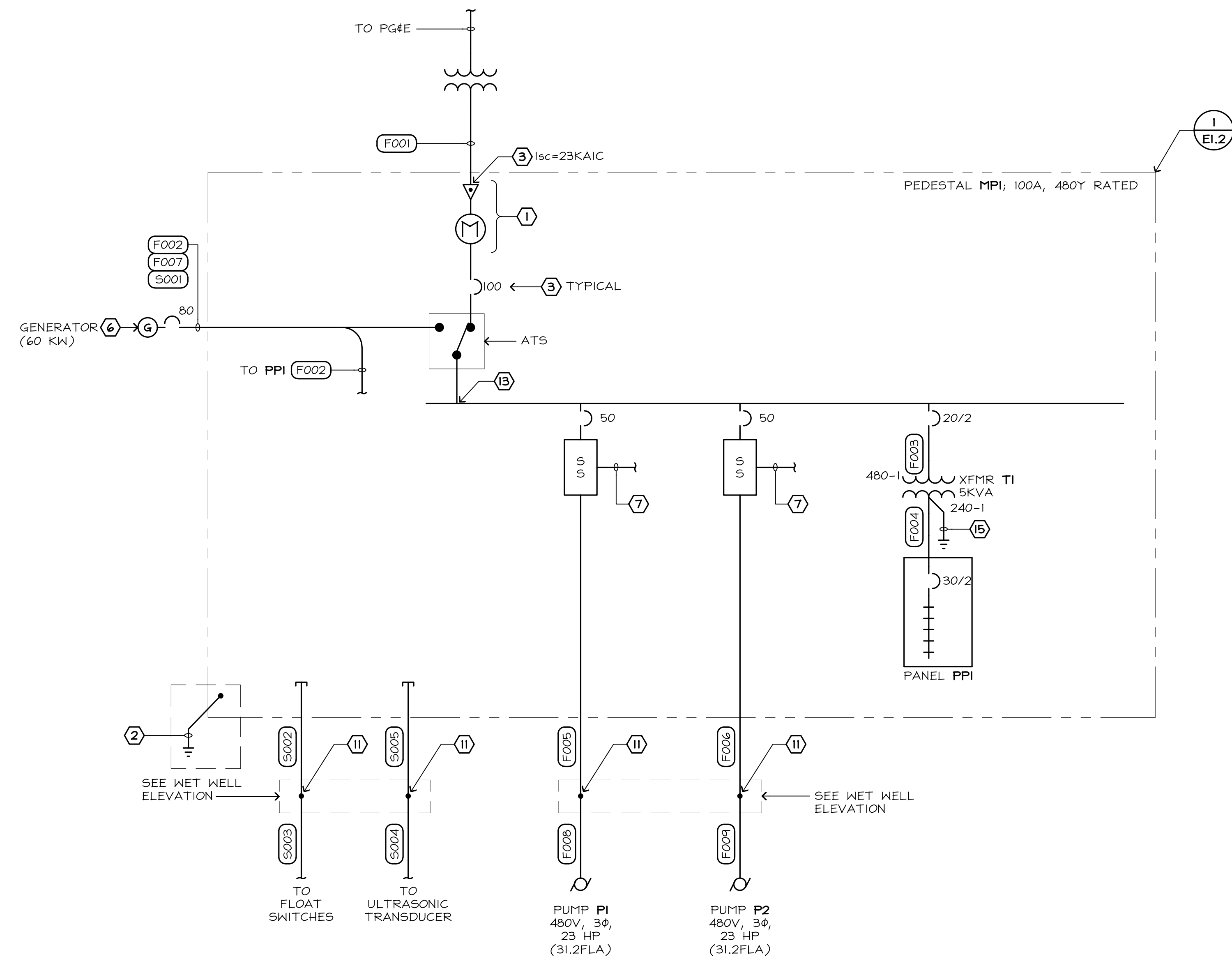
- A. ALL ELECTRICAL SHOWN IS NEW, U.O.N.
- B. ALL CIRCUIT BREAKERS ARE 3-POLE, U.O.N.
- C. VOLTAGE DESIGNATIONS: (U.O.N.)
 240-1 = 240/120V-1PH-2WIRE
 480-1 = 480V-1PH-2WIRE
 208Y = 208/120V-3PH-4 WIRE
 480Y = 480/277V-3PH-4 WIRE
 480Δ = 480V-3PH-3 WIRE
 12KVΔ = 12KV-3PH-3 WIRE
- D. "KA" AT CIRCUIT BREAKERS DENOTES MINIMUM REQUIRED INTERRUPTING CAPACITY IN AMPS (x 1000).
- E. SPO AT BREAKER DENOTES: PROVIDE MOUNTING SPACE & HARDWARE FOR FUTURE 3-POLE BREAKER OF RATINGS INDICATED.
- F. I_{sc} = AVAILABLE SHORT CIRCUIT (RMS SYM. AMPS) BASED ON 500MVA SHORT-CIRCUIT DUTY AT SERVICE XFMR PRIMARY AND 7.5% BELOW NOMINAL XFMR IMPEDENCES; VALUES ON LOAD-SIDE OF MAIN SWITCHBOARD INCLUDE MOTOR CONTRIBUTION.

FEEDER SCHEDULE

FDR No.	CONDUIT AND CONDUCTORS	REMARK
F001	3" C.O.	PG#E SECONDARY CONDUIT
F002	3/4" C., 4#12, 1#12 GND.	GENERATOR HEATER & BATTERY CHARGER
F003	2#12, 1#12 GND.	
F004	3#10, 1#10 GND.	
F005	1" C., 3#8, 1#10 GND. & 2#12	(10)
F006	1" C., 3#8, 1#10 GND. & 2#12	(10)
F007	1 1/2" C., 4#2, 1#8 GND.	GENERATOR FEEDER
F008	2" C., 3#10, 1#10 GND.	(14)
F009	2" C., 3#10, 1#10 GND.	(14)
S001	3/4" C. 2#12	GENERATOR START SIGNAL
S002	1" C., 9#12	(8)
S003	1 1/2" C., (4)	
S004	3/4" C.	(5)
S005	3/4" C. (4)	

SHEET NOTES

1. UTILITY METER & LANDING LUGS PER UTILITY REQUIREMENTS; COORDINATE.
2. AWG #6 B.C. GEC BOND PEDESTAL GROUND BUS TO DRIVEN ROD; SEE DETAIL I/EI.2; BOND NEUTRAL.
3. RATE PEDESTAL EQUIPMENT AT 25 KA INTERRUPTING CAPACITY MINIMUM.
4. INSTRUMENTATION CABLE; TWO 22 AWG TWISTED PAIRS; (7 X 30) TINNED COPPER CONDUCTORS; CHEMICAL RESISTANT INSULATION; SUITABLE FOR OUTDOOR & BURIAL APPLICATIONS; 4-20mA SIGNAL; BELDEN OR EQUAL.
5. ULTRASONIC TRANSDUCER CABLE; PART OF ULTRASONIC TRANSDUCER; SEE ELECTRICAL SPECIFICATION.
6. SEE ELECTRICAL SPECIFICATION.
7. START SIGNAL FROM CONTROLS; SEE DETAIL I/E6.0.
8. FLOAT SWITCH SIGNAL CONDUCTORS.
9. 3 FLOAT SWITCH CABLES; PART OF FLOAT SWITCHES.
10. POWER CONDUCTORS & MOTOR SIGNAL CONDUCTORS.
11. CONDUCTOR SPLICE; SEE WET WELL ELEVATION.
12. PANEL MOUNTED IN MPI; SEE DETAIL I/EI.3.
13. TOTAL CONNECTED LOAD=55 KVA MAXIMUM STATION DEMAND=96% (ESTIMATED).
14. PUMP CABLE PART OF PUMP COORDINATE WITH PUMP VENDOR. POWER & MOTOR SIGNAL CONDUCTORS.
15. BOND TO PEDESTAL GROUND BUS.



PANELBOARD SCHEDULE

PP1	TYPE	NEMA 1	BUS	120/240V, 1φ, 3W	VOLT	240-1		
	MOUNT	(2)	MAINS	30A C.B.	CONNECTED LOAD			
A.I.C.	10,000	FEED	TOP	KVA	0.9	A	4.0	
USE	VOLT-AMPS		TRIP	F	F	VOLT-AMPS		USE
GENERATOR BATTERY CHARGER	600		20/1	1	2			
GENERATOR HEATER		1200		3	4			SPARE
SPARE				5	6			
				7	8			
				9	10			
				11	12			
	600	1200				CONNECTED LOADS	100	

1 LIFT STATION 1 SINGLE LINE DIAGRAM

FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 Aptos, California, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
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 FE JOB No. 20063.00

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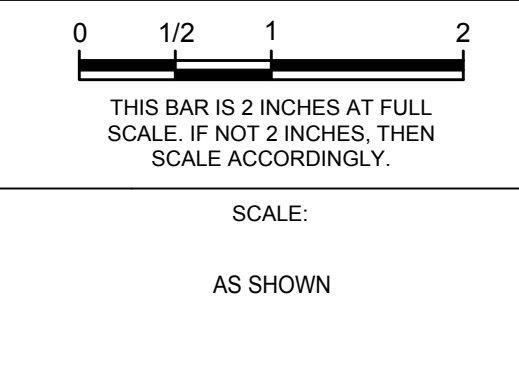
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THOMAS E. PINKERTON
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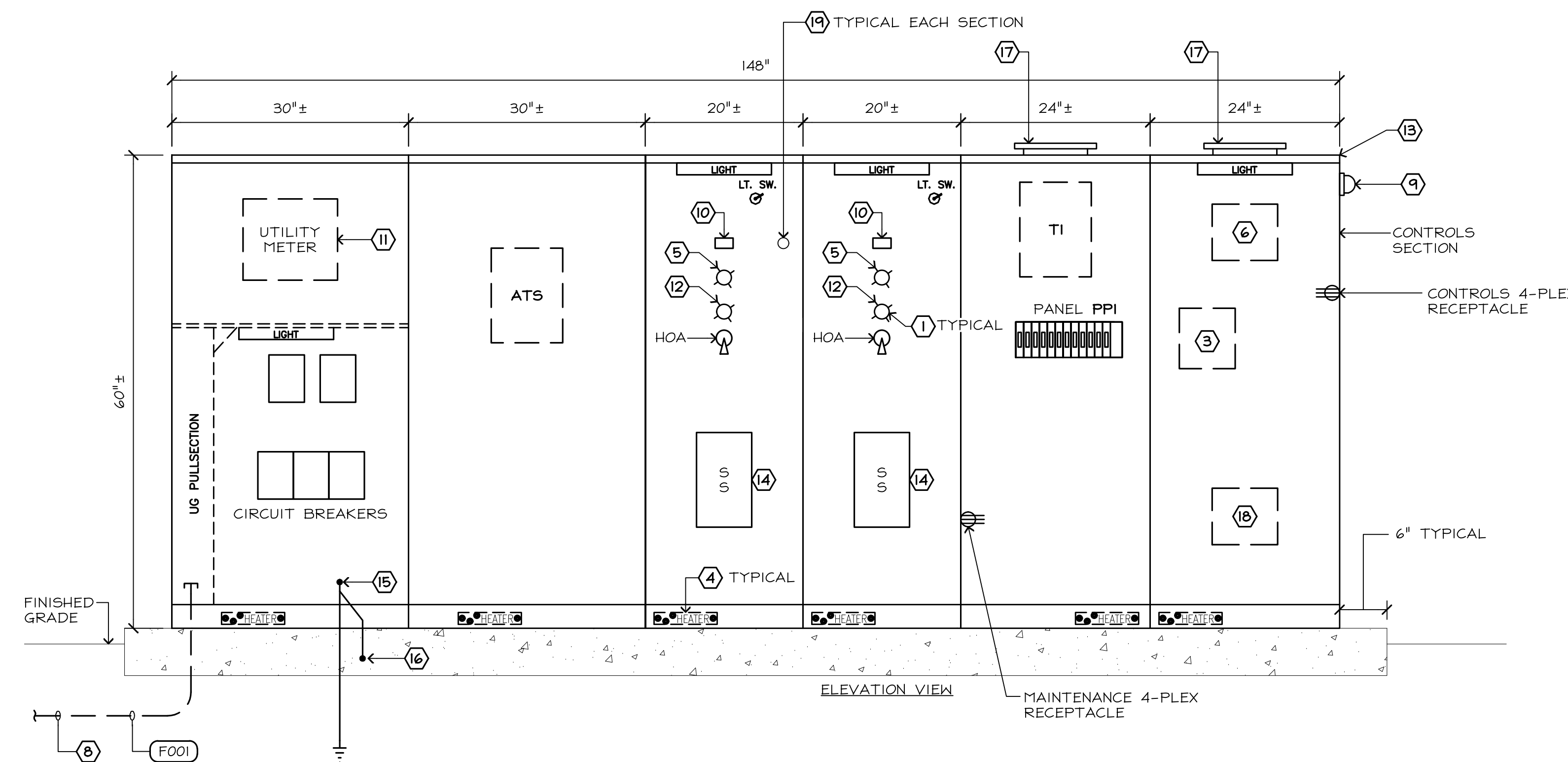
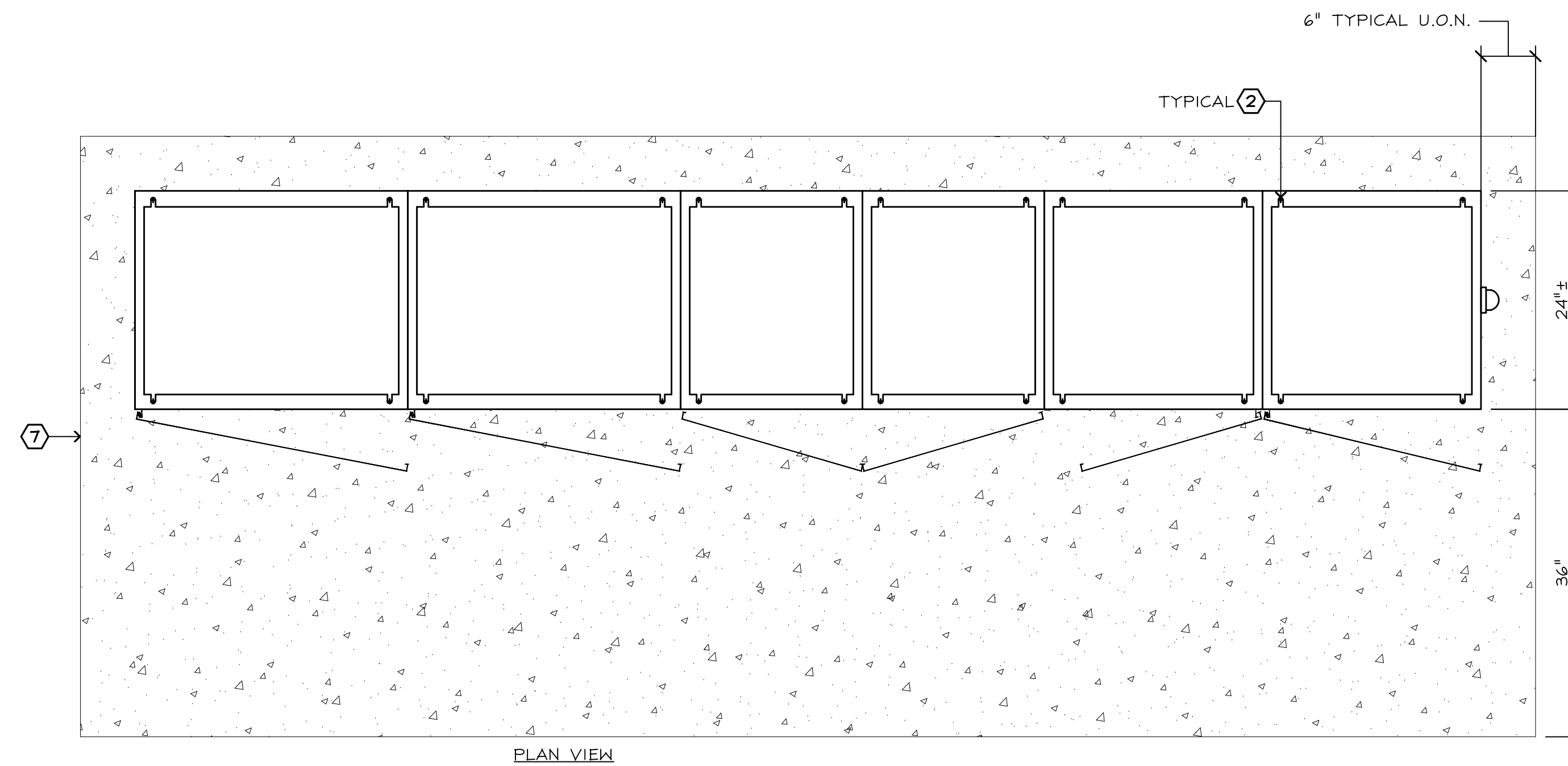
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 SINGLE LINE DIAGRAM

PROJECT NUMBER: DICVL.200738.02
 DRAWING NUMBER: E1.1
 SHEET NUMBER: 45 OF 57

SHEET NOTES

- PROVIDE MOTOR STATUS LIGHTS AS DETAILED ON THE PLANS, THE CONTROL DIAGRAM AND WITHIN THE SPECIFICATION; PROVIDE STATUS LIGHT LAYOUT FOR APPROVAL.
- BOLT TO PAD USING MINIMUM 1/2" DIAMETER BOLT AND PER EQUIPMENT MANUFACTURER'S REQUIREMENTS; EPOXY ANCHOR BOLT OR EQUAL INTO CONCRETE; COORDINATE WORK WITH CIVIL PLANS; SEE DETAIL 2/E5.0.
- LIGHTING CONTROLS;
- SECTION HEATER; 250W MINIMUM 120V; PROVIDE SINGLE THERMOSTAT CONTROL CENTRALLY LOCATED IN PEDESTAL.
- "PUMP RUNNING" LIGHT; GREEN LED LIGHT SOURCE; LABEL "PUMP RUNNING".
- PUMP CONTROLS; SEE DETAIL 1/E6.0.
- CONCRETE EQUIPMENT PAD PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE EXACT REQUIREMENTS FOR ELECTRICAL EQUIPMENT BEING INSTALLED.
- TO SECONDARY SERVICE STUB OUT; SEE DETAIL 1/E1.1.
- HIGH LEVEL ALARM LIGHT; RED FLASHING LED; 120V; DAYLIGHT VISIBLE FROM 100' MINIMUM; (AS VIEWED FROM THE SIDE OF THE LIGHT); SEE 1/E6.0 FOR CONTROLS.
- PUMP ELAPSED TIME METER; SEE ELECTRICAL SPECIFICATION.
- PEDESTAL UTILITY SERVICE ENTRANCE AND ALL UTILITY METERING FACILITIES SHALL CONFORM TO EUSERC STANDARDS AND BE PG&E APPROVED. LANDING LUGS FOR SERVICE ENTRANCE CONDUCTORS SHALL MEET PG&E REQUIREMENTS AND SHALL BE FURNISHED WITH THE PEDESTAL. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR INSTALLATION OF NEW SERVICE; SEE ELECTRICAL SPECIFICATION.
- PUMP CONTROLLER FAIL LIGHT; RED LED LIGHT SOURCE; LABEL "PUMP FAIL".
- PUMP CONTROL PEDESTAL SHOWN WITH EXTERIOR DOORS OPENED.
- MOTOR STARTER; SEE SINGLE LINE DIAGRAM & DETAIL 1/E6.0.
- GROUND ROD; 96" EARTH TO GROUND ROD CONTACT; SEE DETAIL 1/E1.1.
- BOND TO PEDESTAL PAD REBAR.
- EXHAUST FAN; SEE ELECTRICAL SPECIFICATION.
- DIALER; COORDINATE WITH OWNER FOR DIALER CONTACT LIST AND PROGRAM DIALER WITH CONTRACT LIST; DEMONSTRATE TO OWNER THAT DIALER FUNCTIONS AS DETAILED ON THE PLANS.
- INTRUSION ALARM RELAY CONTACTS; SEE DETAIL 1/E6.0.



1 LIFT STATION 1 POWER PEDESTAL

NO SCALE

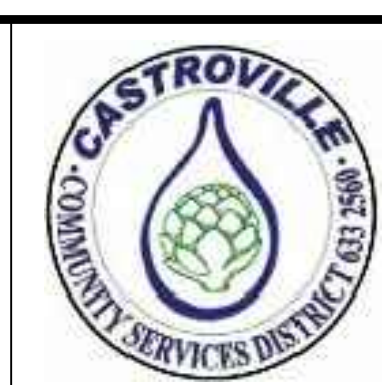
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05/05/2022
DATE

REGISTERED PROFESSIONAL ENGINEER
THOMAS E. PINKERTON
No. 014906
EXP. 30 JUNE 23
ELECTRICAL
STATE OF CALIFORNIA

0 1/2 1 2

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CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 1 POWER PEDESTAL

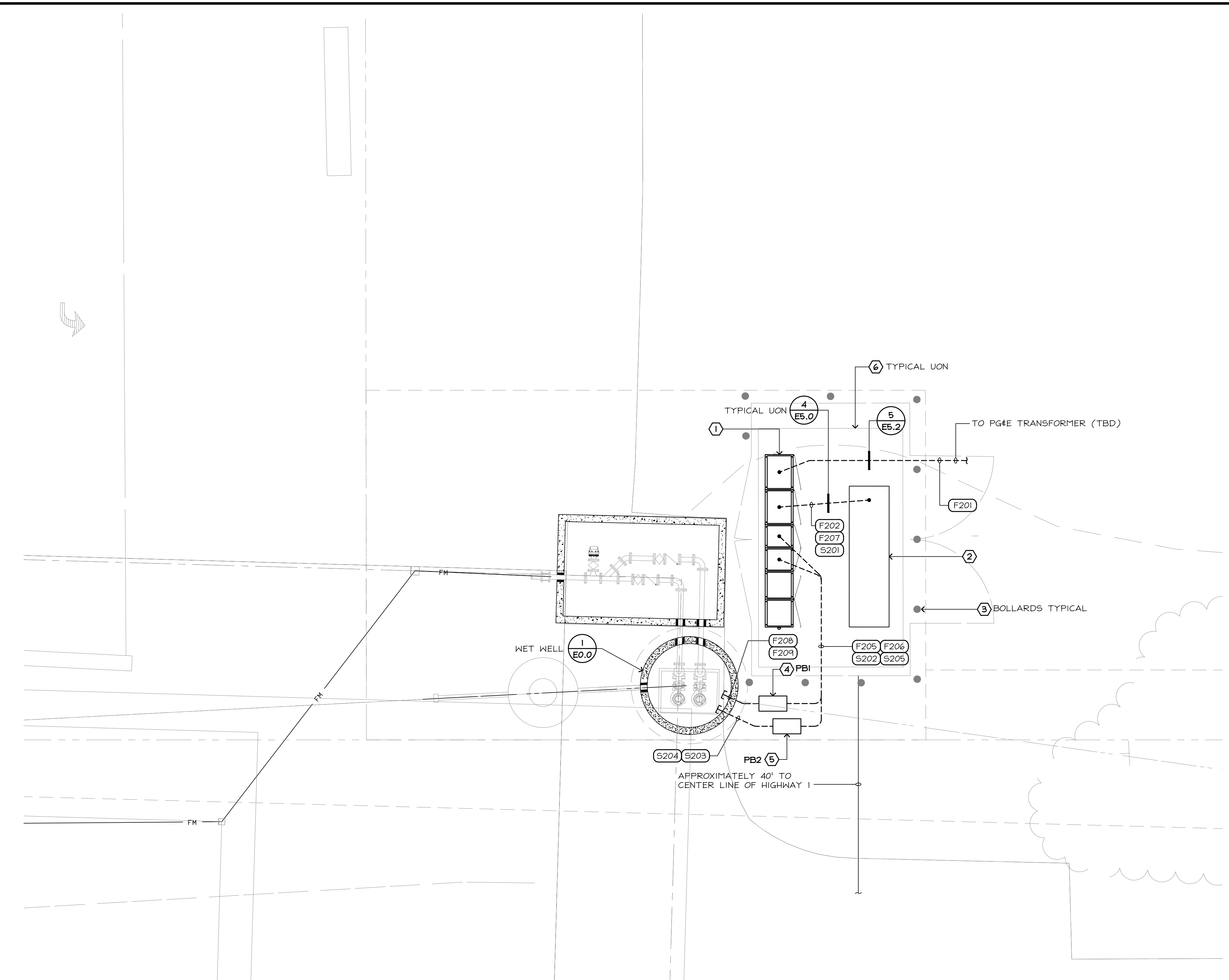
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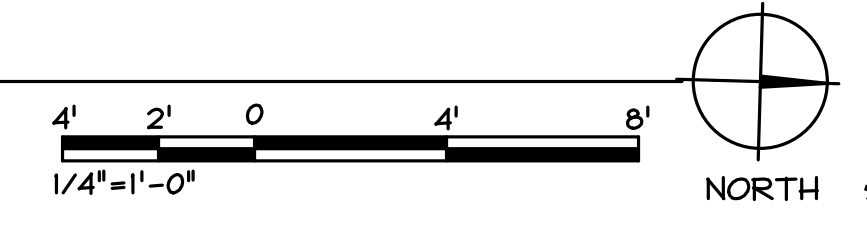
SHEET NUMBER
46 OF 57

SHEET NOTES

1. (N) ELECTRICAL PANEL; SEE DETAIL 1/E2.1. (2,000lbs).
2. INSTALL BACK-UP GENERATOR. (5,000lbs).
3. BOLLARDS PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE WITH CIVIL PLANS TO ENSURE WORKING CLEARANCE & ACCESS TO ELECTRICAL EQUIPMENT IS MAINTAINED.
4. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "POWER"; SEE DETAIL 3/E5.0.
5. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "SIGNAL"; SEE DETAIL 3/E5.0.
6. CONCRETE EQUIPMENT PADS PROVIDED UNDER CIVIL PLANS, COORDINATE.



1 LIFT STATION 2 SITE IMPROVEMENT PLAN (LITTLE BAJA)
1/4"=1'-0"



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 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 Aptos, California, 95003
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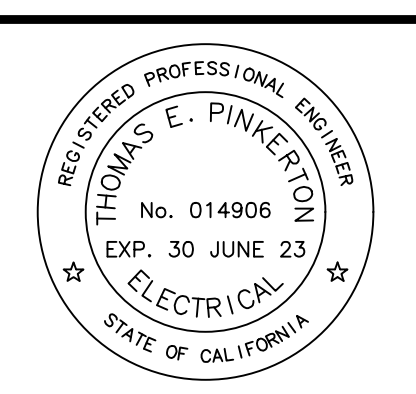
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LIFT STATION 2 SITE IMPROVEMENT PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E2.0

SHEET NUMBER
47 OF 57

DATE PLOTTED: 05/05/2022 10:45:17 AM

GENERAL SINGLE LINE NOTES

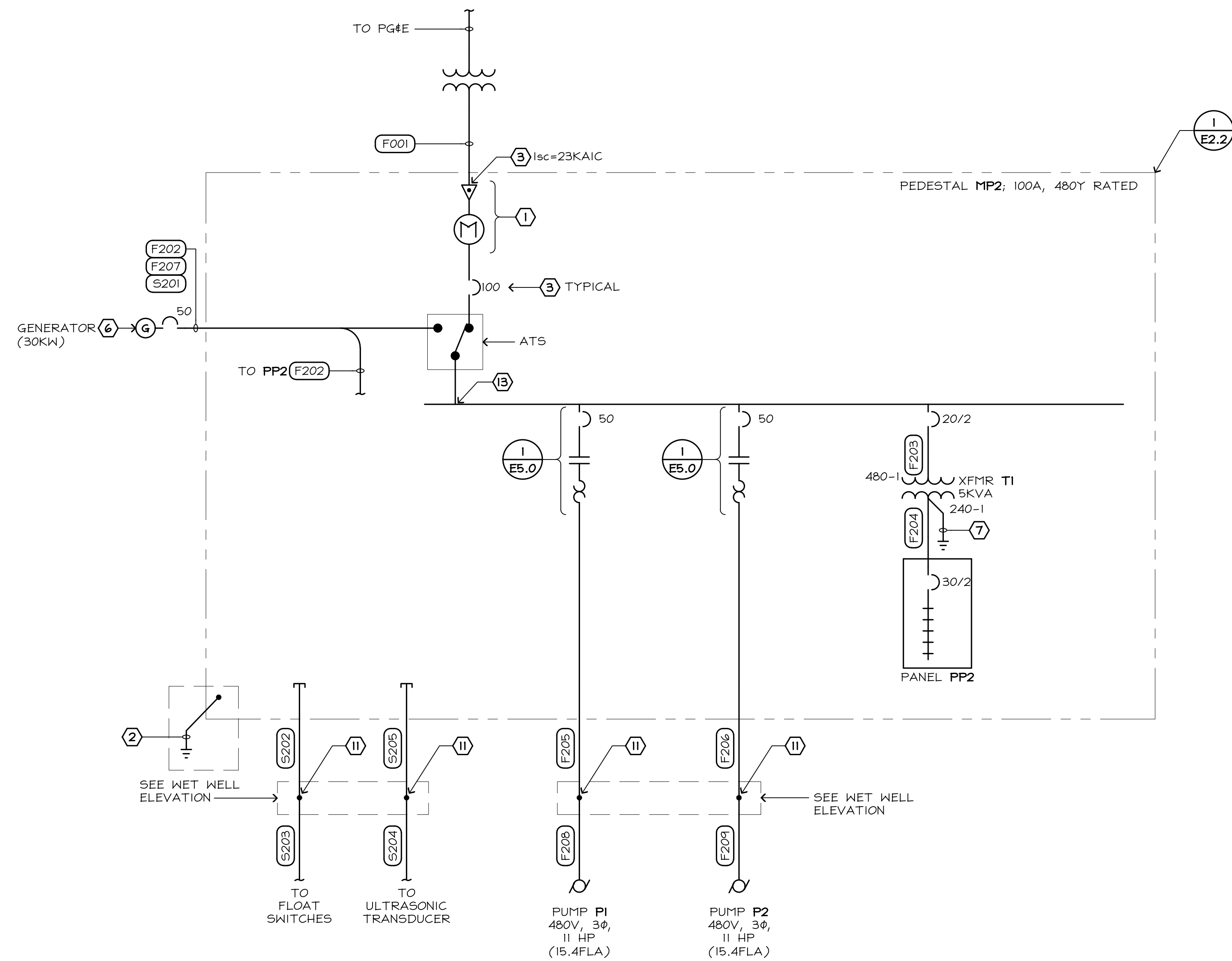
- A. ALL ELECTRICAL SHOWN IS NEW, U.O.N.
- B. ALL CIRCUIT BREAKERS ARE 3-POLE, U.O.N.
- C. VOLTAGE DESIGNATIONS: (U.O.N.)
 240-1 = 240/120V-1PH-3WIRE
 480-1 = 480V-1PH-2WIRE
 208Y = 208/120V-3PH-4 WIRE
 480Y = 480/277V-3PH-4 WIRE
 480Δ = 480V-3PH-3 WIRE
 12KVΔ = 12KV-3PH-3 WIRE
- D. "KA" AT CIRCUIT BREAKERS DENOTES MINIMUM REQUIRED INTERRUPTING CAPACITY IN AMPS (x 1000).
- E. SPO AT BREAKER DENOTES: PROVIDE MOUNTING SPACE & HARDWARE FOR FUTURE 3-POLE BREAKER OF RATINGS INDICATED.
- F. I_{sc} = AVAILABLE SHORT CIRCUIT (RMS SYM. AMPS) BASED ON 500MVA SHORT-CIRCUIT DUTY AT SERVICE XFMR PRIMARY AND 7.5% BELOW NOMINAL XFMR IMPEDENCES; VALUES ON LOAD-SIDE OF MAIN SWITCHBOARD INCLUDE MOTOR CONTRIBUTION.

FEEDER SCHEDULE

FDR No.	CONDUIT AND CONDUCTORS	REMARK
F201	3"C.O.	PG#E SECONDARY CONDUIT
F202	3/4"C. 4#12, 1#12 GND.	GENERATOR HEATER & BATTERY CHARGER
F203	2#12, 1#12 GND.	
F204	3#10, 1#10 GND.	
F205	1"C., 3#10, 1#10 GND. & 2#12	(10)
F206	1"C., 3#10, 1#10 GND. & 2#12	(10)
F207	1"C., 4#8, 1#10 GND.	GENERATOR FEEDER
F208	2"C., 3#8, 1#10 GND.	(14)
F209	2"C., 3#8, 1#10 GND.	(14)
S201	2"C.O.	GENERATOR START SIGNAL
S202	1"C., 9#12	(8)
S203	1 1/2"C., (4)	
S204	3/4"C.	(5)
S205	3/4"C. (4)	

SHEET NOTES

1. UTILITY METER & LANDING LUGS PER UTILITY REQUIREMENTS; COORDINATE.
2. AWG #6 B.C. GEC BOND PEDESTAL GROUND BUS TO DRIVEN ROD; SEE DETAIL 1/E2.2; BOND NEUTRAL.
3. RATE PEDESTAL EQUIPMENT AT 25 KA INTERRUPTING CAPACITY MINIMUM.
4. INSTRUMENTATION CABLE; TWO 22 AWG TWISTED PAIRS; (7 X 30) TINNED COPPER CONDUCTORS; CHEMICAL RESISTANT INSULATION; SUITABLE FOR OUTDOOR & BURIAL APPLICATIONS; 4-20mA SIGNAL; BELDEN OR EQUAL.
5. ULTRASONIC TRANSDUCER CABLE; PART OF ULTRASONIC TRANSDUCER; SEE ELECTRICAL SPECIFICATION.
6. SEE ELECTRICAL SPECIFICATION.
7. BOND TO PEDESTAL GROUND BUS.
8. FLOAT SWITCH SIGNAL CONDUCTORS.
9. 3 FLOAT SWITCH CABLES; PART OF FLOAT SWITCHES.
10. POWER CONDUCTORS & MOTOR SIGNAL CONDUCTORS.
11. CONDUCTOR SPLICE; SEE WET WELL ELEVATION.
12. PANEL MOUNTED IN MPI; SEE DETAIL 1/E1.3.
13. TOTAL CONNECTED LOAD=28 KVA MAXIMUM STATION DEMAND=96% (ESTIMATED).
14. PUMP CABLE PART OF PUMP COORDINATE WITH PUMP VENDOR. POWER & MOTOR SIGNAL CONDUCTORS.



PANELBOARD SCHEDULE

PP2	TYPE	NEMA 1	BUS	120/240V, 1φ, 3W	VOLT	240-1	
	MOUNT	(2)	MAINS	30A C.B.	CONNECTED LOAD		
A.I.C.	10,000	FEED	TOP	KVA	0.9	A	4.0
USE	VOLT-AMPS		TRIP	F	VOLT-AMPS		USE
GENERATOR BATTERY CHARGER	600		20/1	1	2	20/1	YARD LIGHTS
GENERATOR HEATER		1200		3	4		
SPARE				5	6		SPARE
				7	8		
				9	10		
				11	12		
	600	1200		CONNECTED LOADS		100	

1 LIFT STATION 2 SINGLE LINE DIAGRAM

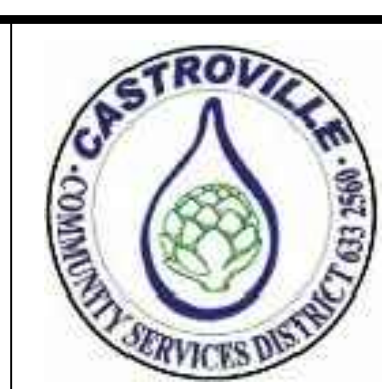
FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 Aptos, California, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
 EMAIL: tpinkerton@fehengineering.com
 CONSULTING ELECTRICAL ENGINEERS
 FE JOB No. 20063.00

***60% DESIGN - NOT FOR CONSTRUCTION**

REV	DATE	BY	DESCRIPTION

MNS ENGINEERS INC
 ENGINEERING | SURVEYING
 CONSTRUCTION MANAGEMENT

811 El Capitan Way, Suite 130
 San Luis Obispo, CA 93401
 Phone: 805-787-0326
 www.mnsengineers.com



DESIGNED: TEP
 DRAWN: CL
 CHECKED: TEP

THOMAS E. PINKERTON
 ELECTRICAL ENGINEER
 #014906 EXP. 6/30/2023

05/05/2022
 DATE

0 1/2 1 2

THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.

SCALE:
 AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 2 SINGLE LINE DIAGRAM

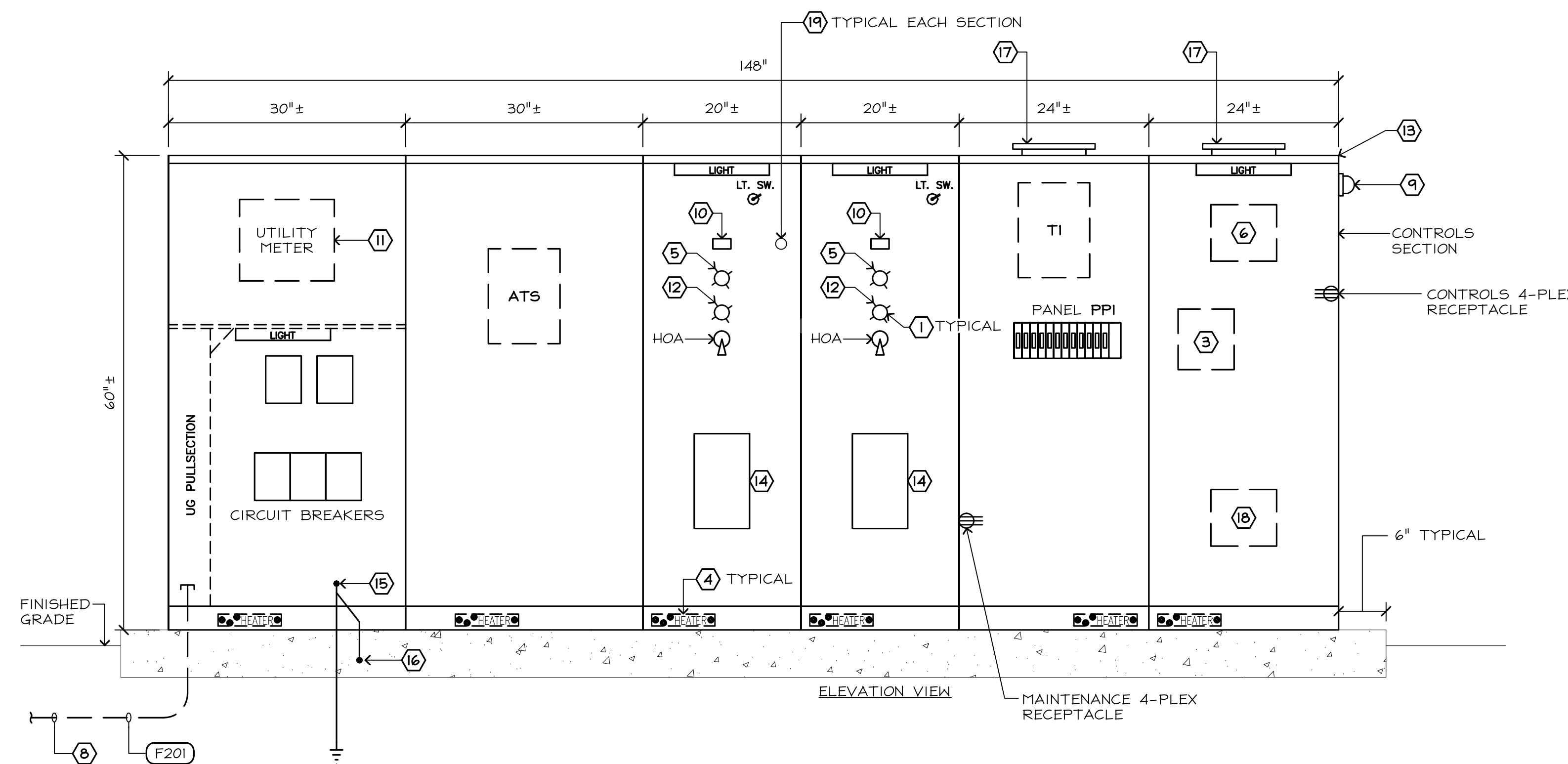
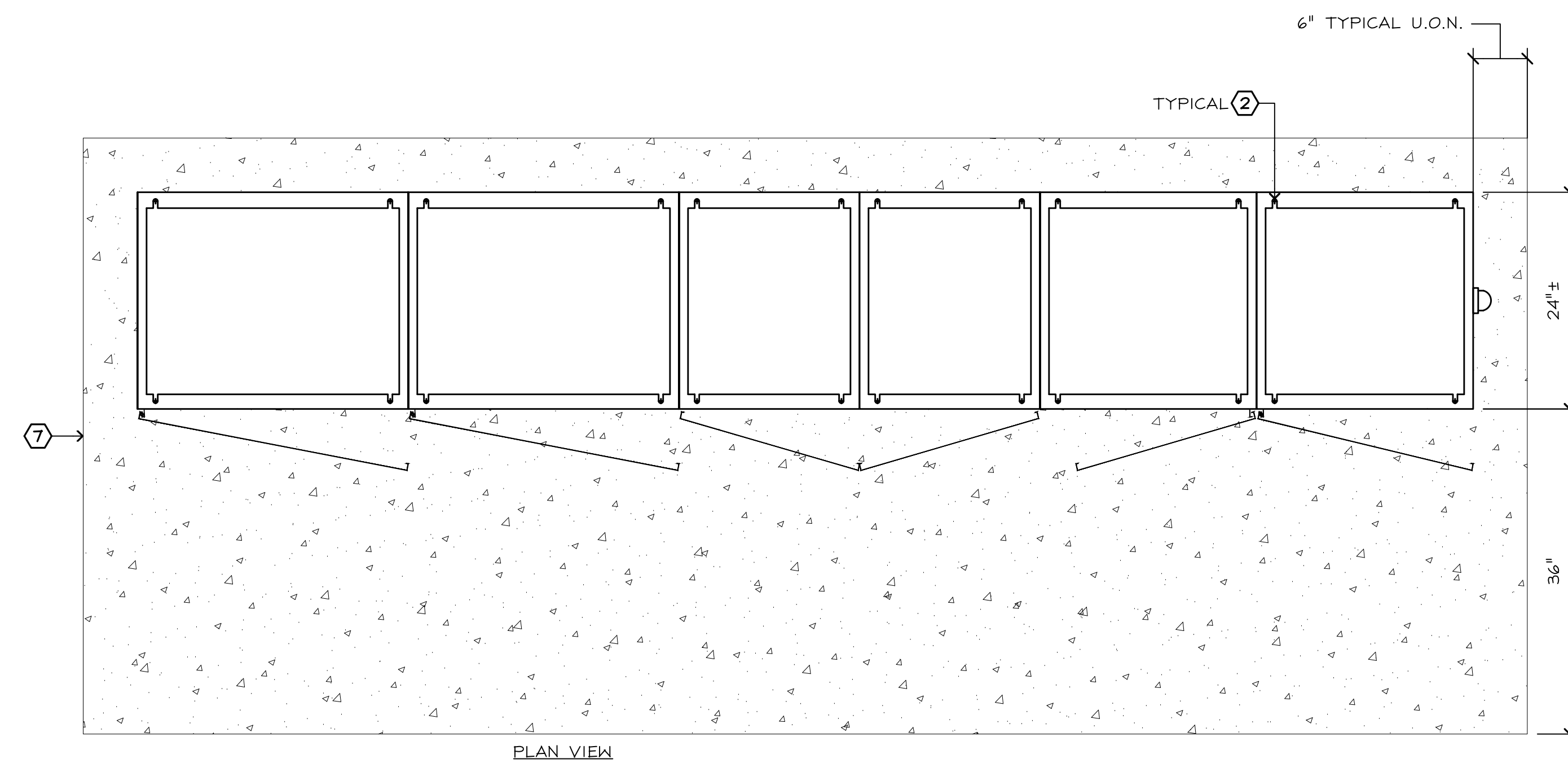
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E2.1

SHEET NUMBER
48 OF 57

SHEET NOTES

1. PROVIDE MOTOR STATUS LIGHTS AS DETAILED ON THE PLANS, THE CONTROL DIAGRAM AND WITHIN THE SPECIFICATION; PROVIDE STATUS LIGHT LAYOUT FOR APPROVAL.
2. BOLT TO PAD USING MINIMUM 1/2" DIAMETER BOLT AND PER EQUIPMENT MANUFACTURER'S REQUIREMENTS; EPOXY ANCHOR BOLT OR EQUAL INTO CONCRETE; COORDINATE WORK WITH CIVIL PLANS; SEE DETAIL 2/E5.0.
3. LIGHTING CONTROLS;
4. SECTION HEATER; 250W MINIMUM 120V; PROVIDE SINGLE THERMOSTAT CONTROL CENTRALLY LOCATED IN PEDESTAL.
5. "PUMP RUNNING" LIGHT; GREEN LED LIGHT SOURCE; LABEL "PUMP RUNNING".
6. PUMP CONTROLS; SEE DETAIL 1/E6.0.
7. CONCRETE EQUIPMENT PAD PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE EXACT REQUIREMENTS FOR ELECTRICAL EQUIPMENT BEING INSTALLED.
8. TO SECONDARY SERVICE STUB OUT; SEE DETAIL 1/E2.0.
9. HIGH LEVEL ALARM LIGHT; RED FLASHING LED, 120V; DAYLIGHT VISIBLE FROM 100' MINIMUM; (AS VIEWED FROM THE SIDE OF THE LIGHT); SEE 1/E6.0 FOR CONTROLS.
10. PUMP ELAPSED TIME METER; SEE ELECTRICAL SPECIFICATION.
11. PEDESTAL UTILITY SERVICE ENTRANCE AND ALL UTILITY METERING FACILITIES SHALL CONFORM TO EUSERC STANDARDS AND BE PG&E APPROVED. LANDING LUGS FOR SERVICE ENTRANCE CONDUCTORS SHALL MEET PG&E REQUIREMENTS AND SHALL BE FURNISHED WITH THE PEDESTAL. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR INSTALLATION OF NEW SERVICE; SEE ELECTRICAL SPECIFICATION.
12. PUMP CONTROLLER FAIL LIGHT; RED LED LIGHT SOURCE; LABEL "PUMP FAIL".
13. PUMP CONTROL PEDESTAL SHOWN WITH EXTERIOR DOORS OPENED.
14. MOTOR STARTER; SEE SINGLE LINE DIAGRAM.
15. GROUND ROD; 96" EARTH TO GROUND ROD CONTACT; SEE DETAIL 1/E2.1.
16. BOND TO PEDESTAL PAD REBAR.
17. EXHAUST FAN; SEE ELECTRICAL SPECIFICATION.
18. DIALER; COORDINATE WITH OWNER FOR DIALER CONTACT LIST AND PROGRAM DIALER WITH CONTRACT LIST; DEMONSTRATE TO OWNER THAT DIALER FUNCTIONS AS DETAILED ON THE PLANS.
19. INTRUSION ALARM RELAY CONTACTS; SEE DETAIL 1/E6.0 LINE 36.



1 LIFT STATION 2 POWER PEDESTAL (MP2)

NO SCALE

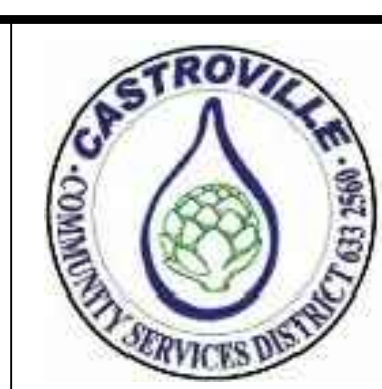
FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE 6
 Aptos, California, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
 EMAIL: tpinkerton@fehengineering.com
 CONSULTING ELECTRICAL ENGINEERS
 FE JOB No. 20063.00

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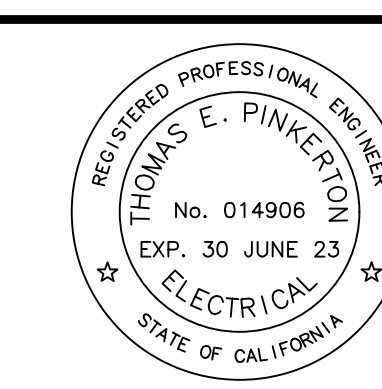
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TEP

DRAWN:
CL

CHECKED:
TEP

THOMAS E. PINKERTON
 ELECTRICAL ENGINEER
 #014906 EXP. 6/30/2023

05/05/2022
 DATE



0 1/2 1 2

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SCALE:
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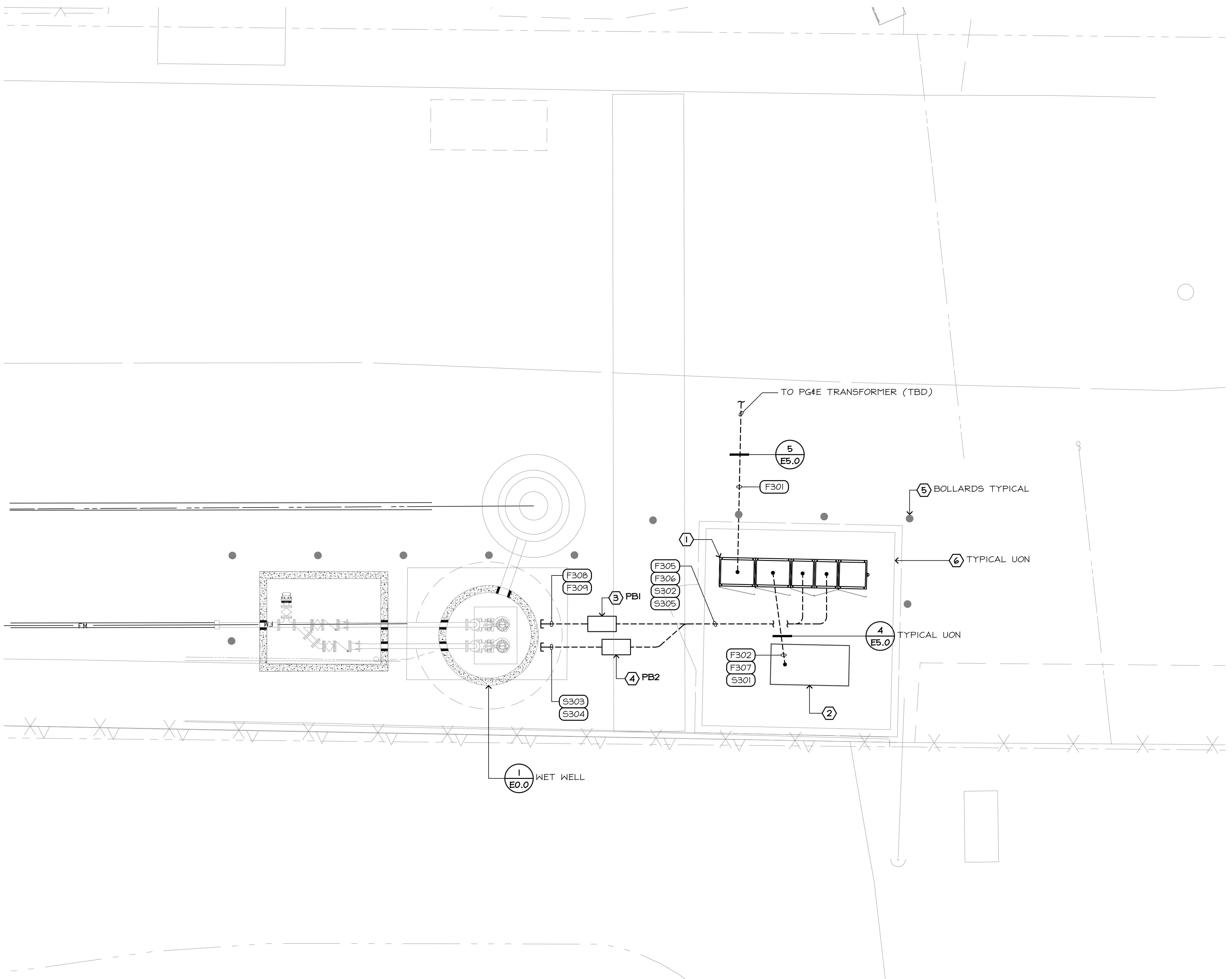
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 2 POWER PEDESTAL

PROJECT NUMBER
DICVL.200738.02

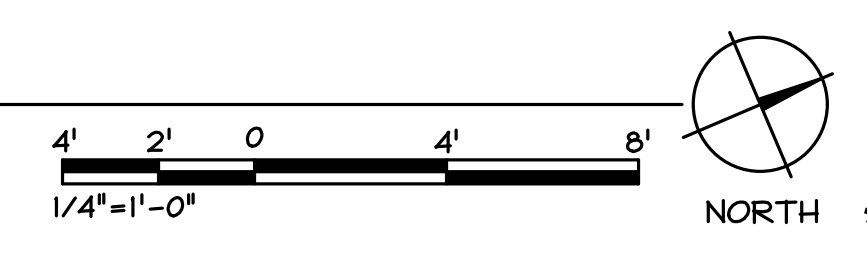
DRAWING NUMBER
E2.2

SHEET NUMBER
49 OF 57



- ### SHIELD SHEET NOTES
- (N) ELECTRICAL PANEL; SEE DETAIL 1/E3.1. (1,600lbs).
 - INSTALL BACK-UP GENERATOR. (4,500lbs).
 - CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "POWER"; SEE DETAIL 3/E5.0.
 - CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "SIGNAL"; SEE DETAIL 3/E5.0.
 - BOLLARDS PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE WITH CIVIL PLANS TO ENSURE WORKING CLEARANCE & ACCESS TO ELECTRICAL EQUIPMENT IS MAINTAINED.
 - CONCRETE EQUIPMENT PADS PROVIDED UNDER CIVIL PLANS, COORDINATE.

1 LIFT STATION 3 SITE IMPROVEMENT PLAN (SANDHOLDT)
1/4"=1'-0"



FEHR ENGINEERING COMPANY, INC.
9057 SOQUEL DRIVE,
BLDG. B, SUITE G
APTOS, CALIFORNIA, 95003
PHONE: (831) 786-0373
FAX: (831) 786-8523
EMAIL: tpinkerton@fehrengineering.com
CONSULTING ELECTRICAL ENGINEERS
FE JOB No. 20063.00

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MNS ENGINEERS INC
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CONSTRUCTION MANAGEMENT

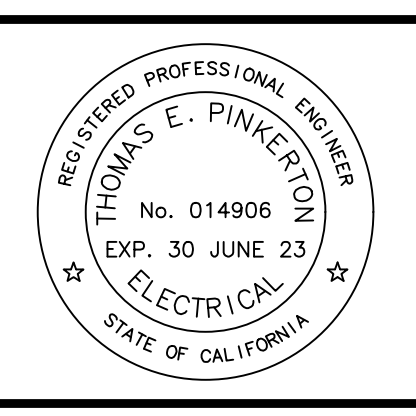
811 El Capitan Way, Suite 130
San Luis Obispo, CA 93401
Phone: 805-787-0326
www.mnsengineers.com



DESIGNED: TEP
DRAWN: CL
CHECKED: TEP

THOMAS E. PINKERTON
ELECTRICAL ENGINEER
#014906 EXP. 6/30/2023

05/05/2022
DATE



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SCALE:
AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 3 SITE IMPROVEMENT PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E3.0

SHEET NUMBER
50 OF 57

DATE PLOTTED: 05/05/2022 10:45:11 AM

GENERAL SINGLE LINE NOTES

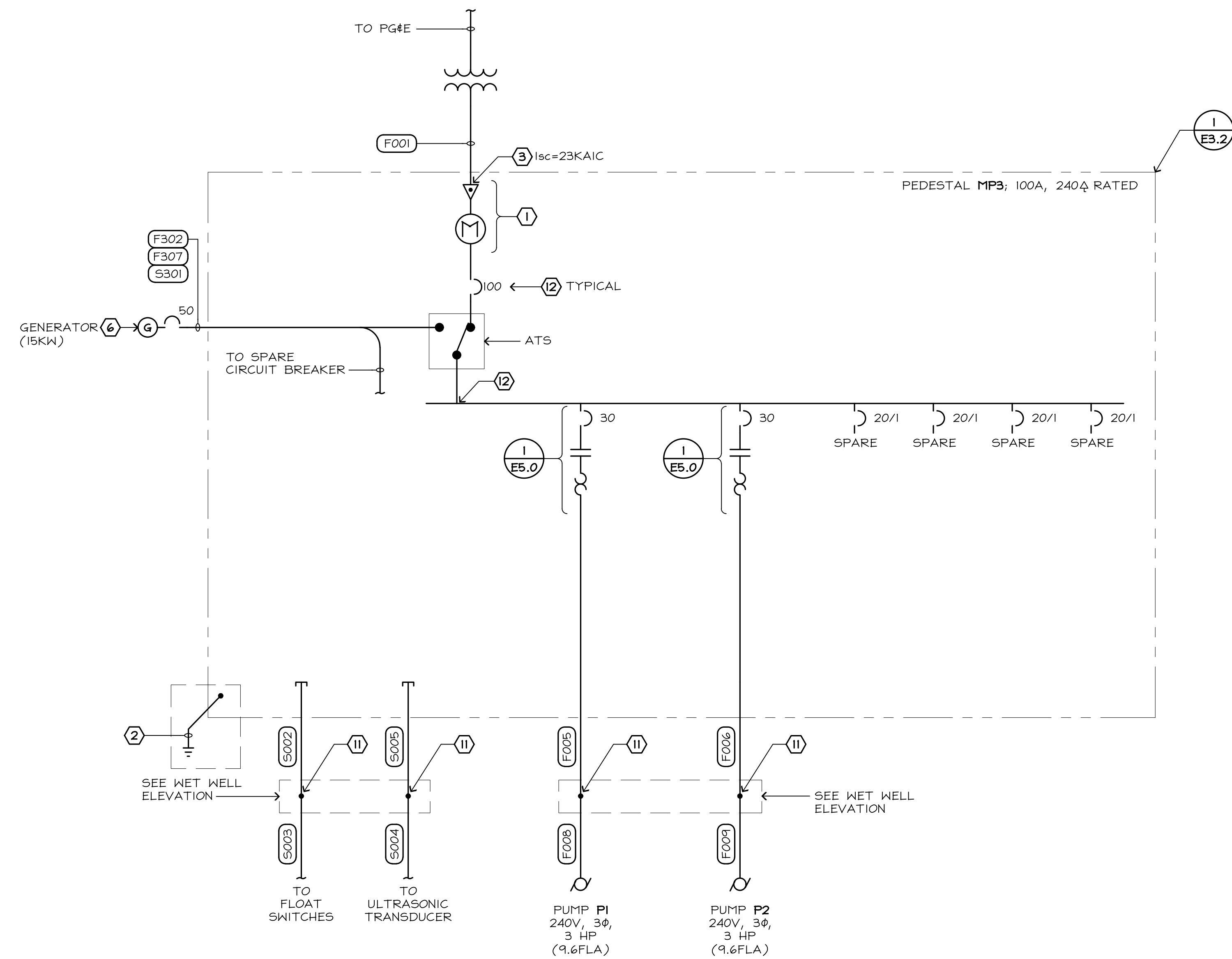
- A. ALL ELECTRICAL SHOWN IS NEW, U.O.N.
- B. ALL CIRCUIT BREAKERS ARE 3-POLE, U.O.N.
- C. VOLTAGE DESIGNATIONS: (U.O.N.)
 240-1 = 240/120V-1PH-3WIRE
 480-1 = 480V-1PH-2WIRE
 208Y = 208/120V-3PH-4 WIRE
 240Δ = 240/120V-3PH-4 WIRE
 480Y = 480/277V-3PH-4 WIRE
 480Δ = 480V-3PH-3 WIRE
 12KVΔ = 12KV-3PH-3 WIRE
- D. "KA" AT CIRCUIT BREAKERS DENOTES MINIMUM REQUIRED INTERRUPTING CAPACITY IN AMPS (x 1000).
- E. SPO AT BREAKER DENOTES: PROVIDE MOUNTING SPACE & HARDWARE FOR FUTURE 3-POLE BREAKER OF RATINGS INDICATED.
- F. I_{sc} = AVAILABLE SHORT CIRCUIT (RMS SYM. AMPS) BASED ON 500MVA SHORT-CIRCUIT DUTY AT SERVICE XFMR PRIMARY AND 7.5% BELOW NOMINAL XFMR IMPEDENCES; VALUES ON LOAD-SIDE OF MAIN SWITCHBOARD INCLUDE MOTOR CONTRIBUTION.

FEEDER SCHEDULE

FDR No.	CONDUIT AND CONDUCTORS	REMARK
F301	3"C.O.	PG#E SECONDARY CONDUIT
F302	3/4"C., 4#12, 1#12 GND.	GENERATOR HEATER & BATTERY CHARGER
F303	2#12, 1#12 GND.	
F304	3#10, 1#10 GND.	
F305	1"C., 3#10, 1#10 GND. & 2#12	(10)
F306	1"C., 3#10, 1#10 GND. & 2#12	(10)
F307	1"C., 4#6, 1#10 GND.	GENERATOR FEEDER
F308	2"C., 3#10, 1#10 GND.	(7)
F309	2"C., 3#10, 1#10 GND.	(7)
S301	3/4"C. 2#12	GENERATOR START SIGNAL
S302	1"C., 9#12	(8)
S303	1 1/2"C., (4)	
S304	3/4"C.	(5)
S305	3/4"C. (4)	

SHEET NOTES

1. UTILITY METER & LANDING LUGS PER UTILITY REQUIREMENTS; COORDINATE.
2. AWG #6 B.C. GEC BOND PEDESTAL GROUND BUS TO DRIVEN ROD; SEE DETAIL I/E3.2; BOND NEUTRAL.
3. RATE PEDESTAL EQUIPMENT AT 25 KA INTERRUPTING CAPACITY MINIMUM.
4. INSTRUMENTATION CABLE; TWO 22 AWG TWISTED PAIRS; (7 X 30) TINNED COPPER CONDUCTORS; CHEMICAL RESISTANT INSULATION; SUITABLE FOR OUTDOOR & BURIAL APPLICATIONS; 4-20mA SIGNAL; BELDEN OR EQUAL.
5. ULTRASONIC TRANSDUCER CABLE; PART OF ULTRASONIC TRANSDUCER; SEE ELECTRICAL SPECIFICATION.
6. SEE ELECTRICAL SPECIFICATION.
7. PUMP CABLE PART OF PUMP COORDINATE WITH PUMP VENDOR. POWER & MOTOR SIGNAL CONDUCTORS.
8. FLOAT SWITCH SIGNAL CONDUCTORS.
9. 3 FLOAT SWITCH CABLES; PART OF FLOAT SWITCHES.
10. POWER CONDUCTORS & MOTOR SIGNAL CONDUCTORS.
11. CONDUCTOR SPLICE; SEE WET WELL ELEVATION.
12. TOTAL CONNECTED LOAD=8.2 KVA MAXIMUM STATION DEMAND=96% (ESTIMATED).



1 LIFT STATION 3 SINGLE LINE DIAGRAM

FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 APTOS, CALIFORNIA, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
 EMAIL: tpinkerton@fehengineering.com
 CONSULTING ELECTRICAL ENGINEERS
 FE JOB No. 20063.00

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 CONSTRUCTION MANAGEMENT

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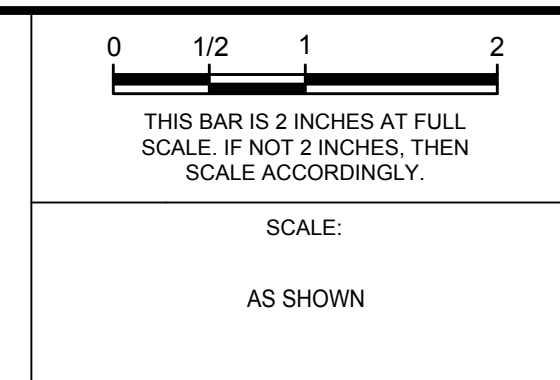
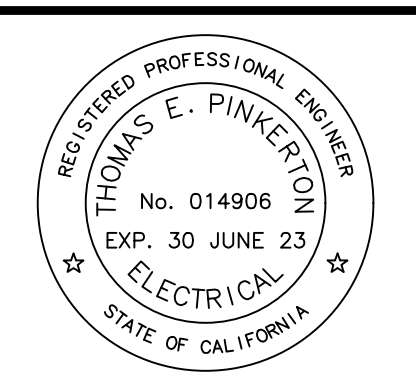
DESIGNED:
TEP

DRAWN:
CL

CHECKED:
TEP

THOMAS E. PINKERTON
 ELECTRICAL ENGINEER
 #014906 EXP. 6/30/2023

05/05/2022
 DATE



MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 3 SINGLE LINE DIAGRAM

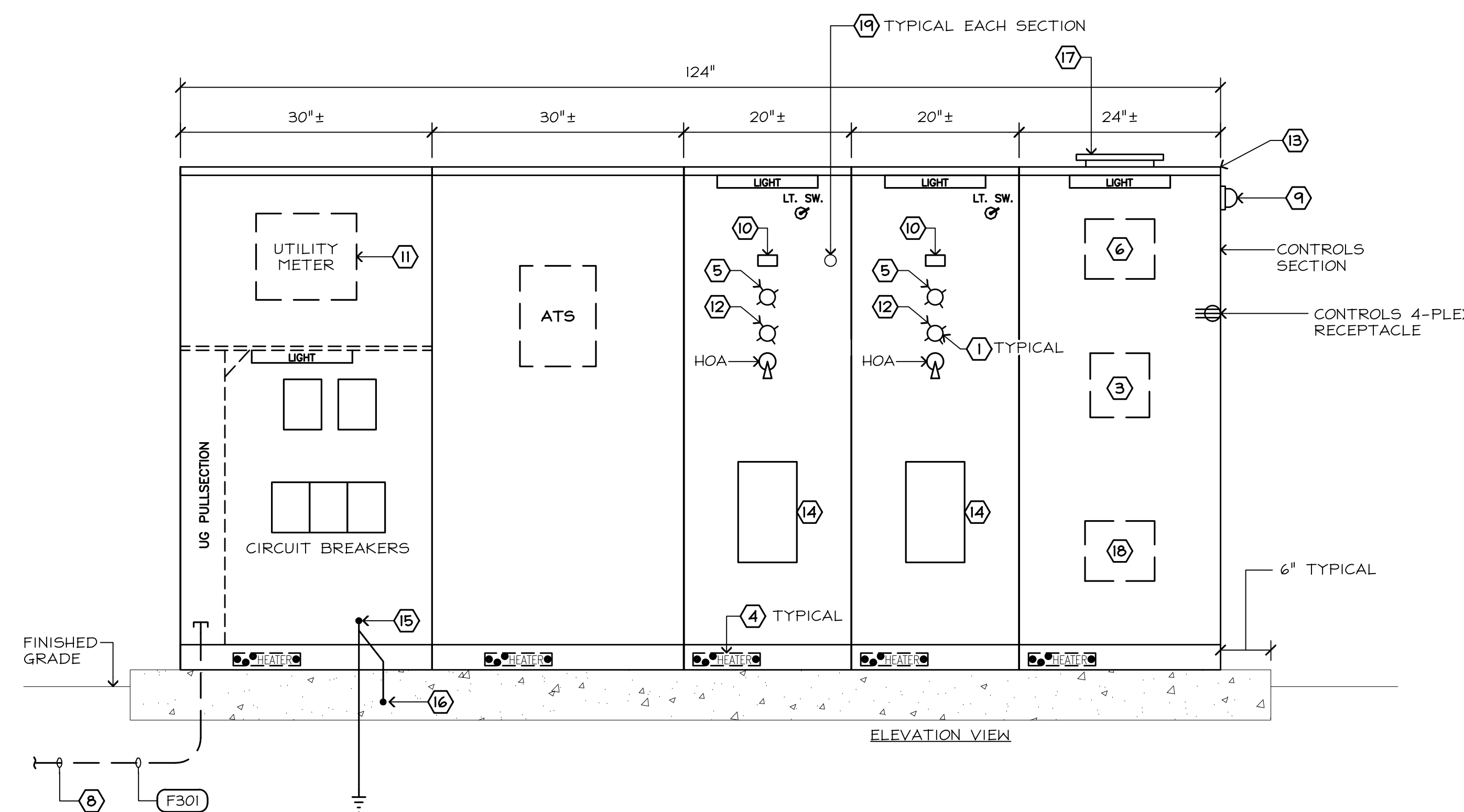
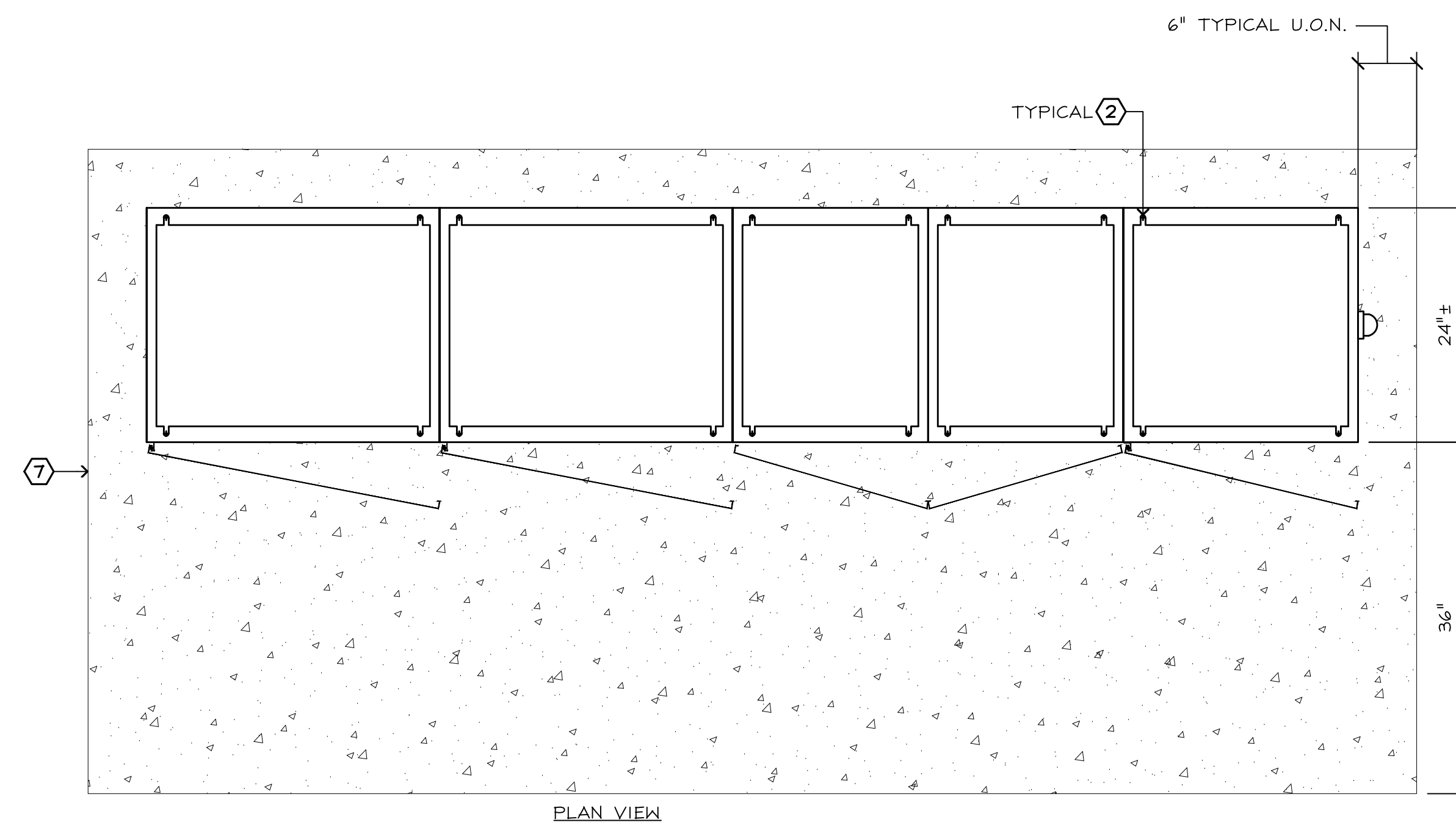
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E3.1

SHEET NUMBER
51 OF 57

SHEET NOTES

1. PROVIDE MOTOR STATUS LIGHTS AS DETAILED ON THE PLANS, THE CONTROL DIAGRAM AND WITHIN THE SPECIFICATION; PROVIDE STATUS LIGHT LAYOUT FOR APPROVAL.
2. BOLT TO PAD USING MINIMUM 1/2" DIAMETER BOLT AND PER EQUIPMENT MANUFACTURER'S REQUIREMENTS; EPOXY ANCHOR BOLT OR EQUAL INTO CONCRETE; COORDINATE WORK WITH CIVIL PLANS; SEE DETAIL 2/E5.0.
3. LIGHTING CONTROLS;
4. SECTION HEATER; 250W MINIMUM 120V; PROVIDE SINGLE THERMOSTAT CONTROL CENTRALLY LOCATED IN PEDESTAL.
5. "PUMP RUNNING" LIGHT; GREEN LED LIGHT SOURCE; LABEL "PUMP RUNNING".
6. PUMP CONTROLS; SEE DETAIL 1/E6.0.
7. CONCRETE EQUIPMENT PAD PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE EXACT REQUIREMENTS FOR ELECTRICAL EQUIPMENT BEING INSTALLED.
8. TO SECONDARY SERVICE STUB OUT; SEE DETAIL 1/E3.0.
9. HIGH LEVEL ALARM LIGHT; RED FLASHING LED; 120V; DAYLIGHT VISIBLE FROM 100' MINIMUM; (AS VIEWED FROM THE SIDE OF THE LIGHT); SEE 1/E6.0 FOR CONTROLS.
10. PUMP ELAPSED TIME METER; SEE ELECTRICAL SPECIFICATION.
11. PEDESTAL UTILITY SERVICE ENTRANCE AND ALL UTILITY METERING FACILITIES SHALL CONFORM TO EUSERC STANDARDS AND BE PG&E APPROVED. LANDING LUGS FOR SERVICE ENTRANCE CONDUCTORS SHALL MEET PG&E REQUIREMENTS AND SHALL BE FURNISHED WITH THE PEDESTAL. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR INSTALLATION OF NEW SERVICE; SEE ELECTRICAL SPECIFICATION.
12. PUMP CONTROLLER FAIL LIGHT; RED LED LIGHT SOURCE; LABEL "PUMP FAIL".
13. PUMP CONTROL PEDESTAL SHOWN WITH EXTERIOR DOORS OPENED.
14. MOTOR STARTER; SEE SINGLE LINE DIAGRAM.
15. GROUND ROD; 96" EARTH TO GROUND ROD CONTACT; SEE DETAIL 1/E3.1.
16. BOND TO PEDESTAL PAD REBAR.
17. EXHAUST FAN; SEE ELECTRICAL SPECIFICATION.
18. DIALER; COORDINATE WITH OWNER FOR DIALER CONTACT LIST AND PROGRAM DIALER WITH CONTRACT LIST; DEMONSTRATE TO OWNER THAT DIALER FUNCTIONS AS DETAILED ON THE PLANS.
19. INTRUSION ALARM RELAY CONTACTS; SEE DETAIL 1/E6.0 LINE 36.



1 LIFT STATION 3 POWER PEDESTAL

NO SCALE

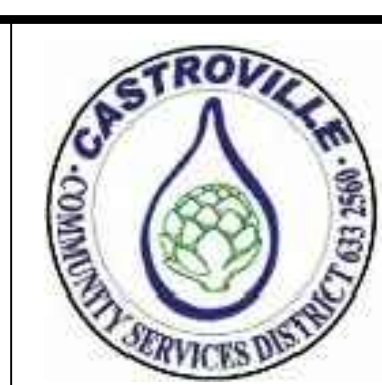
FEHR ENGINEERING COMPANY, INC.
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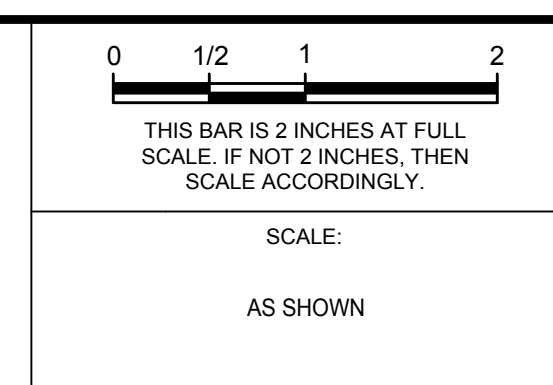
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DRAWN:
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CHECKED:
TEP

THOMAS E. PINKERTON
 ELECTRICAL ENGINEER
 #014906 EXP. 6/30/2023

05/05/2022
 DATE



**MOSS LANDING WASTEWATER
 SYSTEM REHABILITATION PROJECT**
 CASTROVILLE COMMUNITY SERVICE DISTRICT

**LIFT STATION 3
 POWER PEDESTAL**

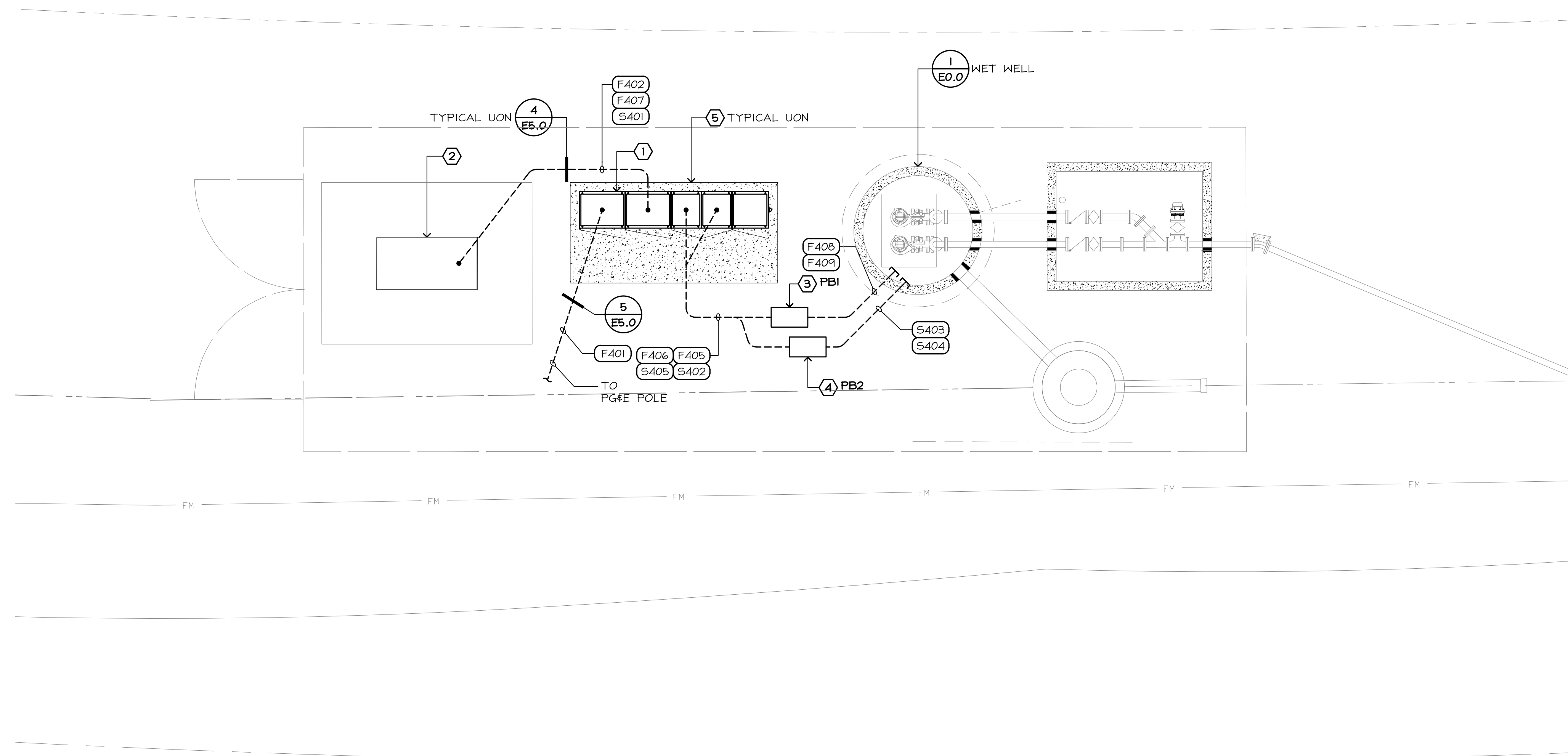
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E3.2

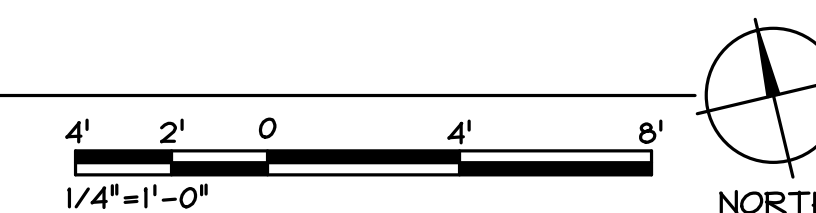
SHEET NUMBER
52 OF 57

SHEET NOTES

1. (N) ELECTRICAL PANEL; SEE DETAIL 1/E4.1. (1,600lbs).
2. INSTALL BACK-UP GENERATOR. (4,500lbs).
3. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "POWER"; SEE DETAIL 3/E5.0.
4. CONCRETE PULLBOX; 13" X 24" I.D.; LABEL LID "SIGNAL"; SEE DETAIL 3/E5.0.
5. CONCRETE EQUIPMENT PADS PROVIDED UNDER CIVIL PLANS, COORDINATE.



1 LIFT STATION 4 SITE IMPROVEMENT PLAN (POTRERO)
1/4"=1'-0"



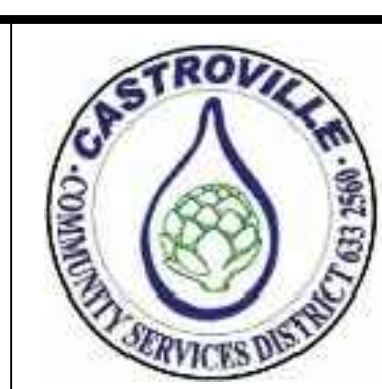
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DRAWN: CL
CHECKED: TEP

THOMAS E. PINKERTON
ELECTRICAL ENGINEER
#014906 EXP. 6/30/2023

05/05/2022
DATE

REGISTERED PROFESSIONAL ENGINEER
THOMAS E. PINKERTON
No. 014906
EXP. 30 JUNE 23
ELECTRICAL
STATE OF CALIFORNIA

0 1/2 1 2
THIS BAR IS 2 INCHES AT FULL SCALE. IF NOT 2 INCHES, THEN SCALE ACCORDINGLY.

SCALE:
AS SHOWN

MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 4 SITE IMPROVEMENT PLAN

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E4.0

SHEET NUMBER
53 OF 57

DATE PLOTTED: 05/11/2022 09:44:48 AM

GENERAL SINGLE LINE NOTES

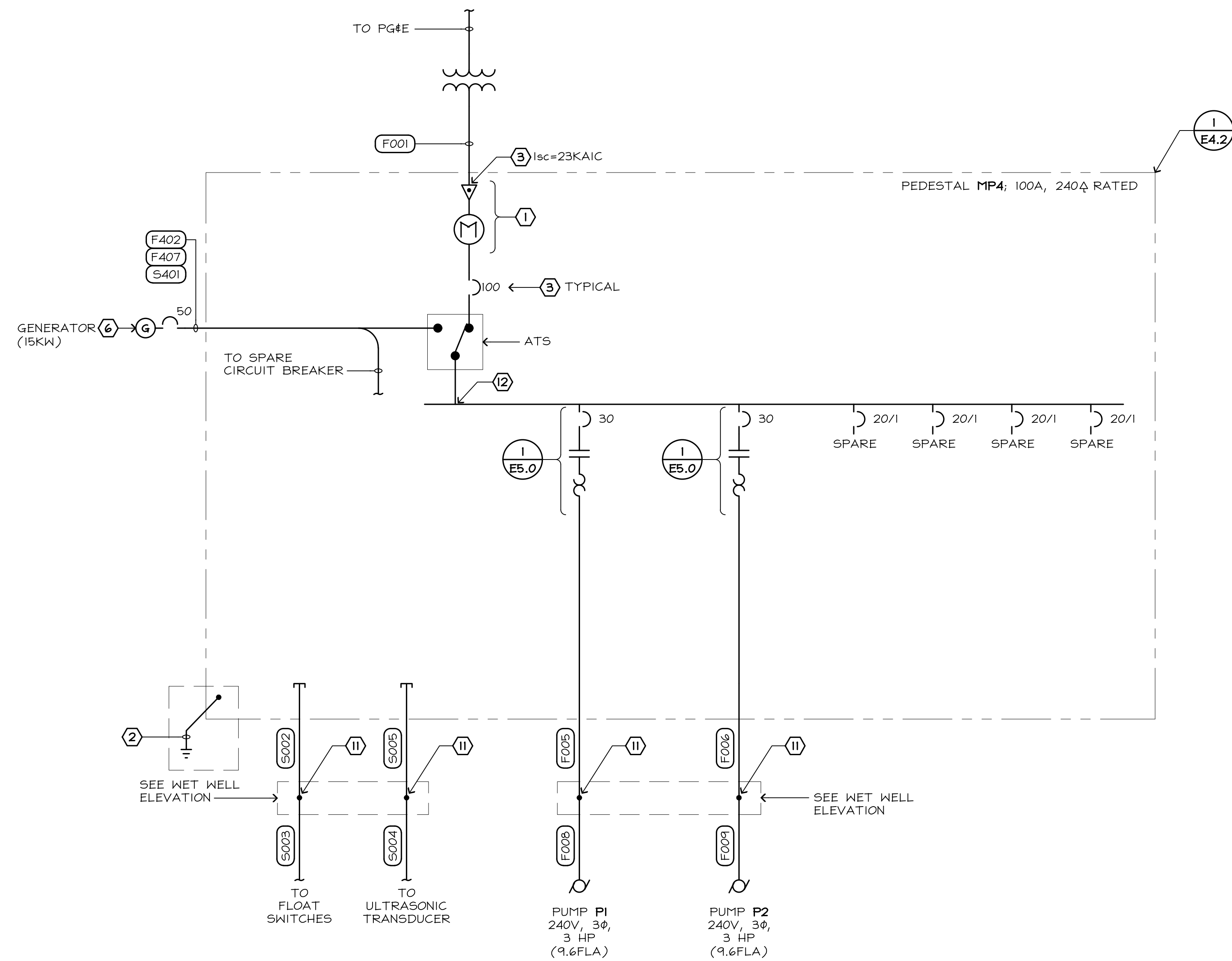
- A. ALL ELECTRICAL SHOWN IS NEW, U.O.N.
- B. ALL CIRCUIT BREAKERS ARE 3-POLE, U.O.N.
- C. VOLTAGE DESIGNATIONS: (U.O.N.)
 240-1 = 240/120V-1PH-3WIRE
 480-1 = 480V-1PH-2WIRE
 208Y = 208/120V-3PH-4 WIRE
 480Y = 480/277V-3PH-4 WIRE
 480Δ = 480V-3PH-3 WIRE
 12KVΔ = 12KV-3PH-3 WIRE
- D. "KA" AT CIRCUIT BREAKERS DENOTES MINIMUM REQUIRED INTERRUPTING CAPACITY IN AMPS (x 1000).
- E. SPO AT BREAKER DENOTES: PROVIDE MOUNTING SPACE & HARDWARE FOR FUTURE 3-POLE BREAKER OF RATINGS INDICATED.
- F. I_{sc} = AVAILABLE SHORT CIRCUIT (RMS SYM. AMPS) BASED ON 500MVA SHORT-CIRCUIT DUTY AT SERVICE XFMR PRIMARY AND 7.5% BELOW NOMINAL XFMR IMPEDANCES; VALUES ON LOAD-SIDE OF MAIN SWITCHBOARD INCLUDE MOTOR CONTRIBUTION.

FEEDER SCHEDULE

FDR No.	CONDUIT AND CONDUCTORS	REMARK
F401	3" C.O.	PG#E SECONDARY CONDUIT
F402	3/4" C., 4#12, 1#12 GND.	GENERATOR HEATER & BATTERY CHARGER
F403	2#12, 1#12 GND.	
F404	3#10, 1#10 GND.	
F405	1" C., 3#10, 1#10 GND. & 2#12	(10)
F406	1" C., 3#10, 1#10 GND. & 2#12	(10)
F407	1 1/2" C., 4#6, 1#10 GND.	GENERATOR FEEDER
F408	2" C., 3#10, 1#10 GND.	(7)
F409	2" C., 3#10, 1#10 GND.	(7)
S401	3/4" C. 2#12	GENERATOR START SIGNAL
S402	1" C., 9#12	(8)
S403	1 1/2" C., (4)	
S404	3/4" C.	(5)
S405	3/4" C. (4)	

SHEET NOTES

1. UTILITY METER & LANDING LUGS PER UTILITY REQUIREMENTS; COORDINATE.
2. AWG #6 B.C. GEC BOND PEDESTAL GROUND BUS TO DRIVEN ROD; SEE DETAIL 1/E4.2; BOND NEUTRAL.
3. RATE PEDESTAL EQUIPMENT AT 25 KA INTERRUPTING CAPACITY MINIMUM.
4. INSTRUMENTATION CABLE; TWO 22 AWG TWISTED PAIRS; (7 X 30) TINNED COPPER CONDUCTORS; CHEMICAL RESISTANT INSULATION; SUITABLE FOR OUTDOOR & BURIAL APPLICATIONS; 4-20mA SIGNAL; BELDEN OR EQUAL.
5. ULTRASONIC TRANSDUCER CABLE; PART OF ULTRASONIC TRANSDUCER; SEE ELECTRICAL SPECIFICATION.
6. SEE ELECTRICAL SPECIFICATION.
7. PUMP CABLE PART OF PUMP COORDINATE WITH PUMP VENDOR. POWER & MOTOR SIGNAL CONDUCTORS.
8. FLOAT SWITCH SIGNAL CONDUCTORS.
9. 3 FLOAT SWITCH CABLES; PART OF FLOAT SWITCHES.
10. POWER CONDUCTORS & MOTOR SIGNAL CONDUCTORS.
11. CONDUCTOR SPLICE; SEE WET WELL ELEVATION.
12. TOTAL CONNECTED LOAD=8.2 KVA MAXIMUM STATION DEMAND=96% (ESTIMATED).



1 LIFT STATION 4 SINGLE LINE DIAGRAM

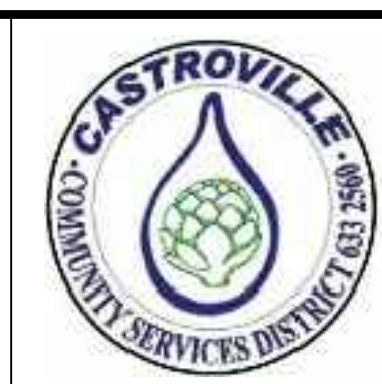
FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 APTOS, CALIFORNIA, 95003
 PHONE: (831) 786-0373
 FAX: (831) 786-8523
 EMAIL: tpinkerton@fehengineering.com
 CONSULTING ELECTRICAL ENGINEERS
 FE JOB No. 20063.00

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MNS ENGINEERS INC
 ENGINEERING | SURVEYING
 CONSTRUCTION MANAGEMENT

811 El Capitan Way, Suite 130
 San Luis Obispo, CA 93401
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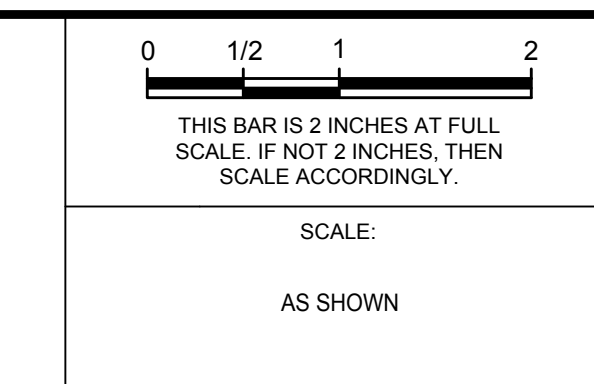
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THOMAS E. PINKERTON
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 #014906 EXP. 6/30/2023

05/05/2022
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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 4 SINGLE LINE DIAGRAM

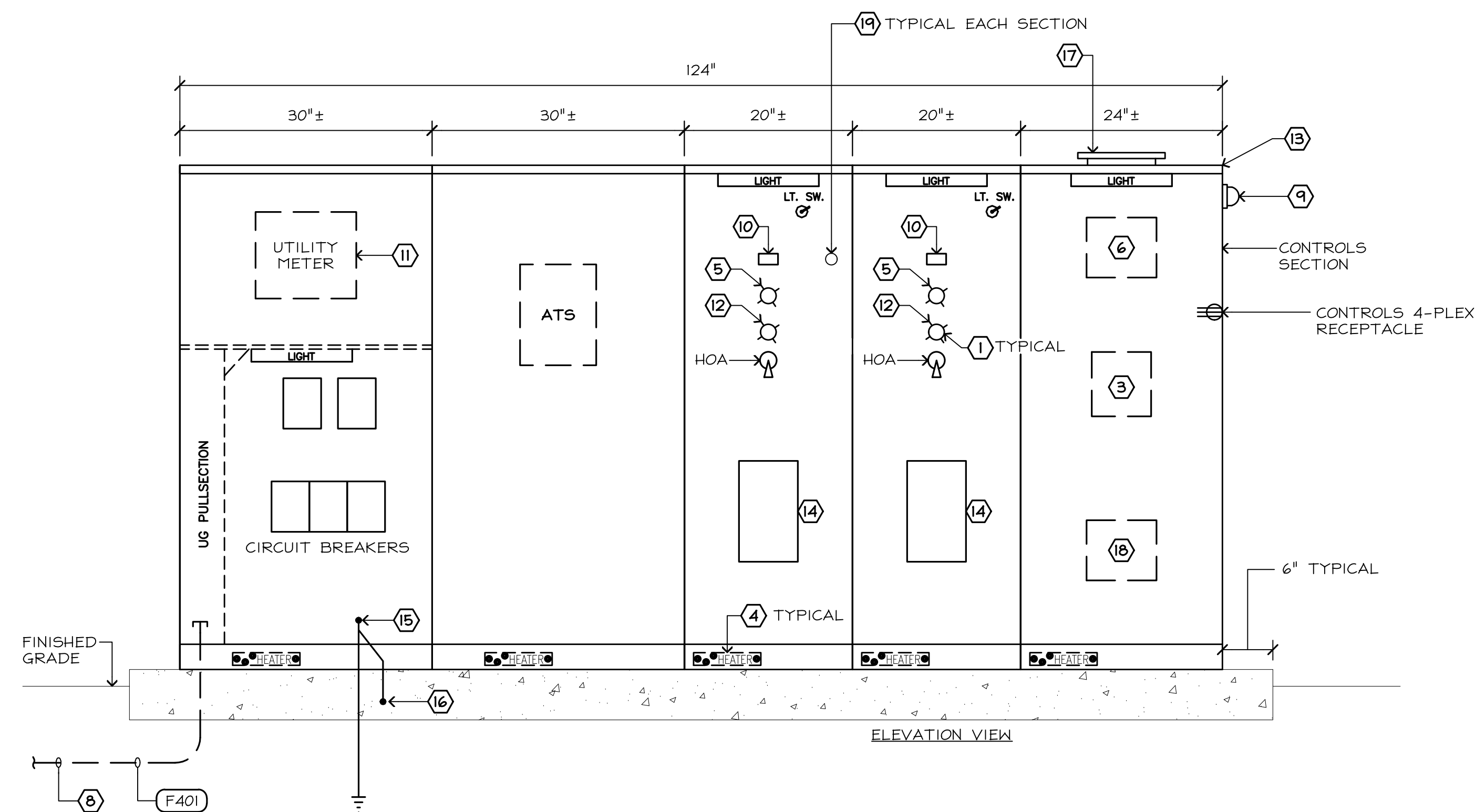
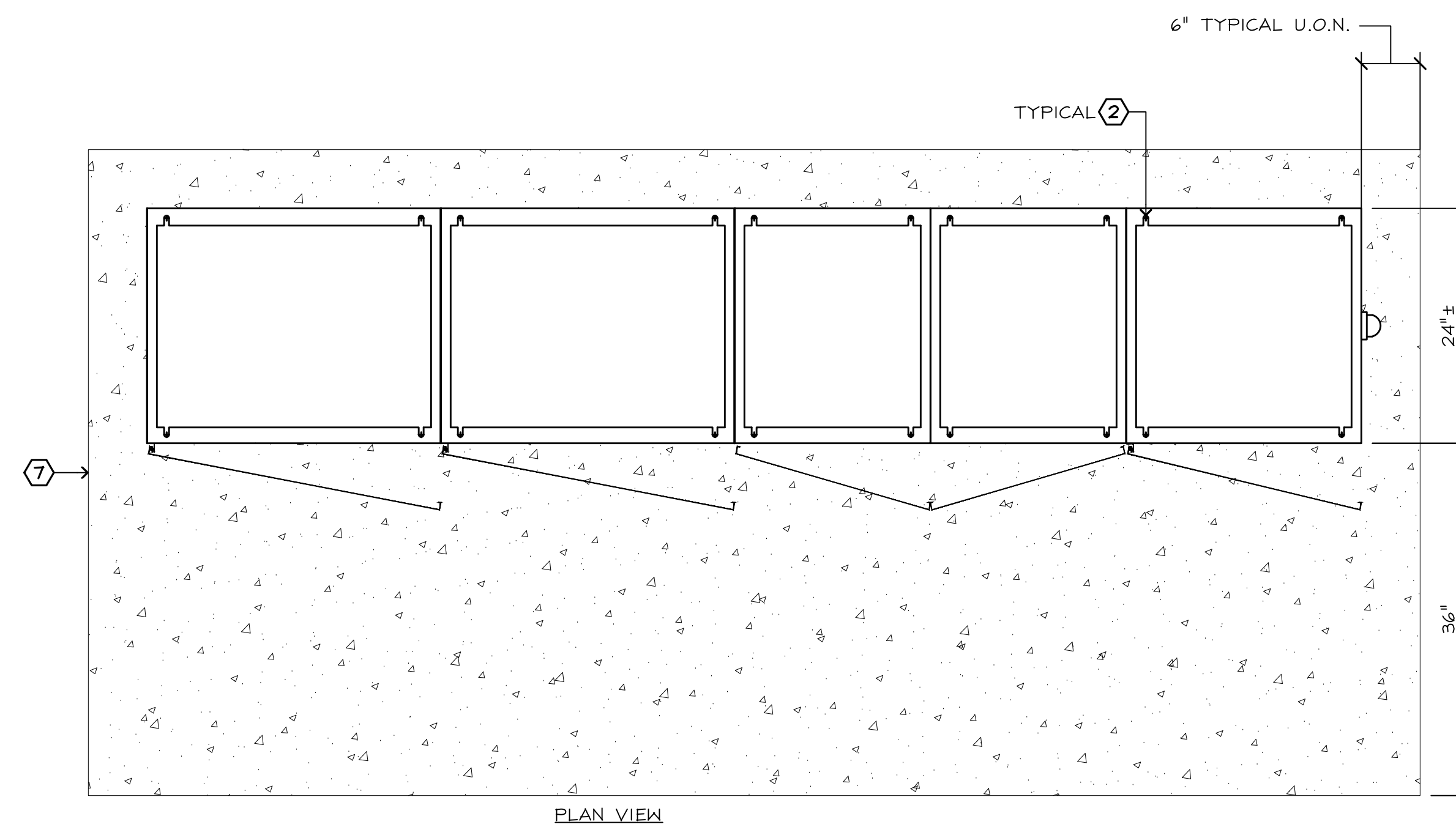
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E4.1

SHEET NUMBER
54 OF 57

SHEET NOTES

- PROVIDE MOTOR STATUS LIGHTS AS DETAILED ON THE PLANS, THE CONTROL DIAGRAM AND WITHIN THE SPECIFICATION; PROVIDE STATUS LIGHT LAYOUT FOR APPROVAL.
- BOLT TO PAD USING MINIMUM 1/2" DIAMETER BOLT AND PER EQUIPMENT MANUFACTURER'S REQUIREMENTS; EPOXY ANCHOR BOLT OR EQUAL INTO CONCRETE; COORDINATE WORK WITH CIVIL PLANS; SEE DETAIL 2/E5.0.
- LIGHTING CONTROLS;
- SECTION HEATER; 250W MINIMUM 120V; PROVIDE SINGLE THERMOSTAT CONTROL CENTRALLY LOCATED IN PEDESTAL.
- "PUMP RUNNING" LIGHT; GREEN LED LIGHT SOURCE; LABEL "PUMP RUNNING".
- PUMP CONTROLS; SEE DETAIL 1/E6.0.
- CONCRETE EQUIPMENT PAD PROVIDED & INSTALLED UNDER CIVIL PLANS; COORDINATE EXACT REQUIREMENTS FOR ELECTRICAL EQUIPMENT BEING INSTALLED.
- TO SECONDARY SERVICE STUB OUT; SEE DETAIL 1/E3.0.
- HIGH LEVEL ALARM LIGHT; RED FLASHING LED; 120V; DAYLIGHT VISIBLE FROM 100' MINIMUM; (AS VIEWED FROM THE SIDE OF THE LIGHT); SEE 1/E6.0 FOR CONTROLS.
- PUMP ELAPSED TIME METER; SEE ELECTRICAL SPECIFICATION.
- PEDESTAL UTILITY SERVICE ENTRANCE AND ALL UTILITY METERING FACILITIES SHALL CONFORM TO EUSERC STANDARDS AND BE PG&E APPROVED; LANDING LUGS FOR SERVICE ENTRANCE CONDUCTORS SHALL MEET PG&E REQUIREMENTS AND SHALL BE FURNISHED WITH THE PEDESTAL. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY FOR INSTALLATION OF NEW SERVICE; SEE ELECTRICAL SPECIFICATION.
- PUMP CONTROLLER FAIL LIGHT; RED LED LIGHT SOURCE; LABEL "PUMP FAIL".
- PUMP CONTROL PEDESTAL SHOWN WITH EXTERIOR DOORS OPENED.
- MOTOR STARTER; SEE SINGLE LINE DIAGRAM.
- GROUND ROD; 96" EARTH TO GROUND ROD CONTACT; SEE DETAIL 1/E4.1.
- BOND TO PEDESTAL PAD REBAR.
- EXHAUST FAN; SEE ELECTRICAL SPECIFICATION.
- DIALER; COORDINATE WITH OWNER FOR DIALER CONTACT LIST AND PROGRAM DIALER WITH CONTRACT LIST; DEMONSTRATE TO OWNER THAT DIALER FUNCTIONS AS DETAILED ON THE PLANS.
- INTRUSION ALARM RELAY CONTACTS; SEE DETAIL 1/E6.0 LINE 36.



1 LIFT STATION 4 POWER PEDESTAL

NO SCALE

FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 APTOS, CALIFORNIA, 95003
 PHONE: (831) 786-0373
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 EMAIL: tpinkerton@fehrengineering.com
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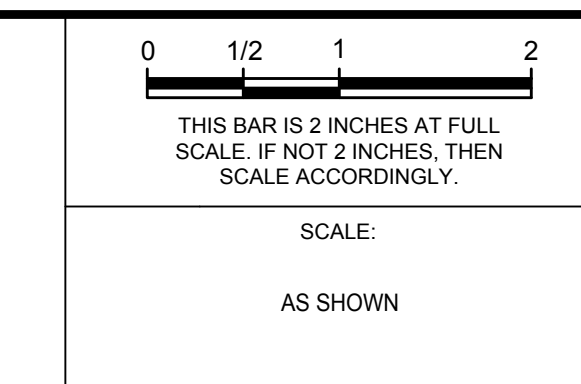
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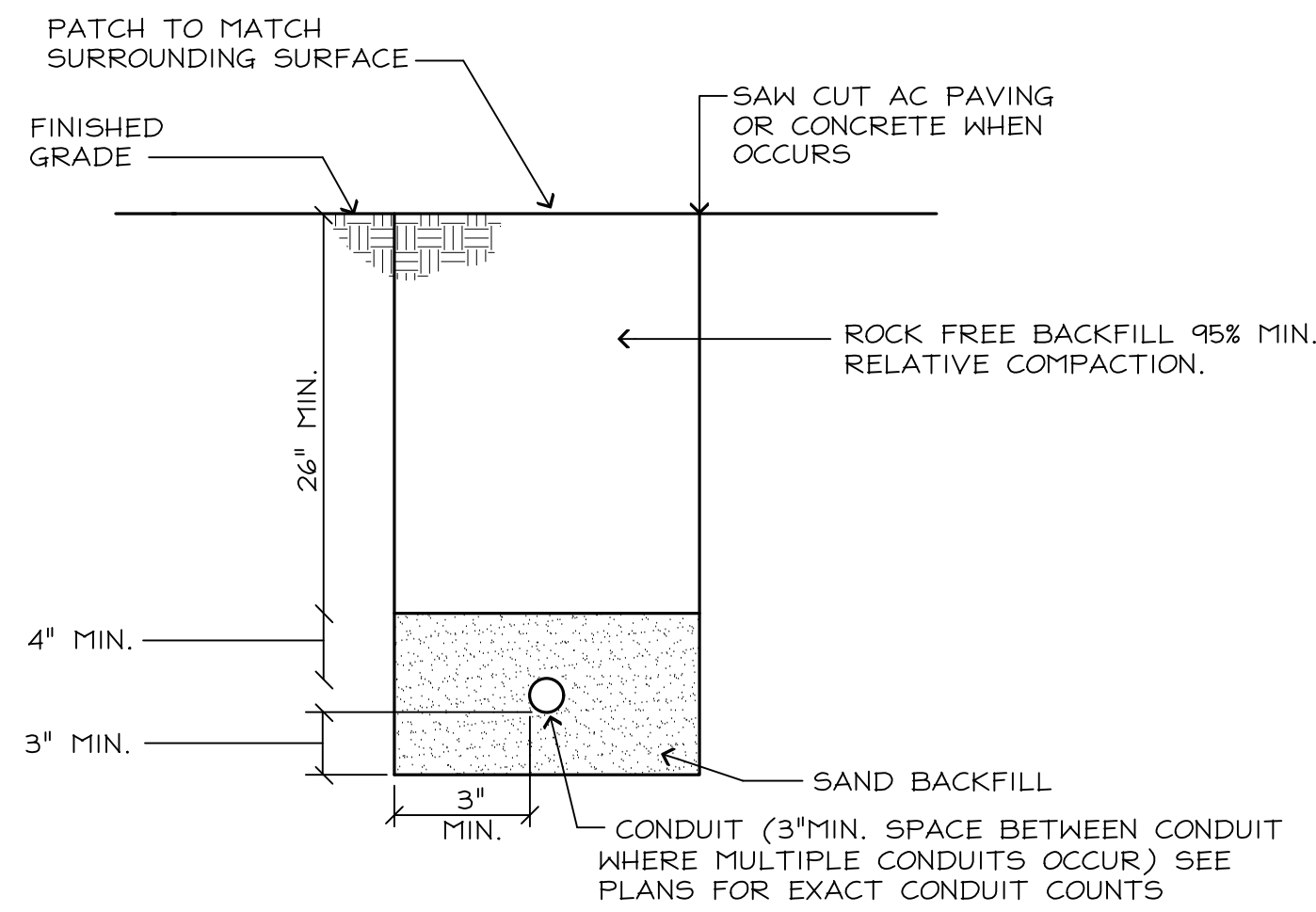
MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

LIFT STATION 4 POWER PEDESTAL

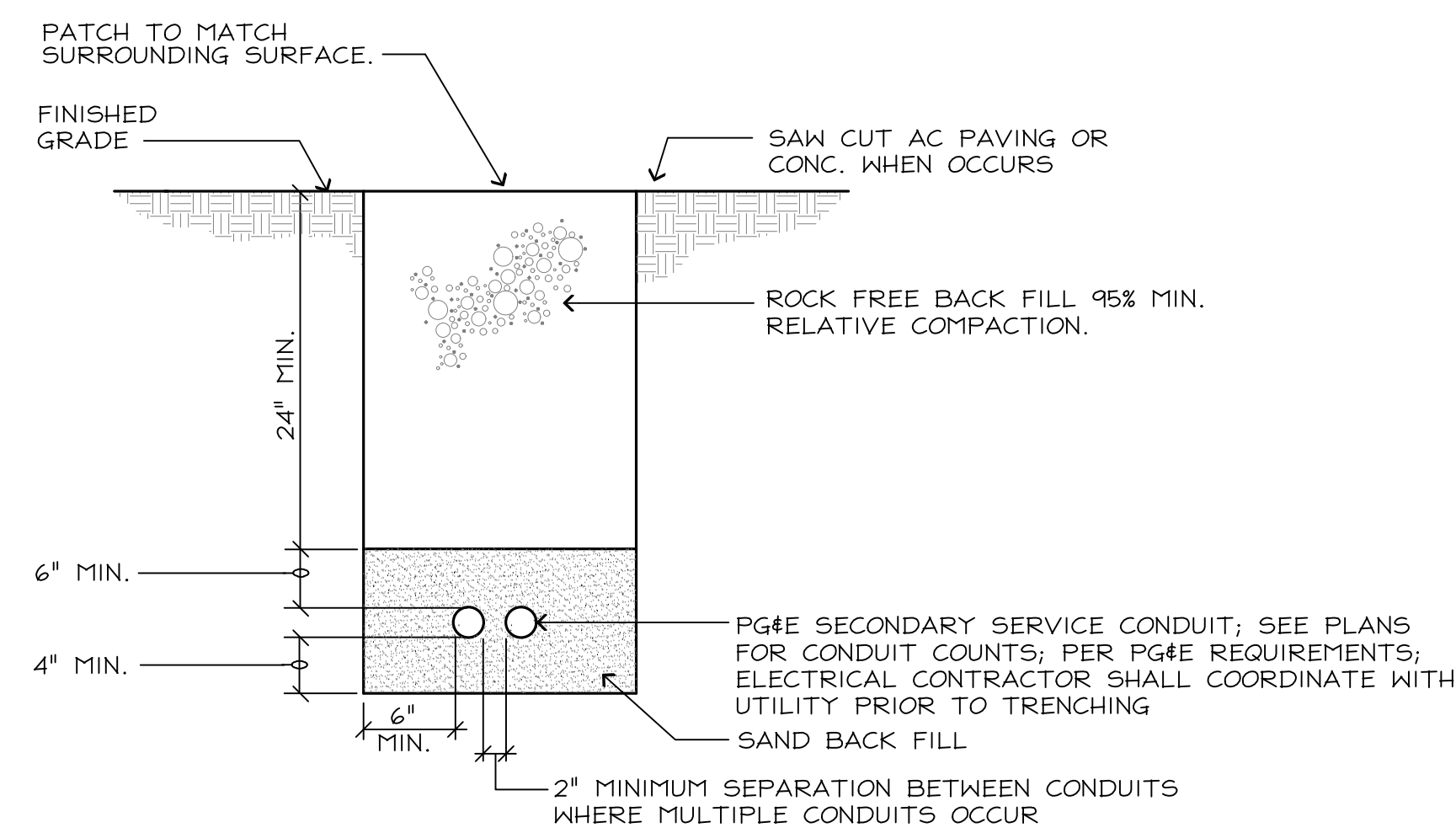
PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E4.2

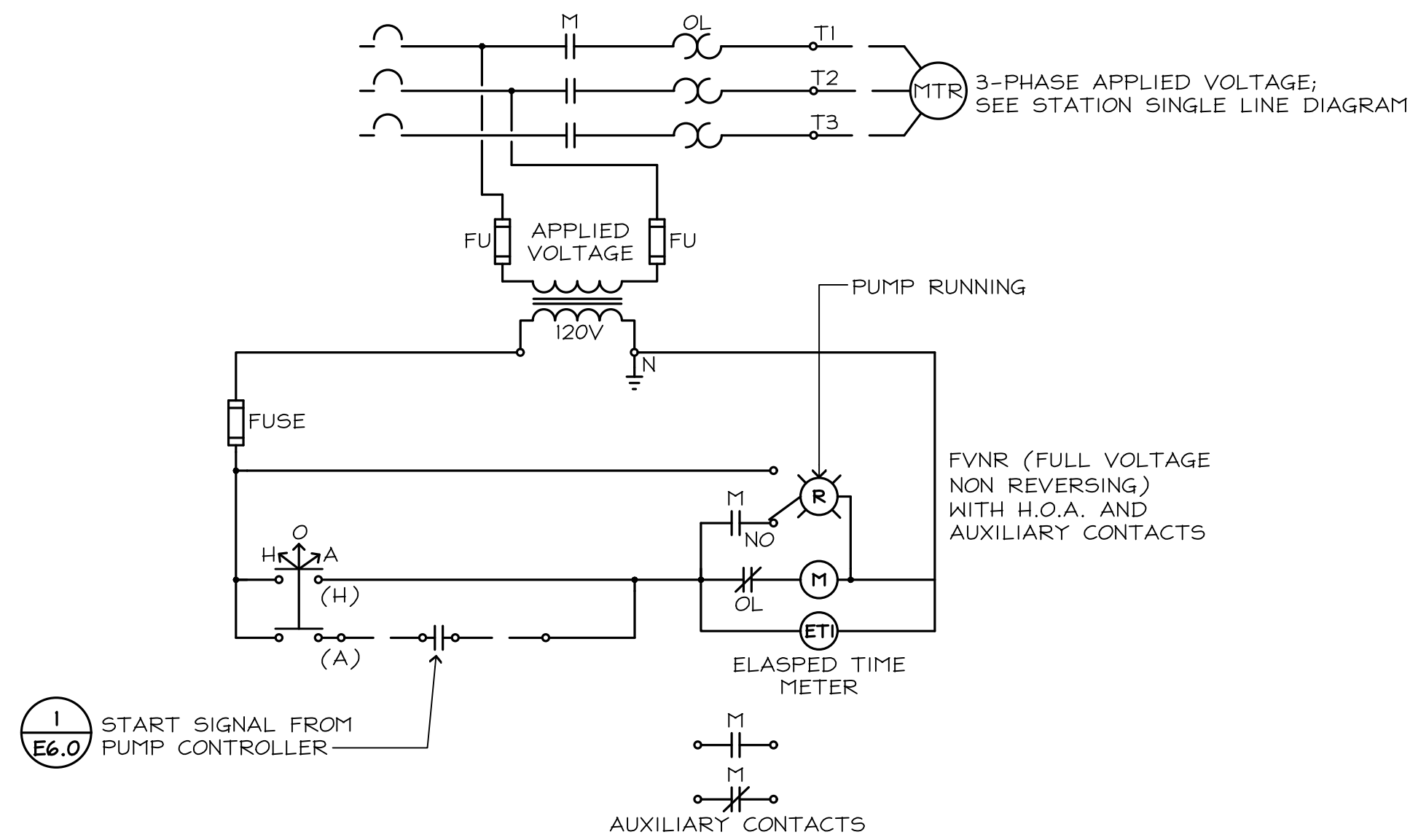
SHEET NUMBER
55 OF 57



4 TRENCH SECTION
NO SCALE

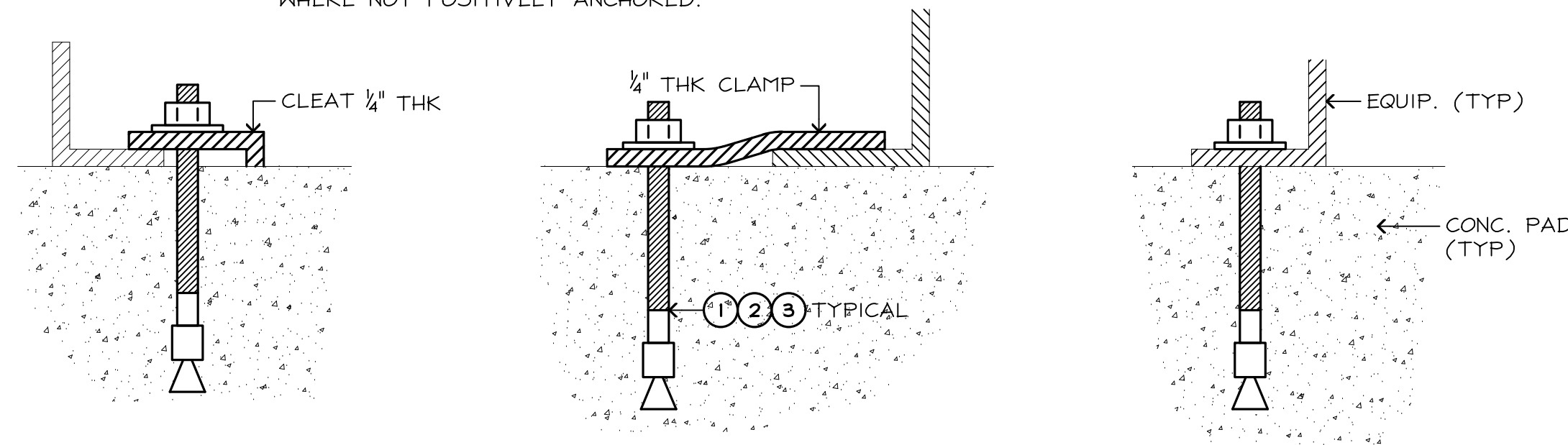


5 UTILITY SECONDARY TRENCH SECTION
NO SCALE

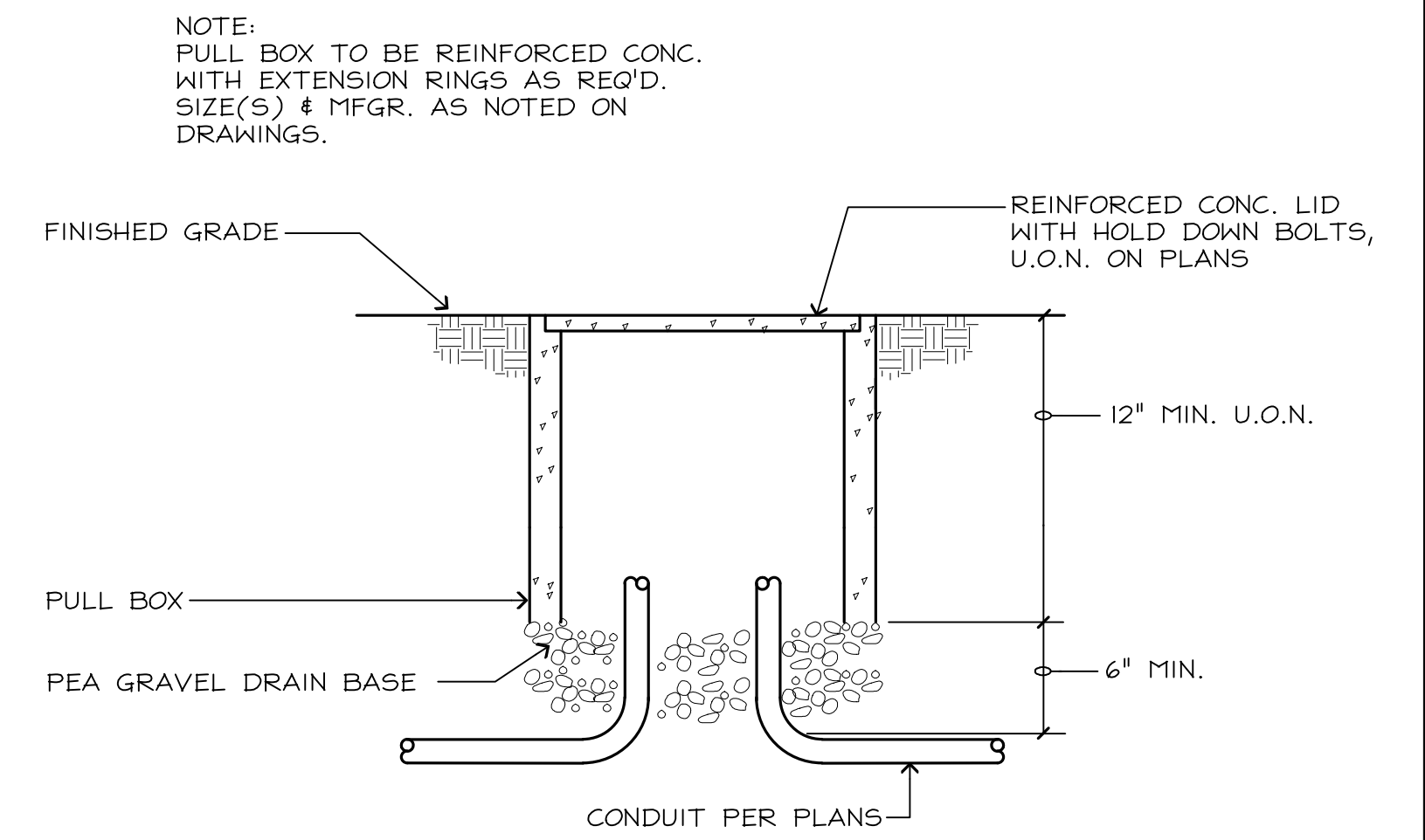


1 MOTOR STARTER DIAGRAM
NO SCALE

- NOTES:**
- ANCHORING METHODS SHOWN ARE FOR GUIDANCE ONLY; FOLLOW EQUIPMENT MANUFACTURER'S INSTALLATION INSTRUCTIONS. ELECTRICAL CONTRACTOR SHALL PROVIDE SPECIFIC ANCHORING DETAILS FOR EQUIPMENT INSTALLED WITH STRUCTURAL CALCULATIONS FOR ANCHORAGE OF EQUIPMENT PRIOR TO INSTALLATION. SPECIFY ALL CLAMP AND ANCHORAGE DETAILS (LENGTH, WIDTH, DEPTH.)
 - STAINLESS STEEL ANCHOR; SIZE PER EQUIPMENT MANUFACTURER RECOMMENDATIONS; AS A MINIMUM PROVIDE HILTI KWIK BOLT TZ 304 STAINLESS STEEL CAT.# KB-TZ 55304 5/8" X 4 1/2" ICC REPORT ESR-1917 RATED FOR CRACKED AND UNCRACKED CONCRETE.
 - AS A MINIMUM, ANCHOR SWITCHBOARDS AT EACH CORNER OF EACH SECTION, WELD CLAMP TO BASE WHERE NOT POSITIVELY ANCHORED.



2 EQUIPMENT ANCHORING
NO SCALE



3 PULLBOX INSTALLATION
NO SCALE

NOTE:
PULL BOX TO BE REINFORCED CONC. WITH EXTENSION RINGS AS REQ'D. SIZE(S) & MFG. AS NOTED ON DRAWINGS.

FEHR ENGINEERING COMPANY, INC.
9057 SOQUEL DRIVE,
BLDG. B, SUITE 6
APTOS, CALIFORNIA, 95003
PHONE: (831) 786-0373
FAX: (831) 786-8523
EMAIL: tpinkerton@fehengineering.com
CONSULTING ELECTRICAL ENGINEERS
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SCALE:
AS SHOWN

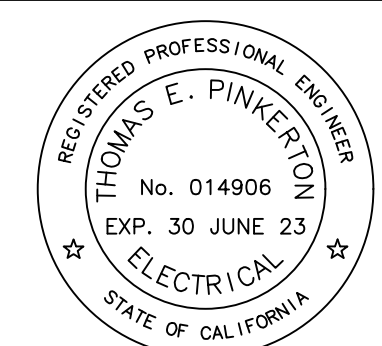
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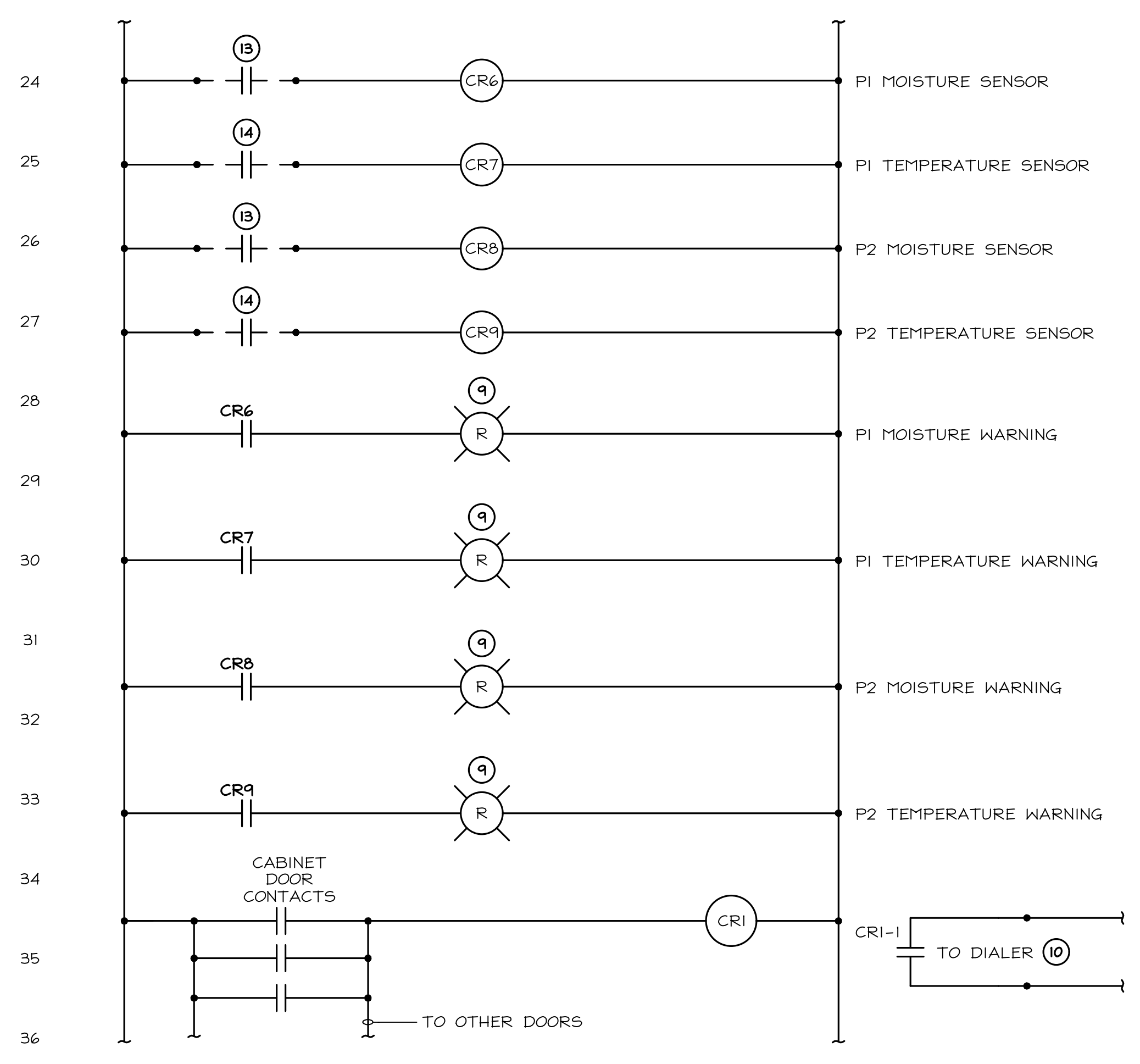
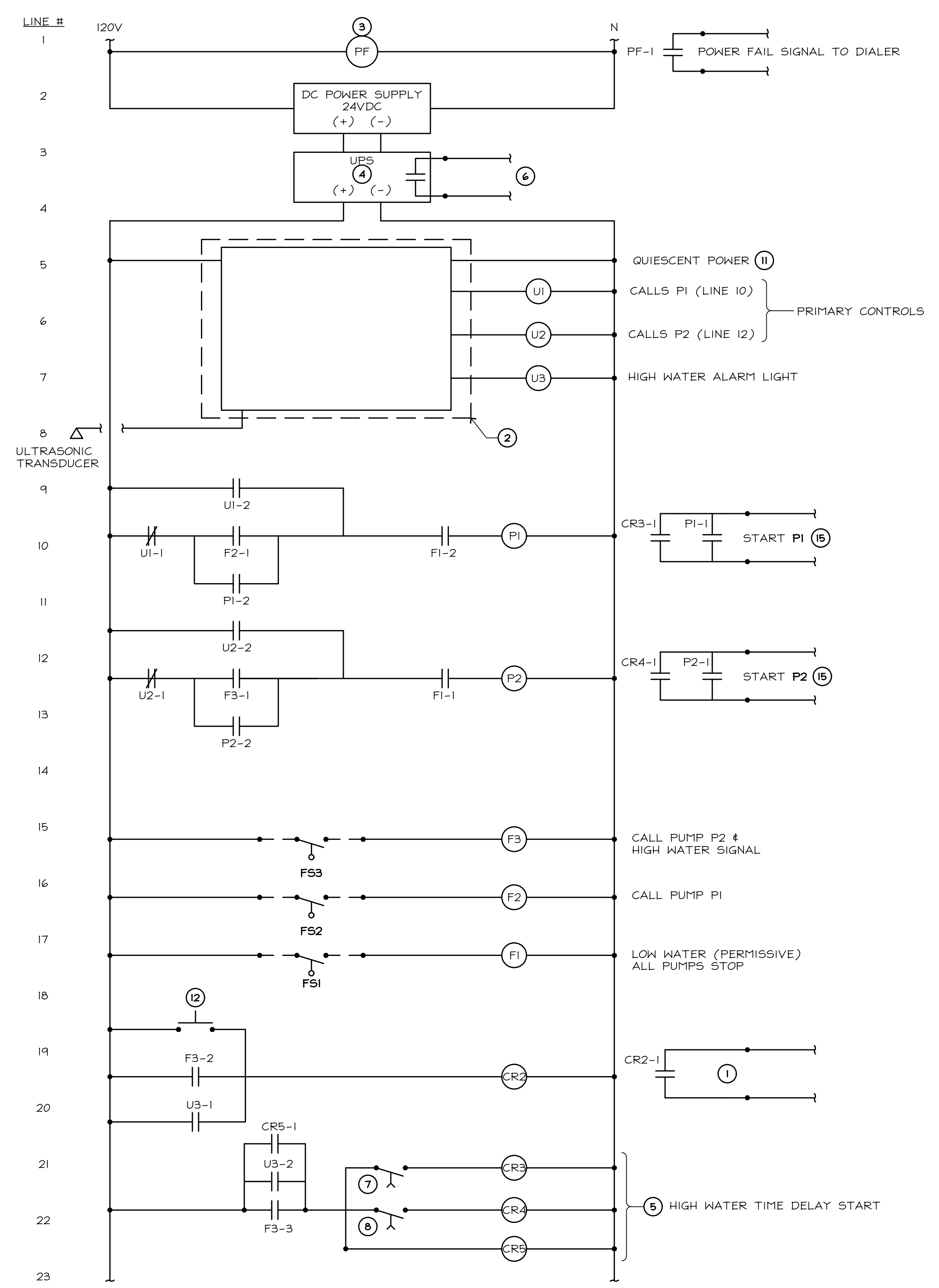
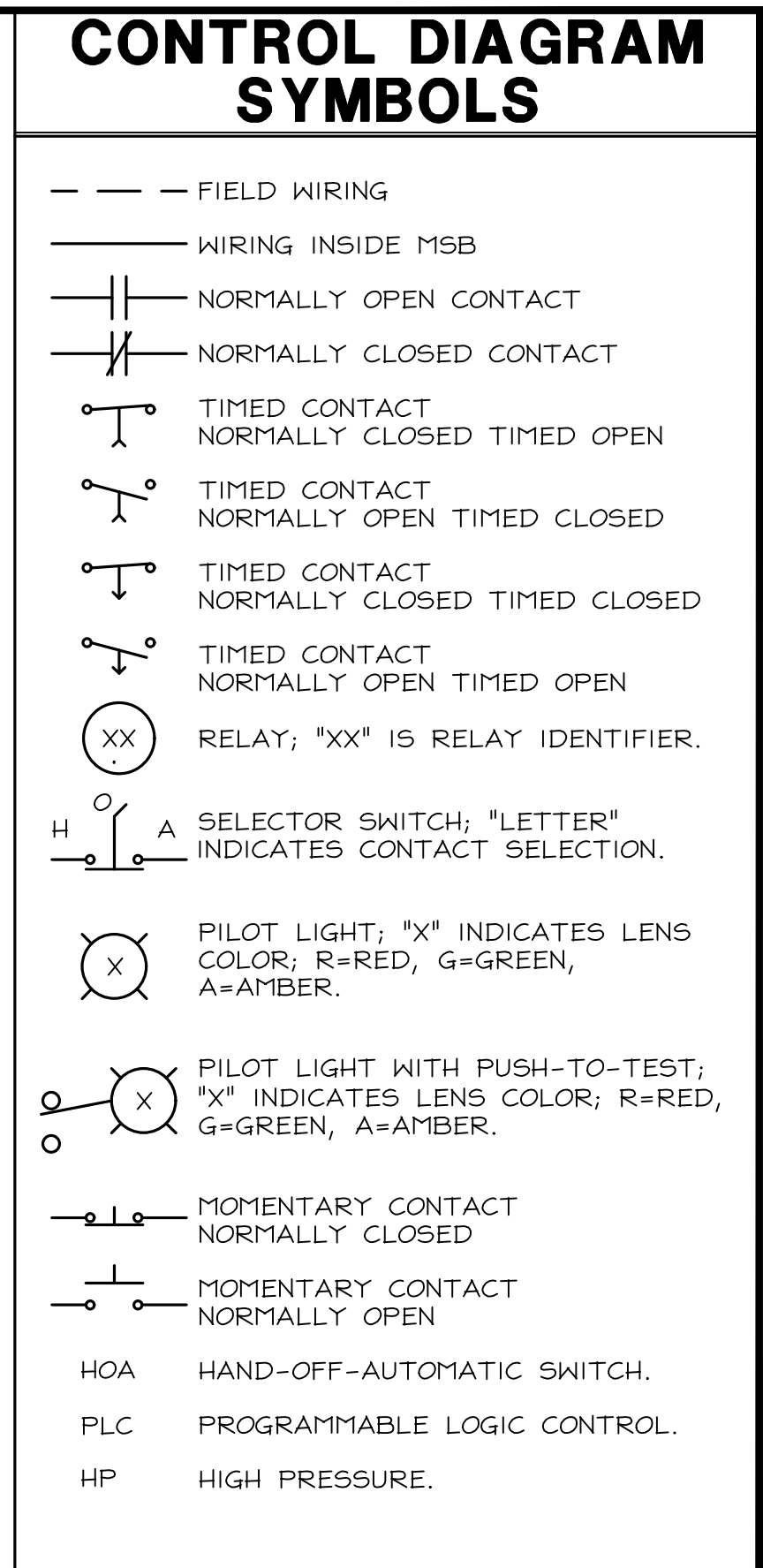
ELECTRICAL DETAILS

PROJECT NUMBER
DICVL.200738.02

DRAWING NUMBER
E5.0

SHEET NUMBER
56 OF 57





- DETAIL NOTES:**
- HIGH WATER ALARM LIGHT MOUNTED TO PEDESTAL.
 - ANALOG CONTROLS (FLYGT); MONITORS WATER LEVELS & CONTROLS PUMPING; ALTERNATES LEAD, LAG, PUMPING SEQUENCE; CONTROLS EMULATE ON/OFF LEVELS OF THE FLOAT SWITCHES; ANALOG CONTROLS AND FLOAT SWITCH CONTROLS EQUIVALENT IN FUNCTION; SEE CIVIL PLANS FOR ALL PUMPING LEVELS; SEE ELECTRICAL SPECIFICATION.
 - POWER FAILURE ALARM.
 - DC VOLTAGE UPS, SEE ELECTRICAL SPECIFICATION.
 - UPON HIGH WATER ALARM BEACON LIGHT ACTIVATED AND PUMPING IS CALLED.
 - UPS AUXILIARY CONTACT CLOSING UPON UPS FAILURE OR LOW BATTERY; SEND SIGNAL TO DIALER.
 - TIME DELAY ADJUSTABLE FROM 0-180 SECONDS SET AT 0 SECONDS.
 - TIME DELAY ADJUSTABLE FROM 0-180 SECONDS SET AT 60 SECONDS.
 - 1"± DIAMETER RED LENS INDICATING LAMP; MOUNTED TO EXTERIOR DOOR OF POWER PEDESTAL MOTOR CONTROL SECTION; LABEL AS INDICATED ON CONTROL DIAGRAM.
 - INTRUSION ALARM SIGNAL TO DIALER "INTRUSION".
 - MAINTAINS CONTROL POWER IN AN INACTIVE STATE PRIOR TO CALL FOR PUMPING; MAINTAINS POWER TO ULTRASONIC TRANSDUCER.
 - PEDESTAL MOUNTED MOMENTARY CONTACT LAMP TEST PUSH BUTTON.
 - MOISTURE SENSOR RELAY FROM MINI CAS SYSTEM; PROVIDED AS PART OF PUMPS WITH CONTROLLER INSTALLED IN POWER PEDESTAL CONTROL SECTION BY ELECTRICAL CONTRACTOR.
 - TEMPERATURE SENSOR RELAY FROM MINI CAS SYSTEM; PROVIDED AS PART OF PUMPS WITH CONTROLLER INSTALLED IN POWER PEDESTAL CONTROL SECTION BY ELECTRICAL CONTRACTOR.
 - START SIGNAL TO MOTOR STARTER; SEE STATION SINGLE LINE DIAGRAM.

1 SCHEMATIC CONTROL DIAGRAM
NO SCALE

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FEHR ENGINEERING COMPANY, INC.
 9057 SOQUEL DRIVE,
 BLDG. B, SUITE G
 Aptos, California, 95003
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 FAX: (831) 786-8523
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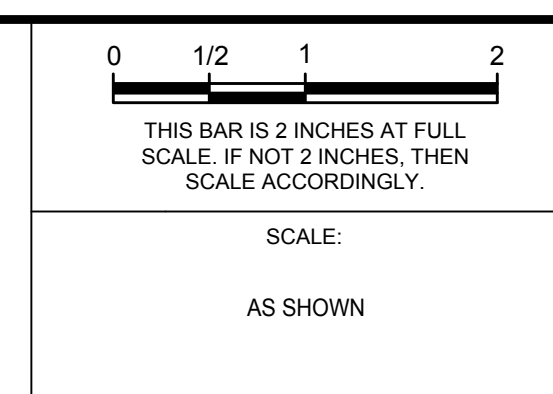


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MOSS LANDING WASTEWATER SYSTEM REHABILITATION PROJECT
 CASTROVILLE COMMUNITY SERVICE DISTRICT

SCHEMATIC CONTROL DIAGRAM

PROJECT NUMBER DICVL.200738.02
DRAWING NUMBER E6.0
SHEET NUMBER 57 OF 57

Appendix B

Federal Clean Air Act General Conformity Applicability Analysis



Rincon Consultants, Inc.

2511 Garden Road, Suite C-250
Monterey, California 93940

831 333 0310

info@rinconconsultants.com
www.rinconconsultants.com

October 3, 2022
Project No: 20-10732

Nick Panofsky, PE, Lead Engineer
MNS Engineers, Inc.
811 El Capitan Way, Suite 103
San Luis Obispo, California 93401
Via email: npanofsky@mnsengineers.com

Subject: Federal Clean Air Act General Conformity Applicability Analysis for the Castroville Community Services District Moss Landing Wastewater System Rehabilitation Project, Moss Landing, California

Dear Mr. Panofsky:

This letter has been prepared for the State Water Resources Control Board (SWRCB) on behalf of the Castroville Community Services District (District) and serves as the General Conformity Applicability Analysis for the Moss Landing Wastewater System Rehabilitation Project (herein referred to as “proposed action” or “project”). The District may pursue federal funding opportunities for the proposed action, including funding from the Clean Water State Revolving Fund (CWSRF). In California, administration of the CWSRF program has been delegated by the United States Environmental Protection Agency (USEPA) to the SWRCB. In turn, the SWRCB requires that all projects being considered under the CWSRF program comply with certain federal environmental protection laws, including the federal Clean Air Act (FCAA). The FCAA requires that any federal agency taking an action, including funding an action, make a determination that its action would not conflict with a State Implementation Plan (SIP). As part of the implementation of the FCAA, the USEPA has developed rules for transportation projects and non-transportation projects. The rule applicable to the proposed action is referred to as the “General Conformity Rule.” Therefore, the purpose of this letter is to evaluate the proposed action’s conformity to the applicable SIP and consistency with the FCAA General Conformity Rule.

Location and Description of Proposed Action

The project site is located in Moss Landing, a census-designated place in Monterey County, and is comprised of four lift station locations, 12 manhole locations, one air release valve vault in Struve Road, and 5,735 linear feet (LF) of pipeline alignments along roads including along Potrero Road, State Route (SR) 1, Sandholdt Road, and Struve Road.

The proposed action would involve the replacement or rehabilitation of existing facilities that are part of the Moss Landing Wastewater System (MLWWS). The proposed action is intended to optimize the existing system to serve existing demand and would not serve additional growth or new demand. The proposed system improvements are described in the following subsections.



Lift Station No. 1

Lift Station No. 1 would be demolished in its current location on Assessor's Parcel Number (APN) 413-061-042-000 and reconstructed in its entirety on the northeast corner of APN 413-012-014-000. The new lift station would consist of similar components as the existing Lift Station No. 1. A new 50-kilowatt (kW) backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 1. The capacity of the new lift station would be approximately equal to the capacity of the existing lift station. To accommodate the relocated lift station, a new concrete manhole would be installed along the existing sewer pipeline alignment in Struve Road, and the gravity sewer main along Struve Road would be extended from this manhole to the new lift station. A new force main would also be installed between the new lift station and the existing force main alignment in Struve Road to connect the new lift station to the sewer system. The gravity sewer and force main pipelines that currently connect the sewer system to the existing Lift Station No. 1 would be removed or abandoned in place. Electrical service for Lift Station No. 1 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2

Lift Station No. 2 would be rehabilitated in place at its current location on APN 413-022-006-000. Rehabilitation would include replacement of various belowground and aboveground features. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 2. The capacity of the rehabilitated lift station would be increased moderately as compared to the existing lift station to serve existing systemwide demand. Approximately five feet of sewer main would be installed to connect the lift station to a new grit-capturing polymer concrete manhole located immediately east and upstream of Lift Station No. 2.

Lift Station No. 3

Lift Station No. 3 would be demolished and reconstructed in its entirety in the same location as the existing lift station within the public right-of-way of Sandholdt Road immediately east of 7662 Sandholdt Road. The new lift station would consist of similar components as the existing Lift Station No. 3. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 3. A new grit-capturing polymer concrete manhole would be installed immediately west and upstream of the lift. Approximately five feet of sewer main would be installed to connect the lift station to this manhole. The capacity of the reconstructed lift station would be moderately increased in capacity as compared to the existing lift station to serve existing systemwide demand.

Lift Station No. 4

Lift Station No. 4 would be reconstructed in its entirety within the right-of-way of Potrero Road, approximately 220 feet east of its current location in the right-of-way of Portero Road. The existing lift station, electrical control vault, and manhole would be demolished and removed, and the existing gravity sewer and force main pipelines that connect the existing Lift Station No. 4 to the sewer system would be abandoned in place. The new lift station would consist of similar components as the existing Lift Station No. 4. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 4. A new concrete manhole would be installed immediately east and upstream of the lift station. Approximately five feet of sewer main would be installed to connect the lift



station to this manhole. In addition, force main piping would be installed to connect the new lift station to the existing force main pipeline that runs parallel to Portero Road. The capacity of the reconstructed lift station would be moderately increased as compared to the existing lift station to serve existing systemwide demand. Electrical service for Lift Station No. 4 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2 Force Main

Approximately 3,890 LF of the Lift Station No. 2 force main would be replaced or rehabilitated. Of this, approximately 1,140 LF of the Lift Station No. 2 force main attached to the SR 1 bridge over Elkhorn Slough and between the bridge and Lift Station No. 2 would be replaced. Approximately 1,025 LF of the existing pipeline would be replaced via open trench north of the SR 1 bridge over Elkhorn Slough, and up to 200 LF on the south of the SR 1 bridge over Elkhorn Slough. The remainder of the Lift Station No. 2 force main south of the SR 1 bridge over Elkhorn Slough, which consists of approximately 1,525 LF of pipeline, would be rehabilitated with a cured in place pipeline liner, if determined to be necessary during construction.

Pipe Repair P-1

Approximately 1,250 LF of existing gravity sewer pipeline from Manhole 36 to Lift Station No. 3 would be replaced along the same alignment and slope. In addition, five existing manholes would be rehabilitated along this pipeline segment, which would include installation of a lining system, removal of manhole rungs (if present), and replacement of the manhole frame and cover at each manhole.

Pipe Repair P-2

Approximately 300 LF of existing sewer main between Manhole 38 and Manhole 39 would be replaced along the same alignment and slope. Manhole 38 would be rehabilitated, and Manhole 39 would be abandoned in place and reconstructed approximately 50 feet to the north. The portion of existing sewer main between the existing and relocated Manhole 39 would be abandoned in place.

Lift Station No. 1 Force Main Air Release Valve Vault

The existing combination air release and vacuum valves, as well as the isolation valve and appurtenances, would be replaced in the existing valve vault of the Lift Station No. 1 Force Main.

Manholes

Several manhole improvements would be completed as part of the proposed action, which are summarized in Table 1.



Table 1 Proposed Manhole Improvements

Manhole Number(s)	Proposed Improvement
11 to 13	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion and mitigate infiltration/inflow ▪ Replacement of manhole frames and covers ▪ Installation of concrete protective rings on manholes ▪ Installation of marking posts on manhole covers to reduce potential for future mower impacts
27 to 29, 41 to 46	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers
30	<ul style="list-style-type: none"> ▪ Replacement with a polymer concrete manhole to minimize future corrosion
47	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers ▪ Raising to grade ▪ Installation of a locking frame and cover

Construction

Project construction would occur over approximately 12 months from September 2023 to September 2024. The proposed action would be developed in three main phases: lift station relocation and rehabilitation; repair of manholes, air release valve vault and pipeline replacement; and Lift Station No. 2 Force Main rehabilitation and replacement. Construction work would occur Monday through Friday, from 7:00 a.m. to 5:00 p.m. During construction, approximately 5,000 cubic yards of soil would be excavated, of which approximately 3,000 cubic yards would be used as fill and approximately 2,000 cubic yards would be exported. Haul trucks would utilize Sandholdt Road, Moss Landing Road, and SR 1 to transport debris to the Monterey Regional Waste Management District Materials Recovery Facility and Castroville Waste Management, Inc. Construction equipment would be staged at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots.

During construction activities, the following bypass systems would be utilized to maintain flows through the MLWWS:

- **Lift Station No. 1.** Bypassing for Lift Station No. 1 is expected to require one day of trucking wastewater from the manhole immediately upstream of the existing Lift Station No. 1 to Manhole 29 (immediately north of the intersection of SR 1 and Moss Landing Road), during which time the new system tie-in would be installed. Approximately eight truck trips would be required.
- **Lift Station No. 2.** During rehabilitation of Lift Station No. 2, a temporary bypass system would be utilized, which would consist either of bypass pumping using temporary aboveground pumps and a temporary aboveground pipeline or trucking wastewater from Lift Station No. 1 to Manhole 29. If wastewater is trucked, approximately 10 truck trips per day would be required for a period of up to one month.
- **Lift Station No. 3.** During rehabilitation of Lift Station No. 3, a full temporary bypass system would be installed adjacent to the lift station location to maintain sanitary sewer flows, which would consist of two temporary aboveground pumps and a temporary aboveground pipeline.
- **Lift Station No. 4.** The existing Lift Station No. 4 would remain in service for most of construction for the new Lift Station No. 4 to minimize sewer bypassing. During a one-day tie-in in which the existing



and new lift stations are both offline, temporary aboveground pipelines and a temporary aboveground lift station would be utilized for bypassing, or wastewater would be trucked from the manhole immediately upstream of Lift Station No. 4 to Manhole 29, with up to six total truck trips.

- **Lift Station No. 2 Force Main.** During replacement of the Lift Station No. 2 force main, a temporary aboveground bypass pipeline would be utilized.

Temporary dewatering activities would also be required during construction activities at Lift Station Nos. 1, 2, 3, and 4 and Pipe Repair P-1. Groundwater would be disposed of via the following methods at each location:

- **Lift Station No. 1:** Groundwater would either be discharged to an on-site infiltration pond for percolation or injected via an on-site injection well back into the underlying groundwater basin.
- **Lift Station No. 2:** Groundwater would be injected back into the underlying groundwater basin via injection wells installed within the District's Lift Station No. 3 property.
- **Lift Station No. 3/Pipe Repair P-1:** A temporary berm would be installed within the open trench of Pipe Repair P-1, and groundwater would be discharged into the pond created by the temporary berm for percolation back into the underlying groundwater basin. Alternatively, a series of injection wells would be installed within Sandholdt Road near these project components for injecting groundwater back into the underlying groundwater basin.
- **Lift Station No. 4:** Groundwater would be injected back into the underlying groundwater basin via injection wells installed in the unpaved shoulder of Potrero Road within the County's right-of-way in close proximity to the existing and proposed locations of Lift Station No. 4.

Operation and Maintenance

Once construction of the proposed action is complete, the operation and maintenance needs of the MLWWS would generally be reduced due to improved infrastructure reliability resulting from the installation of corrosive-preventive materials, grit-capturing polymer concrete manholes at key locations to reduce damage caused by sand and shells, and the use of newer, more durable materials. Therefore, no new District employees would be required to operate and maintain the project. The grit-capturing polymer concrete manholes associated with Lift Station Nos. 2 and 3 would be cleaned quarterly with a vactor truck to remove sediment. The lift stations would operate 24 hours per day, cycling on and off as needed depending on wastewater flows. However, because the purpose of the proposed action is to replace existing, aging facilities, electricity usage for wastewater conveyance at these lift stations would remain similar or would be slightly reduced due to the increased pumping efficiency of the new system. The four new backup generators would have a run time of approximately 100 hours per generator per year. Lighting would be installed inside each lift station and utilized for nighttime work if blockages or breakdowns occur, similar to existing conditions.

Existing Conditions

The project site is located within the North Central Coast Air Basin (NCCAB), which includes Monterey, San Benito, and Santa Cruz counties. The Monterey Bay Air Resources District is responsible for local



control and monitoring of criteria pollutants throughout the NCCAB. The NCCAB is designated attainment or unclassified for all National Ambient Air Quality Standards (NAAQS).¹

Regulatory Framework

Section 176(c) of the FCAA, as amended (42 United States Code [U.S.C.] 7401 et seq.) prohibits federal agencies from engaging in, supporting, providing financial assistance to, or issuing permits for activities, which do not conform to an applicable SIP. As codified in Title 40 Code of Federal Regulations (CFR) Part 51 Subpart W and 40 CFR Part 93 Subpart B: General Conformity, the FCAA requires federal agencies to ensure that actions taken by those agencies conform to the applicable SIP. The FCAA applies only to direct and/or indirect emissions caused by the actions that occur in areas designated as nonattainment or maintenance areas with respect to NAAQS. These regulations require an applicability analysis to determine whether the federal action must be supported by a conformity determination. Under the General Conformity Rule, the FCAA applicability analysis is established for federal actions performed in locations with a history of non-compliance, as described below:

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

The applicability analysis involves calculation of the total emissions of criteria or precursor pollutants during the years of construction and operation of the federal action. If annual emissions exceed the *de minimis* rates outlined in the General Conformity Rule specified in 40 CFR Part 93.153(b), then the federal agency must prepare a formal General Conformity Determination for public comment. If the proposed action's annual emissions are below the applicable *de minimis* rates, the proposed action conforms to the SIP and is not subject to a formal general conformity determination.² As discussed under *Existing Conditions*, the NCCAB is designated attainment or unclassified for all NAAQS; therefore, no *de minimis* rates are applicable to the proposed action.

Methodology

Air pollutant emissions generated by construction and operation of the proposed action were estimated using the California Emissions Estimator Model (CalEEMod), version 2020.4.0. CalEEMod uses project-specific information, including the project's land uses, construction parameters, and operational characteristics, to model a project's construction and operational emissions. The analysis reflects

¹ United States Environmental Protection Agency. 2022. "Nonattainment Areas for Criteria Pollutants (Green Book). Last modified: April 29, 2022. <https://www.epa.gov/green-book> (accessed May 2022).

² State Water Resources Control Board. 2017. Appendix I: State Environmental Review Process – State Water Resources Control Board Clean Water State Revolving Fund Program. April 2017. https://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/docs/policy0513/appendix_i_envguide.pdf (accessed May 2022).



construction and operation of the proposed action as described under *Location and Description of Proposed Action*.

Construction emissions modeled include emissions generated by construction equipment used on-site and emissions generated by vehicle trips associated with construction, such as worker, vendor, and haul trips. CalEEMod estimates construction emissions by multiplying the amount of time equipment is in operation by emission factors. Construction of the proposed action was analyzed based on the construction schedule and construction equipment list provided by the project’s engineering and design team. It is assumed all construction equipment would be diesel-powered. Operational emissions modeled consist of stationary source emissions from routine testing and maintenance of the four proposed 50-kW backup generators. For each generator, testing and maintenance would occur for up to two hours per day during testing and maintenance events and up to 100 hours per year.

General Conformity Applicability Assessment

The proposed action may be funded by a loan from the CWSRF, a USEPA loan program administered at the state level by the SWRCB. Therefore, the emissions generated during construction and operation of the proposed action are subject to FCAA requirements under the General Conformity Rule.

Table 2 lists the total annual emissions that would be generated from construction and operation activities associated with the proposed action. As detailed earlier, no *de minimis* rates are applicable to the proposed action. As such, because the proposed action would not exceed applicable *de minimis* rates, general conformity requirements do not apply, and the proposed action is exempt from a General Conformity Determination.

Table 2 Total Annual Emissions of Proposed Action (tons/year)

Source	VOC ¹	NO ₂ ²	CO	SO ₂	PM ₁₀	PM _{2.5}
Maximum Annual Construction Emissions ³	0.4	3.4	4.5	< 0.1	0.2	0.2
Maximum Annual Operational Emissions	< 0.1	0.1	0.1	< 0.1	< 0.1	< 0.1
Maximum Annual Construction plus Operational Emissions ⁴	0.5	3.5	4.6	< 0.1	0.2	0.2
<i>De Minimis</i> Rates ⁵	N/A	N/A	N/A	N/A	82 ¹	N/A
<i>De Minimis</i> Rates Exceeded?	N/A	N/A	N/A	N/A	No	N/A

VOC: volatile organic compounds; NO_x: nitrogen oxides; NO₂: nitrogen dioxide; CO: carbon monoxide; SO₂: sulfur dioxide; PM₁₀: particulate matter 10 microns or less in size; PM_{2.5}: particulate matter 2.5 microns or less in size; N/A: not applicable

¹ VOC is equivalent to reactive organic gases (ROG) as calculated by CalEEMod.

² NO₂ was conservatively assumed to be equivalent to NO_x.

³ Maximum annual construction emissions would occur during 2024.

⁴ Conservatively assumes that total annual operational emissions would be generated in the same year as construction emissions in year 2024 even though the proposed action would only be operational for a portion of this year.

⁵ Since the NCCAB is in attainment or unclassified for all NAAQS, there are no applicable *de minimis* rates for the proposed action.

Notes: All numbers have been rounded to the nearest tenth. All emissions modeling was completed using CalEEMod. See Attachment 1 for modeling results.



Regardless of basin attainment status, the SWRCB requires that estimates of criteria pollutant emissions associated with the proposed action and supporting calculations be submitted with Attachment E1 of the CWSRF Environmental Package. The results of this assessment will be summarized in Attachment E1 of the CWSRF Environmental Package, and this memorandum will be included as supporting documentation.

Sincerely,

Rincon Consultants, Inc.

A handwritten signature in cursive script that reads "Annaliese Miller".

Annaliese Miller
Senior Environmental Planner/Project Manager

A handwritten signature in cursive script that reads "Megan Jones".

Megan Jones
Principal

Attachment

Attachment 1 Air Pollutant Emissions Modeling

Attachment 1

Air Pollutant Emissions Modeling

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Moss Landing WW Rehab Project
Monterey Bay Unified APCD Air District, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	22.50	1000sqft	0.52	22,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Area of disturbance
- Construction Phase - Provided by MNS
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS - no heavy equipment
- Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Trips and VMT - Bypass trips included as Vendor Trips. Water truck trips added to Vendor Trips for each phase with ground disturbance.

Demolition - Provided by MNS

Grading - Provided by MNS

Stationary Sources - Emergency Generators and Fire Pumps - One emergency backup generator per lift station.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	60.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	2.00	1.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialExported	0.00	846.00
tblGrading	MaterialExported	0.00	821.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorVehicleClass		HDT_Mix

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix

2.0 Emissions Summary

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1595	1.2956	1.5923	3.0300e-003	0.0285	0.0616	0.0901	6.1600e-003	0.0597	0.0658	0.0000	258.8779	258.8779	0.0381	1.6100e-003	260.3089
2024	0.4249	3.4034	4.4732	8.4400e-003	0.0443	0.1520	0.1963	0.0103	0.1467	0.1570	0.0000	718.0507	718.0507	0.1182	3.2700e-003	721.9789
Maximum	0.4249	3.4034	4.4732	8.4400e-003	0.0443	0.1520	0.1963	0.0103	0.1467	0.1570	0.0000	718.0507	718.0507	0.1182	3.2700e-003	721.9789

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1595	1.2956	1.5923	3.0300e-003	0.0285	0.0616	0.0901	6.1600e-003	0.0597	0.0658	0.0000	258.8777	258.8777	0.0381	1.6100e-003	260.3086
2024	0.4249	3.4034	4.4731	8.4400e-003	0.0443	0.1520	0.1963	0.0103	0.1467	0.1570	0.0000	718.0499	718.0499	0.1182	3.2700e-003	721.9781
Maximum	0.4249	3.4034	4.4731	8.4400e-003	0.0443	0.1520	0.1963	0.0103	0.1467	0.1570	0.0000	718.0499	718.0499	0.1182	3.2700e-003	721.9781

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	9-1-2023	11-30-2023	1.0158	1.0158
2	12-1-2023	2-29-2024	1.3836	1.3836
3	3-1-2024	5-31-2024	1.4951	1.4951
4	6-1-2024	8-31-2024	1.2941	1.2941
5	9-1-2024	9-30-2024	0.0967	0.0967
		Highest	1.4951	1.4951

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0220	0.0717	0.0798	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0239	0.0717	0.0801	1.1000e-004	0.0000	3.2300e-003	3.2300e-003	0.0000	3.2300e-003	3.2300e-003	0.0000	10.2059	10.2059	1.4300e-003	0.0000	10.2417

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.0220	0.0717	0.0798	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0239	0.0717	0.0801	1.1000e-004	0.0000	3.2300e-003	3.2300e-003	0.0000	3.2300e-003	3.2300e-003	0.0000	10.2059	10.2059	1.4300e-003	0.0000	10.2417

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase I Demolition	Demolition	9/1/2023	10/12/2023	5	30	
2	Phase II Demolition	Demolition	9/15/2023	11/16/2023	5	45	

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3	Phase I Site Preparation	Site Preparation	10/13/2023	10/26/2023	5	10
4	Phase I Trenching	Grading	10/27/2023	12/7/2023	5	30
5	Phase II Site Preparation	Site Preparation	11/17/2023	12/14/2023	5	20
6	Phase I Installation	Building Construction	12/8/2023	2/29/2024	5	60
7	Phase II Trenching	Grading	12/15/2023	3/7/2024	5	60
8	LS No. 1 Bypass	Grading	12/21/2023	12/21/2023	5	1
9	LS No. 2 Bypass	Grading	1/2/2024	2/12/2024	5	30
10	LS No. 4 Bypass	Grading	2/20/2024	2/20/2024	5	1
11	Phase I Paving	Paving	3/1/2024	3/14/2024	5	10
12	Phase II Installation	Building Construction	3/8/2024	7/11/2024	5	90
13	Phase I Site Restoration	Site Preparation	3/15/2024	3/28/2024	5	10
14	Phase III Demolition	Demolition	3/19/2024	4/29/2024	5	30
15	Phase III Site Preparation	Site Preparation	4/30/2024	6/10/2024	5	30
16	Phase III Trenching	Grading	6/11/2024	7/22/2024	5	30
17	Phase II Paving	Paving	7/12/2024	8/22/2024	5	30
18	Phase III Installation	Building Construction	7/23/2024	9/2/2024	5	30
19	Phase II Site Restoration	Site Preparation	8/23/2024	9/19/2024	5	20
20	Phase III Paving	Paving	9/3/2024	9/16/2024	5	10
21	Phase III Site Restoration	Site Preparation	9/17/2024	9/30/2024	5	10

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase I Demolition	Air Compressors	2	8.00	78	0.48

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase I Demolition	Generator Sets	1	8.00	84	0.74
Phase I Demolition	Pressure Washers	1	8.00	13	0.30
Phase I Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase I Demolition	Signal Boards	3	8.00	6	0.82
Phase I Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase II Demolition	Air Compressors	2	8.00	78	0.48
Phase II Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase II Demolition	Generator Sets	1	8.00	84	0.74
Phase II Demolition	Pressure Washers	1	8.00	13	0.30
Phase II Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase II Demolition	Signal Boards	3	8.00	6	0.82
Phase II Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase I Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase I Site Preparation	Generator Sets	1	8.00	84	0.74
Phase I Site Preparation	Graders	1	8.00	187	0.41
Phase I Site Preparation	Signal Boards	3	8.00	6	0.82
Phase I Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Trenching	Generator Sets	1	8.00	84	0.74
Phase I Trenching	Graders	0	0.00	187	0.41
Phase I Trenching	Signal Boards	3	8.00	6	0.82
Phase I Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase II Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase II Site Preparation	Generator Sets	1	8.00	84	0.74
Phase II Site Preparation	Graders	1	8.00	187	0.41
Phase II Site Preparation	Signal Boards	3	8.00	6	0.82
Phase II Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Air Compressors	2	8.00	78	0.48
Phase I Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase I Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Installation	Cranes	1	4.00	231	0.29
Phase I Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase I Installation	Excavators	1	8.00	158	0.38
Phase I Installation	Forklifts	1	6.00	89	0.20
Phase I Installation	Generator Sets	1	8.00	84	0.74
Phase I Installation	Plate Compactors	1	8.00	8	0.43
Phase I Installation	Pressure Washers	1	8.00	13	0.30
Phase I Installation	Pumps	1	8.00	84	0.74
Phase I Installation	Signal Boards	3	8.00	6	0.82
Phase I Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Welders	1	8.00	46	0.45
Phase II Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Trenching	Generator Sets	1	8.00	84	0.74
Phase II Trenching	Graders	0	0.00	187	0.41
Phase II Trenching	Signal Boards	3	8.00	6	0.82
Phase II Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase I Paving	Cement and Mortar Mixers	4	6.00	9	0.56

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase I Paving	Generator Sets	1	8.00	84	0.74
Phase I Paving	Pavers	1	7.00	130	0.42
Phase I Paving	Paving Equipment	1	8.00	132	0.36
Phase I Paving	Plate Compactors	1	6.00	8	0.43
Phase I Paving	Rollers	1	7.00	80	0.38
Phase I Paving	Signal Boards	3	8.00	6	0.82
Phase I Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase II Installation	Air Compressors	2	8.00	78	0.48
Phase II Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase II Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Installation	Cranes	1	4.00	231	0.29
Phase II Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase II Installation	Excavators	1	8.00	158	0.38
Phase II Installation	Forklifts	1	6.00	89	0.20
Phase II Installation	Generator Sets	1	8.00	84	0.74
Phase II Installation	Plate Compactors	1	8.00	8	0.43
Phase II Installation	Pressure Washers	1	8.00	13	0.30
Phase II Installation	Pumps	1	8.00	84	0.74
Phase II Installation	Signal Boards	3	8.00	6	0.82
Phase II Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase II Installation	Welders	1	8.00	46	0.45
Phase III Demolition	Air Compressors	2	8.00	78	0.48
Phase III Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase III Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase III Demolition	Generator Sets	1	8.00	84	0.74

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Demolition	Pressure Washers	1	8.00	13	0.30
Phase III Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase III Demolition	Signal Boards	3	8.00	6	0.82
Phase III Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase III Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase III Site Preparation	Generator Sets	1	8.00	84	0.74
Phase III Site Preparation	Graders	1	8.00	187	0.41
Phase III Site Preparation	Signal Boards	3	8.00	6	0.82
Phase III Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Trenching	Generator Sets	1	8.00	84	0.74
Phase III Trenching	Graders	0	0.00	187	0.41
Phase III Trenching	Signal Boards	3	8.00	6	0.82
Phase III Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase II Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase II Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase II Paving	Generator Sets	1	8.00	84	0.74
Phase II Paving	Pavers	1	7.00	130	0.42
Phase II Paving	Paving Equipment	1	8.00	132	0.36
Phase II Paving	Plate Compactors	1	6.00	8	0.43
Phase II Paving	Rollers	1	7.00	80	0.38
Phase II Paving	Signal Boards	3	8.00	6	0.82
Phase II Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase III Installation	Air Compressors	2	8.00	78	0.48
Phase III Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase III Installation	Concrete/Industrial Saws	2	8.00	81	0.73

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Installation	Cranes	1	4.00	231	0.29
Phase III Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase III Installation	Excavators	1	8.00	158	0.38
Phase III Installation	Forklifts	1	6.00	89	0.20
Phase III Installation	Generator Sets	1	8.00	84	0.74
Phase III Installation	Plate Compactors	1	8.00	8	0.43
Phase III Installation	Pressure Washers	1	8.00	13	0.30
Phase III Installation	Pumps	1	8.00	84	0.74
Phase III Installation	Signal Boards	3	8.00	6	0.82
Phase III Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Installation	Welders	1	8.00	46	0.45
Phase III Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase III Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase III Paving	Generator Sets	1	8.00	84	0.74
Phase III Paving	Pavers	1	7.00	130	0.42
Phase III Paving	Paving Equipment	1	8.00	132	0.36
Phase III Paving	Plate Compactors	1	6.00	8	0.43
Phase III Paving	Rollers	1	7.00	80	0.38
Phase III Paving	Signal Boards	3	8.00	6	0.82
Phase III Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase I Demolition	13	33.00	2.00	14.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase II Demolition	13	33.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Trenching	8	20.00	2.00	106.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Trenching	8	20.00	2.00	103.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 4 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Demolition	13	33.00	2.00	29.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Trenching	7	18.00	2.00	42.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Installation	21	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 1 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 2 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5500e-003	0.0000	1.5500e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0313	0.2481	0.3146	5.4000e-004		0.0125	0.0125		0.0123	0.0123	0.0000	45.3040	45.3040	4.5800e-003	0.0000	45.4186
Total	0.0313	0.2481	0.3146	5.4000e-004	1.5500e-003	0.0125	0.0141	2.4000e-004	0.0123	0.0125	0.0000	45.3040	45.3040	4.5800e-003	0.0000	45.4186

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.8000e-004	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2148	0.2148	0.0000	3.0000e-005	0.2250
Vendor	4.0000e-005	1.5300e-003	4.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5966	0.5966	1.0000e-005	9.0000e-005	0.6229
Worker	1.6200e-003	1.2400e-003	0.0139	4.0000e-005	3.9400e-003	3.0000e-005	3.9600e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	3.3119	3.3119	1.2000e-004	1.0000e-004	3.3458
Total	1.6700e-003	3.3500e-003	0.0145	5.0000e-005	4.2000e-003	4.0000e-005	4.2300e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	4.1234	4.1234	1.3000e-004	2.2000e-004	4.1936

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.5500e-003	0.0000	1.5500e-003	2.4000e-004	0.0000	2.4000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0313	0.2481	0.3146	5.4000e-004		0.0125	0.0125		0.0123	0.0123	0.0000	45.3040	45.3040	4.5800e-003	0.0000	45.4186
Total	0.0313	0.2481	0.3146	5.4000e-004	1.5500e-003	0.0125	0.0141	2.4000e-004	0.0123	0.0125	0.0000	45.3040	45.3040	4.5800e-003	0.0000	45.4186

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-005	5.8000e-004	1.7000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2148	0.2148	0.0000	3.0000e-005	0.2250
Vendor	4.0000e-005	1.5300e-003	4.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5966	0.5966	1.0000e-005	9.0000e-005	0.6229
Worker	1.6200e-003	1.2400e-003	0.0139	4.0000e-005	3.9400e-003	3.0000e-005	3.9600e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	3.3119	3.3119	1.2000e-004	1.0000e-004	3.3458
Total	1.6700e-003	3.3500e-003	0.0145	5.0000e-005	4.2000e-003	4.0000e-005	4.2300e-003	1.1300e-003	3.0000e-005	1.1600e-003	0.0000	4.1234	4.1234	1.3000e-004	2.2000e-004	4.1936

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0470	0.3722	0.4718	8.0000e-004		0.0188	0.0188		0.0185	0.0185	0.0000	67.9560	67.9560	6.8800e-003	0.0000	68.1280
Total	0.0470	0.3722	0.4718	8.0000e-004		0.0188	0.0188		0.0185	0.0185	0.0000	67.9560	67.9560	6.8800e-003	0.0000	68.1280

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.2900e-003	7.2000e-004	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8949	0.8949	1.0000e-005	1.3000e-004	0.9343
Worker	2.4200e-003	1.8600e-003	0.0208	5.0000e-005	5.9100e-003	4.0000e-005	5.9500e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	4.9679	4.9679	1.7000e-004	1.6000e-004	5.0187
Total	2.4800e-003	4.1500e-003	0.0216	6.0000e-005	6.2100e-003	5.0000e-005	6.2600e-003	1.6600e-003	5.0000e-005	1.7100e-003	0.0000	5.8628	5.8628	1.8000e-004	2.9000e-004	5.9530

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0470	0.3722	0.4718	8.0000e-004		0.0188	0.0188		0.0185	0.0185	0.0000	67.9560	67.9560	6.8800e-003	0.0000	68.1279
Total	0.0470	0.3722	0.4718	8.0000e-004		0.0188	0.0188		0.0185	0.0185	0.0000	67.9560	67.9560	6.8800e-003	0.0000	68.1279

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	2.2900e-003	7.2000e-004	1.0000e-005	3.0000e-004	1.0000e-005	3.1000e-004	9.0000e-005	1.0000e-005	1.0000e-004	0.0000	0.8949	0.8949	1.0000e-005	1.3000e-004	0.9343
Worker	2.4200e-003	1.8600e-003	0.0208	5.0000e-005	5.9100e-003	4.0000e-005	5.9500e-003	1.5700e-003	4.0000e-005	1.6100e-003	0.0000	4.9679	4.9679	1.7000e-004	1.6000e-004	5.0187
Total	2.4800e-003	4.1500e-003	0.0216	6.0000e-005	6.2100e-003	5.0000e-005	6.2600e-003	1.6600e-003	5.0000e-005	1.7100e-003	0.0000	5.8628	5.8628	1.8000e-004	2.9000e-004	5.9530

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-003	0.0684	0.0645	1.2000e-004		2.9900e-003	2.9900e-003		2.8300e-003	2.8300e-003	0.0000	10.5329	10.5329	2.4100e-003	0.0000	10.5931
Total	7.1000e-003	0.0684	0.0645	1.2000e-004	2.6500e-003	2.9900e-003	5.6400e-003	2.9000e-004	2.8300e-003	3.1200e-003	0.0000	10.5329	10.5329	2.4100e-003	0.0000	10.5931

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.1000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1989	0.1989	0.0000	3.0000e-005	0.2076
Worker	3.8000e-004	2.9000e-004	3.2300e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7694	0.7694	3.0000e-005	2.0000e-005	0.7773
Total	3.9000e-004	8.0000e-004	3.3900e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9683	0.9683	3.0000e-005	5.0000e-005	0.9849

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.6500e-003	0.0000	2.6500e-003	2.9000e-004	0.0000	2.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	7.1000e-003	0.0684	0.0645	1.2000e-004		2.9900e-003	2.9900e-003		2.8300e-003	2.8300e-003	0.0000	10.5329	10.5329	2.4100e-003	0.0000	10.5931
Total	7.1000e-003	0.0684	0.0645	1.2000e-004	2.6500e-003	2.9900e-003	5.6400e-003	2.9000e-004	2.8300e-003	3.1200e-003	0.0000	10.5329	10.5329	2.4100e-003	0.0000	10.5931

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.1000e-004	1.6000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1989	0.1989	0.0000	3.0000e-005	0.2076
Worker	3.8000e-004	2.9000e-004	3.2300e-003	1.0000e-005	9.1000e-004	1.0000e-005	9.2000e-004	2.4000e-004	1.0000e-005	2.5000e-004	0.0000	0.7694	0.7694	3.0000e-005	2.0000e-005	0.7773
Total	3.9000e-004	8.0000e-004	3.3900e-003	1.0000e-005	9.8000e-004	1.0000e-005	9.9000e-004	2.6000e-004	1.0000e-005	2.7000e-004	0.0000	0.9683	0.9683	3.0000e-005	5.0000e-005	0.9849

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1534	0.1864	3.9000e-004		7.1700e-003	7.1700e-003		6.8000e-003	6.8000e-003	0.0000	33.4794	33.4794	8.0200e-003	0.0000	33.6798
Total	0.0171	0.1534	0.1864	3.9000e-004	7.0000e-005	7.1700e-003	7.2400e-003	1.0000e-005	6.8000e-003	6.8100e-003	0.0000	33.4794	33.4794	8.0200e-003	0.0000	33.6798

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	7.7100e-003	1.6000e-003	3.0000e-005	9.0000e-004	7.0000e-005	9.7000e-004	2.5000e-004	6.0000e-005	3.1000e-004	0.0000	3.0983	3.0983	3.0000e-005	4.9000e-004	3.2446
Vendor	4.0000e-005	1.5300e-003	4.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5966	0.5966	1.0000e-005	9.0000e-005	0.6229
Worker	9.8000e-004	7.5000e-004	8.4200e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4000e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0072	2.0072	7.0000e-005	6.0000e-005	2.0278
Total	1.1500e-003	9.9900e-003	0.0105	6.0000e-005	3.4900e-003	1.0000e-004	3.5800e-003	9.4000e-004	8.0000e-005	1.0300e-003	0.0000	5.7021	5.7021	1.1000e-004	6.4000e-004	5.8953

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.0000e-005	0.0000	7.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0171	0.1534	0.1864	3.9000e-004		7.1700e-003	7.1700e-003		6.8000e-003	6.8000e-003	0.0000	33.4794	33.4794	8.0200e-003	0.0000	33.6798
Total	0.0171	0.1534	0.1864	3.9000e-004	7.0000e-005	7.1700e-003	7.2400e-003	1.0000e-005	6.8000e-003	6.8100e-003	0.0000	33.4794	33.4794	8.0200e-003	0.0000	33.6798

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3000e-004	7.7100e-003	1.6000e-003	3.0000e-005	9.0000e-004	7.0000e-005	9.7000e-004	2.5000e-004	6.0000e-005	3.1000e-004	0.0000	3.0983	3.0983	3.0000e-005	4.9000e-004	3.2446
Vendor	4.0000e-005	1.5300e-003	4.8000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5966	0.5966	1.0000e-005	9.0000e-005	0.6229
Worker	9.8000e-004	7.5000e-004	8.4200e-003	2.0000e-005	2.3900e-003	2.0000e-005	2.4000e-003	6.3000e-004	1.0000e-005	6.5000e-004	0.0000	2.0072	2.0072	7.0000e-005	6.0000e-005	2.0278
Total	1.1500e-003	9.9900e-003	0.0105	6.0000e-005	3.4900e-003	1.0000e-004	3.5800e-003	9.4000e-004	8.0000e-005	1.0300e-003	0.0000	5.7021	5.7021	1.1000e-004	6.4000e-004	5.8953

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0142	0.1369	0.1290	2.5000e-004		5.9900e-003	5.9900e-003		5.6600e-003	5.6600e-003	0.0000	21.0657	21.0657	4.8200e-003	0.0000	21.1862
Total	0.0142	0.1369	0.1290	2.5000e-004	5.3000e-003	5.9900e-003	0.0113	5.7000e-004	5.6600e-003	6.2300e-003	0.0000	21.0657	21.0657	4.8200e-003	0.0000	21.1862

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0200e-003	3.2000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3977	0.3977	0.0000	6.0000e-005	0.4152
Worker	7.5000e-004	5.8000e-004	6.4500e-003	2.0000e-005	1.8300e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5389	1.5389	5.0000e-005	5.0000e-005	1.5546
Total	7.8000e-004	1.6000e-003	6.7700e-003	2.0000e-005	1.9600e-003	2.0000e-005	1.9800e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.9366	1.9366	5.0000e-005	1.1000e-004	1.9699

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					5.3000e-003	0.0000	5.3000e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0142	0.1369	0.1290	2.5000e-004		5.9900e-003	5.9900e-003		5.6600e-003	5.6600e-003	0.0000	21.0657	21.0657	4.8200e-003	0.0000	21.1862
Total	0.0142	0.1369	0.1290	2.5000e-004	5.3000e-003	5.9900e-003	0.0113	5.7000e-004	5.6600e-003	6.2300e-003	0.0000	21.0657	21.0657	4.8200e-003	0.0000	21.1862

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.0000e-005	1.0200e-003	3.2000e-004	0.0000	1.3000e-004	1.0000e-005	1.4000e-004	4.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.3977	0.3977	0.0000	6.0000e-005	0.4152
Worker	7.5000e-004	5.8000e-004	6.4500e-003	2.0000e-005	1.8300e-003	1.0000e-005	1.8400e-003	4.9000e-004	1.0000e-005	5.0000e-004	0.0000	1.5389	1.5389	5.0000e-005	5.0000e-005	1.5546
Total	7.8000e-004	1.6000e-003	6.7700e-003	2.0000e-005	1.9600e-003	2.0000e-005	1.9800e-003	5.3000e-004	2.0000e-005	5.4000e-004	0.0000	1.9366	1.9366	5.0000e-005	1.1000e-004	1.9699

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0294	0.2356	0.2946	5.5000e-004		0.0112	0.0112		0.0109	0.0109	0.0000	46.7279	46.7279	7.8500e-003	0.0000	46.9241
Total	0.0294	0.2356	0.2946	5.5000e-004		0.0112	0.0112		0.0109	0.0109	0.0000	46.7279	46.7279	7.8500e-003	0.0000	46.9241

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.4400e-003	7.7000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	0.9546	0.9546	1.0000e-005	1.4000e-004	0.9966
Worker	2.4000e-004	1.8000e-004	2.0200e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4817	0.4817	2.0000e-005	2.0000e-005	0.4867
Total	3.1000e-004	2.6200e-003	2.7900e-003	2.0000e-005	8.9000e-004	2.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.7000e-004	0.0000	1.4363	1.4363	3.0000e-005	1.6000e-004	1.4832

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0294	0.2356	0.2946	5.5000e-004		0.0112	0.0112		0.0109	0.0109	0.0000	46.7278	46.7278	7.8500e-003	0.0000	46.9241
Total	0.0294	0.2356	0.2946	5.5000e-004		0.0112	0.0112		0.0109	0.0109	0.0000	46.7278	46.7278	7.8500e-003	0.0000	46.9241

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.4400e-003	7.7000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.3000e-004	9.0000e-005	1.0000e-005	1.1000e-004	0.0000	0.9546	0.9546	1.0000e-005	1.4000e-004	0.9966
Worker	2.4000e-004	1.8000e-004	2.0200e-003	1.0000e-005	5.7000e-004	0.0000	5.8000e-004	1.5000e-004	0.0000	1.6000e-004	0.0000	0.4817	0.4817	2.0000e-005	2.0000e-005	0.4867
Total	3.1000e-004	2.6200e-003	2.7900e-003	2.0000e-005	8.9000e-004	2.0000e-005	9.1000e-004	2.4000e-004	1.0000e-005	2.7000e-004	0.0000	1.4363	1.4363	3.0000e-005	1.6000e-004	1.4832

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0766	0.6101	0.8090	1.5200e-003		0.0274	0.0274		0.0266	0.0266	0.0000	128.5514	128.5514	0.0214	0.0000	129.0868
Total	0.0766	0.6101	0.8090	1.5200e-003		0.0274	0.0274		0.0266	0.0266	0.0000	128.5514	128.5514	0.0214	0.0000	129.0868

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	6.6400e-003	2.0400e-003	3.0000e-005	8.7000e-004	4.0000e-005	9.1000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	2.5844	2.5844	2.0000e-005	3.8000e-004	2.6981
Worker	6.0000e-004	4.4000e-004	5.1300e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2936	1.2936	4.0000e-005	4.0000e-005	1.3060
Total	7.8000e-004	7.0800e-003	7.1700e-003	4.0000e-005	2.4500e-003	5.0000e-005	2.4900e-003	6.7000e-004	5.0000e-005	7.2000e-004	0.0000	3.8780	3.8780	6.0000e-005	4.2000e-004	4.0042

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0766	0.6100	0.8090	1.5200e-003		0.0274	0.0274		0.0266	0.0266	0.0000	128.5513	128.5513	0.0214	0.0000	129.0866
Total	0.0766	0.6100	0.8090	1.5200e-003		0.0274	0.0274		0.0266	0.0266	0.0000	128.5513	128.5513	0.0214	0.0000	129.0866

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	6.6400e-003	2.0400e-003	3.0000e-005	8.7000e-004	4.0000e-005	9.1000e-004	2.5000e-004	4.0000e-005	2.9000e-004	0.0000	2.5844	2.5844	2.0000e-005	3.8000e-004	2.6981
Worker	6.0000e-004	4.4000e-004	5.1300e-003	1.0000e-005	1.5800e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.2936	1.2936	4.0000e-005	4.0000e-005	1.3060
Total	7.8000e-004	7.0800e-003	7.1700e-003	4.0000e-005	2.4500e-003	5.0000e-005	2.4900e-003	6.7000e-004	5.0000e-005	7.2000e-004	0.0000	3.8780	3.8780	6.0000e-005	4.2000e-004	4.0042

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2700e-003	0.0563	0.0684	1.4000e-004		2.6300e-003	2.6300e-003		2.4900e-003	2.4900e-003	0.0000	12.2758	12.2758	2.9400e-003	0.0000	12.3493
Total	6.2700e-003	0.0563	0.0684	1.4000e-004	6.0000e-005	2.6300e-003	2.6900e-003	1.0000e-005	2.4900e-003	2.5000e-003	0.0000	12.2758	12.2758	2.9400e-003	0.0000	12.3493

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.3700e-003	2.8000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5519	0.5519	1.0000e-005	9.0000e-005	0.5780
Vendor	2.0000e-005	5.6000e-004	1.8000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2188	0.2188	0.0000	3.0000e-005	0.2284
Worker	3.6000e-004	2.8000e-004	3.0900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7360	0.7360	3.0000e-005	2.0000e-005	0.7435
Total	4.0000e-004	2.2100e-003	3.5500e-003	2.0000e-005	1.1100e-003	2.0000e-005	1.1300e-003	2.9000e-004	2.0000e-005	3.2000e-004	0.0000	1.5067	1.5067	4.0000e-005	1.4000e-004	1.5499

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.2700e-003	0.0563	0.0684	1.4000e-004		2.6300e-003	2.6300e-003		2.4900e-003	2.4900e-003	0.0000	12.2758	12.2758	2.9400e-003	0.0000	12.3493
Total	6.2700e-003	0.0563	0.0684	1.4000e-004	6.0000e-005	2.6300e-003	2.6900e-003	1.0000e-005	2.4900e-003	2.5000e-003	0.0000	12.2758	12.2758	2.9400e-003	0.0000	12.3493

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	2.0000e-005	1.3700e-003	2.8000e-004	1.0000e-005	1.6000e-004	1.0000e-005	1.7000e-004	4.0000e-005	1.0000e-005	6.0000e-005	0.0000	0.5519	0.5519	1.0000e-005	9.0000e-005	0.5780
Vendor	2.0000e-005	5.6000e-004	1.8000e-004	0.0000	7.0000e-005	0.0000	8.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.2188	0.2188	0.0000	3.0000e-005	0.2284
Worker	3.6000e-004	2.8000e-004	3.0900e-003	1.0000e-005	8.8000e-004	1.0000e-005	8.8000e-004	2.3000e-004	1.0000e-005	2.4000e-004	0.0000	0.7360	0.7360	3.0000e-005	2.0000e-005	0.7435
Total	4.0000e-004	2.2100e-003	3.5500e-003	2.0000e-005	1.1100e-003	2.0000e-005	1.1300e-003	2.9000e-004	2.0000e-005	3.2000e-004	0.0000	1.5067	1.5067	4.0000e-005	1.4000e-004	1.5499

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0268	0.2368	0.3047	6.4000e-004		0.0105	0.0105		9.9800e-003	9.9800e-003	0.0000	54.7340	54.7340	0.0131	0.0000	55.0605
Total	0.0268	0.2368	0.3047	6.4000e-004	6.0000e-005	0.0105	0.0106	1.0000e-005	9.9800e-003	9.9900e-003	0.0000	54.7340	54.7340	0.0131	0.0000	55.0605

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	6.0200e-003	1.2700e-003	2.0000e-005	7.2000e-004	5.0000e-005	7.7000e-004	2.0000e-004	5.0000e-005	2.5000e-004	0.0000	2.4165	2.4165	3.0000e-005	3.8000e-004	2.5307
Vendor	7.0000e-005	2.4600e-003	7.6000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	0.9594	0.9594	1.0000e-005	1.4000e-004	1.0016
Worker	1.4900e-003	1.0900e-003	0.0127	3.0000e-005	3.9000e-003	2.0000e-005	3.9200e-003	1.0400e-003	2.0000e-005	1.0600e-003	0.0000	3.2012	3.2012	1.0000e-004	9.0000e-005	3.2321
Total	1.6600e-003	9.5700e-003	0.0147	6.0000e-005	4.9400e-003	9.0000e-005	5.0300e-003	1.3300e-003	9.0000e-005	1.4200e-003	0.0000	6.5771	6.5771	1.4000e-004	6.1000e-004	6.7644

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0268	0.2368	0.3047	6.4000e-004		0.0105	0.0105		9.9800e-003	9.9800e-003	0.0000	54.7339	54.7339	0.0131	0.0000	55.0604
Total	0.0268	0.2368	0.3047	6.4000e-004	6.0000e-005	0.0105	0.0106	1.0000e-005	9.9800e-003	9.9900e-003	0.0000	54.7339	54.7339	0.0131	0.0000	55.0604

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.0000e-004	6.0200e-003	1.2700e-003	2.0000e-005	7.2000e-004	5.0000e-005	7.7000e-004	2.0000e-004	5.0000e-005	2.5000e-004	0.0000	2.4165	2.4165	3.0000e-005	3.8000e-004	2.5307
Vendor	7.0000e-005	2.4600e-003	7.6000e-004	1.0000e-005	3.2000e-004	2.0000e-005	3.4000e-004	9.0000e-005	2.0000e-005	1.1000e-004	0.0000	0.9594	0.9594	1.0000e-005	1.4000e-004	1.0016
Worker	1.4900e-003	1.0900e-003	0.0127	3.0000e-005	3.9000e-003	2.0000e-005	3.9200e-003	1.0400e-003	2.0000e-005	1.0600e-003	0.0000	3.2012	3.2012	1.0000e-004	9.0000e-005	3.2321
Total	1.6600e-003	9.5700e-003	0.0147	6.0000e-005	4.9400e-003	9.0000e-005	5.0300e-003	1.3300e-003	9.0000e-005	1.4200e-003	0.0000	6.5771	6.5771	1.4000e-004	6.1000e-004	6.7644

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8100e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.4900e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.0000e-004	1.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1958	0.1958	0.0000	3.0000e-005	0.2044
Worker	6.1000e-004	4.4000e-004	5.1800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3066	1.3066	4.0000e-005	4.0000e-005	1.3192
Total	6.2000e-004	9.4000e-004	5.3300e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5024	1.5024	4.0000e-005	7.0000e-005	1.5236

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8100e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.4900e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.0000e-004	1.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1958	0.1958	0.0000	3.0000e-005	0.2044
Worker	6.1000e-004	4.4000e-004	5.1800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3066	1.3066	4.0000e-005	4.0000e-005	1.3192
Total	6.2000e-004	9.4000e-004	5.3300e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5024	1.5024	4.0000e-005	7.0000e-005	1.5236

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1567	1.2478	1.6548	3.1000e-003		0.0561	0.0561		0.0544	0.0544	0.0000	262.9461	262.9461	0.0438	0.0000	264.0412
Total	0.1567	1.2478	1.6548	3.1000e-003		0.0561	0.0561		0.0544	0.0544	0.0000	262.9461	262.9461	0.0438	0.0000	264.0412

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0136	4.1800e-003	5.0000e-005	1.7800e-003	9.0000e-005	1.8700e-003	5.1000e-004	8.0000e-005	6.0000e-004	0.0000	5.2863	5.2863	5.0000e-005	7.8000e-004	5.5189
Worker	1.2300e-003	9.0000e-004	0.0105	3.0000e-005	3.2200e-003	2.0000e-005	3.2400e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6459	2.6459	9.0000e-005	8.0000e-005	2.6714
Total	1.6000e-003	0.0145	0.0147	8.0000e-005	5.0000e-003	1.1000e-004	5.1100e-003	1.3700e-003	1.0000e-004	1.4800e-003	0.0000	7.9322	7.9322	1.4000e-004	8.6000e-004	8.1903

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1567	1.2478	1.6548	3.1000e-003		0.0561	0.0561		0.0544	0.0544	0.0000	262.9458	262.9458	0.0438	0.0000	264.0409
Total	0.1567	1.2478	1.6548	3.1000e-003		0.0561	0.0561		0.0544	0.0544	0.0000	262.9458	262.9458	0.0438	0.0000	264.0409

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.7000e-004	0.0136	4.1800e-003	5.0000e-005	1.7800e-003	9.0000e-005	1.8700e-003	5.1000e-004	8.0000e-005	6.0000e-004	0.0000	5.2863	5.2863	5.0000e-005	7.8000e-004	5.5189
Worker	1.2300e-003	9.0000e-004	0.0105	3.0000e-005	3.2200e-003	2.0000e-005	3.2400e-003	8.6000e-004	2.0000e-005	8.8000e-004	0.0000	2.6459	2.6459	9.0000e-005	8.0000e-005	2.6714
Total	1.6000e-003	0.0145	0.0147	8.0000e-005	5.0000e-003	1.1000e-004	5.1100e-003	1.3700e-003	1.0000e-004	1.4800e-003	0.0000	7.9322	7.9322	1.4000e-004	8.6000e-004	8.1903

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649
Total	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649
Total	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2100e-003	0.0000	3.2100e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0298	0.2346	0.3143	5.4000e-004		0.0111	0.0111		0.0109	0.0109	0.0000	45.3059	45.3059	4.4900e-003	0.0000	45.4182
Total	0.0298	0.2346	0.3143	5.4000e-004	3.2100e-003	0.0111	0.0143	4.9000e-004	0.0109	0.0113	0.0000	45.3059	45.3059	4.4900e-003	0.0000	45.4182

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1900e-003	3.5000e-004	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4374	0.4374	1.0000e-005	7.0000e-005	0.4581
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.5100e-003	1.1000e-003	0.0128	3.0000e-005	3.9400e-003	2.0000e-005	3.9600e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	3.2339	3.2339	1.1000e-004	1.0000e-004	3.2651
Total	1.5800e-003	3.8000e-003	0.0136	4.0000e-005	4.2600e-003	4.0000e-005	4.3000e-003	1.1400e-003	4.0000e-005	1.1800e-003	0.0000	4.2586	4.2586	1.3000e-004	2.6000e-004	4.3363

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.2100e-003	0.0000	3.2100e-003	4.9000e-004	0.0000	4.9000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0298	0.2346	0.3143	5.4000e-004		0.0111	0.0111		0.0109	0.0109	0.0000	45.3059	45.3059	4.4900e-003	0.0000	45.4181
Total	0.0298	0.2346	0.3143	5.4000e-004	3.2100e-003	0.0111	0.0143	4.9000e-004	0.0109	0.0113	0.0000	45.3059	45.3059	4.4900e-003	0.0000	45.4181

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.0000e-005	1.1900e-003	3.5000e-004	0.0000	1.2000e-004	1.0000e-005	1.3000e-004	3.0000e-005	1.0000e-005	4.0000e-005	0.0000	0.4374	0.4374	1.0000e-005	7.0000e-005	0.4581
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.5100e-003	1.1000e-003	0.0128	3.0000e-005	3.9400e-003	2.0000e-005	3.9600e-003	1.0500e-003	2.0000e-005	1.0700e-003	0.0000	3.2339	3.2339	1.1000e-004	1.0000e-004	3.2651
Total	1.5800e-003	3.8000e-003	0.0136	4.0000e-005	4.2600e-003	4.0000e-005	4.3000e-003	1.1400e-003	4.0000e-005	1.1800e-003	0.0000	4.2586	4.2586	1.3000e-004	2.6000e-004	4.3363

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.9500e-003	0.0000	7.9500e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.1912	0.1929	3.7000e-004		8.0300e-003	8.0300e-003		7.5900e-003	7.5900e-003	0.0000	31.5991	31.5991	7.2000e-003	0.0000	31.7790
Total	0.0202	0.1912	0.1929	3.7000e-004	7.9500e-003	8.0300e-003	0.0160	8.6000e-004	7.5900e-003	8.4500e-003	0.0000	31.5991	31.5991	7.2000e-003	0.0000	31.7790

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.0500e-003	7.7000e-004	8.9400e-003	2.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2539	2.2539	7.0000e-005	7.0000e-005	2.2757
Total	1.0900e-003	2.2800e-003	9.4000e-003	3.0000e-005	2.9400e-003	3.0000e-005	2.9700e-003	7.9000e-004	3.0000e-005	8.2000e-004	0.0000	2.8413	2.8413	8.0000e-005	1.6000e-004	2.8889

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.9500e-003	0.0000	7.9500e-003	8.6000e-004	0.0000	8.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0202	0.1912	0.1929	3.7000e-004		8.0300e-003	8.0300e-003		7.5900e-003	7.5900e-003	0.0000	31.5990	31.5990	7.2000e-003	0.0000	31.7790
Total	0.0202	0.1912	0.1929	3.7000e-004	7.9500e-003	8.0300e-003	0.0160	8.6000e-004	7.5900e-003	8.4500e-003	0.0000	31.5990	31.5990	7.2000e-003	0.0000	31.7790

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.0500e-003	7.7000e-004	8.9400e-003	2.0000e-005	2.7400e-003	2.0000e-005	2.7600e-003	7.3000e-004	2.0000e-005	7.5000e-004	0.0000	2.2539	2.2539	7.0000e-005	7.0000e-005	2.2757
Total	1.0900e-003	2.2800e-003	9.4000e-003	3.0000e-005	2.9400e-003	3.0000e-005	2.9700e-003	7.9000e-004	3.0000e-005	8.2000e-004	0.0000	2.8413	2.8413	8.0000e-005	1.6000e-004	2.8889

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1165	0.1560	2.5000e-004		5.5000e-003	5.5000e-003		5.2500e-003	5.2500e-003	0.0000	21.0273	21.0273	3.9600e-003	0.0000	21.1263
Total	0.0132	0.1165	0.1560	2.5000e-004	3.0000e-005	5.5000e-003	5.5300e-003	0.0000	5.2500e-003	5.2500e-003	0.0000	21.0273	21.0273	3.9600e-003	0.0000	21.1263

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	3.0100e-003	6.4000e-004	1.0000e-005	3.6000e-004	3.0000e-005	3.8000e-004	1.0000e-004	3.0000e-005	1.2000e-004	0.0000	1.2066	1.2066	1.0000e-005	1.9000e-004	1.2636
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	8.2000e-004	6.0000e-004	7.0000e-003	2.0000e-005	2.1500e-003	1.0000e-005	2.1600e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7639	1.7639	6.0000e-005	5.0000e-005	1.7810
Total	9.1000e-004	5.1200e-003	8.1000e-003	4.0000e-005	2.7100e-003	5.0000e-005	2.7500e-003	7.3000e-004	5.0000e-005	7.7000e-004	0.0000	3.5579	3.5579	8.0000e-005	3.3000e-004	3.6578

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0132	0.1165	0.1560	2.5000e-004		5.5000e-003	5.5000e-003		5.2500e-003	5.2500e-003	0.0000	21.0273	21.0273	3.9600e-003	0.0000	21.1263
Total	0.0132	0.1165	0.1560	2.5000e-004	3.0000e-005	5.5000e-003	5.5300e-003	0.0000	5.2500e-003	5.2500e-003	0.0000	21.0273	21.0273	3.9600e-003	0.0000	21.1263

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.0000e-005	3.0100e-003	6.4000e-004	1.0000e-005	3.6000e-004	3.0000e-005	3.8000e-004	1.0000e-004	3.0000e-005	1.2000e-004	0.0000	1.2066	1.2066	1.0000e-005	1.9000e-004	1.2636
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	8.2000e-004	6.0000e-004	7.0000e-003	2.0000e-005	2.1500e-003	1.0000e-005	2.1600e-003	5.7000e-004	1.0000e-005	5.8000e-004	0.0000	1.7639	1.7639	6.0000e-005	5.0000e-005	1.7810
Total	9.1000e-004	5.1200e-003	8.1000e-003	4.0000e-005	2.7100e-003	5.0000e-005	2.7500e-003	7.3000e-004	5.0000e-005	7.7000e-004	0.0000	3.5579	3.5579	8.0000e-005	3.3000e-004	3.6578

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.1961	0.2512	4.3000e-004		9.1100e-003	9.1100e-003		8.6700e-003	8.6700e-003	0.0000	35.3203	35.3203	7.6900e-003	0.0000	35.5126
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0241	0.1961	0.2512	4.3000e-004		9.1100e-003	9.1100e-003		8.6700e-003	8.6700e-003	0.0000	35.3203	35.3203	7.6900e-003	0.0000	35.5126

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.8300e-003	1.3300e-003	0.0156	4.0000e-005	4.7700e-003	3.0000e-005	4.8000e-003	1.2700e-003	3.0000e-005	1.3000e-003	0.0000	3.9198	3.9198	1.3000e-004	1.2000e-004	3.9577
Total	1.8700e-003	2.8400e-003	0.0160	5.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.3300e-003	4.0000e-005	1.3700e-003	0.0000	4.5072	4.5072	1.4000e-004	2.1000e-004	4.5709

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0234	0.1961	0.2512	4.3000e-004		9.1100e-003	9.1100e-003		8.6700e-003	8.6700e-003	0.0000	35.3202	35.3202	7.6900e-003	0.0000	35.5126
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0241	0.1961	0.2512	4.3000e-004		9.1100e-003	9.1100e-003		8.6700e-003	8.6700e-003	0.0000	35.3202	35.3202	7.6900e-003	0.0000	35.5126

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	4.0000e-005	1.5100e-003	4.6000e-004	1.0000e-005	2.0000e-004	1.0000e-005	2.1000e-004	6.0000e-005	1.0000e-005	7.0000e-005	0.0000	0.5874	0.5874	1.0000e-005	9.0000e-005	0.6132
Worker	1.8300e-003	1.3300e-003	0.0156	4.0000e-005	4.7700e-003	3.0000e-005	4.8000e-003	1.2700e-003	3.0000e-005	1.3000e-003	0.0000	3.9198	3.9198	1.3000e-004	1.2000e-004	3.9577
Total	1.8700e-003	2.8400e-003	0.0160	5.0000e-005	4.9700e-003	4.0000e-005	5.0100e-003	1.3300e-003	4.0000e-005	1.3700e-003	0.0000	4.5072	4.5072	1.4000e-004	2.1000e-004	4.5709

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0491	0.3874	0.5210	8.9000e-004		0.0178	0.0178		0.0173	0.0173	0.0000	75.1654	75.1654	0.0106	0.0000	75.4295
Total	0.0491	0.3874	0.5210	8.9000e-004		0.0178	0.0178		0.0173	0.0173	0.0000	75.1654	75.1654	0.0106	0.0000	75.4295

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	4.5200e-003	1.3900e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	1.7621	1.7621	2.0000e-005	2.6000e-004	1.8396
Worker	4.1000e-004	3.0000e-004	3.5000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8820	0.8820	3.0000e-005	3.0000e-005	0.8905
Total	5.3000e-004	4.8200e-003	4.8900e-003	3.0000e-005	1.6600e-003	4.0000e-005	1.7000e-003	4.6000e-004	4.0000e-005	4.9000e-004	0.0000	2.6441	2.6441	5.0000e-005	2.9000e-004	2.7301

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0491	0.3874	0.5210	8.9000e-004		0.0178	0.0178		0.0173	0.0173	0.0000	75.1653	75.1653	0.0106	0.0000	75.4294
Total	0.0491	0.3874	0.5210	8.9000e-004		0.0178	0.0178		0.0173	0.0173	0.0000	75.1653	75.1653	0.0106	0.0000	75.4294

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.2000e-004	4.5200e-003	1.3900e-003	2.0000e-005	5.9000e-004	3.0000e-005	6.2000e-004	1.7000e-004	3.0000e-005	2.0000e-004	0.0000	1.7621	1.7621	2.0000e-005	2.6000e-004	1.8396
Worker	4.1000e-004	3.0000e-004	3.5000e-003	1.0000e-005	1.0700e-003	1.0000e-005	1.0800e-003	2.9000e-004	1.0000e-005	2.9000e-004	0.0000	0.8820	0.8820	3.0000e-005	3.0000e-005	0.8905
Total	5.3000e-004	4.8200e-003	4.8900e-003	3.0000e-005	1.6600e-003	4.0000e-005	1.7000e-003	4.6000e-004	4.0000e-005	4.9000e-004	0.0000	2.6441	2.6441	5.0000e-005	2.9000e-004	2.7301

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.3000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3267	0.3267	1.0000e-005	1.0000e-005	0.3298
Total	1.5000e-004	1.1000e-004	1.3000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3267	0.3267	1.0000e-005	1.0000e-005	0.3298

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.1000e-004	1.3000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3267	0.3267	1.0000e-005	1.0000e-005	0.3298
Total	1.5000e-004	1.1000e-004	1.3000e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3267	0.3267	1.0000e-005	1.0000e-005	0.3298

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8100e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.4900e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.0000e-004	1.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1958	0.1958	0.0000	3.0000e-005	0.2044
Worker	6.1000e-004	4.4000e-004	5.1800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3066	1.3066	4.0000e-005	4.0000e-005	1.3192
Total	6.2000e-004	9.4000e-004	5.3300e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5024	1.5024	4.0000e-005	7.0000e-005	1.5236

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	7.8100e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375
Paving	6.8000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	8.4900e-003	0.0654	0.0837	1.4000e-004		3.0400e-003	3.0400e-003		2.8900e-003	2.8900e-003	0.0000	11.7734	11.7734	2.5600e-003	0.0000	11.8375

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0000e-005	5.0000e-004	1.5000e-004	0.0000	7.0000e-005	0.0000	7.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.1958	0.1958	0.0000	3.0000e-005	0.2044
Worker	6.1000e-004	4.4000e-004	5.1800e-003	1.0000e-005	1.5900e-003	1.0000e-005	1.6000e-003	4.2000e-004	1.0000e-005	4.3000e-004	0.0000	1.3066	1.3066	4.0000e-005	4.0000e-005	1.3192
Total	6.2000e-004	9.4000e-004	5.3300e-003	1.0000e-005	1.6600e-003	1.0000e-005	1.6700e-003	4.4000e-004	1.0000e-005	4.5000e-004	0.0000	1.5024	1.5024	4.0000e-005	7.0000e-005	1.5236

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649
Total	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649
Total	8.0000e-005	6.0000e-005	6.5000e-004	0.0000	2.0000e-004	0.0000	2.0000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1633	0.1633	1.0000e-005	0.0000	0.1649

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.512341	0.052370	0.194493	0.150484	0.029151	0.007004	0.010494	0.009415	0.001203	0.000586	0.027411	0.001303	0.003746

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004
Unmitigated	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004
Total	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	4.7000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.4500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	3.0000e-005	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004
Total	1.9500e-003	0.0000	2.9000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	5.6000e-004	5.6000e-004	0.0000	0.0000	5.9000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MTT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

Land Use	Waste Disposed tons	Total CO2	CH4	N2O	CO2e
		MTT/yr			
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	4	2	100	67	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (50 - 75 HP)	0.0220	0.0717	0.0798	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411
Total	0.0220	0.0717	0.0798	1.1000e-004		3.2300e-003	3.2300e-003		3.2300e-003	3.2300e-003	0.0000	10.2054	10.2054	1.4300e-003	0.0000	10.2411

11.0 Vegetation

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Moss Landing WW Rehab Project
Monterey Bay Unified APCD Air District, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	22.50	1000sqft	0.52	22,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Area of disturbance
- Construction Phase - Provided by MNS
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS - no heavy equipment
- Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Trips and VMT - Bypass trips included as Vendor Trips. Water truck trips added to Vendor Trips for each phase with ground disturbance.

Demolition - Provided by MNS

Grading - Provided by MNS

Stationary Sources - Emergency Generators and Fire Pumps - One emergency backup generator per lift station.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	60.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	2.00	1.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialExported	0.00	846.00
tblGrading	MaterialExported	0.00	821.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorVehicleClass		HDT_Mix

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix

2.0 Emissions Summary

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.2119	43.6426	50.7908	0.0998	1.0174	2.0066	2.8539	0.1871	1.9313	2.0739	0.0000	9,398.240 1	9,398.240 1	1.6815	0.0619	9,455.296 6
2024	5.6326	43.9767	59.1423	0.1098	0.8473	1.9899	2.6526	0.1527	1.9366	2.0894	0.0000	10,312.72 07	10,312.72 07	1.6706	0.0492	10,360.40 51
Maximum	5.6326	43.9767	59.1423	0.1098	1.0174	2.0066	2.8539	0.1871	1.9366	2.0894	0.0000	10,312.72 07	10,312.72 07	1.6815	0.0619	10,360.40 51

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.2119	43.6426	50.7908	0.0998	1.0174	2.0066	2.8539	0.1871	1.9313	2.0739	0.0000	9,398.240 1	9,398.240 1	1.6815	0.0619	9,455.296 6
2024	5.6326	43.9767	59.1423	0.1098	0.8473	1.9899	2.6526	0.1527	1.9366	2.0894	0.0000	10,312.72 07	10,312.72 07	1.6706	0.0492	10,360.40 51
Maximum	5.6326	43.9767	59.1423	0.1098	1.0174	2.0066	2.8539	0.1871	1.9366	2.0894	0.0000	10,312.72 07	10,312.72 07	1.6815	0.0619	10,360.40 51

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8904	2.8683	3.1940	4.2300e-003	0.0000	0.1294	0.1294	0.0000	0.1294	0.1294		449.9845	449.9845	0.0631	0.0000	451.5620

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8904	2.8683	3.1940	4.2300e-003	0.0000	0.1294	0.1294	0.0000	0.1294	0.1294		449.9845	449.9845	0.0631	0.0000	451.5620

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase I Demolition	Demolition	9/1/2023	10/12/2023	5	30	
2	Phase II Demolition	Demolition	9/15/2023	11/16/2023	5	45	
3	Phase I Site Preparation	Site Preparation	10/13/2023	10/26/2023	5	10	
4	Phase I Trenching	Grading	10/27/2023	12/7/2023	5	30	

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Phase II Site Preparation	Site Preparation	11/17/2023	12/14/2023	5	20
6	Phase I Installation	Building Construction	12/8/2023	2/29/2024	5	60
7	Phase II Trenching	Grading	12/15/2023	3/7/2024	5	60
8	LS No. 1 Bypass	Grading	12/21/2023	12/21/2023	5	1
9	LS No. 2 Bypass	Grading	1/2/2024	2/12/2024	5	30
10	LS No. 4 Bypass	Grading	2/20/2024	2/20/2024	5	1
11	Phase I Paving	Paving	3/1/2024	3/14/2024	5	10
12	Phase II Installation	Building Construction	3/8/2024	7/11/2024	5	90
13	Phase I Site Restoration	Site Preparation	3/15/2024	3/28/2024	5	10
14	Phase III Demolition	Demolition	3/19/2024	4/29/2024	5	30
15	Phase III Site Preparation	Site Preparation	4/30/2024	6/10/2024	5	30
16	Phase III Trenching	Grading	6/11/2024	7/22/2024	5	30
17	Phase II Paving	Paving	7/12/2024	8/22/2024	5	30
18	Phase III Installation	Building Construction	7/23/2024	9/2/2024	5	30
19	Phase II Site Restoration	Site Preparation	8/23/2024	9/19/2024	5	20
20	Phase III Paving	Paving	9/3/2024	9/16/2024	5	10
21	Phase III Site Restoration	Site Preparation	9/17/2024	9/30/2024	5	10

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase I Demolition	Air Compressors	2	8.00	78	0.48
Phase I Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Demolition	Dumpers/Tenders	1	1.00	16	0.38

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Demolition	Generator Sets	1	8.00	84	0.74
Phase I Demolition	Pressure Washers	1	8.00	13	0.30
Phase I Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase I Demolition	Signal Boards	3	8.00	6	0.82
Phase I Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase II Demolition	Air Compressors	2	8.00	78	0.48
Phase II Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase II Demolition	Generator Sets	1	8.00	84	0.74
Phase II Demolition	Pressure Washers	1	8.00	13	0.30
Phase II Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase II Demolition	Signal Boards	3	8.00	6	0.82
Phase II Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase I Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase I Site Preparation	Generator Sets	1	8.00	84	0.74
Phase I Site Preparation	Graders	1	8.00	187	0.41
Phase I Site Preparation	Signal Boards	3	8.00	6	0.82
Phase I Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Trenching	Generator Sets	1	8.00	84	0.74
Phase I Trenching	Graders	0	0.00	187	0.41
Phase I Trenching	Signal Boards	3	8.00	6	0.82
Phase I Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase II Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase II Site Preparation	Generator Sets	1	8.00	84	0.74

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase II Site Preparation	Graders	1	8.00	187	0.41
Phase II Site Preparation	Signal Boards	3	8.00	6	0.82
Phase II Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Air Compressors	2	8.00	78	0.48
Phase I Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase I Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Installation	Cranes	1	4.00	231	0.29
Phase I Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase I Installation	Excavators	1	8.00	158	0.38
Phase I Installation	Forklifts	1	6.00	89	0.20
Phase I Installation	Generator Sets	1	8.00	84	0.74
Phase I Installation	Plate Compactors	1	8.00	8	0.43
Phase I Installation	Pressure Washers	1	8.00	13	0.30
Phase I Installation	Pumps	1	8.00	84	0.74
Phase I Installation	Signal Boards	3	8.00	6	0.82
Phase I Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Welders	1	8.00	46	0.45
Phase II Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Trenching	Generator Sets	1	8.00	84	0.74
Phase II Trenching	Graders	0	0.00	187	0.41
Phase II Trenching	Signal Boards	3	8.00	6	0.82
Phase II Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase I Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase I Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase I Paving	Generator Sets	1	8.00	84	0.74

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Paving	Pavers	1	7.00	130	0.42
Phase I Paving	Paving Equipment	1	8.00	132	0.36
Phase I Paving	Plate Compactors	1	6.00	8	0.43
Phase I Paving	Rollers	1	7.00	80	0.38
Phase I Paving	Signal Boards	3	8.00	6	0.82
Phase I Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase II Installation	Air Compressors	2	8.00	78	0.48
Phase II Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase II Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Installation	Cranes	1	4.00	231	0.29
Phase II Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase II Installation	Excavators	1	8.00	158	0.38
Phase II Installation	Forklifts	1	6.00	89	0.20
Phase II Installation	Generator Sets	1	8.00	84	0.74
Phase II Installation	Plate Compactors	1	8.00	8	0.43
Phase II Installation	Pressure Washers	1	8.00	13	0.30
Phase II Installation	Pumps	1	8.00	84	0.74
Phase II Installation	Signal Boards	3	8.00	6	0.82
Phase II Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase II Installation	Welders	1	8.00	46	0.45
Phase III Demolition	Air Compressors	2	8.00	78	0.48
Phase III Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase III Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase III Demolition	Generator Sets	1	8.00	84	0.74
Phase III Demolition	Pressure Washers	1	8.00	13	0.30
Phase III Demolition	Rubber Tired Dozers	1	1.00	247	0.40

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Demolition	Signal Boards	3	8.00	6	0.82
Phase III Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase III Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase III Site Preparation	Generator Sets	1	8.00	84	0.74
Phase III Site Preparation	Graders	1	8.00	187	0.41
Phase III Site Preparation	Signal Boards	3	8.00	6	0.82
Phase III Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Trenching	Generator Sets	1	8.00	84	0.74
Phase III Trenching	Graders	0	0.00	187	0.41
Phase III Trenching	Signal Boards	3	8.00	6	0.82
Phase III Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase II Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase II Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase II Paving	Generator Sets	1	8.00	84	0.74
Phase II Paving	Pavers	1	7.00	130	0.42
Phase II Paving	Paving Equipment	1	8.00	132	0.36
Phase II Paving	Plate Compactors	1	6.00	8	0.43
Phase II Paving	Rollers	1	7.00	80	0.38
Phase II Paving	Signal Boards	3	8.00	6	0.82
Phase II Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase III Installation	Air Compressors	2	8.00	78	0.48
Phase III Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase III Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase III Installation	Cranes	1	4.00	231	0.29
Phase III Installation	Dumpers/Tenders	2	8.00	16	0.38

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Installation	Excavators	1	8.00	158	0.38
Phase III Installation	Forklifts	1	6.00	89	0.20
Phase III Installation	Generator Sets	1	8.00	84	0.74
Phase III Installation	Plate Compactors	1	8.00	8	0.43
Phase III Installation	Pressure Washers	1	8.00	13	0.30
Phase III Installation	Pumps	1	8.00	84	0.74
Phase III Installation	Signal Boards	3	8.00	6	0.82
Phase III Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Installation	Welders	1	8.00	46	0.45
Phase III Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase III Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase III Paving	Generator Sets	1	8.00	84	0.74
Phase III Paving	Pavers	1	7.00	130	0.42
Phase III Paving	Paving Equipment	1	8.00	132	0.36
Phase III Paving	Plate Compactors	1	6.00	8	0.43
Phase III Paving	Rollers	1	7.00	80	0.38
Phase III Paving	Signal Boards	3	8.00	6	0.82
Phase III Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase I Demolition	13	33.00	2.00	14.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase II Demolition	13	33.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Trenching	8	20.00	2.00	106.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase II Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Trenching	8	20.00	2.00	103.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 4 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Demolition	13	33.00	2.00	29.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Trenching	7	18.00	2.00	42.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Installation	21	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 1 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 2 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1035	0.0000	0.1035	0.0157	0.0000	0.0157			0.0000			0.0000
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357	0.1035	0.8363	0.9398	0.0157	0.8199	0.8355		3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.2000e-004	0.0396	0.0113	1.5000e-004	4.0900e-003	3.0000e-004	4.3900e-003	1.1200e-003	2.9000e-004	1.4100e-003		15.8082	15.8082	1.8000e-004	2.4900e-003	16.5551
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.1164	0.0907	0.9630	2.3700e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		242.4740	242.4740	9.1100e-003	8.1300e-003	245.1238
Total	0.1200	0.2341	1.0069	2.9300e-003	0.2887	2.6600e-003	0.2914	0.0769	2.4900e-003	0.0794		302.1718	302.1718	9.6700e-003	0.0171	307.5006

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1035	0.0000	0.1035	0.0157	0.0000	0.0157			0.0000			0.0000
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357	0.1035	0.8363	0.9398	0.0157	0.8199	0.8355	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.2000e-004	0.0396	0.0113	1.5000e-004	4.0900e-003	3.0000e-004	4.3900e-003	1.1200e-003	2.9000e-004	1.4100e-003		15.8082	15.8082	1.8000e-004	2.4900e-003	16.5551
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.1164	0.0907	0.9630	2.3700e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		242.4740	242.4740	9.1100e-003	8.1300e-003	245.1238
Total	0.1200	0.2341	1.0069	2.9300e-003	0.2887	2.6600e-003	0.2914	0.0769	2.4900e-003	0.0794		302.1718	302.1718	9.6700e-003	0.0171	307.5006

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.2761	3,329.2761	0.3369		3,337.6980
Total	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.2761	3,329.2761	0.3369		3,337.6980

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.1164	0.0907	0.9630	2.3700e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		242.4740	242.4740	9.1100e-003	8.1300e-003	245.1238
Total	0.1192	0.1945	0.9956	2.7800e-003	0.2846	2.3600e-003	0.2870	0.0758	2.2000e-003	0.0780		286.3637	286.3637	9.4900e-003	0.0146	290.9455

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.1164	0.0907	0.9630	2.3700e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		242.4740	242.4740	9.1100e-003	8.1300e-003	245.1238
Total	0.1192	0.1945	0.9956	2.7800e-003	0.2846	2.3600e-003	0.2870	0.0758	2.2000e-003	0.0780		286.3637	286.3637	9.4900e-003	0.0146	290.9455

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658		2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231		2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0811	0.0632	0.6712	1.6500e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		168.9970	168.9970	6.3500e-003	5.6700e-003	170.8439
Total	0.0839	0.1670	0.7038	2.0600e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		212.8867	212.8867	6.7300e-003	0.0121	216.6655

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0811	0.0632	0.6712	1.6500e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		168.9970	168.9970	6.3500e-003	5.6700e-003	170.8439
Total	0.0839	0.1670	0.7038	2.0600e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		212.8867	212.8867	6.7300e-003	0.0121	216.6655

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3600e-003	0.0000	4.3600e-003	6.6000e-004	0.0000	6.6000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531		2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	4.3600e-003	0.4777	0.4821	6.6000e-004	0.4531	0.4538		2,460.3137	2,460.3137	0.5891		2,475.0421

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4400e-003	0.5233	0.1076	2.1300e-003	0.0618	4.5100e-003	0.0663	0.0170	4.3200e-003	0.0213		227.8485	227.8485	2.5200e-003	0.0359	238.6134
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0705	0.0550	0.5836	1.4400e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		146.9539	146.9539	5.5200e-003	4.9300e-003	148.5599
Total	0.0818	0.6820	0.7239	3.9800e-003	0.2397	6.2000e-003	0.2459	0.0644	5.9000e-003	0.0703		418.6921	418.6921	8.4200e-003	0.0473	432.9949

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3600e-003	0.0000	4.3600e-003	6.6000e-004	0.0000	6.6000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	4.3600e-003	0.4777	0.4821	6.6000e-004	0.4531	0.4538	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.4400e-003	0.5233	0.1076	2.1300e-003	0.0618	4.5100e-003	0.0663	0.0170	4.3200e-003	0.0213		227.8485	227.8485	2.5200e-003	0.0359	238.6134
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0705	0.0550	0.5836	1.4400e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		146.9539	146.9539	5.5200e-003	4.9300e-003	148.5599
Total	0.0818	0.6820	0.7239	3.9800e-003	0.2397	6.2000e-003	0.2459	0.0644	5.9000e-003	0.0703		418.6921	418.6921	8.4200e-003	0.0473	432.9949

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658		2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231		2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0811	0.0632	0.6712	1.6500e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		168.9970	168.9970	6.3500e-003	5.6700e-003	170.8439
Total	0.0839	0.1670	0.7038	2.0600e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		212.8867	212.8867	6.7300e-003	0.0121	216.6655

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0811	0.0632	0.6712	1.6500e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		168.9970	168.9970	6.3500e-003	5.6700e-003	170.8439
Total	0.0839	0.1670	0.7038	2.0600e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		212.8867	212.8867	6.7300e-003	0.0121	216.6655

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615		6,438.584 4	6,438.584 4	1.0817		6,465.626 1
Total	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615		6,438.584 4	6,438.584 4	1.0817		6,465.626 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4300e-003	0.3115	0.0979	1.2400e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8700e-003	0.0136		131.6691	131.6691	1.1300e-003	0.0194	137.4649
Worker	0.0317	0.0247	0.2626	6.5000e-004	0.0739	4.7000e-004	0.0744	0.0196	4.3000e-004	0.0200		66.1293	66.1293	2.4800e-003	2.2200e-003	66.8520
Total	0.0402	0.3362	0.3605	1.8900e-003	0.1146	2.4300e-003	0.1170	0.0313	2.3000e-003	0.0336		197.7984	197.7984	3.6100e-003	0.0216	204.3168

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615	0.0000	6,438.584 4	6,438.584 4	1.0817		6,465.626 1
Total	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615	0.0000	6,438.584 4	6,438.584 4	1.0817		6,465.626 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.4300e-003	0.3115	0.0979	1.2400e-003	0.0406	1.9600e-003	0.0426	0.0117	1.8700e-003	0.0136		131.6691	131.6691	1.1300e-003	0.0194	137.4649
Worker	0.0317	0.0247	0.2626	6.5000e-004	0.0739	4.7000e-004	0.0744	0.0196	4.3000e-004	0.0200		66.1293	66.1293	2.4800e-003	2.2200e-003	66.8520
Total	0.0402	0.3362	0.3605	1.8900e-003	0.1146	2.4300e-003	0.1170	0.0313	2.3000e-003	0.0336		197.7984	197.7984	3.6100e-003	0.0216	204.3168

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531		2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	2.1200e-003	0.4777	0.4798	3.2000e-004	0.4531	0.4534		2,460.3137	2,460.3137	0.5891		2,475.0421

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1000e-003	0.2542	0.0523	1.0400e-003	0.0300	2.1900e-003	0.0322	8.2300e-003	2.1000e-003	0.0103		110.7000	110.7000	1.2200e-003	0.0175	115.9301
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0705	0.0550	0.5836	1.4400e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		146.9539	146.9539	5.5200e-003	4.9300e-003	148.5599
Total	0.0775	0.4130	0.6686	2.8900e-003	0.2079	3.8800e-003	0.2118	0.0557	3.6800e-003	0.0594		301.5436	301.5436	7.1200e-003	0.0288	310.3116

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	2.1200e-003	0.4777	0.4798	3.2000e-004	0.4531	0.4534	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.1000e-003	0.2542	0.0523	1.0400e-003	0.0300	2.1900e-003	0.0322	8.2300e-003	2.1000e-003	0.0103		110.7000	110.7000	1.2200e-003	0.0175	115.9301
Vendor	2.8100e-003	0.1038	0.0326	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8897	43.8897	3.8000e-004	6.4500e-003	45.8216
Worker	0.0705	0.0550	0.5836	1.4400e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		146.9539	146.9539	5.5200e-003	4.9300e-003	148.5599
Total	0.0775	0.4130	0.6686	2.8900e-003	0.2079	3.8800e-003	0.2118	0.0557	3.6800e-003	0.0594		301.5436	301.5436	7.1200e-003	0.0288	310.3116

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.0919	9.6671	12.4351	0.0261		0.4295	0.4295		0.4073	0.4073		2,462.6067	2,462.6067	0.5877		2,477.2988
Total	1.0919	9.6671	12.4351	0.0261	2.1200e-003	0.4295	0.4316	3.2000e-004	0.4073	0.4076		2,462.6067	2,462.6067	0.5877		2,477.2988

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0500e-003	0.2503	0.0525	1.0200e-003	0.0300	2.1700e-003	0.0322	8.2300e-003	2.0800e-003	0.0103		108.8042	108.8042	1.2200e-003	0.0172	113.9450
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0659	0.0487	0.5398	1.3900e-003	0.1643	9.8000e-004	0.1653	0.0436	9.0000e-004	0.0445		143.4897	143.4897	4.9800e-003	4.5500e-003	144.9703
Total	0.0726	0.4016	0.6237	2.8200e-003	0.2079	3.7900e-003	0.2117	0.0557	3.6000e-003	0.0593		295.5043	295.5043	6.5700e-003	0.0281	304.0281

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.0919	9.6671	12.4351	0.0261		0.4295	0.4295		0.4073	0.4073	0.0000	2,462.6067	2,462.6067	0.5877		2,477.2988
Total	1.0919	9.6671	12.4351	0.0261	2.1200e-003	0.4295	0.4316	3.2000e-004	0.4073	0.4076	0.0000	2,462.6067	2,462.6067	0.5877		2,477.2988

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.0500e-003	0.2503	0.0525	1.0200e-003	0.0300	2.1700e-003	0.0322	8.2300e-003	2.0800e-003	0.0103		108.8042	108.8042	1.2200e-003	0.0172	113.9450
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0659	0.0487	0.5398	1.3900e-003	0.1643	9.8000e-004	0.1653	0.0436	9.0000e-004	0.0445		143.4897	143.4897	4.9800e-003	4.5500e-003	144.9703
Total	0.0726	0.4016	0.6237	2.8200e-003	0.2079	3.7900e-003	0.2117	0.0557	3.6000e-003	0.0593		295.5043	295.5043	6.5700e-003	0.0281	304.0281

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 LS No. 1 Bypass - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 LS No. 1 Bypass - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 LS No. 2 Bypass - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 LS No. 2 Bypass - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 LS No. 4 Bypass - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 LS No. 4 Bypass - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.9834	15.6416	20.9517	0.0357		0.7386	0.7386		0.7236	0.7236		3,329.414 3	3,329.414 3	0.3300		3,337.664 3
Total	1.9834	15.6416	20.9517	0.0357	0.2140	0.7386	0.9526	0.0324	0.7236	0.7560		3,329.414 3	3,329.414 3	0.3300		3,337.664 3

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6700e-003	0.0809	0.0234	3.0000e-004	8.4700e-003	6.2000e-004	9.0900e-003	2.3200e-003	5.9000e-004	2.9100e-003		32.1871	32.1871	3.7000e-004	5.0700e-003	33.7080
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1087	0.0804	0.8907	2.3000e-003	0.2711	1.6200e-003	0.2727	0.0719	1.4900e-003	0.0734		236.7580	236.7580	8.2200e-003	7.5100e-003	239.2009
Total	0.1130	0.2639	0.9456	3.0100e-003	0.2931	2.8800e-003	0.2960	0.0781	2.7000e-003	0.0808		312.1555	312.1555	8.9600e-003	0.0189	318.0217

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.9834	15.6416	20.9517	0.0357		0.7386	0.7386		0.7236	0.7236	0.0000	3,329.414 3	3,329.414 3	0.3300		3,337.664 3
Total	1.9834	15.6416	20.9517	0.0357	0.2140	0.7386	0.9526	0.0324	0.7236	0.7560	0.0000	3,329.414 3	3,329.414 3	0.3300		3,337.664 3

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.6700e-003	0.0809	0.0234	3.0000e-004	8.4700e-003	6.2000e-004	9.0900e-003	2.3200e-003	5.9000e-004	2.9100e-003		32.1871	32.1871	3.7000e-004	5.0700e-003	33.7080
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1087	0.0804	0.8907	2.3000e-003	0.2711	1.6200e-003	0.2727	0.0719	1.4900e-003	0.0734		236.7580	236.7580	8.2200e-003	7.5100e-003	239.2009
Total	0.1130	0.2639	0.9456	3.0100e-003	0.2931	2.8800e-003	0.2960	0.0781	2.7000e-003	0.0808		312.1555	312.1555	8.9600e-003	0.0189	318.0217

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.3454	12.7484	12.8630	0.0248		0.5355	0.5355		0.5062	0.5062		2,322.1329	2,322.1329	0.5291		2,335.3599
Total	1.3454	12.7484	12.8630	0.0248	0.5303	0.5355	1.0657	0.0573	0.5062	0.5635		2,322.1329	2,322.1329	0.5291		2,335.3599

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0758	0.0560	0.6208	1.6000e-003	0.1889	1.1300e-003	0.1901	0.0501	1.0400e-003	0.0512		165.0131	165.0131	5.7300e-003	5.2300e-003	166.7158
Total	0.0784	0.1586	0.6522	2.0100e-003	0.2025	1.7700e-003	0.2043	0.0540	1.6600e-003	0.0557		208.2236	208.2236	6.1000e-003	0.0116	211.8286

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.3454	12.7484	12.8630	0.0248		0.5355	0.5355		0.5062	0.5062	0.0000	2,322.1329	2,322.1329	0.5291		2,335.3599
Total	1.3454	12.7484	12.8630	0.0248	0.5303	0.5355	1.0657	0.0573	0.5062	0.5635	0.0000	2,322.1329	2,322.1329	0.5291		2,335.3599

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0758	0.0560	0.6208	1.6000e-003	0.1889	1.1300e-003	0.1901	0.0501	1.0400e-003	0.0512		165.0131	165.0131	5.7300e-003	5.2300e-003	166.7158
Total	0.0784	0.1586	0.6522	2.0100e-003	0.2025	1.7700e-003	0.2043	0.0540	1.6600e-003	0.0557		208.2236	208.2236	6.1000e-003	0.0116	211.8286

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004			0.0000			0.0000
Off-Road	0.8814	7.7661	10.3967	0.0167		0.3668	0.3668		0.3497	0.3497		1,545.2434	1,545.2434	0.2910		1,552.5181
Total	0.8814	7.7661	10.3967	0.0167	1.7200e-003	0.3668	0.3668	2.6000e-004	0.3497	0.3500		1,545.2434	1,545.2434	0.2910		1,552.5181

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3000e-003	0.2042	0.0428	8.3000e-004	0.0245	1.7700e-003	0.0263	6.7200e-003	1.7000e-003	8.4100e-003		88.7335	88.7335	9.9000e-004	0.0140	92.9260
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0593	0.0438	0.4858	1.2500e-003	0.1479	8.8000e-004	0.1488	0.0392	8.1000e-004	0.0400		129.1407	129.1407	4.4800e-003	4.1000e-003	130.4732
Total	0.0653	0.3506	0.5601	2.4900e-003	0.1859	3.2900e-003	0.1892	0.0498	3.1300e-003	0.0530		261.0847	261.0847	5.8400e-003	0.0244	268.5120

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004			0.0000			0.0000
Off-Road	0.8814	7.7661	10.3967	0.0167		0.3668	0.3668		0.3497	0.3497	0.0000	1,545.2434	1,545.2434	0.2910		1,552.5181
Total	0.8814	7.7661	10.3967	0.0167	1.7200e-003	0.3668	0.3668	2.6000e-004	0.3497	0.3500	0.0000	1,545.2434	1,545.2434	0.2910		1,552.5181

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.3000e-003	0.2042	0.0428	8.3000e-004	0.0245	1.7700e-003	0.0263	6.7200e-003	1.7000e-003	8.4100e-003		88.7335	88.7335	9.9000e-004	0.0140	92.9260
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.0593	0.0438	0.4858	1.2500e-003	0.1479	8.8000e-004	0.1488	0.0392	8.1000e-004	0.0400		129.1407	129.1407	4.4800e-003	4.1000e-003	130.4732
Total	0.0653	0.3506	0.5601	2.4900e-003	0.1859	3.2900e-003	0.1892	0.0498	3.1300e-003	0.0530		261.0847	261.0847	5.8400e-003	0.0244	268.5120

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.0454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6070	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.0454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6070	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502		5,523.713 3	5,523.713 3	0.7763		5,543.120 9
Total	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502		5,523.713 3	5,523.713 3	0.7763		5,543.120 9

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502	0.0000	5,523.713 3	5,523.713 3	0.7763		5,543.120 9
Total	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502	0.0000	5,523.713 3	5,523.713 3	0.7763		5,543.120 9

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.0300e-003	0.3077	0.0944	1.2200e-003	0.0406	1.9300e-003	0.0426	0.0117	1.8500e-003	0.0136		129.6315	129.6315	1.1000e-003	0.0191	135.3384
Worker	0.0296	0.0219	0.2429	6.3000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		64.5704	64.5704	2.2400e-003	2.0500e-003	65.2366
Total	0.0377	0.3297	0.3373	1.8500e-003	0.1146	2.3700e-003	0.1169	0.0313	2.2600e-003	0.0336		194.2019	194.2019	3.3400e-003	0.0211	200.5750

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.6800e-003	0.1026	0.0315	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.2105	43.2105	3.7000e-004	6.3500e-003	45.1128
Worker	0.1317	0.0974	1.0796	2.7800e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		286.9793	286.9793	9.9700e-003	9.1000e-003	289.9405
Total	0.1344	0.2000	1.1111	3.1900e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4300e-003	0.0935		330.1898	330.1898	0.0103	0.0155	335.0533

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426
Total	0.0165	0.0122	0.1350	3.5000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		35.8724	35.8724	1.2500e-003	1.1400e-003	36.2426

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.512341	0.052370	0.194493	0.150484	0.029151	0.007004	0.010494	0.009415	0.001203	0.000586	0.027411	0.001303	0.003746

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Unmitigated	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.9700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003
Total	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.9700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003
Total	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	4	2	100	67	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568

11.0 Vegetation

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

**Moss Landing WW Rehab Project
Monterey Bay Unified APCD Air District, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	22.50	1000sqft	0.52	22,500.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.8	Precipitation Freq (Days)	53
Climate Zone	4			Operational Year	2024
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MW hr)	203.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Area of disturbance
- Construction Phase - Provided by MNS
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - No equipment - bypass only
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS
- Off-road Equipment - Provided by MNS - no heavy equipment
- Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS

Off-road Equipment - Provided by MNS - no heavy equipment

Off-road Equipment - Provided by MNS, grader proxy to allow for soil export

Trips and VMT - Bypass trips included as Vendor Trips. Water truck trips added to Vendor Trips for each phase with ground disturbance.

Demolition - Provided by MNS

Grading - Provided by MNS

Stationary Sources - Emergency Generators and Fire Pumps - One emergency backup generator per lift station.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	90.00
tblConstructionPhase	NumDays	100.00	30.00
tblConstructionPhase	NumDays	100.00	60.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	30.00
tblConstructionPhase	NumDays	10.00	45.00
tblConstructionPhase	NumDays	2.00	1.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	2.00	60.00
tblConstructionPhase	NumDays	2.00	1.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblConstructionPhase	NumDays	2.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	5.00	30.00
tblConstructionPhase	NumDays	5.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	30.00
tblConstructionPhase	NumDays	1.00	20.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	10.00
tblConstructionPhase	NumDays	1.00	20.00
tblGrading	MaterialExported	0.00	333.00
tblGrading	MaterialExported	0.00	846.00
tblGrading	MaterialExported	0.00	821.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	2.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblOffRoadEquipment	UsageHours	6.00	0.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingTripLength	20.00	10.00
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	HaulingVehicleClass		HHDT
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorTripNumber	4.00	6.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00
tblTripsAndVMT	VendorVehicleClass		HDT_Mix

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	VendorVehicleClass		HDT_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix
tbITripsAndVMT	WorkerVehicleClass		LD_Mix

2.0 Emissions Summary

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.2055	43.6018	50.7961	0.0999	1.0174	2.0066	2.8539	0.1871	1.9313	2.0739	0.0000	9,409.8547	9,409.8547	1.6807	0.0600	9,466.5589
2024	5.6234	43.9263	59.1458	0.1100	0.8473	1.9898	2.6526	0.1527	1.9366	2.0893	0.0000	10,331.3758	10,331.3758	1.6698	0.0481	10,378.5539
Maximum	5.6234	43.9263	59.1458	0.1100	1.0174	2.0066	2.8539	0.1871	1.9366	2.0893	0.0000	10,331.3758	10,331.3758	1.6807	0.0600	10,378.5539

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	5.2055	43.6018	50.7961	0.0999	1.0174	2.0066	2.8539	0.1871	1.9313	2.0739	0.0000	9,409.8547	9,409.8547	1.6807	0.0600	9,466.5589
2024	5.6234	43.9263	59.1458	0.1100	0.8473	1.9898	2.6526	0.1527	1.9366	2.0893	0.0000	10,331.3758	10,331.3758	1.6698	0.0481	10,378.5539
Maximum	5.6234	43.9263	59.1458	0.1100	1.0174	2.0066	2.8539	0.1871	1.9366	2.0893	0.0000	10,331.3758	10,331.3758	1.6807	0.0600	10,378.5539

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8904	2.8683	3.1940	4.2300e-003	0.0000	0.1294	0.1294	0.0000	0.1294	0.1294		449.9845	449.9845	0.0631	0.0000	451.5620

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Stationary	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8904	2.8683	3.1940	4.2300e-003	0.0000	0.1294	0.1294	0.0000	0.1294	0.1294		449.9845	449.9845	0.0631	0.0000	451.5620

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Phase I Demolition	Demolition	9/1/2023	10/12/2023	5	30	
2	Phase II Demolition	Demolition	9/15/2023	11/16/2023	5	45	
3	Phase I Site Preparation	Site Preparation	10/13/2023	10/26/2023	5	10	
4	Phase I Trenching	Grading	10/27/2023	12/7/2023	5	30	

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5	Phase II Site Preparation	Site Preparation	11/17/2023	12/14/2023	5	20
6	Phase I Installation	Building Construction	12/8/2023	2/29/2024	5	60
7	Phase II Trenching	Grading	12/15/2023	3/7/2024	5	60
8	LS No. 1 Bypass	Grading	12/21/2023	12/21/2023	5	1
9	LS No. 2 Bypass	Grading	1/2/2024	2/12/2024	5	30
10	LS No. 4 Bypass	Grading	2/20/2024	2/20/2024	5	1
11	Phase I Paving	Paving	3/1/2024	3/14/2024	5	10
12	Phase II Installation	Building Construction	3/8/2024	7/11/2024	5	90
13	Phase I Site Restoration	Site Preparation	3/15/2024	3/28/2024	5	10
14	Phase III Demolition	Demolition	3/19/2024	4/29/2024	5	30
15	Phase III Site Preparation	Site Preparation	4/30/2024	6/10/2024	5	30
16	Phase III Trenching	Grading	6/11/2024	7/22/2024	5	30
17	Phase II Paving	Paving	7/12/2024	8/22/2024	5	30
18	Phase III Installation	Building Construction	7/23/2024	9/2/2024	5	30
19	Phase II Site Restoration	Site Preparation	8/23/2024	9/19/2024	5	20
20	Phase III Paving	Paving	9/3/2024	9/16/2024	5	10
21	Phase III Site Restoration	Site Preparation	9/17/2024	9/30/2024	5	10

Acres of Grading (Site Preparation Phase): 5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.52

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Phase I Demolition	Air Compressors	2	8.00	78	0.48
Phase I Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Demolition	Dumpers/Tenders	1	1.00	16	0.38

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Demolition	Generator Sets	1	8.00	84	0.74
Phase I Demolition	Pressure Washers	1	8.00	13	0.30
Phase I Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase I Demolition	Signal Boards	3	8.00	6	0.82
Phase I Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase II Demolition	Air Compressors	2	8.00	78	0.48
Phase II Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase II Demolition	Generator Sets	1	8.00	84	0.74
Phase II Demolition	Pressure Washers	1	8.00	13	0.30
Phase II Demolition	Rubber Tired Dozers	1	1.00	247	0.40
Phase II Demolition	Signal Boards	3	8.00	6	0.82
Phase II Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase I Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase I Site Preparation	Generator Sets	1	8.00	84	0.74
Phase I Site Preparation	Graders	1	8.00	187	0.41
Phase I Site Preparation	Signal Boards	3	8.00	6	0.82
Phase I Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Trenching	Generator Sets	1	8.00	84	0.74
Phase I Trenching	Graders	0	0.00	187	0.41
Phase I Trenching	Signal Boards	3	8.00	6	0.82
Phase I Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase II Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase II Site Preparation	Generator Sets	1	8.00	84	0.74

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase II Site Preparation	Graders	1	8.00	187	0.41
Phase II Site Preparation	Signal Boards	3	8.00	6	0.82
Phase II Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Air Compressors	2	8.00	78	0.48
Phase I Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase I Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase I Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase I Installation	Cranes	1	4.00	231	0.29
Phase I Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase I Installation	Excavators	1	8.00	158	0.38
Phase I Installation	Forklifts	1	6.00	89	0.20
Phase I Installation	Generator Sets	1	8.00	84	0.74
Phase I Installation	Plate Compactors	1	8.00	8	0.43
Phase I Installation	Pressure Washers	1	8.00	13	0.30
Phase I Installation	Pumps	1	8.00	84	0.74
Phase I Installation	Signal Boards	3	8.00	6	0.82
Phase I Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase I Installation	Welders	1	8.00	46	0.45
Phase II Trenching	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Trenching	Generator Sets	1	8.00	84	0.74
Phase II Trenching	Graders	0	0.00	187	0.41
Phase II Trenching	Signal Boards	3	8.00	6	0.82
Phase II Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase I Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase I Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase I Paving	Generator Sets	1	8.00	84	0.74

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase I Paving	Pavers	1	7.00	130	0.42
Phase I Paving	Paving Equipment	1	8.00	132	0.36
Phase I Paving	Plate Compactors	1	6.00	8	0.43
Phase I Paving	Rollers	1	7.00	80	0.38
Phase I Paving	Signal Boards	3	8.00	6	0.82
Phase I Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase I Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase II Installation	Air Compressors	2	8.00	78	0.48
Phase II Installation	Bore/Drill Rigs	1	8.00	221	0.50
Phase II Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase II Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase II Installation	Cranes	1	4.00	231	0.29
Phase II Installation	Dumpers/Tenders	2	8.00	16	0.38
Phase II Installation	Excavators	1	8.00	158	0.38
Phase II Installation	Forklifts	1	6.00	89	0.20
Phase II Installation	Generator Sets	1	8.00	84	0.74
Phase II Installation	Plate Compactors	1	8.00	8	0.43
Phase II Installation	Pressure Washers	1	8.00	13	0.30
Phase II Installation	Pumps	1	8.00	84	0.74
Phase II Installation	Signal Boards	3	8.00	6	0.82
Phase II Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase II Installation	Welders	1	8.00	46	0.45
Phase III Demolition	Air Compressors	2	8.00	78	0.48
Phase III Demolition	Concrete/Industrial Saws	2	8.00	81	0.73
Phase III Demolition	Dumpers/Tenders	1	1.00	16	0.38
Phase III Demolition	Generator Sets	1	8.00	84	0.74
Phase III Demolition	Pressure Washers	1	8.00	13	0.30
Phase III Demolition	Rubber Tired Dozers	1	1.00	247	0.40

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Demolition	Signal Boards	3	8.00	6	0.82
Phase III Demolition	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Phase III Site Preparation	Dumpers/Tenders	1	8.00	16	0.38
Phase III Site Preparation	Generator Sets	1	8.00	84	0.74
Phase III Site Preparation	Graders	1	8.00	187	0.41
Phase III Site Preparation	Signal Boards	3	8.00	6	0.82
Phase III Site Preparation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Trenching	Generator Sets	1	8.00	84	0.74
Phase III Trenching	Graders	0	0.00	187	0.41
Phase III Trenching	Signal Boards	3	8.00	6	0.82
Phase III Trenching	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Trenching	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Phase II Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase II Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase II Paving	Generator Sets	1	8.00	84	0.74
Phase II Paving	Pavers	1	7.00	130	0.42
Phase II Paving	Paving Equipment	1	8.00	132	0.36
Phase II Paving	Plate Compactors	1	6.00	8	0.43
Phase II Paving	Rollers	1	7.00	80	0.38
Phase II Paving	Signal Boards	3	8.00	6	0.82
Phase II Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase II Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Phase III Installation	Air Compressors	2	8.00	78	0.48
Phase III Installation	Cement and Mortar Mixers	1	8.00	9	0.56
Phase III Installation	Concrete/Industrial Saws	2	8.00	81	0.73
Phase III Installation	Cranes	1	4.00	231	0.29
Phase III Installation	Dumpers/Tenders	2	8.00	16	0.38

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase III Installation	Excavators	1	8.00	158	0.38
Phase III Installation	Forklifts	1	6.00	89	0.20
Phase III Installation	Generator Sets	1	8.00	84	0.74
Phase III Installation	Plate Compactors	1	8.00	8	0.43
Phase III Installation	Pressure Washers	1	8.00	13	0.30
Phase III Installation	Pumps	1	8.00	84	0.74
Phase III Installation	Signal Boards	3	8.00	6	0.82
Phase III Installation	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Installation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Phase III Installation	Welders	1	8.00	46	0.45
Phase III Paving	Cement and Mortar Mixers	4	6.00	9	0.56
Phase III Paving	Dumpers/Tenders	2	8.00	16	0.38
Phase III Paving	Generator Sets	1	8.00	84	0.74
Phase III Paving	Pavers	1	7.00	130	0.42
Phase III Paving	Paving Equipment	1	8.00	132	0.36
Phase III Paving	Plate Compactors	1	6.00	8	0.43
Phase III Paving	Rollers	1	7.00	80	0.38
Phase III Paving	Signal Boards	3	8.00	6	0.82
Phase III Paving	Sweepers/Scrubbers	1	8.00	64	0.46
Phase III Paving	Tractors/Loaders/Backhoes	1	7.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Phase I Demolition	13	33.00	2.00	14.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase II Demolition	13	33.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Trenching	8	20.00	2.00	106.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Phase II Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Trenching	8	20.00	2.00	103.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 4 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase I Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Installation	22	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Restoration	0	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Demolition	13	33.00	2.00	29.00	10.80	7.30	10.00	LD_Mix	HDT_Mix	HHDT
Phase III Site Preparation	9	23.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Trenching	7	18.00	2.00	42.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase II Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Installation	21	9.00	6.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 1 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Phase III Paving	16	40.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
LS No. 2 Bypass	0	0.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1035	0.0000	0.1035	0.0157	0.0000	0.0157			0.0000			0.0000
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357	0.1035	0.8363	0.9398	0.0157	0.8199	0.8355		3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9000e-004	0.0374	0.0110	1.5000e-004	4.0900e-003	3.0000e-004	4.3900e-003	1.1200e-003	2.9000e-004	1.4100e-003		15.7705	15.7705	1.8000e-004	2.4900e-003	16.5157
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.1094	0.0725	0.9725	2.5000e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		256.2100	256.2100	8.1000e-003	6.9900e-003	258.4949
Total	0.1132	0.2079	1.0152	3.0600e-003	0.2887	2.6600e-003	0.2914	0.0769	2.4900e-003	0.0794		315.7907	315.7907	8.6700e-003	0.0159	320.7465

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Phase I Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.1035	0.0000	0.1035	0.0157	0.0000	0.0157			0.0000			0.0000
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357	0.1035	0.8363	0.9398	0.0157	0.8199	0.8355	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	8.9000e-004	0.0374	0.0110	1.5000e-004	4.0900e-003	3.0000e-004	4.3900e-003	1.1200e-003	2.9000e-004	1.4100e-003		15.7705	15.7705	1.8000e-004	2.4900e-003	16.5157
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.1094	0.0725	0.9725	2.5000e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		256.2100	256.2100	8.1000e-003	6.9900e-003	258.4949
Total	0.1132	0.2079	1.0152	3.0600e-003	0.2887	2.6600e-003	0.2914	0.0769	2.4900e-003	0.0794		315.7907	315.7907	8.6700e-003	0.0159	320.7465

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.2761	3,329.2761	0.3369		3,337.6980
Total	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199		3,329.2761	3,329.2761	0.3369		3,337.6980

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.1094	0.0725	0.9725	2.5000e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		256.2100	256.2100	8.1000e-003	6.9900e-003	258.4949
Total	0.1123	0.1706	1.0041	2.9100e-003	0.2846	2.3600e-003	0.2870	0.0758	2.2000e-003	0.0780		300.0203	300.0203	8.4900e-003	0.0134	304.2308

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Phase II Demolition - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0
Total	2.0893	16.5424	20.9698	0.0357		0.8363	0.8363		0.8199	0.8199	0.0000	3,329.276 1	3,329.276 1	0.3369		3,337.698 0

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.1094	0.0725	0.9725	2.5000e-003	0.2711	1.7100e-003	0.2728	0.0719	1.5800e-003	0.0735		256.2100	256.2100	8.1000e-003	6.9900e-003	258.4949
Total	0.1123	0.1706	1.0041	2.9100e-003	0.2846	2.3600e-003	0.2870	0.0758	2.2000e-003	0.0780		300.0203	300.0203	8.4900e-003	0.0134	304.2308

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658		2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231		2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0763	0.0505	0.6778	1.7400e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		178.5706	178.5706	5.6400e-003	4.8700e-003	180.1631
Total	0.0792	0.1486	0.7095	2.1500e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		222.3809	222.3809	6.0300e-003	0.0113	225.8990

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Phase I Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0763	0.0505	0.6778	1.7400e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		178.5706	178.5706	5.6400e-003	4.8700e-003	180.1631
Total	0.0792	0.1486	0.7095	2.1500e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		222.3809	222.3809	6.0300e-003	0.0113	225.8990

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3600e-003	0.0000	4.3600e-003	6.6000e-004	0.0000	6.6000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531		2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	4.3600e-003	0.4777	0.4821	6.6000e-004	0.4531	0.4538		2,460.3137	2,460.3137	0.5891		2,475.0421

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0300e-003	0.4949	0.1057	2.1300e-003	0.0618	4.5100e-003	0.0663	0.0170	4.3100e-003	0.0213		227.5632	227.5632	2.5400e-003	0.0359	238.3151
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0663	0.0439	0.5894	1.5200e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		155.2788	155.2788	4.9100e-003	4.2400e-003	156.6636
Total	0.0783	0.6369	0.7267	4.0600e-003	0.2397	6.2000e-003	0.2459	0.0644	5.8900e-003	0.0703		426.6522	426.6522	7.8400e-003	0.0465	440.7146

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.5 Phase I Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.3600e-003	0.0000	4.3600e-003	6.6000e-004	0.0000	6.6000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	4.3600e-003	0.4777	0.4821	6.6000e-004	0.4531	0.4538	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	9.0300e-003	0.4949	0.1057	2.1300e-003	0.0618	4.5100e-003	0.0663	0.0170	4.3100e-003	0.0213		227.5632	227.5632	2.5400e-003	0.0359	238.3151
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0663	0.0439	0.5894	1.5200e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		155.2788	155.2788	4.9100e-003	4.2400e-003	156.6636
Total	0.0783	0.6369	0.7267	4.0600e-003	0.2397	6.2000e-003	0.2459	0.0644	5.8900e-003	0.0703		426.6522	426.6522	7.8400e-003	0.0465	440.7146

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658		2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231		2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0763	0.0505	0.6778	1.7400e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		178.5706	178.5706	5.6400e-003	4.8700e-003	180.1631
Total	0.0792	0.1486	0.7095	2.1500e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		222.3809	222.3809	6.0300e-003	0.0113	225.8990

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.6 Phase II Site Preparation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.4196	13.6886	12.8971	0.0248		0.5987	0.5987		0.5658	0.5658	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7
Total	1.4196	13.6886	12.8971	0.0248	0.5303	0.5987	1.1290	0.0573	0.5658	0.6231	0.0000	2,322.100 1	2,322.100 1	0.5313		2,335.381 7

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0763	0.0505	0.6778	1.7400e-003	0.1889	1.1900e-003	0.1901	0.0501	1.1000e-003	0.0512		178.5706	178.5706	5.6400e-003	4.8700e-003	180.1631
Total	0.0792	0.1486	0.7095	2.1500e-003	0.2025	1.8400e-003	0.2043	0.0540	1.7200e-003	0.0557		222.3809	222.3809	6.0300e-003	0.0113	225.8990

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615		6,438.584 4	6,438.584 4	1.0817		6,465.626 1
Total	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615		6,438.584 4	6,438.584 4	1.0817		6,465.626 1

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6700e-003	0.2941	0.0950	1.2400e-003	0.0406	1.9500e-003	0.0426	0.0117	1.8600e-003	0.0136		131.4307	131.4307	1.1600e-003	0.0193	137.2075
Worker	0.0299	0.0198	0.2652	6.8000e-004	0.0739	4.7000e-004	0.0744	0.0196	4.3000e-004	0.0200		69.8755	69.8755	2.2100e-003	1.9100e-003	70.4986
Total	0.0385	0.3139	0.3602	1.9200e-003	0.1146	2.4200e-003	0.1170	0.0313	2.2900e-003	0.0336		201.3062	201.3062	3.3700e-003	0.0212	207.7061

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615	0.0000	6,438.584 4	6,438.584 4	1.0817		6,465.626 1
Total	3.6682	29.4507	36.8294	0.0689		1.4036	1.4036		1.3615	1.3615	0.0000	6,438.584 4	6,438.584 4	1.0817		6,465.626 1

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.6700e-003	0.2941	0.0950	1.2400e-003	0.0406	1.9500e-003	0.0426	0.0117	1.8600e-003	0.0136		131.4307	131.4307	1.1600e-003	0.0193	137.2075
Worker	0.0299	0.0198	0.2652	6.8000e-004	0.0739	4.7000e-004	0.0744	0.0196	4.3000e-004	0.0200		69.8755	69.8755	2.2100e-003	1.9100e-003	70.4986
Total	0.0385	0.3139	0.3602	1.9200e-003	0.1146	2.4200e-003	0.1170	0.0313	2.2900e-003	0.0336		201.3062	201.3062	3.3700e-003	0.0212	207.7061

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.7 Phase I Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531		2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	2.1200e-003	0.4777	0.4798	3.2000e-004	0.4531	0.4534		2,460.3137	2,460.3137	0.5891		2,475.0421

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3900e-003	0.2404	0.0514	1.0300e-003	0.0300	2.1900e-003	0.0322	8.2300e-003	2.0900e-003	0.0103		110.5614	110.5614	1.2400e-003	0.0174	115.7852
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0663	0.0439	0.5894	1.5200e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		155.2788	155.2788	4.9100e-003	4.2400e-003	156.6636
Total	0.0736	0.3824	0.6724	2.9600e-003	0.2079	3.8800e-003	0.2118	0.0557	3.6700e-003	0.0594		309.6504	309.6504	6.5400e-003	0.0281	318.1846

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.1400	10.2267	12.4287	0.0261		0.4777	0.4777		0.4531	0.4531	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421
Total	1.1400	10.2267	12.4287	0.0261	2.1200e-003	0.4777	0.4798	3.2000e-004	0.4531	0.4534	0.0000	2,460.3137	2,460.3137	0.5891		2,475.0421

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3900e-003	0.2404	0.0514	1.0300e-003	0.0300	2.1900e-003	0.0322	8.2300e-003	2.0900e-003	0.0103		110.5614	110.5614	1.2400e-003	0.0174	115.7852
Vendor	2.8900e-003	0.0980	0.0317	4.1000e-004	0.0136	6.5000e-004	0.0142	3.9000e-003	6.2000e-004	4.5200e-003		43.8102	43.8102	3.9000e-004	6.4300e-003	45.7358
Worker	0.0663	0.0439	0.5894	1.5200e-003	0.1643	1.0400e-003	0.1653	0.0436	9.6000e-004	0.0445		155.2788	155.2788	4.9100e-003	4.2400e-003	156.6636
Total	0.0736	0.3824	0.6724	2.9600e-003	0.2079	3.8800e-003	0.2118	0.0557	3.6700e-003	0.0594		309.6504	309.6504	6.5400e-003	0.0281	318.1846

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.0919	9.6671	12.4351	0.0261		0.4295	0.4295		0.4073	0.4073		2,462.6067	2,462.6067	0.5877		2,477.2988
Total	1.0919	9.6671	12.4351	0.0261	2.1200e-003	0.4295	0.4316	3.2000e-004	0.4073	0.4076		2,462.6067	2,462.6067	0.5877		2,477.2988

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.2367	0.0515	1.0200e-003	0.0300	2.1700e-003	0.0322	8.2300e-003	2.0800e-003	0.0103		108.6661	108.6661	1.2300e-003	0.0171	113.8007
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0618	0.0390	0.5432	1.4700e-003	0.1643	9.8000e-004	0.1653	0.0436	9.0000e-004	0.0445		151.5969	151.5969	4.4100e-003	3.9100e-003	152.8737
Total	0.0689	0.3726	0.6252	2.9000e-003	0.2079	3.7900e-003	0.2117	0.0557	3.5900e-003	0.0593		303.3938	303.3938	6.0100e-003	0.0274	311.7014

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.8 Phase II Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.1200e-003	0.0000	2.1200e-003	3.2000e-004	0.0000	3.2000e-004			0.0000			0.0000
Off-Road	1.0919	9.6671	12.4351	0.0261		0.4295	0.4295		0.4073	0.4073	0.0000	2,462.6067	2,462.6067	0.5877		2,477.2988
Total	1.0919	9.6671	12.4351	0.0261	2.1200e-003	0.4295	0.4316	3.2000e-004	0.4073	0.4076	0.0000	2,462.6067	2,462.6067	0.5877		2,477.2988

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	4.3300e-003	0.2367	0.0515	1.0200e-003	0.0300	2.1700e-003	0.0322	8.2300e-003	2.0800e-003	0.0103		108.6661	108.6661	1.2300e-003	0.0171	113.8007
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0618	0.0390	0.5432	1.4700e-003	0.1643	9.8000e-004	0.1653	0.0436	9.0000e-004	0.0445		151.5969	151.5969	4.4100e-003	3.9100e-003	152.8737
Total	0.0689	0.3726	0.6252	2.9000e-003	0.2079	3.7900e-003	0.2117	0.0557	3.5900e-003	0.0593		303.3938	303.3938	6.0100e-003	0.0274	311.7014

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 LS No. 1 Bypass - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.9 LS No. 1 Bypass - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 LS No. 2 Bypass - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.10 LS No. 2 Bypass - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 LS No. 4 Bypass - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.11 LS No. 4 Bypass - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.12 Phase I Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078		6,441.0767	6,441.0767	1.0730		6,467.9016

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.13 Phase II Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016
Total	3.4820	27.7294	36.7728	0.0689		1.2457	1.2457		1.2078	1.2078	0.0000	6,441.0766	6,441.0766	1.0730		6,467.9016

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.14 Phase I Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.9834	15.6416	20.9517	0.0357		0.7386	0.7386		0.7236	0.7236		3,329.414 3	3,329.414 3	0.3300		3,337.664 3
Total	1.9834	15.6416	20.9517	0.0357	0.2140	0.7386	0.9526	0.0324	0.7236	0.7560		3,329.414 3	3,329.414 3	0.3300		3,337.664 3

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0763	0.0229	3.0000e-004	8.4700e-003	6.2000e-004	9.0800e-003	2.3200e-003	5.9000e-004	2.9100e-003		32.1093	32.1093	3.8000e-004	5.0600e-003	33.6268
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1019	0.0643	0.8962	2.4200e-003	0.2711	1.6200e-003	0.2727	0.0719	1.4900e-003	0.0734		250.1349	250.1349	7.2800e-003	6.4600e-003	252.2416
Total	0.1065	0.2375	0.9496	3.1300e-003	0.2931	2.8800e-003	0.2960	0.0781	2.6900e-003	0.0808		325.3750	325.3750	8.0300e-003	0.0179	330.8954

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.15 Phase III Demolition - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2140	0.0000	0.2140	0.0324	0.0000	0.0324			0.0000			0.0000
Off-Road	1.9834	15.6416	20.9517	0.0357		0.7386	0.7386		0.7236	0.7236	0.0000	3,329.414 3	3,329.414 3	0.3300		3,337.664 3
Total	1.9834	15.6416	20.9517	0.0357	0.2140	0.7386	0.9526	0.0324	0.7236	0.7560	0.0000	3,329.414 3	3,329.414 3	0.3300		3,337.664 3

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	1.8300e-003	0.0763	0.0229	3.0000e-004	8.4700e-003	6.2000e-004	9.0800e-003	2.3200e-003	5.9000e-004	2.9100e-003		32.1093	32.1093	3.8000e-004	5.0600e-003	33.6268
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1019	0.0643	0.8962	2.4200e-003	0.2711	1.6200e-003	0.2727	0.0719	1.4900e-003	0.0734		250.1349	250.1349	7.2800e-003	6.4600e-003	252.2416
Total	0.1065	0.2375	0.9496	3.1300e-003	0.2931	2.8800e-003	0.2960	0.0781	2.6900e-003	0.0808		325.3750	325.3750	8.0300e-003	0.0179	330.8954

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.3454	12.7484	12.8630	0.0248		0.5355	0.5355		0.5062	0.5062		2,322.1329	2,322.1329	0.5291		2,335.3599
Total	1.3454	12.7484	12.8630	0.0248	0.5303	0.5355	1.0657	0.0573	0.5062	0.5635		2,322.1329	2,322.1329	0.5291		2,335.3599

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0710	0.0448	0.6246	1.6900e-003	0.1889	1.1300e-003	0.1901	0.0501	1.0400e-003	0.0512		174.3365	174.3365	5.0800e-003	4.5000e-003	175.8048
Total	0.0738	0.1417	0.6551	2.1000e-003	0.2025	1.7700e-003	0.2043	0.0540	1.6500e-003	0.0557		217.4672	217.4672	5.4500e-003	0.0108	220.8318

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.16 Phase III Site Preparation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	1.3454	12.7484	12.8630	0.0248		0.5355	0.5355		0.5062	0.5062	0.0000	2,322.1329	2,322.1329	0.5291		2,335.3599
Total	1.3454	12.7484	12.8630	0.0248	0.5303	0.5355	1.0657	0.0573	0.5062	0.5635	0.0000	2,322.1329	2,322.1329	0.5291		2,335.3599

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0710	0.0448	0.6246	1.6900e-003	0.1889	1.1300e-003	0.1901	0.0501	1.0400e-003	0.0512		174.3365	174.3365	5.0800e-003	4.5000e-003	175.8048
Total	0.0738	0.1417	0.6551	2.1000e-003	0.2025	1.7700e-003	0.2043	0.0540	1.6500e-003	0.0557		217.4672	217.4672	5.4500e-003	0.0108	220.8318

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004			0.0000			0.0000
Off-Road	0.8814	7.7661	10.3967	0.0167		0.3668	0.3668		0.3497	0.3497		1,545.2434	1,545.2434	0.2910		1,552.5181
Total	0.8814	7.7661	10.3967	0.0167	1.7200e-003	0.3668	0.3668	2.6000e-004	0.3497	0.3500		1,545.2434	1,545.2434	0.2910		1,552.5181

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5400e-003	0.1931	0.0420	8.3000e-004	0.0245	1.7700e-003	0.0263	6.7200e-003	1.6900e-003	8.4100e-003		88.6209	88.6209	1.0000e-003	0.0140	92.8084
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0556	0.0351	0.4889	1.3200e-003	0.1479	8.8000e-004	0.1488	0.0392	8.1000e-004	0.0400		136.4372	136.4372	3.9700e-003	3.5200e-003	137.5863
Total	0.0619	0.3250	0.5614	2.5600e-003	0.1859	3.2900e-003	0.1892	0.0498	3.1100e-003	0.0530		268.1889	268.1889	5.3400e-003	0.0238	275.4217

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.17 Phase III Trenching - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7200e-003	0.0000	1.7200e-003	2.6000e-004	0.0000	2.6000e-004			0.0000			0.0000
Off-Road	0.8814	7.7661	10.3967	0.0167		0.3668	0.3668		0.3497	0.3497	0.0000	1,545.2434	1,545.2434	0.2910		1,552.5181
Total	0.8814	7.7661	10.3967	0.0167	1.7200e-003	0.3668	0.3668	2.6000e-004	0.3497	0.3500	0.0000	1,545.2434	1,545.2434	0.2910		1,552.5181

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	3.5400e-003	0.1931	0.0420	8.3000e-004	0.0245	1.7700e-003	0.0263	6.7200e-003	1.6900e-003	8.4100e-003		88.6209	88.6209	1.0000e-003	0.0140	92.8084
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.0556	0.0351	0.4889	1.3200e-003	0.1479	8.8000e-004	0.1488	0.0392	8.1000e-004	0.0400		136.4372	136.4372	3.9700e-003	3.5200e-003	137.5863
Total	0.0619	0.3250	0.5614	2.5600e-003	0.1859	3.2900e-003	0.1892	0.0498	3.1100e-003	0.0530		268.1889	268.1889	5.3400e-003	0.0238	275.4217

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.0454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6070	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.18 Phase II Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.0454					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6070	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502		5,523.713 3	5,523.713 3	0.7763		5,543.120 9
Total	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502		5,523.713 3	5,523.713 3	0.7763		5,543.120 9

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.19 Phase III Installation - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502	0.0000	5,523.713 3	5,523.713 3	0.7763		5,543.120 9
Total	3.2715	25.8284	34.7345	0.0595		1.1831	1.1831		1.1502	1.1502	0.0000	5,523.713 3	5,523.713 3	0.7763		5,543.120 9

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	8.2900e-003	0.2907	0.0915	1.2200e-003	0.0406	1.9200e-003	0.0426	0.0117	1.8400e-003	0.0135		129.3921	129.3921	1.1200e-003	0.0190	135.0810
Worker	0.0278	0.0175	0.2444	6.6000e-004	0.0739	4.4000e-004	0.0744	0.0196	4.1000e-004	0.0200		68.2186	68.2186	1.9900e-003	1.7600e-003	68.7932
Total	0.0361	0.3082	0.3359	1.8800e-003	0.1146	2.3600e-003	0.1169	0.0313	2.2500e-003	0.0336		197.6107	197.6107	3.1100e-003	0.0208	203.8742

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.20 Phase II Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779		2,595.5968	2,595.5968	0.5654		2,609.7317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.21 Phase III Paving - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.5616	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317
Paving	0.1362					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	1.6979	13.0750	16.7453	0.0284		0.6075	0.6075		0.5779	0.5779	0.0000	2,595.5968	2,595.5968	0.5654		2,609.7317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.7600e-003	0.0969	0.0305	4.1000e-004	0.0136	6.4000e-004	0.0142	3.9000e-003	6.1000e-004	4.5100e-003		43.1307	43.1307	3.7000e-004	6.3300e-003	45.0270
Worker	0.1236	0.0779	1.0863	2.9400e-003	0.3286	1.9600e-003	0.3306	0.0872	1.8100e-003	0.0890		303.1939	303.1939	8.8300e-003	7.8300e-003	305.7474
Total	0.1263	0.1748	1.1168	3.3500e-003	0.3421	2.6000e-003	0.3447	0.0911	2.4200e-003	0.0935		346.3246	346.3246	9.2000e-003	0.0142	350.7744

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.22 Phase III Site Restoration - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Total					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184
Total	0.0154	9.7400e-003	0.1358	3.7000e-004	0.0411	2.5000e-004	0.0413	0.0109	2.3000e-004	0.0111		37.8992	37.8992	1.1000e-003	9.8000e-004	38.2184

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Asphalt Surfaces	0.512341	0.052370	0.194493	0.150484	0.029151	0.007004	0.010494	0.009415	0.001203	0.000586	0.027411	0.001303	0.003746

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003
Unmitigated	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005		4.9200e-003	4.9200e-003	1.0000e-005		5.2500e-003

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.9700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003
Total	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	2.5700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	7.9700e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	2.1000e-004	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003
Total	0.0108	2.0000e-005	2.2900e-003	0.0000		1.0000e-005	1.0000e-005		1.0000e-005	1.0000e-005			4.9200e-003	4.9200e-003	1.0000e-005	5.2500e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Moss Landing WW Rehab Project - Monterey Bay Unified APCD Air District, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	4	2	100	67	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568
Total	0.8796	2.8682	3.1917	4.2300e-003		0.1294	0.1294		0.1294	0.1294		449.9796	449.9796	0.0631		451.5568

11.0 Vegetation

Appendix C

Biological Resources Assessment



Moss Landing Wastewater System Rehabilitation Project

Biological Resources Assessment

prepared for

Castroville Community Services District

11497 Geil Street

Castroville, California 93660

Contact: Eric Tynan, General Manager

prepared by

Rincon Consultants, Inc.

2511 Garden Road, Suite C-250

Monterey, California 93490

October 2022



RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

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Table of Contents

Executive Summary	1
1 Introduction	2
1.1 Project Location and APE	2
1.2 Project Description.....	2
2 Methodology	12
2.1 Regulatory Overview.....	12
2.2 Environmental Statutes	12
2.3 Guidelines for Determining CEQA Significance.....	13
2.4 Literature Review	13
2.5 Field Reconnaissance Survey	14
3 Existing Conditions.....	15
3.1 Physical Characteristics.....	15
3.2 Watershed and Drainages.....	15
3.3 Soils	16
3.4 Vegetation and Other Land Cover	21
3.5 General Wildlife	27
4 Regulated Biological Resources	28
4.1 Special Status Species	28
4.2 Sensitive Plant Communities and Critical Habitats	30
4.3 Jurisdictional Waters and Wetlands	31
4.4 Wildlife Movement	31
4.5 Resources Protected by Local Policies and Ordinances.....	31
4.6 Habitat Conservation Plans.....	32
5 Impact Analysis and Mitigation Measures.....	33
5.1 Special Status Species	33
5.2 Sensitive Plant Communities	36
5.3 Jurisdictional Waters and Wetlands	38
5.4 Wildlife Movement	39
5.5 Local Policies and Ordinances.....	39
5.6 Adopted or Approved Plans.....	40
5.7 Critical Habitat, Coastal Zone, Wild and Scenic Rivers, Essential Fish Habitat, and Coastal Barrier Resources	40
6 Limitations, Assumptions, and Use Reliance	41
7 References	42
8 List of Preparers.....	44

Tables

Table 1	Proposed Manhole Improvements.....	9
Table 2	Drainages and Wetlands Mapped by the NWI within the Study Area	16

Figures

Figure 1	Regional Location Map	3
Figure 2a	Project Site Location – Northern Extent	4
Figure 2b	Project Site Location – North-Central Extent.....	5
Figure 2c	Project Site Location – South-Central Extent.....	6
Figure 2d	Project Site Location – Southern Extent	7
Figure 3a	Soils Map Units within the Study Area – Northern Extent	17
Figure 3b	Soils Map Units within the Study Area - North-Central Extent.....	18
Figure 3c	Soils Map Units within the Study Area – South-Central Extent	19
Figure 3d	Soils Map Units within the Study Area – Southern Extent	20
Figure 4a	Vegetation and Land Cover – Northern Extent.....	22
Figure 4b	Vegetation and Land Cover - North-Central Extent.....	23
Figure 4c	Vegetation and Land Cover – South-Central Extent	24
Figure 4d	Vegetation and Land Cover – Southern Extent.....	25

Appendices

Appendix A	Regulatory Setting
Appendix B	Special Status Species Evaluation Tables
Appendix C	Site Photographs
Appendix D	Floral and Faunal Compendium
Appendix E	IPaC Query Results
Appendix F	Resumes

Executive Summary

Rincon Consultants, Inc. has prepared this Biological Resources Assessment to document existing conditions and provide a basis for evaluation of potential impacts to special status biological resources during development and implementation of the Moss Landing Wastewater System Rehabilitation Project (herein referred to as “proposed project” or “project”). The project is located in Moss Landing, a census-designated place in unincorporated Monterey County. The project is proposed by the Castroville Community Services District (District) and is intended to upgrade the Moss Landing Wastewater System (MLWWS), which is necessary not only to improve the reliability of the MLWWS but also to reduce the potential for unexpected leaks and/or breakages that could affect nearby environmental resources such as Elkhorn Slough, Moss Landing Harbor, and the Monterey Bay National Marine Sanctuary. The proposed project consists of the rehabilitation and replacement of various MLWWS components, including lift stations, manholes, pipelines, and valves. This study has been completed in accordance with the California Environmental Quality Act (CEQA)-Plus standards of the State Water Resources Control Board's State Revolving Fund program for compliance with CEQA, the National Environmental Policy Act, and the federal Endangered Species Act.

The Area of Potential Effects (APE) analyzed herein is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts. Eight terrestrial vegetation and land cover types were observed within the Study Area during the biological field survey: cropland, developed/landscaped, coastal dune scrub, coastal scrub, marine, salt marsh, annual grassland, and ruderal. The coastal scrub, coastal dune scrub, and salt marsh habitats are identified as Environmentally Sensitive Habitat Areas. A roadway drainage was also observed within the APE adjacent to State Route (SR) 1 and Manholes 11 to 13 that is ephemeral in nature. Because the project would avoid these habitats and this drainage, the project is not anticipated to require permits from the California Department of Fish and Wildlife or the Regional Water Quality Control Board. If these sensitive habitats and/or drainage cannot be avoided, permits from the aforementioned agencies and the County of Monterey may be required.

Based on the habitats found on site, two special status species have the potential to be encountered during project activities. The federally endangered Smith's blue butterfly (*Euphilotes enoptes smithi*) and the federally threatened Monterey spineflower (*Chorizanthe pungens* var. *pungens*) have the potential to occur at the locations of Manholes 11 to 13. In addition, sensitive coastal dune scrub and coastal scrub habitats are found adjacent to several project components within the APE. Direct and indirect impacts to sensitive plant communities, Monterey spineflower and Smith's blue butterfly during construction activities would be minimized and/or avoided to the greatest extent feasible with the implementation of measures described in Section 5, *Impact Analysis and Mitigation Measures*. No federally designated critical habitat within the APE would be impacted. Therefore, the project is not likely to adversely affect federally listed species. Vegetation within and adjacent to the project site offers potential nesting habitat for bird species that are protected under the federal Migratory Bird Treaty Act and California Fish and Game Code. Direct and indirect impacts to these species would not occur with implementation of the proposed avoidance and minimization measures.

1 Introduction

Rincon Consultants, Inc. (Rincon) has prepared this Biological Resources Assessment (BRA) to document existing conditions and provide a basis for the evaluation of potential impacts to special status biological resources from the implementation of the proposed Moss Landing Wastewater System Rehabilitation Project (herein referred to as “proposed project” or “project”) located in Monterey County, California.

This BRA has been prepared to provide technical information and impact analysis in sufficient detail to determine to what extent the proposed project may impact special status species and sensitive natural communities in support of project review under the California Environmental Quality Act (CEQA). This assessment focuses on the biological resources that may occur in the vicinity of the project site and may be impacted by the proposed project. In addition, Rincon understands the District is seeking funding from the State Water Resources Control Board (SWRCB) for the project through the Clean Water State Revolving Fund, which SWRCB administers in California on behalf of the United States Environmental Protection Agency, a federal agency. Therefore, this BRA was completed in accordance with CEQA-Plus standards for compliance with CEQA, the National Environmental Policy Act, and the federal Endangered Species Act.

1.1 Project Location and APE

The project site is located in Moss Landing, a census-designated place in Monterey County, and is comprised of four lift station locations, 12 manhole locations, one air release valve vault in Struve Road, and 5,735 linear feet (LF) of pipeline alignments along roads including along Potrero Road, State Route (SR) 1, Sandholdt Road, and Struve Road (Figure 1 and Figure 2a through Figure 2d).

The project Area of Potential Effects (APE) generally depicts all areas expected to be affected by the proposed project, including construction staging areas. The project site must additionally be considered as a three-dimensional space and includes any ground disturbance associated with the project. As such, the APE analyzed herein is comprised of the footprints of project components as well as a 100-foot buffer around those features in order to capture potential direct and indirect impacts to biological resources.

1.2 Project Description

The proposed project would involve the replacement or rehabilitation of existing facilities that are part of the Moss Landing Wastewater System (MLWWS). The proposed project is intended to optimize the existing system to serve existing demand and would not serve additional growth or new demand. The proposed system improvements are described in the following subsections.

Lift Station No. 1

Lift Station No. 1 would be demolished in its current location on Assessor’s Parcel Number (APN) 413-061-042-000 and reconstructed in its entirety on the northeast corner of APN 413-012-014-000. The new lift station would consist of similar components as the existing Lift Station No. 1. A new 50-kilowatt (kW) backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 1. The capacity of the new lift station would be approximately equal to the capacity

Figure 1 Regional Location Map



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★ Project Location

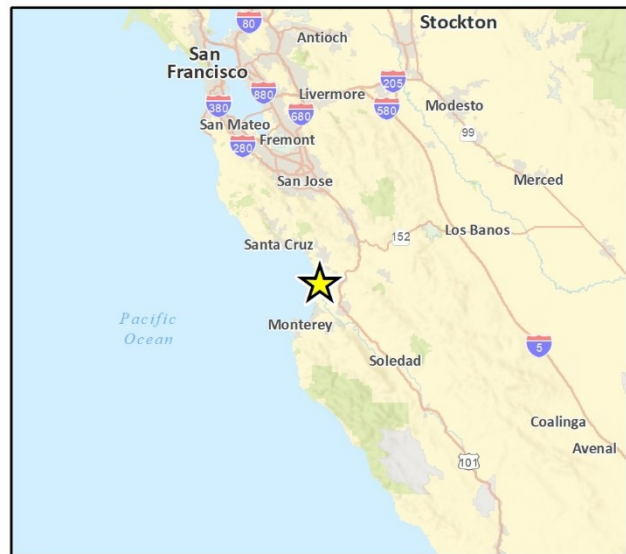
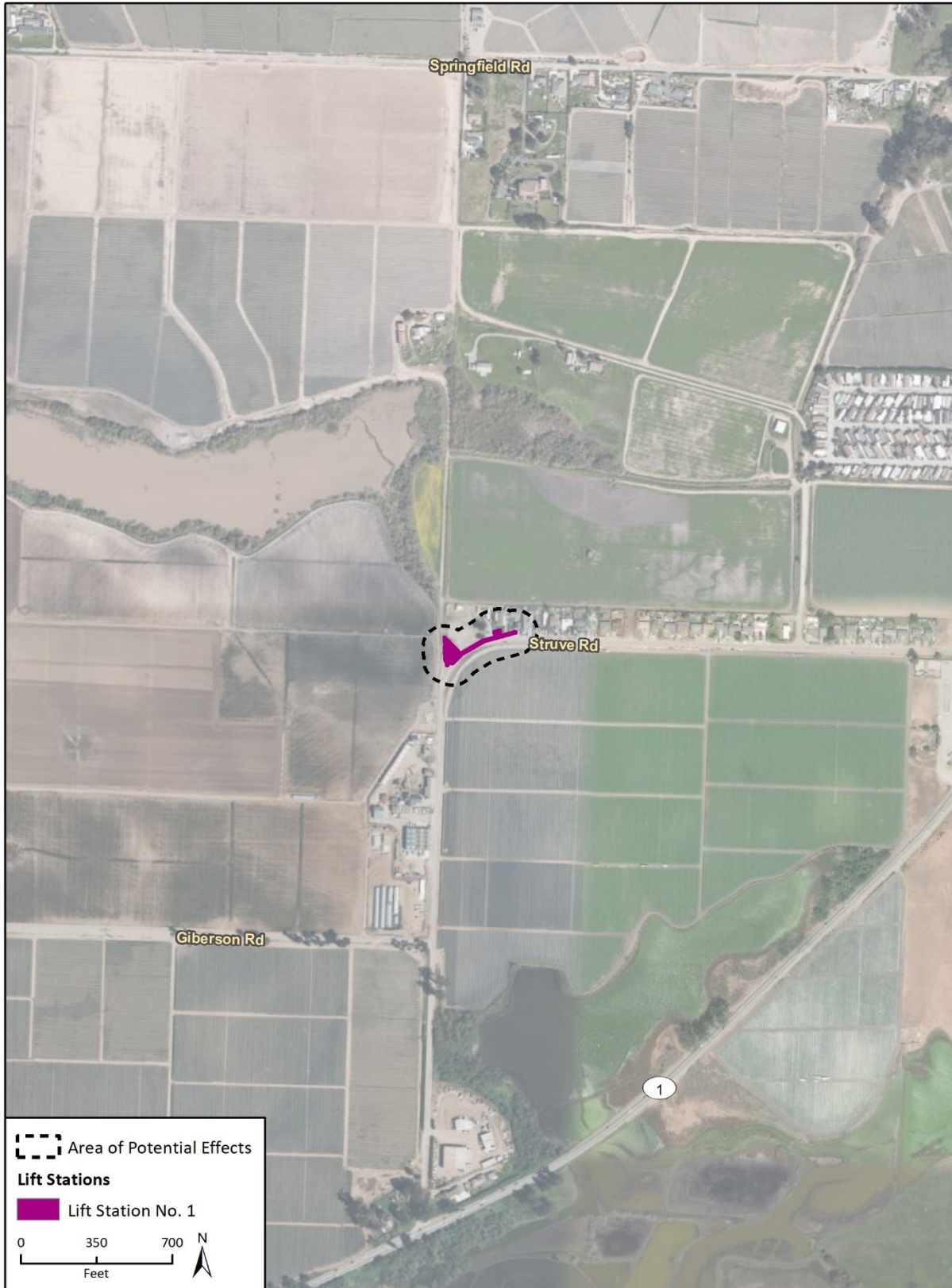


Fig 1 Regional Location

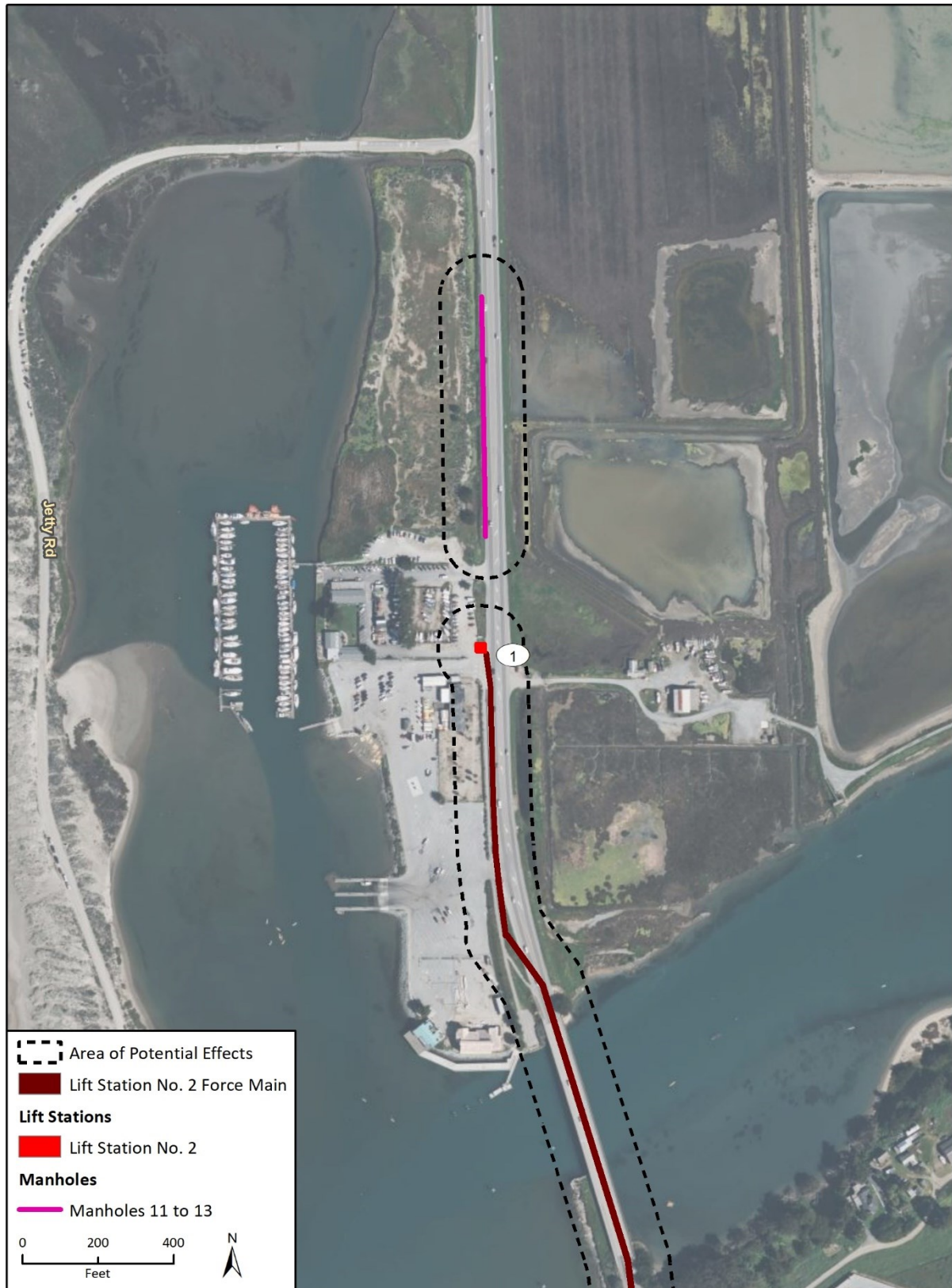
Figure 2a Area of Potential Effects – Northern Extent



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Fig. 3-1 Project Components North

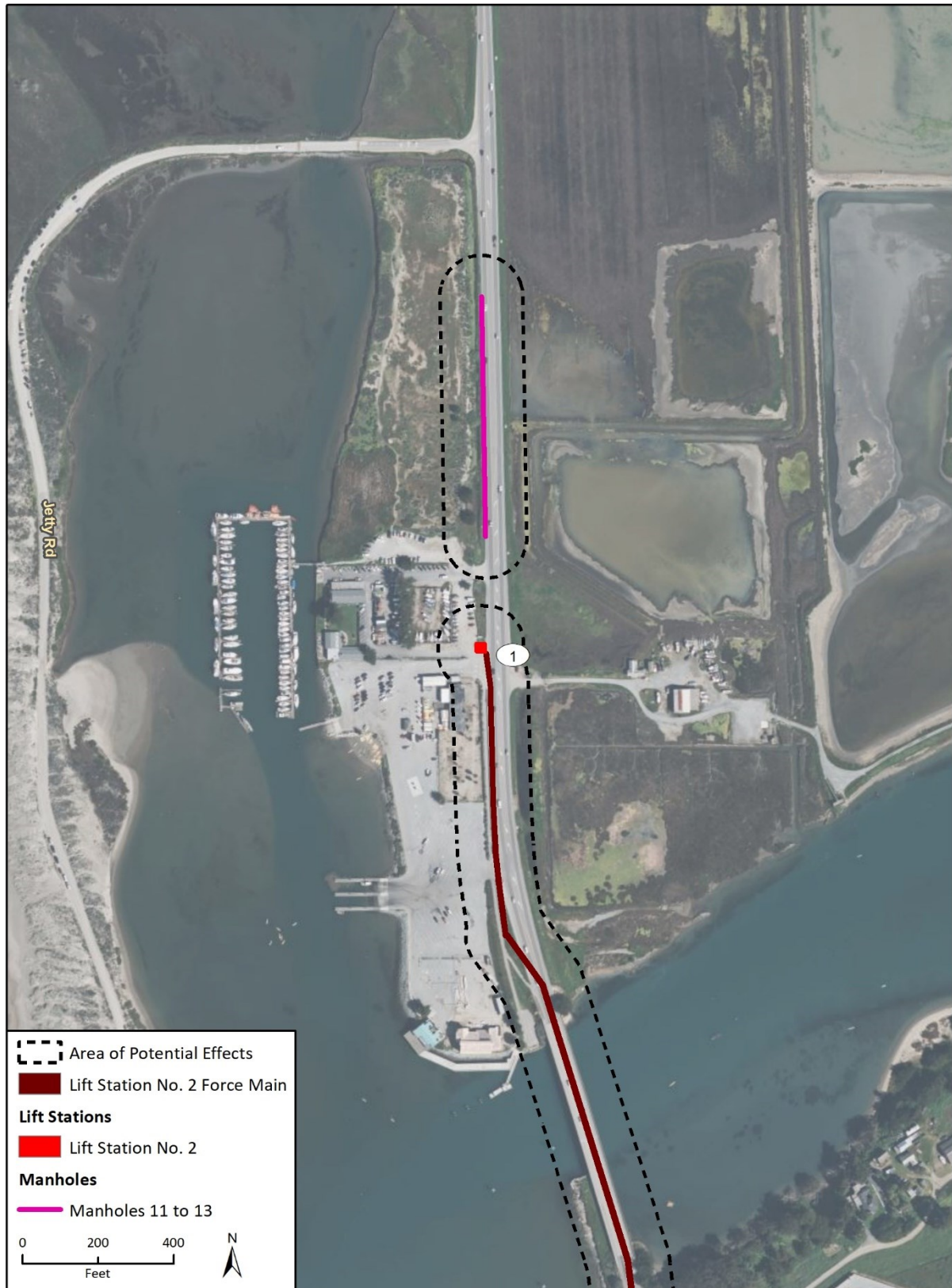
Figure 2b Area of Potential Effects – North-Central Extent



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Fig. 3-2a Project Components South 1

Figure 2c Area of Potential Effects – South-Central Extent



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Fig. 3-2a Project Components South 1

Figure 2d Area of Potential Effects – Southern Extent



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Fig. 3-2c. Project Components South 3

of the existing lift station. To accommodate the relocated lift station, a new concrete manhole would be installed along the existing sewer pipeline alignment in Struve Road, and the gravity sewer main along Struve Road would be extended from this manhole to the new lift station. A new force main would also be installed between the new lift station and the existing force main alignment in Struve Road to connect the new lift station to the sewer system. The gravity sewer and force main pipelines that currently connect the sewer system to the existing Lift Station No. 1 would be removed or abandoned in place. Electrical service for Lift Station No. 1 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2

Lift Station No. 2 would be rehabilitated in place at its current location on APN 413-022-006-000. Rehabilitation would include replacement of various belowground and aboveground features. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 2. The capacity of the rehabilitated lift station would be increased moderately as compared to the existing lift station to serve existing systemwide demand. Approximately five feet of sewer main would be installed to connect the lift station to a new grit-capturing polymer concrete manhole located immediately east and upstream of Lift Station No. 2.

Lift Station No. 3

Lift Station No. 3 would be demolished and reconstructed in its entirety in the same location as the existing lift station within the public right-of-way of Sandholdt Road immediately east of 7662 Sandholdt Road. The new lift station would consist of similar components as the existing Lift Station No. 3. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 3. A new grit-capturing polymer concrete manhole would be installed immediately west and upstream of the lift station. Approximately five feet of sewer main would be installed to connect the lift station to this manhole. The capacity of the reconstructed lift station would be moderately increased in capacity as compared to the existing lift station to serve existing systemwide demand.

Lift Station No. 4

Lift Station No. 4 would be reconstructed in its entirety within the right-of-way of Potrero Road, approximately 220 feet east of its current location in the right-of-way of Portero Road. The existing lift station, electrical control vault, and manhole would be demolished and removed, and the existing gravity sewer and force main pipelines that connect the existing Lift Station No. 4 to the sewer system would be abandoned in place. The new lift station would consist of similar components as the existing Lift Station No. 4. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 4. A new concrete manhole would be installed immediately east and upstream of the lift station. Approximately five feet of sewer main would be installed to connect the lift station to this manhole. In addition, force main piping would be installed to connect the new lift station to the existing force main pipeline that runs parallel to Portero Road. The capacity of the reconstructed lift station would be moderately increased as compared to the existing lift station to serve existing systemwide demand. Electrical service for Lift Station No. 4 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2 Force Main

Approximately 3,890 LF of the Lift Station No. 2 force main would be replaced or rehabilitated. Of

this, approximately 1,140 LF of the Lift Station No. 2 force main attached to the SR 1 bridge over Elkhorn Slough and between the bridge and Lift Station No. 2 would be replaced. Another approximately 1,025 LF of the existing pipeline would be replaced via open trench north of the SR 1 bridge over Elkhorn Slough, and up to 200 LF on the south of the bridge. The remainder of the Lift Station No. 2 force main south of the SR 1 bridge, which consists of approximately 1,525 LF of pipeline, would be rehabilitated with a cured in place pipeline liner, if determined to be necessary during construction.

Pipe Repair P-1

Approximately 1,250 LF of existing gravity sewer pipeline from Manhole 36 to Lift Station No. 3 would be replaced along the same alignment and slope. In addition, five existing manholes would be rehabilitated along this pipeline segment, which would include installation of a lining system, removal of manhole rungs (if present), and replacement of the manhole frame and cover at each manhole.

Pipe Repair P-2

Approximately 300 LF of existing sewer main between Manhole 38 and Manhole 39 would be replaced along the same alignment and slope. Manhole 38 would be rehabilitated, and Manhole 39 would be abandoned in place and reconstructed approximately 50 feet to the north. The portion of existing sewer main between the existing and relocated Manhole 39 would be abandoned in place.

Lift Station No. 1 Force Main Air Release Valve Vault

The existing combination air release and vacuum valves, as well as the isolation valve and appurtenances, would be replaced in the existing valve vault of the Lift Station No. 1 Force Main.

Manholes

Several manhole improvements would be completed as part of the proposed project, which are summarized in Table 1.

Table 1 Proposed Manhole Improvements

Manhole Number(s)	Proposed Improvement
11 to 13	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion and mitigate infiltration/inflow ▪ Replacement of manhole frames and covers ▪ Installation of concrete protective rings on manholes ▪ Installation of marking posts on manhole covers to reduce potential for future mower impacts
27 to 29, 41 to 46	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers
30	<ul style="list-style-type: none"> ▪ Replacement with a polymer concrete manhole to minimize future corrosion
47	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers ▪ Raising to grade ▪ Installation of a locking frame and cover

Construction

Project construction would occur over the course of approximately 12 months from September 2023 to September 2024. The proposed project would be developed in three main phases: lift station relocation and rehabilitation; repair of manholes, air release valve vault and pipeline replacement; and Lift Station No. 2 Force Main rehabilitation and replacement. Construction work would occur Monday through Friday, from 7:00 a.m. to 5:00 p.m. During construction, approximately 5,000 cubic yards of soil would be excavated, of which approximately 3,000 cubic yards would be used as fill and approximately 2,000 cubic yards would be exported. Haul trucks would utilize Sandholdt Road, Moss Landing Road, and SR 1 to transport debris to the Monterey Regional Waste Management District Materials Recovery Facility and Castroville Waste Management, Inc. Construction equipment would be staged at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots.

During construction activities, the following bypass systems would be utilized to maintain flows through the MLWWS:

- **Lift Station No. 1.** Bypassing for Lift Station No. 1 is expected to require one day of trucking wastewater from the manhole immediately upstream of the existing Lift Station No. 1 to Manhole 29 (immediately north of the intersection of SR 1 and Moss Landing Road), during which time the new system tie-in would be installed. Approximately eight truck trips would be required.
- **Lift Station No. 2.** During rehabilitation of Lift Station No. 2, a temporary bypass system would be utilized, which would consist either of bypass pumping using temporary aboveground pumps and a temporary aboveground pipeline or trucking wastewater from Lift Station No. 1 to Manhole 29. If wastewater is trucked, approximately 10 truck trips per day would be required for a period of up to one month.
- **Lift Station No. 3.** During rehabilitation of Lift Station No. 3, a full temporary bypass system would be installed adjacent to the lift station location to maintain sanitary sewer flows, which would consist of two temporary aboveground pumps and a temporary aboveground pipeline.
- **Lift Station No. 4.** The existing Lift Station No. 4 would remain in service for most of construction for the new Lift Station No. 4 to minimize sewer bypassing. During a one-day tie-in in which the existing and new lift stations are both offline, temporary aboveground pipelines and a temporary aboveground lift station would be utilized for bypassing, or wastewater would be trucked from the manhole immediately upstream of Lift Station No. 4 to Manhole 29, with up to six total truck trips.
- **Lift Station No. 2 Force Main.** During replacement of the Lift Station No. 2 force main, a temporary aboveground bypass pipeline would be utilized.

Operation and Maintenance

Once construction of the proposed project is complete, the operation and maintenance needs of the MLWWS would generally be reduced due to improved infrastructure reliability resulting from the installation of corrosive-preventive materials, grit-capturing polymer concrete manholes at key locations to reduce damage caused by sand and shells, and the use of newer, more durable materials. Therefore, no new District employees would be required to operate and maintain the project. The grit-capturing polymer concrete manholes associated with Lift Station Nos. 2 and 3 would be cleaned quarterly with a vactor truck to remove sediment. The lift stations would operate 24 hours per day, cycling on and off as needed depending on wastewater flows. However, because

the purpose of the proposed project is to replace existing, aging facilities, electricity usage for wastewater conveyance at these lift stations would remain similar or would be slightly reduced due to the increased pumping efficiency of the new system. The four new backup generators would have a run time of approximately 100 hours per generator per year. Lighting would be installed inside each lift station and utilized for nighttime work if blockages or breakdowns occur, similar to existing conditions.

2 Methodology

2.1 Regulatory Overview

Regulated resources studied and analyzed herein include special status plant and animal species, nesting birds and raptors, sensitive plant communities, jurisdictional waters and wetlands, wildlife movement corridors, and locally protected resources, such as protected trees. Regulatory authority over biological resources is shared by federal, state, and local authorities. Primary authority for regulation of general biological resources lies within the land use control and planning authority of local jurisdictions (in this instance, the County of Monterey).

Definition of Special Status Species

For the purposes of this report, special status species include:

- Species listed as threatened or endangered under the federal Endangered Species Act (species that are under review may be included if there is a reasonable expectation of listing within the life of the project)
- Species listed as candidate, threatened, or endangered under the California Endangered Species Act
- Species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife (CDFW)
- Species designated as locally important by the Local Agency and/or otherwise protected through ordinance or local policy. California Rare Plant Rank (CRPR) List 1B and List 2 plant species are typically regarded as rare, threatened, or endangered under CEQA by lead agencies and were considered as such in this document. CRPR List 3 and List 4 plant species are typically not considered for analysis under CEQA except where they are part of a unique community, from the type locality, designated as rare or significant by local governments or where cumulative impacts could result in population-level effects. The CRPR 3 and 4 species reported from the region are not locally designated as rare or significant, are not part of a unique community, and the APE is not known to be the type locality for any ranked plant species. Therefore, CRPR 3 and CRPR 4 species were not included in this analysis.

2.2 Environmental Statutes

For the purpose of this report, potential impacts to terrestrial and marine biological resources were analyzed based on the following statutes, which are detailed in Appendix A:

- CEQA
- Federal Endangered Species Act
- California Endangered Species Act
- Federal Clean Water Act
- California Fish and Game Code
- Porter-Cologne Water Quality Control Act

- California Coastal Act (administered through the County of Monterey Local Coastal Program [LCP])
- Migratory Bird Treaty Act
- Bald and Golden Eagle Protection Act
- Coastal Zone Management Act
- Protection of Wetlands – Executive Order 11990
- Wild and Scenic Rivers Act
- Magnuson-Stevens Fishery Conservation and Management Act
- Fish and Wildlife Coordination Act
- Monterey County General Plan

With respect to the requirements of the federal Fish and Wildlife Coordination Act, it is anticipated that SWRCB would perform either formal or informal consultation with the United States Fish and Wildlife Service (USFWS) as part of its review of the project’s eligibility for Clean Water State Revolving Fund program assistance.

2.3 Guidelines for Determining CEQA Significance

The following threshold criteria, as defined by Appendix G of the CEQA Guidelines, were used to evaluate potential environmental impacts. Based on these criteria, the proposed project would have a significant impact on biological resources if it would:

- a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by CDFW or United States Fish and Wildlife Service;
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by CDFW or United States Fish and Wildlife Service;
- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

2.4 Literature Review

Queries of the USFWS Information for Planning and Consultation System (IPaC; USFWS 2022a), the CDFW California Natural Diversity Database (CNDDDB; CDFW 2022), and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Plants of California (2022) were conducted

to obtain comprehensive information regarding State and federally listed species as well as other special status species considered to have potential to occur within the *Moss Landing, California* 7.5-minute topographic quadrangle and the surrounding six quadrangles (*Soquel, Watsonville West, Watsonville East, Prunedale, Salinas, and Marina*). (No quadrangles occur west of the *Moss Landing* and *Marina* 7.5-minute quadrangles because of the presence of the Pacific Ocean.) The results of these scientific database queries were compiled into a table that is presented in Appendix B, and the results of the IPaC query are included in Appendix E.

In addition, the following resources were reviewed for information about the APE:

- Aerial photographs of the APE and vicinity (Google Earth 2022)
- *Moss Landing, California* USGS 7.5-minute topographic quadrangle
- United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey (2022a)
- USFWS Critical Habitat Portal (USFWS 2022b)
- National Marine Fisheries Service (NMFS) Critical Habitat (National Oceanic and Atmospheric Administration Fisheries 2022)
- National Wetlands Inventory (NWI) (USFWS 2022c)

2.5 Field Reconnaissance Survey

A reconnaissance survey was conducted within the APE by Rincon Biologist Christian Knowlton on April 8, 2022. The field reconnaissance survey was conducted on foot where access was available to record all biological resources encountered in the APE. Additionally, a windshield survey was conducted along the pipeline alignments and manhole locations within and alongside existing roadways. The survey was conducted to document existing site conditions and to evaluate the potential for presence of regulated biological resources, including special status plant and animal species, sensitive plant communities, and habitat for nesting birds protected by federal and State laws. Site photographs taken during the survey are included in Appendix C. During the survey, an inventory of all plant and animal species observed was compiled (Appendix D) and an evaluation of potentially jurisdictional aquatic features was conducted.

Plant species nomenclature and taxonomy followed *The Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). All plant species encountered were noted and identified to the lowest possible taxonomic level. The vegetation classification system used for this analysis is based on *A Manual of California Vegetation, Second Edition* (MCV2; Sawyer et al. 2009) but has been modified as needed to accurately describe the existing habitats observed on site.

Wildlife identification and nomenclature followed standard reference texts, including *Sibley Birds West: Field Guide to Birds of Western North America* (Sibley 2016), *Field Guide to Western Reptiles and Amphibians* (Stebbins 2003), and *Mammals of North America* (Bowers et al. 2004).

The habitat requirements for each regionally occurring special status species were assessed and compared to the type and quality of the habitats observed within the APE during the field survey. Several special status species were eliminated from consideration as having potential to occur on site due to lack of suitable habitat, lack of suitable soils/substrate, and/or knowledge of regional distribution.

3 Existing Conditions

This section summarizes the results of the reconnaissance-level field survey and literature review. Discussions regarding the general environmental setting, vegetation communities present, plant and animals observed, and the potential for special status species to occur on site are presented below. Representative photographs of the APE are provided in Appendix C, and a complete list of all plant and animal species observed on site during the field survey is presented in Appendix D.

3.1 Physical Characteristics

The APE is in Monterey County where the moderate climate typifies a Mediterranean climate throughout the year. Most rainfall occurs during the winter months. The APE is also within the Central Coast geographic subregion of California. The Central Coast subregion is a component of the larger Central Western California Region, which occurs within the even larger California Floristic Province (Baldwin et al. 2012).

The project site is located within Moss Landing, with project components extending along SR 1 from Struve Road in the north to Potrero Road in the south as well as some project components along Struve Road, Sandholdt Road, Moss Landing Road, and Potrero Road. The northernmost project component has residences to the east and agriculture lands to the north, west and south. Project components along SR 1 are bordered by coastal dune scrub, parking lots, and ruderal vegetation along the Moss Landing Harbor to the west and the Moss Landing Power Plant, Elkhorn Slough, and salt marsh habitat to the west. Project components along Sandholdt Road are bordered on both sides by commercial development with Moss Landing Harbor to the east and the Monterey Bay to the west. Project components along Moss Landing Road are bordered by agriculture on the east and west and coastal scrub, the Moss Landing Cemetery and commercial development on the west. Project components along Potrero Road are bordered by ruderal habitat and agriculture to the south and coastal scrub and residential development to the north. Most of the project site has been previously developed and disturbed because it is within roadway rights-of-way. The topography within the APE consists generally of level topography with elevation ranging from 0 to 30 feet above mean sea level.

3.2 Watershed and Drainages

The APE is located within the Elkhorn Slough Watershed (Hydrologic Unit Code 12 – 180600150301). The NWI depicts Freshwater, Freshwater Emergent Wetland, Riverine, Estuarine and Marine Wetland, and Estuarine and Marine Deepwater occurring at or within 100 feet of some project components (Table 2; USFWS 2022c). The drainages and wetlands mapped by the NWI are generally consistent with observations made during the field reconnaissance survey.

Table 2 Drainages and Wetlands Mapped by the NWI within the APE

Project Component	Project Component Located within NWI Feature?	Project Component Located within 100 Feet of NWI Feature (Yes/No)
Lift Station 1	No	No
Lift Station 2	No	No
Lift Station 3	No	Yes
Lift Station 4	No	Yes
Lift Station 2 Force Main	No	Yes
Pipe Repair P-1	No	No
Pipe Repair P-2	No	Yes
Manholes 11 to 13	No	Yes
Manholes 27 to 30	No	No
Manholes 41 to 47	No	No

NWI = National Wetlands Inventory
 Source: USFWS 2022c

In addition to the drainages and wetlands mapped by the NWI, a roadside drainage was observed during the reconnaissance survey. The roadside drainage was located adjacent to SR 1 within 100 feet of Manholes 11 to 13 (see Figure b in Section 3.4, *Vegetation and Other Land Cover*). The drainage begins north of the driveway for the Elkhorn Yacht Club and drains north towards the intersection of Jetty Road and SR 1. The drainage is ephemeral and only conveys water during rain events and extreme high tides. The drainage contained a vegetated bed and banks but lacked a defined ordinary highwater mark. The distance between top of banks was approximately two feet wide. The vegetation consisted of non-native grasses including ripgut brome (*Bromus diandrus*) and other non-native species.

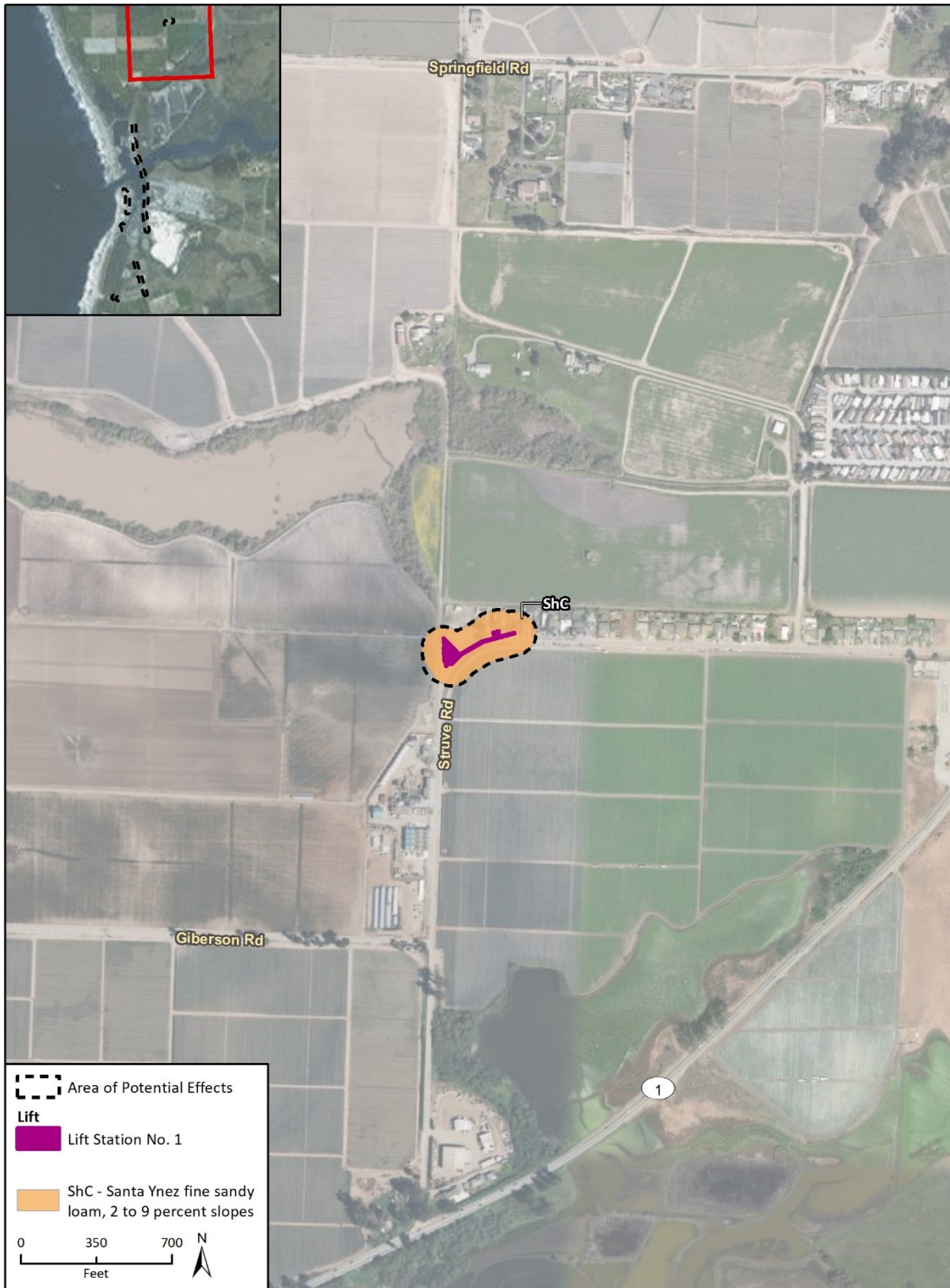
3.3 Soils

The U.S. Department of Agriculture - Natural Resource Conservation Service (USDA NRCS) Web Soil Survey delineates seven soil map units within the APE: Alviso silty clay loam; Alviso silty clay loam, drained; Santa Ynez fine sandy loam, 2 to 9 percent slopes; Xerorthents, loamy; Elkhorn fine sandy loam, 5 to 9 percent slopes; Dune land; and Oceano loamy sand, 2 to 15 percent slopes (USDA NRCS 2022a). One additional non-soil map unit – Water – is mapped by the Web Soil Survey within the APE and is comprised of 100 percent water. Therefore, it is not discussed further within this section. Site-specific soil observations are consistent with those mapped by the USDA NRCS. Soil distribution within 100 feet of the locations of project components is depicted in Figure 3a through Figure 3d, and each soil map unit is described below. For each one, the description indicates whether the soil map unit is included on the *National Hydric Soils List*, which lists soils that are permanently or seasonally saturated (USDA NRCS 2022b).

Alviso Silty Clay Loam

Alviso silty clay loam is a nearly level soil consisting of very poorly drained soil that formed in alluvium derived from sedimentary rocks. These soils are in basins and on tidal flats that have

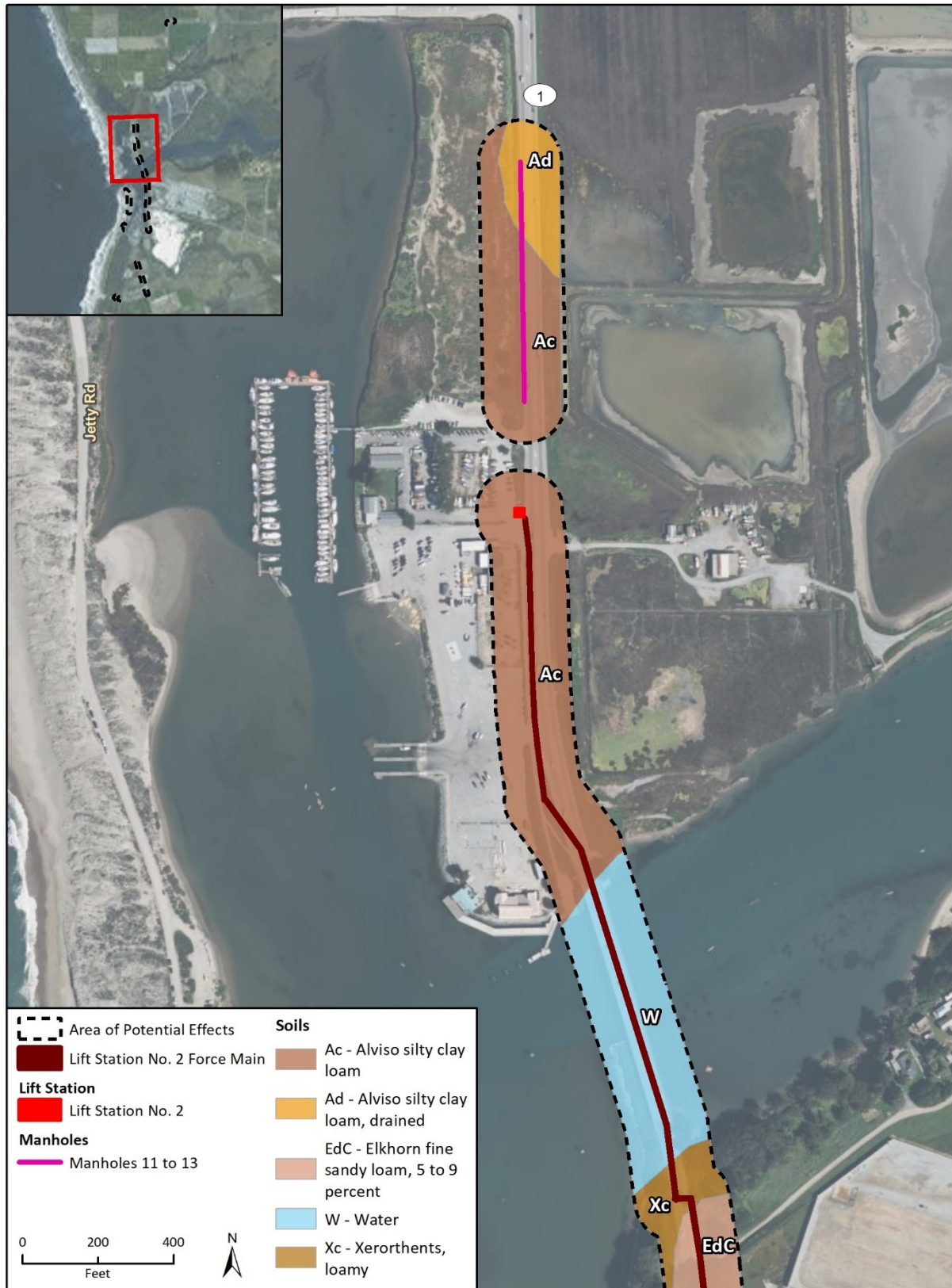
Figure 3a Soils Map Units within the APE – Northern Extent



Imagery provided by Microsoft Bing and its licensors © 2022.
Additional data provided by NRCS, 2022.

Fig. X Project Components North Soils

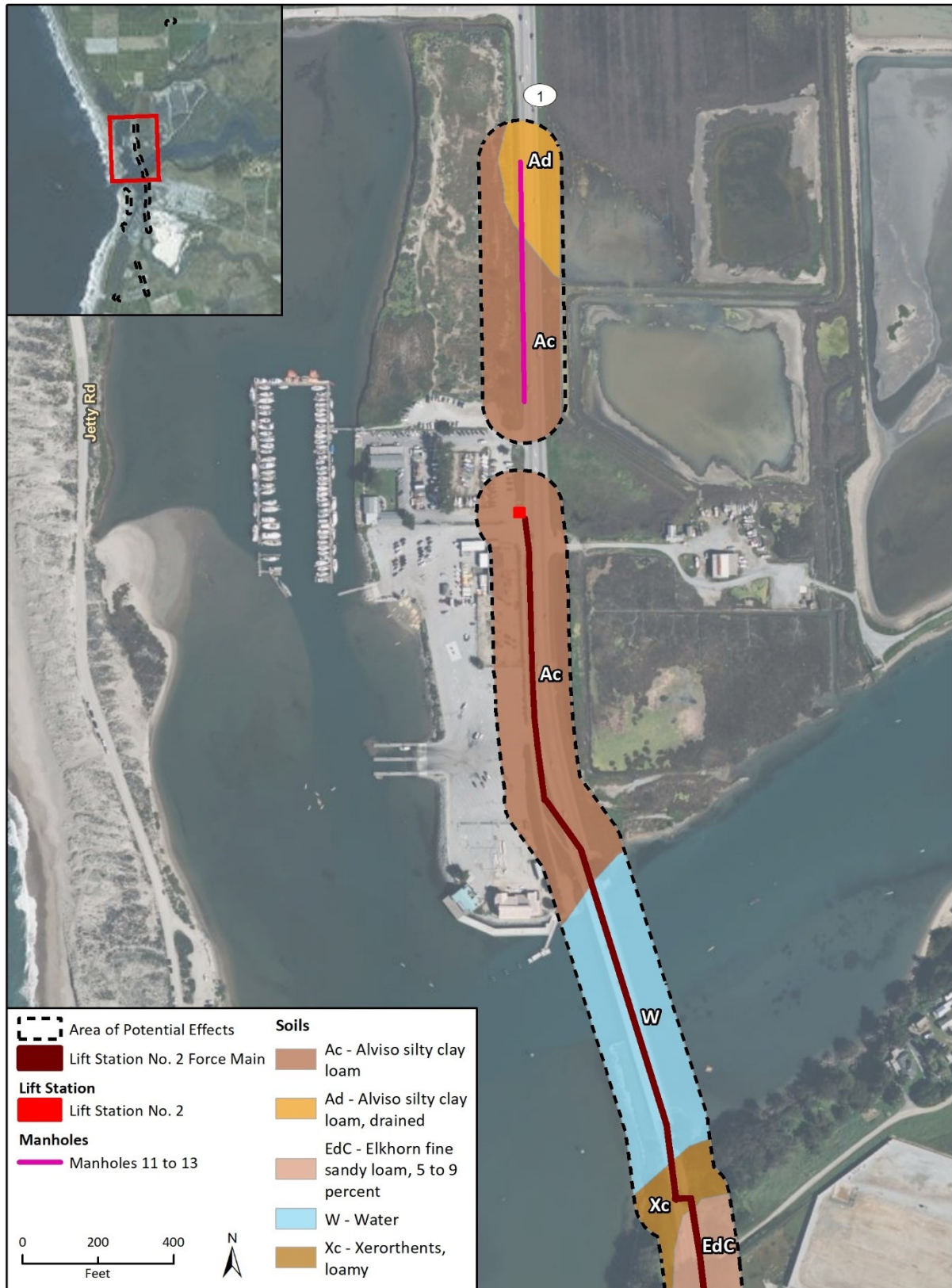
Figure 3b Soils Map Units within the APE - North-Central Extent



Imagery provided by Microsoft Bing and its licensors © 2022.

Fig. X Project Components South 1 Soils

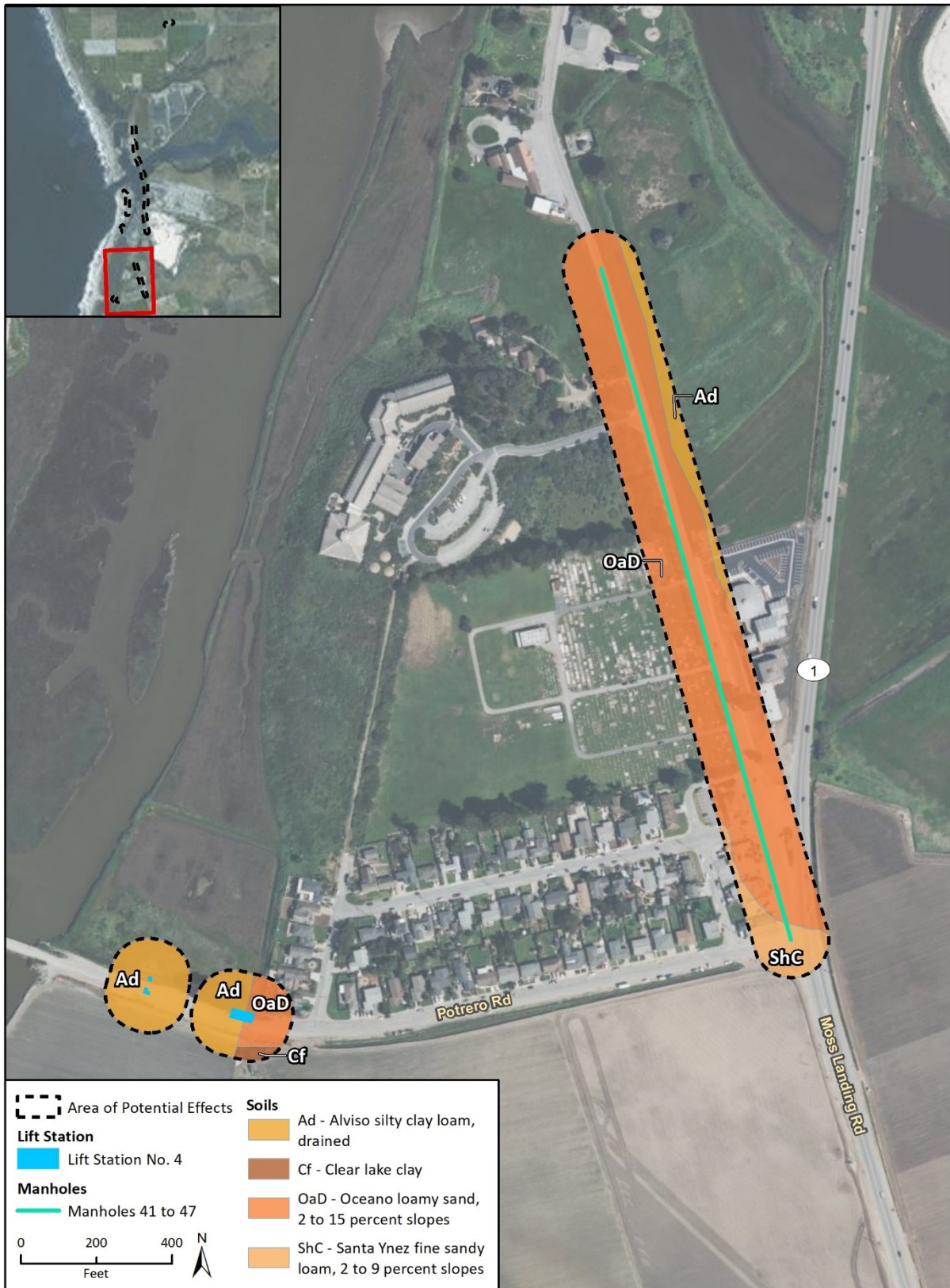
Figure 3c Soils Map Units within the APE – South-Central Extent



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Fig. X Project Components South 1 Soils

Figure 3d Soils Map Units within the APE – Southern Extent



meandering channels flushed by seawater and some fresh water. This soil map unit is included on the *National Hydric Soils List* (USDA NRCS 2022b).

Alviso Silty Clay Loam, Drained

Alviso silty clay loam is a nearly level soil consisting of very poorly drained soil that formed in alluvium derived from sedimentary rocks. These soils are in basins and on tidal flats that have meandering channels flushed by seawater and some fresh water. This soil has been partly drained by dikes, levees, and gates to control the inflow of tide water. This soil map unit is included on the *National Hydric Soils List* (USDA NRCS 2022b).

Santa Ynez Fine Sandy Loam, 2 to 9 Percent Slopes

Santa Ynez fine sandy loam, 2 to 9 percent slopes is a gently sloping to moderately sloping soil consisting of moderately well drained soils that formed on terraces of alluvium derived from sandstone and granitic rock. This soil map unit is included on the *National Hydric Soils List* (USDA NRCS 2022b).

Xerorthents, Loamy

Xerorthents, loamy are well drained moderately steep soils on bluffs and banks along major rivers, on escarpments of terraces, on fans or alluvial planes, and along drainage ways. This soil map unit is not included on the *National Hydric Soils List* (USDA NRCS 2022b).

Elkhorn Fine Sandy Loam, 5 to 9 Percent Slopes

Elkhorn fine sandy loam, 5 to 9 percent slopes is a moderately sloping well drained soil on marine terraces and benches. This soil was formed in material underlain by weakly consolidated sandy sediments or ferruginous sandstones. This soil map unit is not included on the *National Hydric Soils List* (USDA NRCS 2022b).

Dune Land

Dune land consists of sloping to steep areas of loose wind-deposited quartz and feldspar sand on hummocks, mounds, and hills. Some dunes are partly stabilized by vegetation and other dunes are blowing, shifting, and encroaching onto adjacent lands. This soil map unit is not included on the *National Hydric Soils List* (USDA NRCS 2022b).

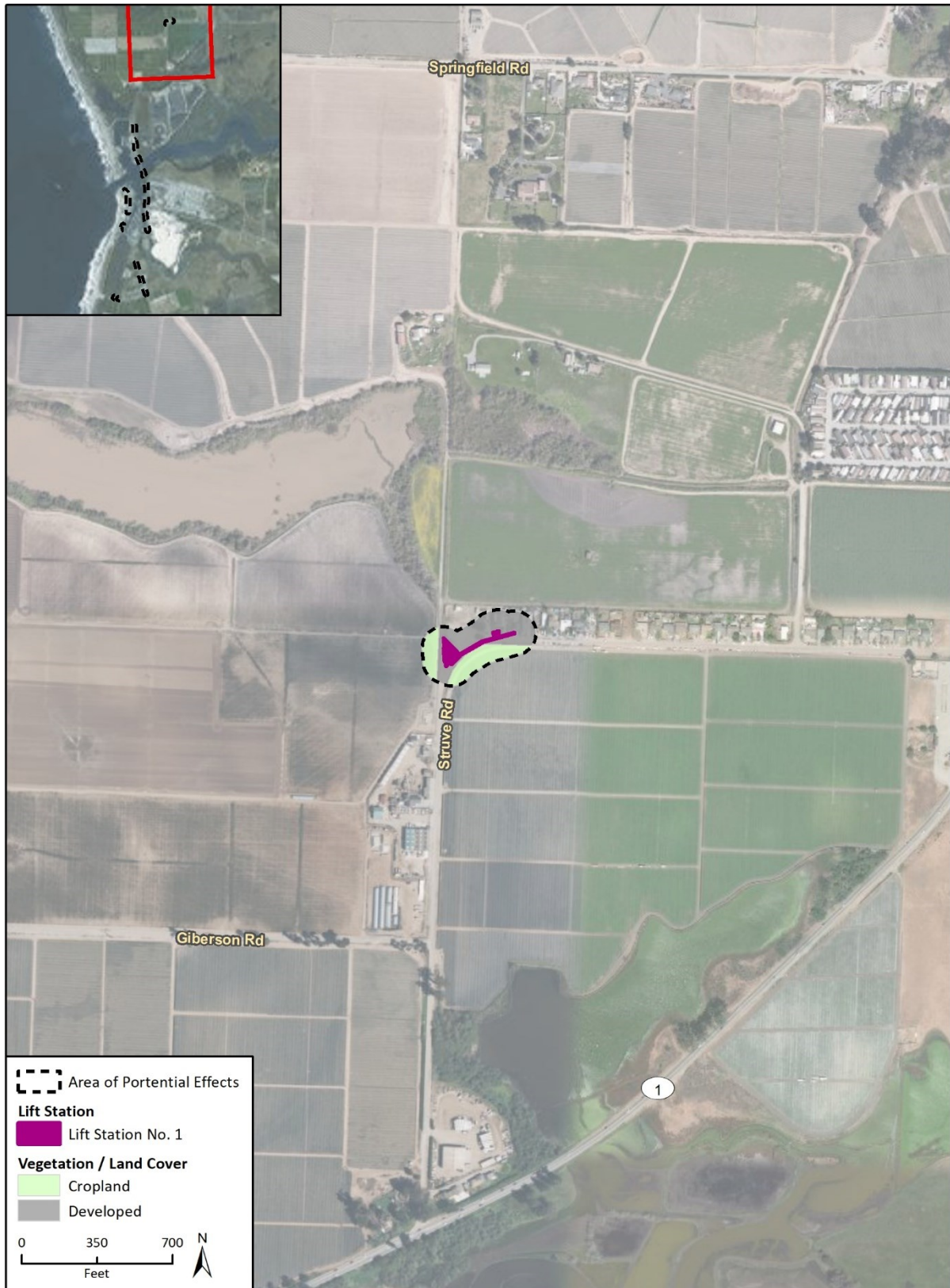
Oceano Loamy Sand, 2 to 15 Percent Slopes

Oceano loamy sand, 2 to 15 percent slopes is an undulating to rolling soil on eolian dunelike hills. It consists of well drained soils on stabilized dunes. This soil map unit is not included on the *National Hydric Soils List* (USDA NRCS 2022b).

3.4 Vegetation and Other Land Cover

Eight terrestrial vegetation communities or land cover types occur within the APE: developed/landscaped, cropland, coastal dune scrub, coastal scrub, ruderal, annual grassland, salt marsh, and marine. Vegetation was classified and mapped during the reconnaissance-level survey conducted on April 8, 2022 to characterize the APE. The vegetation/land cover types identified in the APE are depicted in Figure a through Figure d.

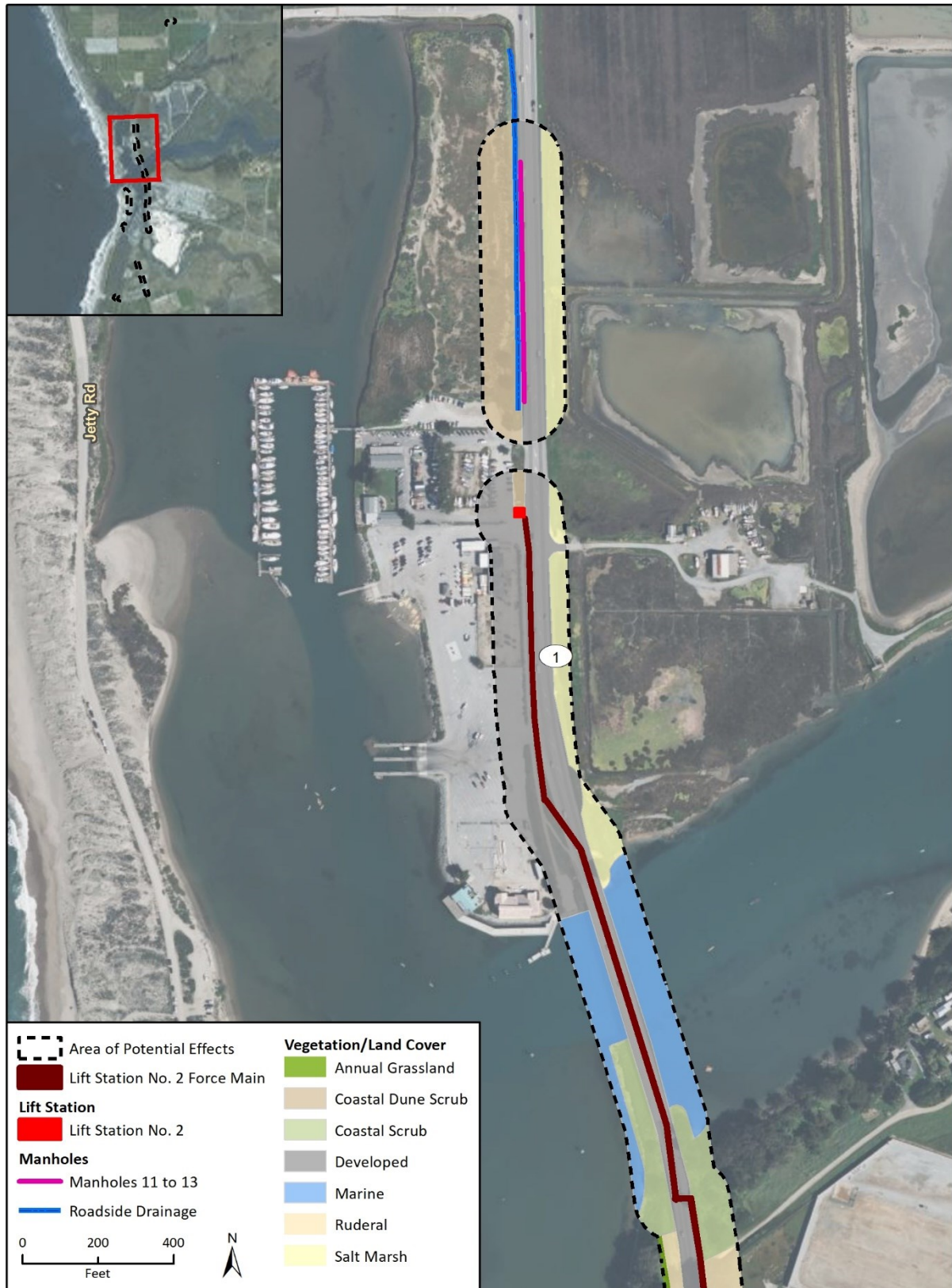
Figure 4a Vegetation and Land Cover – Northern Extent



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Fig X Project Components North Veg

Figure 4b Vegetation and Land Cover - North-Central Extent



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Fig. X Project Components South: 1 Veg

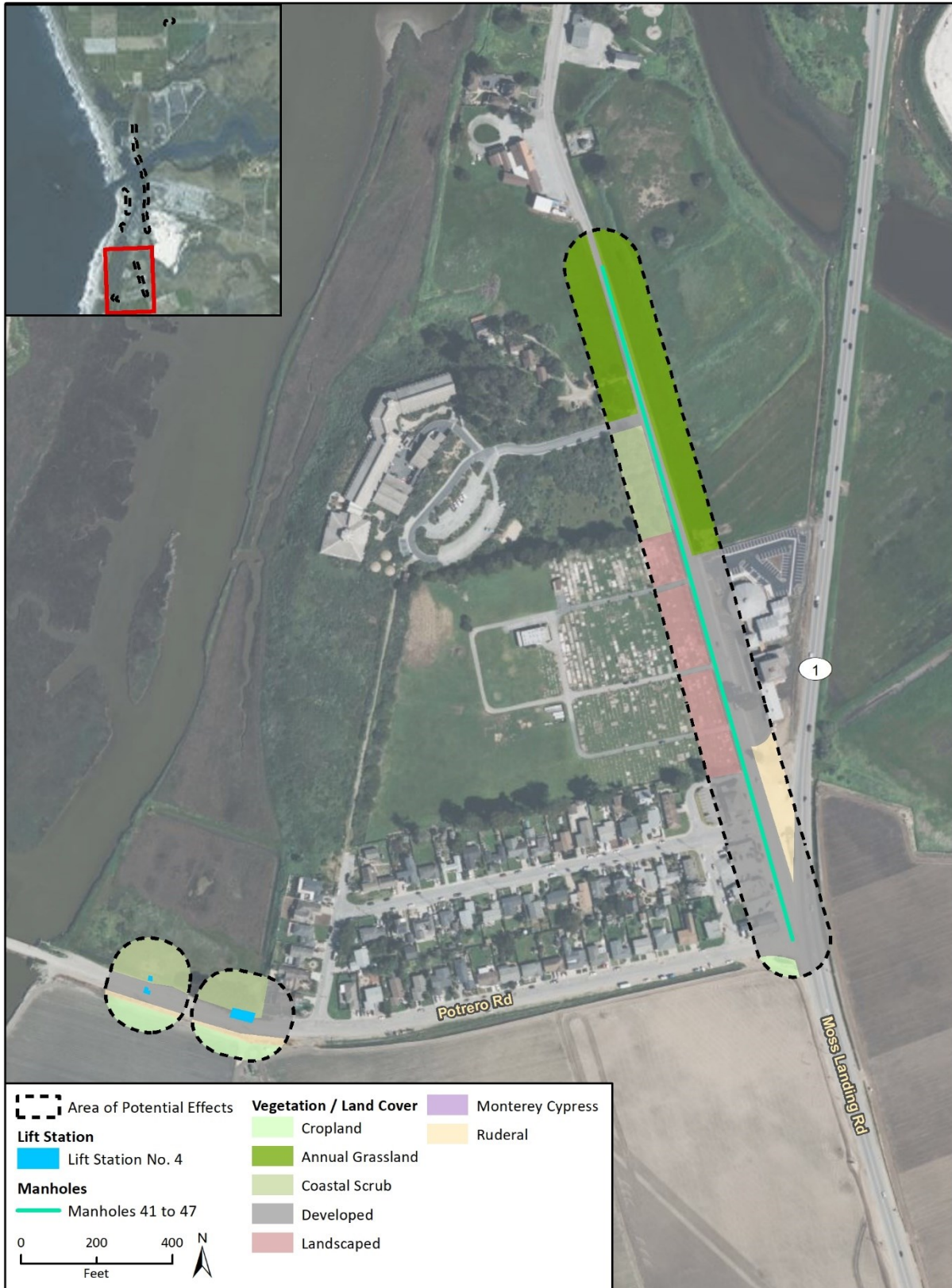
Figure 4c Vegetation and Land Cover – South-Central Extent



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Fig. X Project Components South 2 Veg

Figure 4d Vegetation and Land Cover – Southern Extent



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Habitat characterizations were based on the classification system presented in MCV2 (Sawyer et al. 2009) and *Preliminary Description of Terrestrial Natural Communities of California* (Holland 1986) but have been modified slightly to reflect existing site conditions accurately. The CDFW California Wildlife Habitat Relationships database was also referenced for describing the habitat types within the APE (Mayer and Laudenslayer 1988). Plant species nomenclature and taxonomy used for the APE follow treatments within Baldwin et al. (2012).

Developed/Landscaped

The developed/landscaped land cover type is the most prevalent land cover type within the APE, occupying approximately 47.13 acres. This land cover type includes roads, residential and commercial buildings, campgrounds, and parking lots. The landscaped portion of this community is closely associated with development. Landscaped plants, including fan palms (*Washingtonia sp.*) and Bermuda grass (*Cynodon dactylon*), occur in these areas.

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

Cropland

The cropland land cover type covers approximately 1.55 acres of the APE. This land cover consists of cultivated agriculture for various agriculture species.

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

Coastal Dune Scrub

The APE contains approximately 3.23 acres of coastal dune scrub. This vegetation community most closely resembles the *Eriophyllum staechadifolium* Herbaceous Alliance described by Sawyer et al. (2009). It consists primarily of relatively low-lying shrub species such as California buckwheat, mock heather (*Ericameria ericoides*), lizard tail (*Eriophyllum staechadifolium*) and California sagebrush (*Artemisia californica*) in a generally open distribution with grasses such as ripgut brome as well as iceplant (*Carpobrotus sp.*). The coastal dune scrub vegetation community was primarily observed along the segment of the project site that includes Manholes 11 to 13.

Coastal Scrub

The APE contains approximately 7.23 acres of coastal scrub. This vegetation community most closely resembles the *Baccharis pilularis* Shrubland Alliance described by Sawyer et al. (2009). The canopy is dominated by coyote brush (*Baccharis pilularis*) but contains other shrubs and trees such as Monterey cypress (*Cupressus macrocarpa*), California sagebrush, and willows (*Salix sp.*) in many places within the APE. The shrub canopy is generally relatively open with a scattered distribution of shrubs with annual grasses such as wild oats and bromes and annual herbs such as stork-billed filaree (*Erodium cicutarium*) in gaps between shrubs. The coastal scrub community along the southern bank of the Elkhorn Slough also includes occasional Monterey cypress trees; however, not enough trees are present to delineate the stand as a separate vegetation community.

Ruderal

The APE contains approximately 12.50 acres of ruderal land cover. Areas that have been heavily disturbed or altered such that natural vegetation has largely been removed are mapped as ruderal areas. These sites do not correspond well with either the Holland (1986) or Sawyer et al. (2009) classification systems. Ruderal areas on site have had visible disturbance of soil or vegetation and are mostly bare and colonized by weeds and disturbance-tolerant natives, such as plantain (*Plantago lanceolata*), white verbena (*Verbena urticifolia*), and non-native annual grasses such as foxtail barley (*Hordeum murinum*). Ruderal areas are primarily found along the edges of roadways within the APE.

Annual Grassland

The annual grassland covers approximately 3.76 acres of the southern portion of the APE. This vegetation type is dominated by wild oats (*Avena sp.*) with ripgut brome and wild radish (*Raphanus raphanistrum*). This vegetation type closely corresponds to wild oats and annual brome grasslands alliance described by Sawyer et al. (2009).

Monterey pine (*Pinus radiata*) and coyote brush are also occasionally interspersed throughout this community; however, not enough of these species are present to delineate these areas as separate vegetation communities.

Salt Marsh

Salt marsh covers approximately 3.20 acres of the APE near the Lift Station No. 2 Force Main alignment. This vegetation type is tidally influenced and dominated by halophytic vegetation such as pickle weed (*Salicornia sp.*) and salt grass (*Distichlis spicata*). This vegetation type closely corresponds to *Distichlis spicata* Herbaceous Alliance described by Sawyer et al. (2009).

Marine

Marine covers approximately 5.5 acres of the APE near the Lift Station No. 2 Force Main alignment and Pipe Repair P-2. This land cover type extends from the unvegetated shore to the open ocean. Aquatic species are found within this land cover type.

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

3.5 General Wildlife

Wildlife activity was low during the field reconnaissance survey. The coastal scrub and riparian habitat within and adjacent to the APE provides habitat for a variety of birds such as house finch (*Haemorhous mexicanus*), California towhee (*Melospiza crissalis*), and California scrub jay (*Aphelocoma californica*). Species observed during the site assessment included Anna's hummingbird (*Calypte anna*) and house finch. For a complete list of wildlife observed, see Appendix D.

4 Regulated Biological Resources

Local, state, and federal agencies regulate special status species and other biological resources. This section discusses regulated biological resources observed in the APE and evaluates the potential for the APE to support additional regulated biological resources. Assessments for the potential occurrence of special status species are based upon known ranges, habitat preferences for the species, species occurrence records from the CNDDDB, species occurrence records from other sites in the vicinity of the APE, and the results of the survey of the APE. The potential for each special status species to occur in the study area was evaluated according to the following criteria:

- **No Potential.** Habitat on and adjacent to the site is clearly unsuitable for the species requirements (foraging, breeding, cover, substrate, elevation, hydrology, plant community, site history, disturbance regime), and species would have been identifiable on-site if present (e.g., oak trees).
- **Low Potential.** Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the site is unsuitable or of very poor quality. The species is not likely to be found on the site. Protocol surveys (if conducted) did not detect species.
- **Moderate Potential.** Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the site is unsuitable. The species has a moderate probability of being found on the site.
- **High Potential.** All of the habitat components meeting the species requirements are present, and/or most of the habitat on or adjacent to the site is highly suitable. The species has a high probability of being found on the site.
- **Present.** Species is observed on the site or has been recorded (e.g., CNDDDB or other reports) on the site recently (within the last five years).

4.1 Special Status Species

For this report, special status species are defined as those plants and animals listed, proposed for listing, or candidates for listing as threatened or endangered by USFWS or NMFS under the federal Endangered Species Act; those listed or candidates for listing as rare, threatened, or endangered by the CDFW under the California Endangered Species Act; and animals designated as “Species of Special Concern” by CDFW or “Fully Protected” under the California Fish and Game Code. Additionally, rookery sites for species that nest colonially, such as bat maternity roosts, are also treated as special status.

Special Status Plant Species

Based on the database and literature review of records from the *Oceano, California* USGS 7.5-minute topographic quadrangle and surrounding seven quadrangles as well as the USFWS IPaC list of federally listed species, 19 special status plant species are known to occur or have the potential to occur within the vicinity of the APE (Appendix B). However, due to development, landscaping, and dune restoration projects throughout most of the APE, only one special status plant species – the Monterey spineflower (*Chorizanthe pungens* var. *pungens*) - has a moderate or greater potential to occur within the APE. Monterey cypress, which has a CRPR ranking of 1B, represent ornamental

plantings and escaped ornamental plantings within the APE. As such, Monterey cypress will not be addressed as a special status plant species because they are not part of a naturally-occurring stand of trees.

Monterey Spineflower

Monterey spineflower, federally listed as endangered and CRPR List 1B.1, is a prostrate annual species in the buckwheat family (Polygonaceae). Seeds typically germinate after the onset of winter rains, and plants can be found aboveground as early as December (Fox et al. 2006). Flowering occurs from late March to June, depending on weather patterns, and seed is dispersed in mid-summer. The species colonizes open sandy sites and tends to invade roadsides and firebreaks. It is found in maritime chaparral, coast live oak woodland, coastal scrub, grassland, and coastal dune habitats. Monterey spineflower occurs along the coast of southern Santa Cruz and Monterey counties and inland to the coastal plain of the Salinas Valley.

Special Status Wildlife Species

Of the 20 special-status wildlife species evaluated (Appendix B), one species, Smith's blue butterfly (*Euphilotes enoptes smithi*), has a moderate potential to occur and is discussed further below. Eight species have a low potential to occur within the APE: monarch - California overwintering population (*Danaus plexippus pop. 1*), Northern California legless lizard (*Anniella pulchra*), western burrowing owl (*Athene cunicularia*), white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus anatum*), California Ridgway's rail (*Rallus obsoletus obsoletus*), bank swallow (*Riparia riparia*), and Monterey shrew (*Sorex ornatus salarius*). For the purposes of CEQA analysis, special-status species with low potential to occur will not be addressed further because these species have a low likelihood of being present within the vicinity of the project site. The remaining 15 special-status species evaluated are not expected to occur in the APE due to a lack of species-specific habitat requirements within the APE, the overall lack of suitable habitat such as natural vegetation communities or natural wetland habitats (e.g., marshes or seeps), and/or because the range of the species does not overlap with the APE. No federal or state-listed or other special-status wildlife species were observed during the field survey. CFGC Section 3503 and the federal Migratory Bird Treaty Act (MBTA) protect native bird species and their nests.

Smith's Blue Butterfly

Smith's blue butterfly occurs in scattered populations in association with coastal dune, coastal scrub, chaparral, and grassland habitats (Scott 1986). They spend their entire lives in association with two host buckwheat plants: cliff buckwheat (*Erigonum parviflorum*) and seaside buckwheat (*E. latifolium*). Both buckwheat host plants are utilized as larval and adult food plants.

There is one known occurrence of this species within five miles of the APE. This occurrence was observed in the dunes south of the APE. The potential for this species is limited to portions of the APE where suitable habitat, including seaside buckwheat and cliff buckwheat, occur. The coastal dune scrub habitat along SR 1 provides suitable habitat for this species.

Other Protected Species

Nesting Birds

Non-game migratory birds protected under CFGC Section 3503 have the potential to breed throughout the APE. Native avian species common in coastal scrub, landscaping, developed, and

ruderal areas have the potential to breed and forage throughout the APE. Species of birds common to the area that typically occur in the region, such as California scrub jay, black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), house finch, American crow (*Corvus brachyrhynchos*), Brewer's blackbird (*Euphagus cyanocephalus*), American bushtit (*Psaltriparus minimus*) and other common California native bird species are likely to utilize the APE for nesting. Nesting by a variety of common birds protected by CFGC Section 3503 could occur in virtually any location throughout the APE.

4.2 Sensitive Plant Communities and Critical Habitats

Sensitive Natural Communities

Plant communities are considered sensitive biological resources if they have limited distributions, have high wildlife value, include sensitive species, or are particularly susceptible to disturbance. CDFW ranks sensitive communities as "threatened" or "very threatened" and keeps records of their occurrences in CNDDDB. Sensitive natural communities included in the CNDDDB follow the original methodology according to "Preliminary Descriptions of the Terrestrial Natural Communities of California" (Holland 1986). The methodology for determining sensitivity continues to be revised and is now based on MCV2 (Sawyer et al. 2009). Communities considered sensitive by CDFW are published in the California Sensitive Natural Communities List (CDFW 2021).

Five sensitive natural communities are known to occur within the seven-quadrangle search area, three of which were observed in the APE during the field reconnaissance survey - central dune scrub, central maritime chaparral, and Northern Coastal Salt Marsh.

Critical Habitat

Critical habitat for tidewater goby (*Eucyclogobius newberryi*), western snowy plover (*Charadrius alexandrinus nivosus*), and Monterey spineflower occurs within five miles of the APE. However, the APE does not occur within federally-designated critical habitat for these species (USFWS 2022b).

California Coastal Zone and Environmentally Sensitive Habitat Areas

All project components occur within the Coastal Zone designated by the California Coastal Commission under the California Coastal Act. Because the locations occur within the jurisdiction of the County of Monterey, these project components would be regulated pursuant to the County's LCP, specifically by the North County Land Use Plan, which includes the Moss Landing Community Plan (1982). LCPs typically identify Environmentally Sensitive Habitat Areas (ESHAs), which are areas in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments. The Coastal Commission considers saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats, and fens to be wetlands (Coastal Act Section 30121). Coastal wetlands include "land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate" (California Code of Regulations Section 13577[b]). None of the project components are within ESHAs; however, based on the results of the field reconnaissance survey, ESHAs were

observed adjacent to Manholes 11 to 13, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4.

4.3 Jurisdictional Waters and Wetlands

As noted in Section 3.2, *Watershed and Drainages*, and Section 3.4, *Vegetation and Other Land Cover*, one roadside drainage observed during the reconnaissance survey occurs within the APE adjacent to SR 1 within 100 feet of Manholes 11 to 13. This feature is likely not under the jurisdiction(s) of the United States Army Corps of Engineers (USACE) because it is ephemeral and does not have an indicator of an ordinary high water mark. In addition, it is likely not under the jurisdiction of CDFW because it is not a natural stream course. However, it is likely under the jurisdiction of the Regional Water Quality Control Board (RWQCB) pursuant to the Porter-Cologne Water Quality Control Act as isolated waters of the State and County of Monterey pursuant to the California Coastal Act and associated Coastal Commission-approved LCP because it meets the one-parameter definition of a wetland.

4.4 Wildlife Movement

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

The APE is not within any Essential Connectivity Areas (CDFW 2010) and given the relatively narrow footprint, relatively small size of the APE, and the hazardous nature of the associated roads, it is unlikely the APE would support a significant movement corridor for wildlife. Sea lions or sea otters may move locally in the project area; however, the proposed project would not prohibit their movement within the vicinity of the project.

4.5 Resources Protected by Local Policies and Ordinances

The Monterey County General Plan (2010) includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats will be affected by new development. The County also requires that migratory bird nests be protected during the nesting season (February 1 to September 15) by means of pre-construction surveys and no-disturbance buffers.

Under the County of Monterey's LCP, the project site is also subject to the policies of the North County Land Use Plan, which includes the Moss Landing Community Plan (1982). Section 2.3 of the

North County Land Use Plan prohibits all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures in the following environmentally sensitive habitats: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul-out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Section 2.3 of the North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval (County of Monterey 1982).

4.6 Habitat Conservation Plans

The APE is not located within an area with an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan.

5 Impact Analysis and Mitigation Measures

This section discusses the potential impacts to biological resources that may occur from implementation of the proposed project and suggests appropriate avoidance, minimization, and mitigation measures that would reduce those impacts to less-than-significant levels. The criteria used to evaluate potential project-related impacts to biological resources are summarized in Section 2.3, *Guidelines for Determining CEQA Significance*.

5.1 Special Status Species

The proposed project would have a significant effect on biological resources if it would:

- a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by CDFW or USFWS.

Special Status Plants

One special status plant species, Monterey spineflower, was determined to have a moderate potential to occur within the APE based on the presence of suitable habitat, specifically coastal dune scrub habitat. Most project impacts would occur on previously disturbed areas outside the limits of natural habitats. However, Manholes 11 to 13 are in close proximity to suitable habitat for Monterey spineflower. Direct impacts from project construction would include ground-disturbing activities that could result in removal of the species if present. Indirect impacts would occur if construction equipment inadvertently transported residual plant material from other construction sites (e.g., seeds of invasive plant species carried to the site within the undercarriage or tires of heavy equipment that have not been cleaned thoroughly between construction sites), which could lead to the spread of invasive, non-native species from construction equipment. Invasive, non-native plant species can out-compete native species and/or alter habitat towards a state that is unsuitable for the survival of special status species. For example, the spread of certain weed species can reduce the biodiversity of native habitats through displacement of vital pollinators or through competition with native plants for space, water, and light. Therefore, project impacts to Monterey spineflower would be potentially significant, and implementation of the following Mitigation Measures BIO-1 through BIO-3 is recommended to reduce impacts to a less-than-significant level. With implementation of these measures, the project is not likely to adversely affect Monterey spineflower pursuant to the federal Endangered Species Act.

Recommended Mitigation Measures

BIO-1 Conduct Special Status Plant Species Survey

Prior to the start of project construction activities for Manholes 11 to 13, a survey for special status plants should be completed in all natural vegetation communities in which Monterey spineflower may be found. This survey should be floristic in nature and should be conducted to coincide with the blooming period of the spineflower from April to July. The survey should be conducted by a qualified biologist during the blooming season prior to any ground disturbance. All special status plant species identified should be mapped onto a site-specific aerial photograph or topographic map with the use of Global Positioning System (GPS) unit. Surveys should be conducted in accordance

with the most current protocols for botanical surveys established by the CDFW, USFWS, and the local jurisdictions if said protocols exist. A plant survey report should be prepared that: 1) outlines the methodology of surveys and qualifications of the surveying biologist; 2) presents the results of the surveys; 3) presents an analysis of potential impacts to non-listed species and a determination of whether or not those impacts could result in jeopardy of a local or regional population; 4) presents a summary of listed species that would be impacted including numbers of individuals and/or acres of occupied habitat; 5) presents the required compensatory mitigation; and 6) recommends any additional tasks that would be required to avoid minimize and mitigate for special status plants such as preparation of a habitat mitigation and monitoring plan. A report of the survey results should be submitted to the Castroville Community Services District. The CDFW and/or USFWS may also require documentation of surveys for consultation purposes. If special status plant species are identified within or adjacent to proposed disturbance areas, recommended Mitigation Measure BIO-2 (below) should be implemented.

BIO-2 Implement Special Status Plant Species Avoidance, Minimization, and Mitigation

If federally and/or state listed or CRPR List 1B or 2 species are found during the special status plant survey and listed species would be directly and/or indirectly impacted, or there would be a population-level impact to non-listed species, then the plant(s) should be demarcated and avoided to avoid population-level impacts. Listed and other special status plant occurrences that are not within the immediate disturbance footprint but are located within 50 feet of disturbance limits should be demarcated as an Environmentally Sensitive Area (ESA) and should have bright orange protective fencing (e.g., orange snow fencing) installed a minimum of 30 feet beyond their extent prior to and during construction activities. Reduction of avoidance buffer distance should be approved by a qualified biologist. No construction activity should be allowed within these avoidance areas. To avoid encroachment within ESAs, the limits of work should be clearly shown on all project plans. In addition, work at Manholes 11 to 13 should be monitored by a qualified biologist to ensure no encroachment. If significant impacts to Monterey spineflower cannot be avoided, recommended Mitigation Measure BIO-3 (below) should be implemented.

BIO-3 Prepare Habitat Mitigation and Monitoring Plan

If federally and/or state listed plants or non-listed special status plant populations cannot be avoided and will be impacted by development of the proposed project, the District should mitigate all impacts at a minimum ratio of 1:1 for occupied habitat area as a component of habitat restoration or through compensatory mitigation. A habitat mitigation and monitoring plan (HMMP) should be prepared by a qualified biologist and submitted to the District for review and approval. The HMMP should include, at a minimum, the following components:

- Description of the project/impact site (i.e., location, responsible parties, areas to be impacted by habitat type)
- Goal(s) of the compensatory mitigation project [type(s) and area(s) of habitat to be established, restored, enhanced, and/or preserved; specific functions and values of habitat type(s) to be established, restored, enhanced, and/or preserved]
- Description of the proposed compensatory mitigation site (location and size, ownership status, existing functions and values)
- Implementation plan for the compensatory mitigation site (rationale for expecting implementation success, responsible parties, schedule, site preparation, planting plan)

- Maintenance activities during the monitoring period, including weed removal as appropriate (activities, responsible parties, schedule)
- Monitoring plan for the compensatory mitigation site, including no less than quarterly monitoring for the first year (performance standards, target functions and values, target acreages to be established, restored, enhanced, and/or preserved, annual monitoring reports)
- Success criteria based on the goals and measurable objectives; said criteria to be, at a minimum, at least 80 percent survival of container plants and 30 percent relative cover by vegetation type
- An adaptive management program and remedial measures to address any shortcomings in meeting success criteria and/or to address catastrophic events such as wildfires
- Notification of completion of compensatory mitigation and agency confirmation
- Contingency measures (initiating procedures, alternative locations for contingency compensatory mitigation, funding mechanism)

Special Status Wildlife

Smith's Blue Butterfly

Smith's blue butterfly, a federally endangered species, is dependent on its host plants (seacliff buckwheat and seaside buckwheat) for foraging and breeding. These plants have the potential to be located throughout the APE in undeveloped areas within or adjacent to the construction areas for Lift Station Nos. 1, 2, and 4, the Lift Station No. 2 Force Main, and all manhole improvements. If individuals of the host plants (seacliff buckwheat and seaside buckwheat) are present within or immediately adjacent to the APE, impacts to host plants could occur during construction activities if plants are damaged or removed. If these plants contain eggs and/or larva, impacts to Smith's blue butterfly would be potentially significant. Therefore, implementation of Mitigation Measure BIO-4 is recommended to reduce project impacts a less-than-significant level. With implementation of this measure, the project is not likely to adversely affect Smith's blue butterfly pursuant to the federal Endangered Species Act.

Nesting Birds

In addition to the special status animal species discussed above, several bird species protected by the CFGC may also nest in trees and shrubs within or near the APE. Direct impacts to nesting birds may occur due to removal or trimming of trees, shrubs, and other nesting substrates that may contain active nests. Indirect impacts to nesting birds may also occur during construction activities in the vicinity of an active nest resulting from distress to adults and disruption of nesting behavior due to construction noise that may lead to nest abandonment or failure. Therefore, impacts to nesting birds from construction would be potentially significant, and implementation of Mitigation Measure BIO-5 is recommended to reduce impacts to a less-than-significant level.

Recommended Mitigation Measures

BIO-4 Smith's Blue Butterfly Host Plant Surveys and Mitigation

Prior to grading and construction in undeveloped areas for Lift Station Nos. 1, 2, and 4, the Lift Station No. 2 Force Main, and all manhole improvements, a qualified biologist should conduct surveys for seacliff buckwheat (*Eriogonum parvifolium*) and seaside buckwheat (*Eriogonum latifolium*), host plants of Smith's blue butterfly, in areas of suitable habitat. These surveys can be

completed as part of the special status plant species survey recommended under Mitigation Measure BIO-1.

If no Smith's blue butterfly host plants are located, no further action is required. If host plants are located within proposed disturbance areas, the plants should be buffered by a minimum of 25 feet and demarcated as an ESA with high-contrast construction flagging or bright orange protective fencing (e.g., orange snow fencing). No construction activities should be allowed within the buffered avoidance area. If construction would be required within the buffer area, a biological monitor should be present for all work within the buffer avoidance area to ensure no direct impacts to host plants.

If avoidance is not feasible, focused surveys should be conducted to determine presence or absence of the butterfly species. These may include surveys during the adult flight period (mid-June through early September) and/or inspection of host plants for all life forms (egg, larva, pupa, and adult). If individuals of any life stage that may be impacted by the proposed project are detected during focused surveys, the plant cannot be disturbed without consultation with and take authorization from USFWS. If take authorization is received, a USFWS-permitted biologist should salvage and relocate occupied host plants to an approved location nearby. An HMMP as described for special-status plant species under recommended Mitigation Measure BIO-3 should be prepared by a qualified biologist and submitted to USFWS for review and approval.

BIO-5 Nesting Bird Avoidance and Minimization Measures

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

- Initial site disturbance should occur outside the general avian nesting season (February 1 through September 15), if feasible.
- If initial site disturbance occurs in a work area within the general avian nesting season indicated above, a qualified biologist should conduct a pre-construction nesting bird survey no more than 14 days prior to initial disturbances in the work area. The survey should include the entire area of disturbance area plus a 50-foot buffer (relevant to non-raptor species) and 300-foot buffer (relevant to raptors) around the site. If active nests are located, all construction work should be conducted outside a buffer zone from the nest to be determined by the qualified biologist. The buffer should be a minimum of 50 feet for non-raptor bird species and at least 300 feet for raptor species. Larger buffers may be required and/or smaller buffers may be established depending upon the species, status of the nest, and construction activities occurring in the vicinity of the nest. The buffer area(s) should be closed to all construction personnel and equipment until the adults and young are no longer reliant on the nest site. A qualified biologist should confirm that breeding/nesting is completed and young have fledged the nest prior to removal of the buffer.
- If construction activities in a given work area cease for more than 14 days, additional surveys should be conducted for the work area. If active nests are located, the aforementioned buffer zone measures should be implemented.

5.2 Sensitive Plant Communities

The proposed project would have a significant effect on biological resources if it would:

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS.

Construction and operation of many project components, including Lift Station Nos. 1 through 3, Pipe Repairs P-1 and P-2, and the Lift Station No. 1 Force Main Air Release Valve Vault, would not impact riparian habitat or other sensitive habitat types. No effects to riparian habitat or other natural communities adjacent to Elkhorn Slough would occur during replacement of the Lift Station No. 2 Force Main because construction activities would be conducted from the deck of the bridge. Thus, these construction activities would have no impacts to Elkhorn Slough or the riparian vegetation associated with the slough. Manholes 11 to 13 are adjacent to a coastal dune scrub habitat, which is on the California Sensitive Natural Communities List (CNDDDB 2021). In addition, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47 and Lift Station No. 4 are all adjacent to the sensitive coastal scrub habitat. These project components occur within the roadway rights-of-way, and construction activities would not directly impact these habitats. However, there is potential for indirect impacts to sensitive habitat to occur, such as introduction of invasive species or incidental trampling of habitat as construction workers move around the area. Therefore, impacts to sensitive plant communities could be potentially significant, and implementation of Mitigation Measure BIO-6 outlined below is recommended to reduce impacts to a less-than-significant level.

It should be noted that the project is located within the Coastal Zone (see Section 4.2, *Sensitive Plant Communities and Critical Habitat*). The project would be required to comply with all applicable regulatory requirements pertaining to setbacks from ESHA, including those contained in the Monterey County LCP and the Monterey County Code (see Section 5.5, *Local Policies and Ordinances*).

Recommended Mitigation Measures

BIO-6 Implement Sensitive Plant Community and Environmentally Sensitive Habitat Area Avoidance and Minimization Measures

The following measures should be implemented for project construction activities associated with Manholes 11 to 13, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4:

- To the extent feasible, all project activities, including access routes, staging areas, stockpile areas, and equipment maintenance, should be located outside of the limits of mapped sensitive habitats. Sensitive habitat areas should be mapped by a qualified biologist and clearly shown on construction plans. Bright orange protective fencing (e.g., orange snow fencing) should be installed at the outermost edge of sensitive habitats and should not be disturbed except as required for project activities. Vegetation removal should be limited to the minimum extent necessary to achieve project objectives. Mature trees should be retained wherever feasible, and limbing of trees and shrubs should be favored in lieu of removal. When feasible, stumps and burls of native vegetation should be retained during construction to allow for re-sprouting following project completion.
- During construction, the District should make all reasonable efforts to limit the use of imported soils for fill. Soils currently existing on site should be used for fill material. If the use of imported fill material is necessary, the imported material should be obtained from a source that is known to be free of invasive plant species.

In addition, the construction specifications for Manholes 11 to 13, Manholes 27 to 30, Lift Station No. 2 Force Main, Manholes 41 to 47, and Lift Station No. 4 should include the following best management practices to protect sensitive plant communities during project construction activities.

- Minimize removal or disturbance of existing vegetation outside of the footprint of project construction activities.
- Limit site access and parking, equipment storage and stationary construction activities to the designated staging areas to the maximum extent feasible.
- Prior to staging equipment on-site, clean all equipment caked with mud, soils, or debris from off-site sources and/or previous construction sites to avoid introducing or spreading invasive exotic plant species. When feasible, remove invasive exotic plants from the APE. All equipment used on the premises should be cleaned prior to leaving the site for other projects.
- Position all stationary equipment such as motors, pumps, generators, and/or compressors over drip pans. At the end of each day, move vehicles and equipment as far away as feasible from any water body adjacent to the project site in a level staging area. Position parked equipment also over drip pans or absorbent material.
- Refuel and perform all vehicle and/or equipment maintenance off-site at a facility approved for such activities.
- To the greatest extent feasible, stabilize all exposed or disturbed areas in the APE. Install erosion control measures as necessary such as silt fences, jute matting, weed-free straw bales, plywood, straw wattles, and water check bars, and broadcasting weed-free straw wherever silt-laden water has the potential to leave the work site and enter the nearby aquatic features. Prohibit the use of monofilament erosion control matting to prevent wildlife entanglement. Modify, repair, and/or replace erosion control measures as needed.

5.3 Jurisdictional Waters and Wetlands

The proposed project would have a significant effect on biological resources if it would:

- c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

As stated in Section 4.4, *Jurisdictional Waters and Wetlands*, one roadway drainage is present in the APE adjacent to SR 1 within 100 feet of Manholes 11 to 13 is likely under the jurisdiction of the RWQCB and the County of Monterey pursuant to the LCP. The drainage would be avoided; therefore, no direct impacts to jurisdictional waters or wetlands would occur. Nevertheless, indirect impacts from project activities could occur if contaminated runoff were allowed to enter the drainage. As a result, impacts would be potentially significant, and implementation of Mitigation Measure BIO-7 outlined below is recommended to reduce impacts to a less-than-significant level.

Recommended Mitigation Measure

BIO-7 Construction Best Management Practices for Jurisdictional Waters

The roadway drainage located near Manholes 11 to 13 should be demarcated with fencing and avoided by construction personnel. The following best management practices should be required for construction activities at Manholes 11 to 13:

- Staging and construction areas should be limited to the minimum area necessary to achieve the project goal and minimize impacts to the roadway drainage, including locating access routes and ancillary construction areas away from the roadway drainage.
- To control erosion and sediment runoff during and after project construction, appropriate erosion control materials should be deployed, including but not limited to straw wattles, and maintained in the vicinity of the project footprint.
- Raw cement, concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances which could be hazardous to aquatic species resulting from project-related activities, should be prevented from contaminating the soil and/or entering the drainage.
- All refueling, maintenance, and staging of equipment and vehicles should occur at least 100 feet from the drainage and in a location where a potential spill would not drain directly toward aquatic habitat (e.g., on a slope that drains away from the water source). Prior to the onset of work activities, a plan should be in place for prompt and effective response to any accidental spills. All workers should be informed of the importance of preventing spills and of the appropriate measures to take should an accidental spill occur.

5.4 Wildlife Movement

The proposed project would have a significant effect on biological resources if it would:

- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

No significant wildlife movement corridors or habitat linkages are present in the APE. In addition, due to the relatively small size of each project component, their dispersal throughout the APE, and their location primarily below ground, the project would not interfere substantially with the movement of wildlife species. No impact would occur.

5.5 Local Policies and Ordinances

The proposed project would have a significant effect on biological resources if it would:

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance

The Monterey County General Plan (2010) includes a Conservation and Open Space Element for the long-term preservation of open space and natural resources. Goals OS-5.1 through OS-5.25 address the conservation of listed species, critical habitats, and the avoidance of significant impacts to biological resources. These goals require compliance with the Federal Endangered Species Act and California Endangered Species Act and consultation with USFWS and CDFW if listed species or critical habitats will be affected by new development. Section 2.3 of the County of Monterey's North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits all development within certain environmentally sensitive habitats as well as the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval. The North County Area Plan requires a permit for removal of oak or madrone trees. No oak or madrone trees would be removed as a result of the

proposed project. As discussed under Section 5.1, *Special Status Species*, and Section 5.2, *Sensitive Plant Communities*, impacts to special status species and sensitive plant communities (including environmentally sensitive habitats) would be less than significant with incorporation of the recommended mitigation measures. Therefore, the project would not conflict with any local policies or ordinances protecting biological resources. Impacts would be less than significant with mitigation incorporated.

5.6 Adopted or Approved Plans

The proposed project would have a significant effect on biological resources if it would:

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan.

The APE is not subject to an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

5.7 Critical Habitat, Coastal Zone, Wild and Scenic Rivers, and Essential Fish Habitat

As noted in Section 4.2, *Sensitive Plant Communities and Critical Habitat*, the APE does not occur within federally-designated critical habitat but is located within the Coastal Zone. In the vicinity of the APE, the California Coastal Commission has delegated local permitting authority through its approval of the Monterey County LCP, specifically the North County Land Use Plan, which includes the Moss Landing Community Plan (1982). Unless the project is determined to be exempt by the County of Monterey, the District would be required to obtain a coastal development permit for the project. Therefore, through required compliance with County of Monterey coastal regulations, the District would be in compliance with the Coastal Zone Management Act.

As described in Section 5.3, *Jurisdictional Waters and Wetlands*, the APE does not support federally protected wetlands as defined by CWA Section 404; therefore, no impacts would occur. Thus, the District would be in compliance with Executive Order 11990 (Protection of Wetlands).

There are no designated Wild and Scenic Rivers within the APE, and no designated rivers would be adversely affected by the proposed project. As a result, the Wild and Scenic Rivers Act does not apply to the proposed project.

The proposed project would not be located in or impact any United States federal waters regulated under the Magnuson-Stevens Act. In addition, as described in Section 5.4, *Wildlife Movement*, the project is not expected to have an adverse effect on resident or migratory fish, wildlife species, or fish habitat in the APE. Therefore, the District would be in compliance with the Magnuson-Stevens Fishery Conservation and Management Act of 1976.

6 Limitations, Assumptions, and Use Reliance

This BRA has been performed in accordance with professionally accepted biological investigation practices conducted at this time and in this geographic area. The biological investigation is limited by the scope of work performed. Weather conditions may impact species observations as well. Drought conditions may prevent many plant species from reproducing during a given year and wildlife species may not occupy a normally suitable habitat due to a lack of water. Reconnaissance biological surveys for certain taxa also may have been conducted as part of this assessment but were not performed during a particular blooming period, nesting period, or particular portion of the season when positive identification would be expected if present, such as Monterey spineflower which has a bloom period of April through July and may not have been fully in its bloom period, and therefore, reconnaissance biological survey results cannot be considered definitive. The biological surveys are limited also by the environmental conditions present at the time of the surveys. In addition, general biological surveys do not guarantee that the organisms are not present and will not be discovered in the future within the site. In particular, mobile wildlife species could occupy the site on a transient basis or re-establish populations in the future. Our field studies were based on current industry practices, which change over time and may not be applicable in the future. No other guarantees or warranties, expressed or implied, are provided. The findings and opinions conveyed in this report are based on findings derived from site reconnaissance, jurisdictional areas, review of CNDDDB RareFind5, and specified historical and literature sources. Standard data sources relied upon during the completion of this report, such as the CNDDDB, may vary with regard to accuracy and completeness. In particular, the CNDDDB is compiled from research and observations reported to CDFW that may or may not have been the result of comprehensive or site-specific field surveys. Although Rincon believes the data sources are reasonably reliable, Rincon cannot and does not guarantee the authenticity or reliability of the data sources it has used. Additionally, pursuant to our contract, the data sources reviewed included only those that are practically reviewable without the need for extraordinary research and analysis.

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8 List of Preparers

Rincon Consultants, Inc.

Resumes for technical staff are provided in Appendix F.

Primary Author

- Christian Knowlton, Biologist

Technical Review

- Kristin Asmus, Senior Biologist
- Sherri Miller, Principal Ecologist

Graphics

- Kat Castanon, GIS Analyst

Field Reconnaissance Survey

- Christian Knowlton, Biologist

Appendix A

Regulatory Setting

Regulatory Setting

The following is a brief summary of the regulatory context under which biological resources are managed at the federal, state, and local levels. A number of federal and state statutes provide a regulatory structure that guides the protection of biological resources. Agencies with the responsibility for protection of biological resources within the Area of Potential Effects (APE), which are detailed in the following subsections, include:

- United States Army Corps of Engineers (USACE; wetlands and other waters of the United States);
- Central Coast Regional Water Quality Control Board (Central Coast RWQCB; waters of the State);
- United States Fish and Wildlife Service (USFWS; federally listed species and migratory birds);
- California Department Fish and Wildlife (CDFW; riparian areas, streambeds, and lakes; state-listed species; Species of Special Concern; nesting birds);

A number of federal, state, and local statutes, ordinances, and policies, which are detailed in the following subsections, provide a regulatory structure that guides the protection of biological resources. These include:

- California Coastal Act
- California Environmental Quality Act (CEQA)
- Federal Endangered Species Act (FESA)
- California Endangered Species Act (CESA)
- Clean Water Act (CWA)
- California Fish and Game Code (CFGC)
- Porter-Cologne Water Quality Control Act
- Migratory Bird Treaty Act (MBTA)
- Bald and Golden Eagle Protection Act
- Rivers and Harbors Act of 1899
- California Ocean Plan
- County of Monterey Local Coastal Program

Agencies

United States Army Corps of Engineers

Under Section 404 of the Clean Water Act, the USACE has authority to regulate activities that could discharge fill of material into wetlands or other “waters of the United States.” Perennial and intermittent creeks are considered waters of the United States if they are hydrologically connected to other jurisdictional waters (typically a navigable water). The USACE also implements the federal policy embodied in Executive Order 11990, which is intended to result in no net loss of wetland value or acres. In achieving the goals of the Clean Water Act, the USACE seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any fill of wetlands that are hydrologically connected to jurisdictional waters would require a permit from the USACE prior to the start of work. Typically, when a project involves impacts to waters of the United States,

Moss Landing Wastewater System Rehabilitation Project

the goal of no net loss of wetland acres or values is met through avoidance and minimization to the extent practicable, followed by compensatory mitigation involving creation or enhancement of similar habitats.

Central Coast Regional Water Quality Control Board

The State Water Resources Control Board (SWRCB) and the Central Coast RWQCB have jurisdiction over “waters of the State” pursuant to the Porter-Cologne Water Quality Control Act. “Waters of the State” are defined as any surface water or groundwater, including saline waters, within the boundaries of the State. The SWRCB has issued general Waste Discharge Requirements (WDRs) regarding discharges to “isolated” waters of the State (Water Quality Order No. 2004-0004-DWQ, Statewide General WDRs for Dredged or Fill Discharges to Waters Deemed by the USACE to be Outside of Federal Jurisdiction). The Central Coast RWQCB administers actions under this general order for isolated waters not subject to federal jurisdiction and is also responsible for the issuance of water quality certifications pursuant to Section 401 of the Clean Water Act for waters subject to federal jurisdiction.

United States Fish and Wildlife Service

The USFWS implements the Migratory Bird Treaty Act (16 United States Code [USC] Section 703-711) and the Bald and Golden Eagle Protection Act (16 USC Section 668). The USFWS and National Marine Fisheries Service (NMFS) share responsibility for implementing the FESA (16 USC Section 153 et. seq.). Generally, the USFWS implements the FESA for terrestrial and freshwater species, while the NMFS implements the FESA for marine and anadromous species. Projects that would result in “take” of any federally threatened or endangered species are required to obtain permits from the USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The permitting process is used to determine if a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species. “Take” under federal definition means to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. Proposed or candidate species do not have the full protection of the FESA; however, the USFWS and NMFS advise project applicants that they could be elevated to listed status at any time.

California Department of Fish and Wildlife

The CDFW derives its authority from the California Fish and Game Code (CFGC). The CESA (CFGC Section 2050 et. seq.) prohibits take of state listed threatened or endangered species. Take under the CESA is restricted to direct mortality of a listed species; however, the law does not prohibit indirect harm by way of habitat modification. Where incidental take would occur during construction or other lawful activities, the CESA allows the CDFW to issue an Incidental Take Permit upon finding, among other requirements, that impacts to the species have been minimized and fully mitigated.

The CDFW also enforces CFGC Sections 3511, 4700, 5050, and 5515, which prohibits take of species designated as Fully Protected. The CDFW is not allowed to issue an Incidental Take Permit for Fully Protected species; therefore, impacts to these species must be avoided.

CFGC Sections 3503, 3503.5, and 3513 describe unlawful take, possession, or destruction of native birds, nests, and eggs. CFGC Section 3503.5 protects all birds-of-prey and their eggs and nests

against take, possession, or destruction of nests or eggs. CFGC Section 3513 makes it a state-level offense to take any bird in violation of the federal Migratory Bird Treaty Act.

Species of Special Concern (SSC) is a category used by the CDFW for those species considered to be indicators of regional habitat changes or considered to be potential future protected species. Species of Special Concern do not have any special legal status except that which may be afforded by the CFGC as noted above. The SSC category is intended by the CDFW for use as a management tool to include these species in special consideration when decisions are made concerning the development of natural lands. The CDFW also has authority to administer the Native Plant Protection Act (NPPA) (CFGC Section 1900 et. seq.). The NPPA requires the CDFW to establish criteria for determining if a species, subspecies, or variety of native plant is endangered or rare. Effective in 2015, the CDFW promulgated regulations (14 California Code of Regulations Section 786.9) under the authority of the NPPA, establishing that the CESA's permitting procedures would be applied to plants listed under the NPPA as "Rare." With this change, there is little practical difference for the regulated public between plants listed under CESA and those listed under the NPPA.

Perennial, intermittent, and ephemeral streams and associated riparian vegetation, when present, also fall under the jurisdiction of the CDFW. CFGC Section 1600 et seq. (Lake and Streambed Alteration Agreements) gives the CDFW regulatory authority over activities that divert, obstruct, or alter the channel, bed, or bank of any river, stream or lake.

Regulations

Coastal Zone Management Act

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

California Coastal Act

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

The California Coastal Zone Conservation Act of 1972 (Proposition 20) was a temporary measure passed by the voters of the state as a ballot initiative. It set up temporary regional coastal commissions with permit authority and a directive to prepare a comprehensive coastal plan. The

Moss Landing Wastewater System Rehabilitation Project

coastal commissions under Proposition 20 lacked the authority to implement the Coastal Plan but were required to submit the Plan to the legislature for “adoption and implementation.”

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

California Environmental Quality Act

CEQA requires State and local agencies to identify the significant environmental impacts of certain actions and to avoid or mitigate those impacts, if feasible. A public agency must comply with CEQA when it undertakes an activity defined by CEQA as a “project.” A project is an activity undertaken by a public agency or a private activity that must receive some discretionary approval (meaning that the agency has the authority to deny the requested permit or approval) from a government agency and that may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment.

Federal Endangered Species Act

The purpose of the FESA is to protect and recover imperiled species and the ecosystems upon which they depend. It is administered by the USFWS and the NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibility of NMFS mainly consists of marine wildlife, such as whales and anadromous fish such as salmon.

Under the FESA, species may be listed as either endangered or threatened. “Endangered” means a species is in danger of extinction throughout all or a significant portion of its range. “Threatened” means a species is likely to become endangered within the foreseeable future. All species of plants and animals, except pest insects, are eligible for listing as endangered or threatened. For the purposes of the FESA, the United States Congress defined “species” to include subspecies, varieties, and, for vertebrates, distinct population segments.

California Endangered Species Act

The CESA (CFG Sections 2050 to 2116) sets forth procedures by which individuals, organizations, or the CDFW can submit petitions to the Fish and Game Commission requesting that a species, subspecies, or variety of plant or animal be added to, deleted from, or changed in status on the State lists of rare, threatened or endangered species. The factors that contribute to determining the need to list a species include the present or threatened modification or destruction of habitat, competition, predation, disease, overexploitation by collectors, or other natural occurrences or human-related activities. Procedures governing the submission and review of petitions for listing, uplisting, downlisting, and delisting of endangered and threatened species of plants and animals are described in Title 14 California Code of Regulations Section 670.1.

Clean Water Act

The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. The basis of the CWA, enacted in 1948, was called the Federal Water Pollution Control Act. However, this act was significantly

reorganized and expanded in 1972, at which time “Clean Water Act” became the act’s common name.

Under the CWA, the United States Environmental Protection Agency (USEPA) has implemented pollution control programs, such as setting wastewater standards for industry. The USEPA has also developed national water quality criteria recommendations for pollutants in surface waters.

The CWA made it unlawful to discharge any pollutant from a point source into navigable waters, unless a permit was obtained. The USEPA’s National Pollutant Discharge Elimination System (NPDES) permit program controls discharges from point sources, which are discrete conveyances such as pipes or man-made ditches. Individual homes that are connected to a municipal sewer system, use a septic system, or do not have a surface discharge do not need an NPDES permit; however, industrial, municipal, and other facilities must obtain permits if their discharges go directly to surface waters.

California Fish and Game Code

Enacted in 1957, many of the CFGC provisions are derived from the former 1947 Fish and Game Code as well as older statutes under the former Penal and Political Codes originally enacted in 1872. The new statutes covering more modern topics, such as endangered species, were added at a later time. The CFGC is a fluid code amending and adjusting older California game laws, for example, to comply with newer protected species lists and regulations.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act is the principal law governing water quality regulation in California. It establishes a comprehensive program to protect water quality and the beneficial uses of water. The Porter-Cologne Act applies to surface waters, wetlands, and groundwater and to both point and nonpoint sources of pollution. Pursuant to the Porter-Cologne Act (California Water Code Section 13000 et. seq.), the policy of the State is as follows:

- That the quality of all the waters of the State shall be protected
- That all activities and factors affecting the quality of water shall be regulated to attain the highest water quality within reason
- That the State must be prepared to exercise its full power and jurisdiction to protect the quality of water in the State from degradation

The Porter-Cologne Act established nine RWQCBs (based on hydrogeologic barriers) and the SWRCB, which are charged with implementing its provisions and which have primary responsibility for protecting water quality in California. The SWRCB provides program guidance and oversight, allocates funds, and reviews RWQCB decisions. In addition, the SWRCB allocates rights to the use of surface water. The RWQCBs have primary responsibility for individual permitting, inspection, and enforcement actions within each of nine hydrologic regions. The SWRCB and RWQCBs have numerous nonpoint source-related responsibilities, including monitoring and assessment, planning, financial assistance, and management.

Migratory Bird Treaty Act

The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid federal permit. Migratory bird species protected by the MBTA are listed in 50 Code of Federal Regulations Section 10.13. The USFWS has statutory authority and responsibility

Moss Landing Wastewater System Rehabilitation Project

for enforcing the MBTA under 16 USC Sections 703 to 712. The MBTA implements Conventions between the United States and four countries (Canada, Mexico, Japan and Russia) for the protection of migratory birds.

The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Sections 668 to 668c), enacted in 1940 and amended several times since, prohibits anyone from “taking” bald or golden eagles, including their parts, nests, or eggs, without a permit issued by the Secretary of the Interior. The Act provides criminal penalties for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle... [or any golden eagle], alive or dead, or any part, nest, or egg thereof.” The Act defines “take” as “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.”

Rivers and Harbors Act of 1899

Section 9 of the Rivers and Harbors Appropriation Act of 1899 (33 USC Section 403), commonly known as the Rivers and Harbors Act of 1899, prohibits the construction of any bridge, dam, dike or causeway over or in navigable waterways of the United States without Congressional approval. Administration of Section 9 has been delegated to the Coast Guard. Structures authorized by State legislatures may be built if the affected navigable waters are completely within one State, provided that the plan is approved by the Chief of Engineers and the Secretary of Army (33 USC Section 401).

Under Section 10 of the Act, the building of any wharfs, piers, jetties, and other structures is prohibited without Congressional approval, and excavation or fill within navigable waters requires the approval of the Chief of Engineers. Service concerns include contaminated sediments associated with dredge or fill projects in navigable waters.

Executive Order 11990 – Protection of Wetlands

Under Executive Order 11990 (May 24, 1977), federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available.

Wild and Scenic Rivers Act

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

Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) of 1976, as amended (16 United States Code Section 1801 et seq.), is the primary act governing federal management of fisheries in federal waters, from the three-nautical-mile state territorial sea limit to the outer limit of the United States Exclusive Economic Zone. It establishes exclusive United States management authority over all fishing within the Exclusive Economic Zone, all anadromous fish throughout their migratory range except when in a foreign nation’s waters, and all fish on the continental shelf. The Act also requires federal agencies to consult with the National Marine Fisheries Service on actions that could damage Essential Fish Habitat, as defined in the 1996 Sustainable Fisheries Act (Public Law 104-297).

County of Monterey Local Coastal Program

Under the County of Monterey's LCP, the project site is also subject to the policies of the North County Land Use Plan (1982). Section 2.3 of the North County Land Use Plan prohibits all development, including vegetation removal, excavation, grading, filling, and the construction of roads and structures in the following environmental sensitive habitats: riparian corridors, wetlands, dunes, sites of known rare and endangered species of plants and animals, rookeries, major roosting and haul-out sites, and other wildlife breeding or nursery areas identified as environmentally sensitive. Section 2.3 of the North County Land Use Plan also provides for the preservation of environmentally sensitive habitats and prohibits the destruction of dune habitats unless no feasible alternative exists and then only if re-vegetation with similar species is a condition of project approval (County of Monterey 1982).

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Appendix B

Special Status Species Evaluation Tables

Special Status Plant Species in the Regional Vicinity of the Area of Potential Effects (APE)

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Arctostaphylos hookeri</i> <i>ssp. hookeri</i> Hooker's manzanita	None/None G3T2/S2 1B.2	Perennial evergreen shrub. Chaparral, cismontane woodland, closed-cone coniferous forest, coastal scrub. Sandy. Elevations: 195-1760ft. (60-536m.) Blooms Jan-Jun.	Not Expected	Suitable habitat is not present within the APE. This species would have observed if present.
<i>Arctostaphylos</i> <i>pajaroensis</i> Pajaro manzanita	None/None G1/S1 1B.1	Perennial evergreen shrub. Chaparral. Sandy soils. Elevations: 100-2495ft. (30-760m.) Blooms Dec-Mar.	No Potential	No suitable habitat is present in the APE. This species would have observed if present.
<i>Centromadia parryi</i> <i>ssp.</i> <i>congdonii</i> Congdon's tarplant	None/None G3T1T2/S1S2 1B.1	Annual herb. Valley and foothill grassland. Alkaline soils, sometimes described as heavy white clay. Elevations: 0-755ft. (0-230m.) Blooms May-Oct(Nov).	No Potential	No suitable habitat is present in the APE.
<i>Chorizanthe pungens</i> <i>var. pungens</i> Monterey spineflower	FT/None G2T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub, valley and foothill grassland. Sandy. Elevations: 10-1475ft. (3-450m.) Blooms Apr-Jun(Jul-Aug).	Moderate Potential	Suitable habitat is present in the area of Manholes 11 to 13. The recorded occurrence is a historical record population, which may have been extirpated due to restoration and soil importation.
<i>Chorizanthe robusta</i> <i>var.</i> <i>robusta</i> robust spineflower	FE/None G2T1/S1 1B.1	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub. Gravelly (sometimes), sandy (sometimes). Elevations: 10-985ft. (3-300m.) Blooms Apr-Sep.	Low Potential	Suitable habitat is present; however, there are no records within five miles of the APE.
<i>Cordylanthus rigidus</i> <i>ssp. littoralis</i> seaside bird's-beak	None/SCE G5T2/S2 1B.1	Annual herb (hemiparasitic). Chaparral, cismontane woodland, closed-cone coniferous forest, coastal dunes, coastal scrub. Disturbed areas (often), sandy. Elevations: 0-1690ft. (0-515m.) Blooms Apr-Oct.	Low Potential	No records are documented within the past 10 years within five miles of the APE.
<i>Ericameria fasciculata</i> Eastwood's goldenbush	None/None G2/S2 1B.1	Perennial evergreen shrub. Chaparral, closed-cone coniferous forest, coastal dunes, coastal scrub. In sandy openings. Elevations: 100-900ft. (30-275m.) Blooms Jul-Oct.	No Potential	The APE is outside of the known elevation for this species.

Moss Landing Wastewater System Rehabilitation Project

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Erysimum ammophilum</i> sand-loving wallflower	None/None G2/S2 1B.2	Perennial herb. Chaparral, coastal dunes, coastal scrub. Sandy openings. Elevations: 0-195ft. (0-60m.) Blooms Feb-Jun(Jul-Aug).	Low Potential	Potentially suitable habitat is present near Manholes 11 to 13. The area underwent restoration with soil import, possibly extirpating any population.
<i>Erysimum menziesii</i> Menzies' wallflower	FE/SCE G1/S1 1B.1	Perennial herb. Coastal dunes. Localized on dunes and coastal strand. Elevations: 0-115ft. (0-35m.) Blooms Mar-Sep.	Low Potential	Potentially suitable habitat is present near Manholes 11 to 13. The area underwent restoration with soil import, possibly extirpating any population.
<i>Gilia tenuiflora ssp. arenaria</i> Monterey gilia	FE/SCT G3G4T2/S2 1B.2	Annual herb. Chaparral, cismontane woodland, coastal dunes, coastal scrub. Sandy openings in bare, wind-sheltered areas. Often near dune summit or in the hind dunes; two records from Pleistocene inland dunes. Elevations: 0-150ft. (0-45m.) Blooms Apr-Jun.	Low Potential	Potentially suitable habitat is present near Manholes 11 to 13. The area underwent restoration with soil import, possibly extirpating any population.
<i>Hesperocyparis macrocarpa</i> Monterey cypress	None/None G1/S1 1B.2	Perennial evergreen tree. Closed-cone coniferous forest. Granitic soils. Elevations: 35-100ft. (10-30m.)	Present	Monterey cypress was observed within the APE. Many of them were planted as ornamental trees.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT/SCE G1/S1 1B.1	Annual herb. Coastal prairie, coastal scrub, valley and foothill grassland. Light, sandy soil or sandy clay; often with non-natives. Elevations: 35-720ft. (10-220m.) Blooms Jun-Oct.	No Potential	No suitable habitat is present in the APE.
<i>Lasthenia conjugens</i> Contra Costa goldfields	FE/None G1/S1 1B.1	Annual herb. Cismontane woodland, playas, valley and foothill grassland, vernal pools. Vernal pools, swales, low depressions, in open grassy areas. Elevations: 0-1540ft. (0-470m.) Blooms Mar-Jun.	No Potential	No suitable habitat is present in the APE.
<i>Arenaria paludicola</i> marsh sandwort	FE/SCE G1/S1 1B.1	Perennial stoloniferous herb. Marshes and swamps. Openings, sandy. Elevations: 10-560ft. (3-170m.) Blooms May-Aug.	No Potential	No suitable habitat is present in the APE.

Scientific Name Common Name	Status FESA/CESA CRPR	Habitat Requirements	Potential to Occur	Rationale
<i>Monolopia gracilens</i> woodland woollythreads	None/None G3/S3 1B.2	Annual herb. Broadleafed upland forest, chaparral, cismontane woodland, north coast coniferous forest, valley and foothill grassland. Grassy sites, in openings; sandy to rocky soils. Often seen on serpentine after burns, but may have only weak affinity to serpentine. Elevations: 330-3935ft. (100-1200m.) Blooms (Feb)Mar-Jul.	No Potential	No suitable habitat is present in the APE.
<i>Pentachaeta bellidiflora</i> white-rayed pentachaeta	FE/SCE G1/S1 1B.1	Annual herb. Cismontane woodland, valley and foothill grassland. Open dry rocky slopes and grassy areas, often on soils derived from serpentine bedrock. Elevations: 115-2035ft. (35-620m.) Blooms Mar-May.	No Potential	No suitable habitat is present in the APE.
<i>Piperia yadonii</i> Yadon's rein orchid	FE/None G1/S1 1B.1	Perennial herb. Chaparral, closed-cone coniferous forest, coastal bluff scrub. On sandstone and sandy soil, but poorly drained and often dry. Elevations: 35-1675ft. (10-510m.) Blooms (Feb)May-Aug.	No Potential	No suitable habitat is present in the APE.
<i>Plagiobothrys chorisianus</i> var. <i>chorisianus</i> Choris' popcornflower	None/None G3T1Q/S1 1B.2	Annual herb. Chaparral, coastal prairie, coastal scrub. Mesic sites. Elevations: 10-525ft. (3-160m.) Blooms Mar-Jun.	No Potential	No suitable habitat is present in the APE.
<i>Plagiobothrys diffusus</i> San Francisco popcornflower	None/SCE G1Q/S1 1B.1	Annual herb. Coastal prairie, valley and foothill grassland. Historically from grassy slopes with marine influence. Elevations: 195-1180ft. (60-360m.) Blooms Mar-Jun.	No Potential	No suitable habitat is present in the APE.
<i>Trifolium hydrophilum</i> saline clover	None/None G2/S2 1B.2	Annual herb. Marshes and swamps, valley and foothill grassland, vernal pools. Mesic, alkaline sites. Elevations: 0-985ft. (0-300m.) Blooms Apr-Jun.	No Potential	No suitable habitat is present in the APE.

Moss Landing Wastewater System Rehabilitation Project

Scientific Name	Status	Habitat Requirements	Potential to Occur	Rationale
Common Name	FESA/CESA CRPR			

Regional Vicinity refers to within a seven-quadrangle search radius of the APE.

FESA = Federal Endangered Species Act; CESA = California Endangered Species Act; CRPR = California Rare Plant Rank (as determined by the California Native Plant Society); CNDDDB = California Natural Diversity Database; CDFW = California Department of Fish and Wildlife; ssp. = subspecies; var. = variety

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species
 SE = State Endangered ST = State Threatened SC = State Candidate SR = State Rare

CRPR

- 1A = Presumed Extinct in California
- 1B = Rare, Threatened, or Endangered in California and elsewhere
- 2A = Plants presumed extirpated in California, but more common elsewhere
- 2B = Plants Rare, Threatened, or Endangered in California, but more common elsewhere

CRPR Threat Code Extension

- .1 = Seriously endangered in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)
- .2 = Fairly endangered in California (20 to 80 percent occurrences threatened)
- .3 = Not very endangered in California (less than 20 percent of occurrences threatened)

Source: CDFW 2022

Special Status Animal Species in the Regional Vicinity of the Area of Potential Effects (APE)

Scientific Name	Status	Habitat Requirements	Potential to Occur	Rationale
Common Name	FESA/CESA CDFW			
Invertebrates				
<i>Danaus plexippus</i> pop. 1 monarch - California overwintering population	FC/None G4T2T3/S2 S3	Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts located in wind-protected tree groves (eucalyptus, Monterey pine, cypress) with nectar and water sources nearby.	Low Potential	No overwintering populations are documented within five miles of the APE.
<i>Euphilotes enoptes smithi</i> Smith's blue butterfly	FE/None G5T1T2/S1	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz counties. Host plants are <i>Eriogonum latifolium</i> and <i>Eriogonum parvifolium</i> , which are utilized as both larval and adult foodplants.	Moderate Potential	Potentially suitable habitat is present around Manholes 11 to 13. Host plants are present.
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	FT/None G3/S3	Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	No Potential	No suitable habitat is present within the APE.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
Fish				
<i>Eucyclogobius newberryi</i> tidewater goby	FE/None G3/S3	Brackish water habitats along the California coast from Agua Hedionda Lagoon, San Diego County to the mouth of the Smith River. Found in shallow lagoons and lower stream reaches, they need fairly still but not stagnant water and high oxygen levels.	No Potential	Elkhorn Slough is suitable habitat for tidewater goby; however, no project activities would occur within the slough. Therefore, suitable aquatic habitat is not present within the APE.
<i>Lavinia exilicauda harengus</i> Monterey hitch	None/None G4T2T4/S3 SSC	Most often found in slow warm water, including lakes and quiet stretches of rivers.	No Potential	Suitable aquatic habitat is not present within the APE.
<i>Spirinchus thaleichthys</i> longfin smelt	FC/ST G5/S1	Occurs in nearshore marine environments from Año Nuevo in San Mateo County to Point Sal in Santa Barbara County. Requires canopies of giant kelp or bull kelp for rafting and feeding. Prefers rocky substrates with abundant invertebrates to prey on.	No Potential	Suitable aquatic habitat is not present within the APE.
Amphibians				
<i>Ambystoma californiense pop. 1</i> California tiger salamander - central California distinct population segment	FT/ST G2G3T3/S3 WL	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	No Potential	Suitable grassland and aquatic habitat elements are not present within the APE.
<i>Ambystoma macrodactylum croceum</i> Santa Cruz long-toed salamander	FE/SE G5T1T2/S1 S2 FP	Wet meadows near sea level in a few restricted locales in Santa Cruz and Monterey counties. Aquatic larvae prefer shallow (less than 12 inches) water, using clumps of vegetation or debris for cover. Adults use mammal burrows.	No Potential	Suitable aquatic habitat is not present within the APE.
<i>Rana draytonii</i> California red-legged frog	FT/None G2G3/S2S3 SSC	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation. Requires 11 to 20 weeks of permanent water for larval development. Must have access to estivation habitat.	No Potential	Suitable upland and aquatic habitats are not present within the APE.
Reptiles				
<i>Anniella pulchra</i> Northern California legless lizard	None/None G3/S3 SSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. They prefer soils with a high moisture content.	Low Potential	Suitable habitat is present within the APE; however, the area has undergone restoration with import of non-native soil and is surrounded on all sides by barriers to dispersal.

Moss Landing Wastewater System Rehabilitation Project

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Emys marmorata</i> western pond turtle	None/None G3G4/S3 SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Needs basking sites and suitable upland habitat (sandy banks or grassy open fields) up to 0.5 kilometer from water for egg-laying.	No Potential	Suitable freshwater aquatic habitat is not present within the APE.
Birds				
<i>Agelaius tricolor</i> tricolored blackbird	None/ST G1G2/S1S2 SSC	Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	No Potential	Suitable habitat is not present within the APE.
<i>Asio flammeus</i> short-eared owl	None/None G5/S3 SSC	Found in swamp lands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	No Potential	Suitable swamp habitat is not present within the APE.
<i>Athene cunicularia</i> burrowing owl	None/None G4/S3 SSC	Open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	Low Potential	No breeding habitat is present within the APE. Migrant individuals and wintering birds may utilize the area periodically.
<i>Charadrius nivosus nivosus</i> western snowy plover	FT/None G3T3/S2 SSC	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	No Potential	Suitable sandy beach habitat is not present within the APE.
<i>Elanus leucurus</i> white-tailed kite	None/None G5/S3S4 FP	Rolling foothills and valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Low Potential	Suitable habitat is present; however, all habitat is heavily disturbed by SR 1.
<i>Falco peregrinus anatum</i> American peregrine falcon	FD/SD G4T4/S3S4 FP	Near wetlands, lakes, rivers, or other water; on cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	Low Potential	No records are documented within five miles of the APE.

Scientific Name Common Name	Status FESA/CESA CDFW	Habitat Requirements	Potential to Occur	Rationale
<i>Vireo bellii pusillus</i> least Bell's vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 feet.	No Potential	Outside of the current known range of the species. No suitable habitat within the APE.
<i>Brachyramphus marmoratus</i> marbled murrelet	FT/SE G3/S2	Feeds near-shore; nests inland along coast from Eureka to Oregon border and from Half Moon Bay to Santa Cruz.	No Potential	Outside of the current known range of the species. No suitable habitat within the APE.
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail (California Clapper rail)	FE/SE G3T1/S1 FP	Salt water and brackish marshes traversed by tidal sloughs in the vicinity of San Francisco Bay. Associated with abundant growths of pickleweed, but feeds away from cover on invertebrates from mud-bottomed sloughs.	Low Potential	Foraging habitat is present within the APE; however, disturbance from highway precludes this species from the APE.
<i>Vireo bellii pusillus</i> Least Bell's Vireo	FE/SE G5T2/S2	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft.	No Potential	Outside of the current known range of the species. No suitable habitat within the APE
<i>Riparia riparia</i> bank swallow	None/ST G5/S2	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.	Low Potential	No active colonies are present within the APE. There is potential for individuals to forage within the APE.
<i>Empidonax traillii extimus</i> southwestern willow flycatcher	FE/SE G5/T2	Riparian woodlands in Southern California.	No Potential	No suitable habitat within the APE.
<i>Sterna antillarum browni</i> California Least Tern	FE/SE G4T2/S2 FP	Nests along the coast from San Francisco Bay south to northern Baja California.	Low Potential	No records are documented within five miles of the APE.
Mammals				
<i>Sorex ornatus salarius</i> Monterey shrew	None/None G5T1T2/S1 S2 SSC	Riparian, wetland and upland areas in the vicinity of the Salinas River delta. Prefers moist microhabitats. feeds on insects and other invertebrates found under logs, rocks and litter.	Low Potential	Suitable habitat is present within the APE; however, the area has undergone restoration with import of non-native soil and is surrounded on all sides by barriers to dispersal.
<i>Enhydra lutris nereis</i> southern sea otter	FT/None G4T2/S2 FP	Riparian, wetland and upland areas in the vicinity of the Salinas River delta. Prefers moist microhabitats. Feeds on insects and other invertebrates found under logs, rocks and litter.	No Potential	Suitable habitat is present immediately adjacent to the APE; however, there is no habitat within the APE.

City of Pismo Beach
Moss Landing Wastewater System Rehabilitation Project

Scientific Name	Status	Habitat Requirements	Potential to Occur	Rationale
Common Name	FESA/CESA CDFW			

Regional Vicinity refers to within an seven-quadrangle search radius of site.

FESA = Federal Endangered Species Act; CESA = California Endangered Species Act; CDFW; California Department of Fish and Wildlife; CNDDDB = California Natural Diversity Database; ssp. = subspecies; var. = variety

FE = Federally Endangered FT = Federally Threatened FC = Federal Candidate Species

SE = State Endangered ST = State Threatened SC = State Candidate

SSC = CDFW Species of Special Concern FP = State Fully Protected

Source: CDFW 2022a

Table 3 Sensitive Natural Communities in the Regional Vicinity of the Area of Potential Effects (APE)

Plant Community	Potential for Impact	Rationale
Central Dune Scrub	None	No project components are within Coastal Dune Scrub community.
Central Maritime Chaparral	None	No project components are within central maritime Chaparral communities.
Coastal and Valley Freshwater Marsh	None	No Coastal and Valley Freshwater Marsh found within the APE
Coastal Brackish Marsh	None	No Coastal Brackish Marsh found within the APE.
Northern Coastal Salt Marsh	None	No project components located within Northern Coastal Salt Marsh communities.

Source: CDFW 2022

Appendix C

Site Photographs



Photograph 1. Developed land surrounding Lift Station No. 1, facing east. April 8, 2022,



Photograph 2. Proposed location for relocation of Lift Station No. 1, surrounded by developed land and ornamental plantings of Monterey cypress, facing west.¹ April 8, 2022.

¹ The Monterey cypress at this location appear to ornamental plantings because they are not part of a naturally-occurring vegetation community.



Photograph 3. Coastal dune scrub near Manholes 11 to 13, facing south. April 8, 2022.



Photograph 4. Ruderal and developed land surrounding Lift Station No. 2, facing west. April 8, 2022.



Photograph 5. Lift Station No. 3 within developed land cover, facing west. April 8, 2022.



Photograph 6. Lift Station No 4 within the road (developed land cover) adjacent to cropland, facing southwest. April 8, 2022.

Monterey County
Moss Landing Wastewater System Rehabilitation Project



Photograph 7. Location of Pipe Repair P-1 within developed land cover, facing south April 8, 2022.

Appendix D

Floral and Faunal Compendium

Plant Species Observed Within the Area of Potential Effects on April 8, 2022

Scientific Name	Common Name	Status (Cal-IPC)	Native or Introduced
Plants			
Trees			
<i>Eucalyptus globulus</i>	Blue gum	Limited	Introduced
<i>Hesperocyparis macrocarpa</i>	Monterey cypress	–	Native
<i>Pinus radiata</i>	Monterey pine	–	Native
<i>Salix lasiolepis</i>	Arroyo willow	–	Native
Shrubs			
<i>Baccharis pilularis</i>	Coyote brush	–	Native
<i>Artemisia californica</i>	California sagebrush	–	Native
<i>Eriophyllum staechadifolium</i>	Lizard tail	–	Native
<i>Fremontodendron californicum</i>	Flannel bush	–	Native
Herbs			
<i>Carpobrotus edulis</i>	Ice plant	Not rated	Introduced
<i>Hirschfeldia incana</i>	Mustard	Moderate	Introduced
<i>Plantago lanceolata</i>	English plantain	Limited	Introduced
<i>Raphanus sativus</i>	Wild radish	Limited	Introduced
<i>Salicornia spp.</i>	Pickleweed	–	Native
<i>Verbena urticifolia</i>	White verbena	Not Rated	Introduced
Grasses			
<i>Avena spp.</i>	Wild oats	Moderate	Introduced
<i>Bromus diandrus</i>	Ripgut brome	Moderate	Introduced
<i>Bromus rubens</i>	Red brome	High	Introduced
<i>Bromus hordeaceus</i>	Soft chess brome	Limited	Introduced

– = Not applicable because these species are native; Cal-IPC = California Invasive Plant Council

Sources: Calflora 2022; Cal-IPC 2022

Animal Species Observed Within the Area of Potential Effects on April 8, 2022

Scientific Name	Common Name	Status	Native, Introduced, or Domesticated
Birds			
<i>Calypte anna</i>	Anna's Hummingbird	Common	Native
<i>Haemorhous mexicanus</i>	House Finch	Common	Native

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Appendix E

IPaC Query Results



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ventura Fish And Wildlife Office
2493 Portola Road, Suite B
Ventura, CA 93003-7726
Phone: (805) 644-1766 Fax: (805) 644-3958
<https://www.fws.gov/verobeach/>

In Reply Refer To:
Project Code: 2022-0054707
Project Name: Moss Landing Wastewater System Rehabilitation Project

June 15, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed list identifies species listed as threatened and endangered, species proposed for listing as threatened or endangered, designated and proposed critical habitat, and species that are candidates for listing that may occur within the boundary of the area you have indicated using the U.S. Fish and Wildlife Service's (Service) Information Planning and Conservation System (IPaC). The species list fulfills the requirements under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the species list should be verified after 90 days. We recommend that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists following the same process you used to receive the enclosed list. Please include the Consultation Tracking Number in the header of this letter with any correspondence about the species list.

Due to staff shortages and excessive workload, we are unable to provide an official list more specific to your area. Numerous other sources of information are available for you to narrow the list to the habitats and conditions of the site in which you are interested. For example, we recommend conducting a biological site assessment or surveys for plants and animals that could help refine the list.

If a Federal agency is involved in the project, that agency has the responsibility to review its proposed activities and determine whether any listed species may be affected. If the project is a major construction project*, the Federal agency has the responsibility to prepare a biological assessment to make a determination of the effects of the action on the listed species or critical habitat. If the Federal agency determines that a listed species or critical habitat is likely to be adversely affected, it should request, in writing through our office, formal consultation pursuant to section 7 of the Act. Informal consultation may be used to exchange information and resolve conflicts with respect to threatened or endangered species or their critical habitat prior to a

written request for formal consultation. During this review process, the Federal agency may engage in planning efforts but may not make any irreversible commitment of resources. Such a commitment could constitute a violation of section 7(d) of the Act.

Federal agencies are required to confer with the Service, pursuant to section 7(a)(4) of the Act, when an agency action is likely to jeopardize the continued existence of any proposed species or result in the destruction or adverse modification of proposed critical habitat (50 CFR 402.10(a)). A request for formal conference must be in writing and should include the same information that would be provided for a request for formal consultation. Conferences can also include discussions between the Service and the Federal agency to identify and resolve potential conflicts between an action and proposed species or proposed critical habitat early in the decision-making process. The Service recommends ways to minimize or avoid adverse effects of the action. These recommendations are advisory because the jeopardy prohibition of section 7(a)(2) of the Act does not apply until the species is listed or the proposed critical habitat is designated. The conference process fulfills the need to inform Federal agencies of possible steps that an agency might take at an early stage to adjust its actions to avoid jeopardizing a proposed species.

When a proposed species or proposed critical habitat may be affected by an action, the lead Federal agency may elect to enter into formal conference with the Service even if the action is not likely to jeopardize or result in the destruction or adverse modification of proposed critical habitat. If the proposed species is listed or the proposed critical habitat is designated after completion of the conference, the Federal agency may ask the Service, in writing, to confirm the conference as a formal consultation. If the Service reviews the proposed action and finds that no significant changes in the action as planned or in the information used during the conference have occurred, the Service will confirm the conference as a formal consultation on the project and no further section 7 consultation will be necessary. Use of the formal conference process in this manner can prevent delays in the event the proposed species is listed or the proposed critical habitat is designated during project development or implementation.

Candidate species are those species presently under review by the Service for consideration for Federal listing. Candidate species should be considered in the planning process because they may become listed or proposed for listing prior to project completion. Preparation of a biological assessment, as described in section 7(c) of the Act, is not required for candidate species. If early evaluation of your project indicates that it is likely to affect a candidate species, you may wish to request technical assistance from this office.

Only listed species receive protection under the Act. However, sensitive species should be considered in the planning process in the event they become listed or proposed for listing prior to project completion. We recommend that you review information in the California Department of Fish and Wildlife's Natural Diversity Data Base. You can contact the California Department of Fish and Wildlife at (916) 324-3812 for information on other sensitive species that may occur in this area.

[*A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the

human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ventura Fish And Wildlife Office

2493 Portola Road, Suite B

Ventura, CA 93003-7726

(805) 644-1766

Project Summary

Project Code: 2022-0054707

Event Code: None

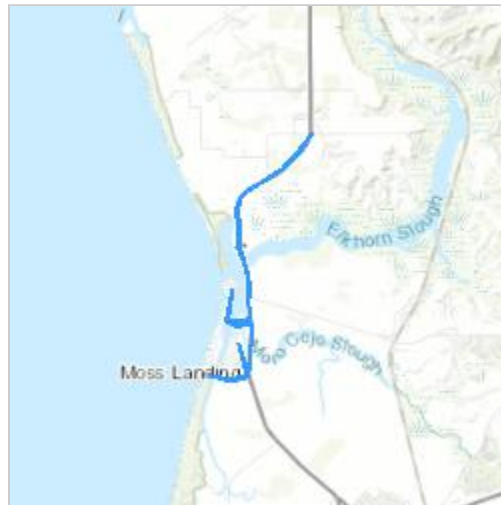
Project Name: Moss Landing Wastewater System Rehabilitation Project

Project Type: Wastewater Pipeline - Maintenance / Modification - Below Ground

Project Description: The project is proposed by the Castroville Community Services District to rehabilitate or replace lift stations, manholes, an air release valve vault in Struve Road, and pipeline alignments along roads including along Potrero Road, State Route (SR) 1, Sandholdt Road, and Struve Road.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@36.8106217,-121.78501733360199,14z>



Counties: Monterey County, California

Endangered Species Act Species

There is a total of 17 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Southern Sea Otter <i>Enhydra lutris nereis</i> No critical habitat has been designated for this species. <i>This species is also protected by the Marine Mammal Protection Act, and may have additional consultation requirements.</i> Species profile: https://ecos.fws.gov/ecp/species/8560	Threatened

Birds

NAME	STATUS
California Clapper Rail <i>Rallus longirostris obsoletus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4240	Endangered
California Least Tern <i>Sterna antillarum browni</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/8104	Endangered
Least Bell's Vireo <i>Vireo bellii pusillus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/5945	Endangered
Marbled Murrelet <i>Brachyramphus marmoratus</i> Population: U.S.A. (CA, OR, WA) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4467	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6749	Endangered
Western Snowy Plover <i>Charadrius nivosus nivosus</i> Population: Pacific Coast population DPS-U.S.A. (CA, OR, WA), Mexico (within 50 miles of Pacific coast) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/8035	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander <i>Ambystoma californiense</i> Population: U.S.A. (Central CA DPS) There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened
Santa Cruz Long-toed Salamander <i>Ambystoma macrodactylum croceum</i> There is proposed critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/7405	Endangered

Fishes

NAME	STATUS
Tidewater Goby <i>Eucyclogobius newberryi</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/57	Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened

Flowering Plants

NAME	STATUS
Marsh Sandwort <i>Arenaria paludicola</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2229	Endangered
Monterey Gilia <i>Gilia tenuiflora ssp. arenaria</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/856	Endangered
Monterey Spineflower <i>Chorizanthe pungens var. pungens</i> There is final critical habitat for this species. Your location overlaps the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/396	Threatened
Santa Cruz Tarplant <i>Holocarpha macradenia</i> There is final critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/6832	Threatened

Critical habitats

There are 2 critical habitats wholly or partially within your project area under this office's jurisdiction.

NAME	STATUS
Monterey Spineflower <i>Chorizanthe pungens var. pungens</i> https://ecos.fws.gov/ecp/species/396#crithab	Final
Tidewater Goby <i>Eucyclogobius newberryi</i>	Final

NAME

STATUS

<https://ecos.fws.gov/ecp/species/57#crithab>

IPaC User Contact Information

Agency: California State Water Resources Control Board
Name: Christian Knowlton
Address: 437 Figueroa Street, Suite 203
Address Line 2: Building D
City: Monterey
State: CA
Zip: 93940
Email: caknowlton@gmail.com
Phone: 8319200199

Lead Agency Contact Information

Lead Agency: Environmental Protection Agency

Appendix F

Resumes



Sherri Miller, MS

Principal

Ms. Miller has 27 years of professional experience as an environmental planner specializing in California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documentation and compliance as well as wetlands and endangered species permitting. Ms. Miller has extensive experience managing large-scale projects for public and private clients, including flood control, water and wastewater utilities, transportation, master-planned communities, and conservation planning projects. Combining expertise in environmental documentation, biological resources, and regulatory permitting, Ms. Miller's in-depth understanding of how environmental regulations interrelate helps clients prepare a strategic approach to permitting and documentation for greater project advancement and cost-effectiveness.

EDUCATION

MS, Botany, Duke University
BS, Biology, Washington and Lee University

AFFILIATIONS

Association of Environmental Professionals
Association of California Water Agencies
Cap to Cap Land Use and Natural Resources Committee
WaterReuse Association, Central Valley/Sierra Foothills Chapter

YEARS OF EXPERIENCE

27

EXPERIENCE

Rincon Consultants, Inc.
(2020 to present)

SELECT PROJECT EXPERIENCE

Principal-in-Charge, Napa County Public Works – Napa County Public Works As-Needed Contract, Napa County (2018 – 2020)

Ms. Miller oversaw the environmental services in three categories of as-needed services: Major Structures, Minor Structures (including Federal Emergency Management Agency-funded structures), and Federal Highway Administration-funded Structures. Under these contracts, Ms. Miller provided a variety of CEQA/NEPA documentation along with biological resources and cultural resources technical support. The various projects included bridge replacements, storm drain replacements, and road repairs related to storm damage.

Principal-in-Charge, Sonoma County Ag+Open Space – Sonoma County Ag+Open Space As-Needed Contract, Sonoma County

Ms. Miller served as Principal-in-Charge for this as-needed environmental services contract. The County selected Ms. Miller to provide all of the CEQA/NEPA documentation and permitting support for Ag+Open Space projects.

Principal-in-Charge, Beale Air Force Base – NEPA Environmental Assessment (EA) for Frisky Lake Dam Project, Beale Air Force Base (AFB), Yuba County

Ms. Miller served as the principal-in-charge for this effort, which consisted of preparing a NEPA EA for the replacement of a dam and spillway at Frisky Lake as well as the creation of 12 acres of tricolored blackbird nesting habitat. Raising the dam at this location will provide flood storage of 500 acre-feet and relieve periodic flooding in the developed portions of the Beale AFB.

Principal-in-Charge, Pacific Gas and Electric (PG&E) – L-220, L-210B, and L-210A Operations and Maintenance Project, Solano County

PG&E proposed three interrelated inspection and upgrade activities along natural gas transmission pipelines L-220, L-210B, and L-210A to maintain the safety and reliability of their natural gas system. Ms. Miller oversaw the preparation of the Initial Study-Mitigated Negative Declaration (IS-MND) for this project. PG&E has filed an application with the California Department of Fish and Wildlife (CDFW) for an Incidental Take Permit (ITP) under Section 2081 for the proposed project, and CDFW is thus the lead agency for CEQA review.



Principal-in-Charge, Metropolitan Water District of Southern California (Metropolitan) – Foothill Feeder, Los Angeles County

Periodic dewatering and inspections of the Foothill Feeder are necessary to ensure the continued safety and reliability of Metropolitan's system. For this project, Ms. Miller worked with Metropolitan staff to obtain an ITP for the potential incidental take of the fully protected unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni*) pursuant to Assembly Bill 2488 and California Fish and Game Code Section 2081.10. Ms. Miller was also the lead biologist for the associated Supplemental Environmental Impact Report (EIR) evaluating the ITP and the mitigation options, including habitat restoration and/or contributions to a conservation facility.

Principal-in-Charge, PG&E – Mast Tower Replacement Program, Contra Costa, Tehama, Sonoma, Marin, San Joaquin, Colusa, Yolo, and Sutter Counties

Ms. Miller served as the Principal-in-Charge for the replacement of 27 Mast towers along nine 60-kilovolt transmission lines. The MAST towers will be replaced with tubular steel poles. Ms. Miller was also the lead environmental planner for the project, preparing the CEQA documentation as well as overseeing the preparation of all environmental permits for the project.

Principal-in-Charge, FivePoint LLC – Newhall Ranch, Los Angeles and Ventura Counties

Ms. Miller oversaw the environmental documentation and permitting for 18 years for Newhall Ranch. The U. S. Army Corps of Engineers and CDFW were the lead agencies for a joint Environmental Impact Statement (EIS)/EIR to address processing a Section 1602 Master Streambed Alteration Agreement and Section 404 Individual Permit for the 13,000-acre Newhall Ranch Specific Plan Area master-planned community. In addition to the wetlands permits, the EIS/EIR addressed a Section 7 consultation and 2081 permits for impacts to the state-listed threatened San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*) and six state-listed wildlife species. Ms. Miller was responsible for preparing the Mitigation and Monitoring Reporting Plan (MMRP) annually for the EIS/EIR. Ms. Miller also served on the Adaptive Management Working Group, which is responsible for overseeing preserve management and research efforts at Newhall Ranch. In addition, Ms. Miller prepared an agricultural in open space management plan and educational materials regarding the open spaces and preserves.

Principal-in-Charge, Alameda County Transportation Commission – Rail Safety Enhancement Program (Rail SEP), Alameda County

Ms. Miller oversees the preparation of biological and cultural resources reports and analyses in support of CEQA and NEPA documents for rail safety improvements for the Alameda County Transportation Commission. CEQA lead agencies include the cities of Berkeley, San Leandro, Fremont, Livermore, and Hayward as well as the County of Alameda. The NEPA lead agency is the Federal Railroad Administration. The various projects include road and railroad improvements and installation of equipment, lighting, and bridges over creeks to enhance pedestrian access.

Principal-in-Charge, Sonoma County Planning Department – Sonoma County As-Needed Contract, Sonoma County

Ms. Miller oversees the preparation of biological reports and analyses in support of CEQA documents for public and private projects being evaluated by the County of Sonoma. The various projects include road improvements and private development projects throughout a variety of sensitive habitats in Sonoma County.

Principal-in-Charge, County of Sacramento – South Sacramento Habitat Conservation Plan (SSHCP) and Aquatic Resources Plan (ARP), Sacramento County

As Principal-in-Charge, Ms. Miller led the technical team that was able to complete a draft SSHCP and ARP, working with the Plan Partners, Resource Agencies, and Stakeholder Groups, and produce a document for public review in June 2017. The final HHSCHP and ARP was released in May 2018. The SSHCP provides a regional approach to balancing development against conservation and the protection of habitat, open space, and agricultural lands within a 374,000-acre study area. The SSHCP protects 28 species of plants and wildlife, including 11 that are listed as threatened or endangered under the federal Endangered Species Act, the California Endangered Species Act, or both. The SSHCP also protects vernal pool, wetland, and stream habitats that are subject to Sections 401 and 404 of the federal Clean Water Act, California's Porter-Cologne Water Quality Control Act, and California Fish and Game Code Sections 1600 et seq. Under the ARP, the Plan Partners obtained master wetlands permits. Covered activities include development of public utilities and transportation projects as well as buildout of the General Plan over a 50-year period.





Kristin Asmus

Senior Biologist, Arborist, and Project Manager

Ms. Asmus combines a solid academic background in botany and plant ecology with more than 20 years of professional experience in conducting natural resource assessments and surveys as well as restoration planning, implementation, and monitoring. She is a trained wetland delineator and conducts botanical and wildlife habitat assessments, plant species inventories, and protocol-level surveys for special-status wildlife and plants. Ms. Asmus has extensive experience in vegetation surveying and sampling in both California and Hawaii, with additional experience in geographic information systems, aerial photograph interpretation, and remote sensing data analysis as applied to vegetation mapping and monitoring. She has strong experience in United States Army Corps of Engineers (USACE) wetland regulations and the permitting process pursuant to Section 404 and 401 of the Clean Water Act and is proficient in federal and California Endangered Species Act compliance with experience in Section 7 consultations as well as other regulatory permit processes. She has worked on salvage efforts for California tiger salamander and silvery legless lizard and on passive relocation of western burrowing owls. She has conducted surveys for California red-legged frog, foothill yellow-legged frog, San Joaquin kit fox, and Swainson's hawk along with survey and trapping efforts for giant garter snake and western pond turtle. Ms. Asmus has maintained an International Society of Arboriculture Certified Arborist license since 2001 and is tree risk assessment qualified. Her research interests have included plant taxonomy, ecology, and ecophysiology.

EDUCATION

MS, Botany, University of Hawaii at Manoa, Honolulu, Hawaii

BS, Plant Science, Landscape Horticulture; German Language, and Literature (minor), University of California, Davis

CERTIFICATIONS/ REGISTRATIONS

International Society of Arboriculture, Certified Arborist # WE-6139A

Tree Risk Assessment Qualified (TRAQ)

YEARS OF EXPERIENCE

23

EXPERIENCE

Rincon Consultants, Inc.
(2020 to present)

SELECT PROJECT EXPERIENCE

Project Manager, Napa County Flood Control and Water Conservation District - Napa River Flood Protection Project Vegetation Monitoring and Environmental Services, Napa County

Ms. Asmus is serving as the Project Manager on this effort to assist the County of Napa on two components of the Napa River Flood Protection Project. Rincon is currently assisting the County with regulatory permitting support, conducting California Environmental Quality Act (CEQA) analysis, and preparing supporting technical studies including a biological resources assessment and wetland delineation for the Napa River dredging project conducted in partnership with the USACE. Additionally, Rincon will be conducting the fourth monitoring effort (required to be conducted every five years for a duration of 40 years) for the restoration and mitigation project that restored over 1,000 acres of brackish tidal marsh, mudflats, and riparian and grassland habitats along an approximately four-mile reach of the Napa River. The project team will conduct a comprehensive survey and a thorough assessment of the vegetation monitoring indicators, synthesize these data and all the previous results of the long-term field monitoring efforts, and prepare the associated report.

Biologist, East Bay Municipal Utility District (EBMUD) - San Pablo Dam Seismic Upgrade Project, Contra Costa County

Working with Balance Hydrologics, the team provided EBMUD with wetland and special-status species mitigation and restoration designs. Mitigation was focused on the approximately 80-acre Pavon Creeks site and the 37-acre Scow Canyon site.



Wetlands were created at both sites, including ponds intended to provide breeding habitat for California red-legged frog. Creek drainages were enhanced using grade control structures, low check dams, energy dissipation, and native plantings. The Scow Canyon site was enhanced through grazing management as well as scrub planting and rock outcrop creation for Alameda whipsnake. The team provided EBMUD with grazing management plans, long-term management plans, a final mitigation and monitoring plan, and endowment calculations for the two mitigation sites. Ms. Asmus was a key member of the restoration design team. She also conducted resource surveys and prepared the baseline wetland delineation and the long-term monitoring plan for the Pavon Creeks site.

Biologist and Arborist, Santa Clara Valley Water District - On-Call Biological Surveys, Santa Clara County

Under this contract, typical tasks included California red-legged frog focused surveys, burrowing owl surveys, avian surveys, fish surveys, arborist surveys, native seed collection, pre-construction surveys for special-status wildlife species, revegetation monitoring, and botanical surveys. The biology team provided technical reports of findings and worked with Santa Clara Valley Water District to develop innovative solutions to protect biological resources and accomplish necessary projects. The contract required frequent coordination with District staff members, including biologists, planners, engineers, and construction managers. Ms. Asmus participated in many of the studies and projects, including tree pruning and vegetation monitoring on Calabazas Creek, focused botanical surveys and vegetation monitoring on the Guadalupe River, protocol-level winter and breeding season surveys for burrowing owl, and fish salvage at Lenihan Dam.

Lead Biologist, California Department of Transportation (Caltrans) - Districts 1, 2, 3 On-Call Services: Willits Bypass Project Off-site Mitigation, Mendocino County

The project team assisted Caltrans with restoration design plan review in coordination with USACE and conducted baseline vegetation studies throughout the Little Lake Valley for compliance with both federal and State permits and mitigation monitoring plans for the Willits Bypass Project. The following year, the team also conducted the first annual performance monitoring for the Baker's Meadowfoam Management Area. Ms. Asmus was a key member of the team involved in planning, fieldwork, and reporting.

Biologist, City of Martinez, East Bay Regional Park District, and Caltrans - Marsh Enhancement and Flood Management, Contra Costa County

Working with Philip Williams & Associates, the project team assisted the City of Martinez, East Bay Regional Park District, and Caltrans over a seven-year period on a joint venture to complete an 11-acre marsh enhancement and flood management project at the Martinez Regional Shoreline Park in the city of Martinez. The team defined goals for the mitigation site and developed three design alternatives that integrated flood control, delta smelt habitat creation, and marsh enhancement goals with the opportunities and constraints of the site. The project team developed the conceptual design of the selected alternative that included a preliminary grading approach, sensitive construction practices, revegetation plant palettes, exotics eradication, protection of special-status species, and measures to minimize impacts on adjacent habitats. Ms. Asmus served as lead biologist for the 10-year, long-term monitoring of vegetation and wildlife habitat and provided remedial recommendations.

Biologist, Blackhawk Services – Vaquero Farms Vineyards at Marsh Creek Mitigation Project, Contra Costa County

Ms. Asmus was a key member of the mitigation planning team for the Vineyards at Marsh Creek development project at the 936-acre Vaquero Farms mitigation site. Mitigation implementation included creating five wetlands totaling 1.6 acres for the benefit of California tiger salamander and California red-legged frog. Because mitigation was implemented in occupied California red-legged frog and western burrowing owl habitat, the construction work required full-time construction monitoring and multiple protective measures to prevent take. Ms. Asmus assisted with design review as well as oversight and construction monitoring during implementation of the mitigation. She participated in passive relocation and monitoring of several burrowing owls and monitoring of breeding owl pairs. She also conducted protocol-level aquatic surveys at the Vineyards site for California tiger salamander, which resulted in the positive identification of numerous larvae, and a California red-legged frog salvage effort that resulted in the relocation of thousands of tadpoles to an approved location in Marsh Creek.





Christian Knowlton

Biologist

Mr. Knowlton has over nine years of experience as a biologist. He has worked for the U.S. Forest Service and for private industry. He has professional experience as a botanist, and wildlife ecologist. He is an experienced surveyor of reptiles and amphibians, including the giant garter snake, California red-legged frog (CRLF), and California tiger salamander (CTS). Mr. Knowlton has been approved by the United States Fish and Wildlife Service (USFWS) as a biological monitor for CRLF, CTS, San Francisco gartersnake, and foothill yellow-legged frog for several projects. He has previously been an independent handler for both CTS and CRLF. He has experience surveying avian species such as the spotted, burrowing, and great grey owls; northern goshawk; golden eagle; and Swainson's hawk. He has been approved as a monitor for Swainson's hawks and western burrowing owls. Furthermore, he has experience with San Francisco dusky-footed woodrat, roosting bats, and western pond turtle along with numerous other species throughout California. Mr. Knowlton's writing experience includes preparing several environmental documents such as Natural Environmental Studies, Biological Assessments, and Biological Resource Assessments.

EDUCATION

MS, Environmental Studies (in progress), San Jose State University

BS, Biological Sciences (Ecology Concentration), California Polytechnic State University San Luis Obispo

PERMITS

Plant Voucher Collection Permit (No. 2081(a)-15-079-V)

10(a)(1)(A) permit, California red-legged frog and California tiger salamander

CDFW scientific collecting permit, with MOU for California tiger salamander and California red legged frog.

YEARS OF EXPERIENCE

8

EXPERIENCE

Rincon Consultants, Inc.
(2021 to present)

SELECT PROJECT EXPERIENCE

Field Lead Biologist, Contra Costa Water District - Los Vaqueros Watershed CRLF and CTS Breeding Surveys and Construction Monitoring, Contra Costa County

Mr. Knowlton conducted breeding surveys for CTS and CRLF, serving as the field lead. Survey methods included visual observations for egg masses and metamorphs as well as seine and dipnet surveys for larvae and tadpoles. Western pond turtles were also documented and reported. The characteristics of the pond, such as vegetation cover and turbidity, were recorded. Mr. Knowlton also monitored construction projects, that occurred within the watershed and relocated CRLF and CTS from the project area.

Biological Monitor, City of Turlock - North Valley Regional Recycled Water Program – Turlock Segment, Stanislaus County

Mr. Knowlton monitored for Swainson's hawk, western pond turtle, and giant garter snake. While serving as a monitor, he observed over 500 Swainson's hawks of various morphs and several nests with young present.

Field Lead Biologist, County of Santa Cruz - Newell Creek, Santa Cruz County

Mr. Knowlton conducted focused pre-construction surveys in suitable habitat and monitored for foothill yellow-legged frog, California giant salamander, and other amphibian species at the Newell Creek project site in Ben Lomond. Mr. Knowlton also participated in the relocation of steel-head trout and San Francisco dusky-footed woodrat out of the project area.

Biologist, County of Santa Clara - Alamos Road Bridge Replacement Project, Santa Clara County

Mr. Knowlton conducted focused surveys for foothill yellow-legged frog at Alamos Creek as part of the Alamos Road Bridge Replacement Project. These surveys were required by the California Department of Fish and Wildlife as a condition of the Lake and Streambed Alteration Agreement for the project.



Biologist, City of Los Gatos - Rinconada Water Treatment Reliability Improvement Project, Santa Clara County

Mr. Knowlton conducted nesting bird and San Francisco dusky footed woodrat surveys as well as assisted in nest resource relocation, which included trapping San Francisco dusky footed woodrats and relocating the nests.

Biologist/Field Lead, City of Cupertino - Rancho San Antonio Park, Santa Clara County

Mr. Knowlton relocated over 200 juvenile CRLF and other native amphibians out of a flood control basin at Rancho San Antonio Park in Cupertino. Frogs were captured by hand and using nets, then subsequently relocated to suitable habitat along Permanente Creek.

Biologist, City of San Jose - Interstate 280/Winchester Boulevard Interchange Improvement Project, Santa Clara County

Mr. Knowlton prepared the Wildlife sections for the Natural Environment Study (Minimal Impacts) for the Interstate 280/Winchester Boulevard Interchange Improvement Project. Species of concern included San Francisco dusky footed woodrat, roosting bats, and western burrowing owl.

Field Lead Biologist, City of Mountainview - Moffett Federal Airfield Western Burrowing Owl Monitoring Program, Santa Clara County

Mr. Knowlton was the field lead and prepared the monthly reports for a long-term wintering western burrowing owl monitoring program at Moffett Federal Airfield in support of a project led by a major Silicon Valley technology company. Mr. Knowlton coordinated the surveys and scheduled the survey effort. Surveys were conducted using standard procedures with any identified burrowing owl burrows mapped. In addition, for numerous projects at Moffett Federal Airfield, Mr. Knowlton surveyed for western pond turtles and identified them within several water bodies.

Biological Monitor, County of Santa Clara - Sanborn Road Slide Repair Project, Santa Clara County

Mr. Knowlton served as construction monitor for CRLF, California giant salamander and Santa Cruz black salamander for the Sanborn Road Slide Repair Project in southern Santa Clara County. As the construction monitor, he performed worker environmental awareness training, monitored ground disturbance activities and exclusion fencing installation, and conducted site inspections to ensure the project was in compliance with County-issued avoidance and minimization measures.

Biologist, City of Los Gatos - Aldercroft Heights Road Bridge Replacement Project, Santa Clara County

Mr. Knowlton prepared a biological assessment for a bridge replacement project in Los Gatos. Species of concern included CRLF, nesting birds, and Santa Cruz black salamander.

Field Lead Biologist, City of Los Gatos - Alma Bridge Road Newt Mortality Study, Santa Clara County

Mr. Knowlton designed and installed a pitfall trapping study at six locations along Alma Bridge Road in Los Gatos in support of a newt mortality study. He trapped California newts and rough-skinned newts along with identifying common bycatch species.

Biological Monitor, County of San Francisco - Cloverdale Road Bridge Project, San Francisco County

Mr. Knowlton conducted pre-construction surveys for San Francisco dusky footed woodrat, San Francisco gartersnake, nesting birds, and CRLF. He monitored vegetation removal and provided guidance to the vegetation crews to avoid take of sensitive species.



Appendix D

Historic Properties Identification Report (CONFIDENTIAL)

** This document contains sensitive and confidential information concerning archaeological sites. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10 and from the Freedom of Information Act (Exemption 3) under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]).*

Appendix E

Energy Calculations

Moss Landing WW System Rehab Project

Last Updated: May 11, 2022

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors [1]:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529
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Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT						
Construction Equipment	#	Hours per		Load Factor	Construction Phase	Fuel Used (gallons)
		Day	Horsepower			
Air Compressors	2	8	78	0.48	Phase I Demolition	1,056
Concrete/Industrial Saws	2	8	81	0.73	Phase I Demolition	1,668
Dumpers/Tenders	1	1	16	0.38	Phase I Demolition	11
Generator Sets	1	8	84	0.74	Phase I Demolition	877
Pressure Washers	1	8	13	0.3	Phase I Demolition	55
Rubber Tired Dozers	1	1	247	0.4	Phase I Demolition	157
Signal Boards	3	8	6	0.82	Phase I Demolition	208
Sweepers/Scrubbers	1	8	64	0.46	Phase I Demolition	415
Tractors/Loaders/Backhoes	1	6	97	0.37	Phase I Demolition	380
Air Compressors	2	8	78	0.48	Phase II Demolition	1,584
Concrete/Industrial Saws	2	8	81	0.73	Phase II Demolition	2,502
Dumpers/Tenders	1	1	16	0.38	Phase II Demolition	16
Generator Sets	1	8	84	0.74	Phase II Demolition	1,315
Pressure Washers	1	8	13	0.3	Phase II Demolition	83
Rubber Tired Dozers	1	1	247	0.4	Phase II Demolition	235
Signal Boards	3	8	6	0.82	Phase II Demolition	312
Sweepers/Scrubbers	1	8	64	0.46	Phase II Demolition	623
Tractors/Loaders/Backhoes	1	6	97	0.37	Phase II Demolition	569
Dumpers/Tenders	1	8	16	0.38	Phase I Site Preparation	29
Generator Sets	1	8	84	0.74	Phase I Site Preparation	292
Graders	1	8	187	0.41	Phase I Site Preparation	324
Signal Boards	3	8	6	0.82	Phase I Site Preparation	69
Sweepers/Scrubbers	1	8	64	0.46	Phase I Site Preparation	138
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase I Site Preparation	337
Generator Sets	1	8	84	0.74	Phase I Trenching	877
Bore/Drill Rigs	1	8	221	0.5	Phase I Trenching	1,402
Signal Boards	3	8	6	0.82	Phase I Trenching	208
Sweepers/Scrubbers	1	8	64	0.46	Phase I Trenching	415
Tractors/Loaders/Backhoes	2	7	97	0.37	Phase I Trenching	886
Dumpers/Tenders	1	8	16	0.38	Phase II Site Preparation	57
Generator Sets	1	8	84	0.74	Phase II Site Preparation	584
Graders	1	8	187	0.41	Phase II Site Preparation	648
Signal Boards	3	8	6	0.82	Phase II Site Preparation	139
Sweepers/Scrubbers	1	8	64	0.46	Phase II Site Preparation	277
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase II Site Preparation	675
Air Compressors	2	8	78	0.48	Phase I Installation	2,112
Bore/Drill Rigs	1	8	221	0.5	Phase I Installation	2,804
Cement and Mortar Mixers	1	8	9	0.56	Phase I Installation	142
Concrete/Industrial Saws	2	8	81	0.73	Phase I Installation	3,336
Cranes	1	4	231	0.29	Phase I Installation	850
Dumpers/Tenders	2	8	16	0.38	Phase I Installation	343
Excavators	1	8	158	0.38	Phase I Installation	1,523
Forklifts	1	6	89	0.2	Phase I Installation	377
Generator Sets	1	8	84	0.74	Phase I Installation	1,753
Plate Compactors	1	8	8	0.43	Phase I Installation	97
Pressure Washers	1	8	13	0.3	Phase I Installation	110
Pumps	1	8	84	0.74	Phase I Installation	1,753

Signal Boards	3	8	6	0.82	Phase I Installation	416
Sweepers/Scrubbers	1	8	64	0.46	Phase I Installation	830
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase I Installation	2,025
Welders	1	8	46	0.45	Phase I Installation	584
Generator Sets	1	8	84	0.74	Phase II Trenching	1,753
Bore/Drill Rigs	1	8	221	0.5	Phase II Trenching	2,804
Signal Boards	3	8	6	0.82	Phase II Trenching	416
Sweepers/Scrubbers	1	8	64	0.46	Phase II Trenching	830
Tractors/Loaders/Backhoes	2	7	97	0.37	Phase II Trenching	1,772
Cement and Mortar Mixers	4	6	9	0.56	Phase I Paving	71
Dumpers/Tenders	2	8	16	0.38	Phase I Paving	57
Generator Sets	1	8	84	0.74	Phase I Paving	292
Pavers	1	7	130	0.42	Phase I Paving	202
Paving Equipment	1	8	132	0.36	Phase I Paving	201
Plate Compactors	1	6	8	0.43	Phase I Paving	12
Rollers	1	7	80	0.38	Phase I Paving	125
Signal Boards	3	8	6	0.82	Phase I Paving	69
Sweepers/Scrubbers	1	8	64	0.46	Phase I Paving	138
Tractors/Loaders/Backhoes	1	7	97	0.37	Phase I Paving	148
Air Compressors	2	8	78	0.48	Phase II Installation	3,168
Bore/Drill Rigs	1	8	221	0.5	Phase II Installation	4,205
Cement and Mortar Mixers	1	8	9	0.56	Phase II Installation	213
Concrete/Industrial Saws	2	8	81	0.73	Phase II Installation	5,004
Cranes	1	4	231	0.29	Phase II Installation	1,275
Dumpers/Tenders	2	8	16	0.38	Phase II Installation	514
Excavators	1	8	158	0.38	Phase II Installation	2,285
Forklifts	1	6	89	0.2	Phase II Installation	565
Generator Sets	1	8	84	0.74	Phase II Installation	2,630
Plate Compactors	1	8	8	0.43	Phase II Installation	146
Pressure Washers	1	8	13	0.3	Phase II Installation	165
Pumps	1	8	84	0.74	Phase II Installation	2,630
Signal Boards	3	8	6	0.82	Phase II Installation	624
Sweepers/Scrubbers	1	8	64	0.46	Phase II Installation	1,246
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase II Installation	3,037
Welders	1	8	46	0.45	Phase II Installation	876
Air Compressors	2	8	78	0.48	Phase III Demolition	1,056
Concrete/Industrial Saws	2	8	81	0.73	Phase III Demolition	1,668
Dumpers/Tenders	1	1	16	0.38	Phase III Demolition	11
Generator Sets	1	8	84	0.74	Phase III Demolition	877
Pressure Washers	1	8	13	0.3	Phase III Demolition	55
Rubber Tired Dozers	1	1	247	0.4	Phase III Demolition	157
Signal Boards	3	8	6	0.82	Phase III Demolition	208
Sweepers/Scrubbers	1	8	64	0.46	Phase III Demolition	415
Tractors/Loaders/Backhoes	1	6	97	0.37	Phase III Demolition	380
Dumpers/Tenders	1	8	16	0.38	Phase III Site Preparation	86
Generator Sets	1	8	84	0.74	Phase III Site Preparation	877
Graders	1	8	187	0.41	Phase III Site Preparation	973
Signal Boards	3	8	6	0.82	Phase III Site Preparation	208
Sweepers/Scrubbers	1	8	64	0.46	Phase III Site Preparation	415
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase III Site Preparation	1,012
Generator Sets	1	8	84	0.74	Phase III Trenching	877
Signal Boards	3	8	6	0.82	Phase III Trenching	208
Sweepers/Scrubbers	1	8	64	0.46	Phase III Trenching	415
Tractors/Loaders/Backhoes	2	7	97	0.37	Phase III Trenching	886
Cement and Mortar Mixers	4	6	9	0.56	Phase II Paving	213
Dumpers/Tenders	2	8	16	0.38	Phase II Paving	171
Generator Sets	1	8	84	0.74	Phase II Paving	877
Pavers	1	7	130	0.42	Phase II Paving	606

Paving Equipment	1	8	132	0.36	Phase II Paving	603
Plate Compactors	1	6	8	0.43	Phase II Paving	36
Rollers	1	7	80	0.38	Phase II Paving	375
Signal Boards	3	8	6	0.82	Phase II Paving	208
Sweepers/Scrubbers	1	8	64	0.46	Phase II Paving	415
Tractors/Loaders/Backhoes	1	7	97	0.37	Phase II Paving	443
Air Compressors	2	8	78	0.48	Phase III Installation	1,056
Cement and Mortar Mixers	1	8	9	0.56	Phase III Installation	71
Concrete/Industrial Saws	2	8	81	0.73	Phase III Installation	1,668
Cranes	1	4	231	0.29	Phase III Installation	425
Dumpers/Tenders	2	8	16	0.38	Phase III Installation	171
Excavators	1	8	158	0.38	Phase III Installation	762
Forklifts	1	6	89	0.2	Phase III Installation	188
Generator Sets	1	8	84	0.74	Phase III Installation	877
Plate Compactors	1	8	8	0.43	Phase III Installation	49
Pressure Washers	1	8	13	0.3	Phase III Installation	55
Pumps	1	8	84	0.74	Phase III Installation	877
Signal Boards	3	8	6	0.82	Phase III Installation	208
Sweepers/Scrubbers	1	8	64	0.46	Phase III Installation	415
Tractors/Loaders/Backhoes	2	8	97	0.37	Phase III Installation	1,012
Welders	1	8	46	0.45	Phase III Installation	292
Cement and Mortar Mixers	4	6	9	0.56	Phase III Paving	71
Dumpers/Tenders	2	8	16	0.38	Phase III Paving	57
Generator Sets	1	8	84	0.74	Phase III Paving	292
Pavers	1	7	130	0.42	Phase III Paving	202
Paving Equipment	1	8	132	0.36	Phase III Paving	201
Plate Compactors	1	6	8	0.43	Phase III Paving	12
Rollers	1	7	80	0.38	Phase III Paving	125
Signal Boards	3	8	6	0.82	Phase III Paving	69
Sweepers/Scrubbers	1	8	64	0.46	Phase III Paving	138
Tractors/Loaders/Backhoes	1	7	97	0.37	Phase III Paving	148
Total Fuel Used						100,126
						(Gallons)

<u>Construction Phase</u>	<u>Days of Operation</u>
Phase I Demolition	30
Phase II Demolition	45
Phase I Site Preparation	10
Phase I Trenching	30
Phase II Site Preparation	20
Phase I Installation	60
Phase II Trenching	60
LS No. 1 Bypass	1
LS No 2 Bypass	30
LS No. 4 Bypass	1
Phase I Paving	10
Phase II Installation	90
Phase I Site Restoration	10
Phase III Demolition	30
Phase III Site Preparation	30
Phase III Trenching	30
Phase II Paving	30
Phase III Installation	30
Phase II Site Restoration	20
Phase III Paving	10
Phase III Site Restoration	10
Total Days	587

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Phase I Demolition	24.1	33	10.8	444
Phase II Demolition	24.1	33	10.8	665
Phase I Site Preparation	24.1	23	10.8	103
Phase I Trenching	24.1	20	10.8	269
Phase II Site Preparation	24.1	23	10.8	206
Phase I Installation	24.1	9	10.8	242
Phase II Trenching	24.1	20	10.8	538
LS No. 1 Bypass	24.1	0	10.8	0
LS No 2 Bypass	24.1	0	10.8	0
LS No. 4 Bypass	24.1	0	10.8	0
Phase I Paving	24.1	40	10.8	179
Phase II Installation	24.1	9	10.8	363
Phase I Site Restoration	24.1	5	10.8	22
Phase III Demolition	24.1	33	10.8	444
Phase III Site Preparation	24.1	23	10.8	309
Phase III Trenching	24.1	18	10.8	242
Phase II Paving	24.1	40	10.8	538
Phase III Installation	24.1	9	10.8	121
Phase II Site Restoration	24.1	5	10.8	45
Phase III Paving	24.1	40	10.8	179
Phase III Site Restoration	24.1	5	10.8	22
Fuel				4932

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Phase I Demolition	7.5	14	20.0	37
Phase II Demolition	7.5	0	20.0	0
Phase I Site Preparation	7.5	0	20.0	0
Phase I Trenching	7.5	106	20.0	283
Phase II Site Preparation	7.5	0	20.0	0
Phase I Installation	7.5	0	20.0	0
Phase II Trenching	7.5	103	20.0	275
LS No. 1 Bypass	7.5	0	20.0	0
LS No 2 Bypass	7.5	0	20.0	0
LS No. 4 Bypass	7.5	0	20.0	0
Phase I Paving	7.5	0	20.0	0
Phase II Installation	7.5	0	20.0	0
Phase I Site Restoration	7.5	0	20.0	0
Phase III Demolition	7.5	29	20.0	77
Phase III Site Preparation	7.5	0	20.0	0
Phase III Trenching	7.5	42	20.0	112
Phase II Paving	7.5	0	20.0	0
Phase III Installation	7.5	0	20.0	0
Phase II Site Restoration	7.5	0	20.0	0
Phase III Paving	7.5	0	20.0	0
Phase III Site Restoration	7.5	0	20.0	0
Fuel				784

VENDOR TRIPS

Phase I Demolition	7.5	2	14.7	118
Phase II Demolition	7.5	2	14.7	176
Phase I Site Preparation	7.5	2	14.7	39
Phase I Trenching	7.5	2	14.7	118
Phase II Site Preparation	7.5	2	14.7	78
Phase I Installation	7.5	6	14.7	706
Phase II Trenching	7.5	2	14.7	235
LS No. 1 Bypass	7.5	6	14.7	12
LS No 2 Bypass	7.5	8	14.7	470
LS No. 4 Bypass	7.5	10	14.7	20
Phase I Paving	7.5	2	14.7	39
Phase II Installation	7.5	6	14.7	1058
Phase I Site Restoration	7.5	0	14.7	0
Phase III Demolition	7.5	2	14.7	118
Phase III Site Preparation	7.5	2	14.7	118
Phase III Trenching	7.5	2	14.7	118
Phase II Paving	7.5	2	14.7	118
Phase III Installation	7.5	6	14.7	353
Phase II Site Restoration	7.5	0	14.7	0
Phase III Paving	7.5	2	14.7	78
Phase III Site Restoration	7.5	0	14.7	0

Fuel **3971**

Total Gasoline Consumption (gallons)	4,932
Total Diesel Consumption (gallons)	104,881

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2*. September. Available at: <https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf>.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics*. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.

Appendix F

Paleontological Resources Assessment



Moss Landing Wastewater System Rehabilitation Project

Paleontological Resources Assessment

prepared for

Castroville Community Services District
11497 Geil Street
Castroville, California 93660
Contact: Eric Tynan, General Manager

prepared by

Rincon Consultants, Inc.
2511 Garden Road, Suite C-250
Monterey, California 93940

October 2022



RINCON CONSULTANTS, INC.
Environmental Scientists | Planners | Engineers
rinconconsultants.com

Table of Contents

Executive Summary	1
Purpose and Scope	1
Results of Investigation	1
Impacts and Recommendations	1
1 Introduction.....	3
1.1 Project Location	3
1.2 Project Description	9
2 Regulations	13
2.1 Federal Regulations	13
2.2 State Regulations.....	13
2.3 Regional and Local Regulations	14
3 Paleontological Resources Assessment Guidelines.....	16
3.1 Paleontological Sensitivity	16
3.2 Resource Assessment Criteria	16
4 Methods	18
5 Description of Resources.....	19
5.1 Geologic Setting.....	19
5.2 Geology of the Project Site	19
6 Evaluation, Impacts, and Recommendations	22
6.1 Paleontological Sensitivity Evaluation	22
6.2 Impacts	22
6.3 Recommendations.....	24
7 References.....	26
8 List of Preparers.....	27

Tables

Table 1 Proposed Manhole Improvements.....	11
Table 2 Paleontological Sensitivity of Project Components.....	22
Table 3 Potential for Impacts to Paleontological Resources by Project Component.....	23

Figures

Figure 1 Regional Location	4
Figure 2 Project Site Location – North Extent	5
Figure 3 Project Site Location – North-Central Extent	6
Figure 4 Project Site Location – South-Central Extent	7
Figure 5 Project Site Location – South Extent	8

Figure 6 Geologic Map of Project Site 20

Appendices

Appendix A Staff Resumes

Executive Summary

Purpose and Scope

Rincon Consultants, Inc. (Rincon) was retained to conduct a Paleontological Resources Assessment (PRA) for the Moss Landing Wastewater System Rehabilitation Project (project or proposed action) in Monterey County, California. The Castroville Community Services District (District) will pursue federal funding opportunities for the proposed action, including funding from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). In California, administration of the SRF program has been delegated by the United States Environmental Protection Agency to the SWRCB. In turn, the SWRCB requires that all projects being considered under the SRF program must comply with certain federal environmental protection laws (also referred to as federal cross-cutters or CEQA-Plus). This PRA includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010) to determine whether the proposed action would result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws.

Results of Investigation

Five geologic units are mapped at the surface underlying the project components: Quaternary dune sand, Quaternary basin deposits, Quaternary eolian sand, Quaternary marine terraces, and Quaternary alluvial fan deposits (Wagner et al. 2002). Quaternary dune sand, Quaternary basin deposits, and Quaternary eolian sand are Holocene in age (Dupre and Tinsley 1980) and likely too young to preserve paleontological resources as defined by SVP (i.e., greater than 5,000 years old; SVP 2010). Quaternary dune sand, Quaternary basin deposits, and Quaternary eolian sand have low paleontological sensitivity based on the age of the sediments. Sediments similar in lithology and age to Quaternary marine terraces and Quaternary alluvial fan deposits have produced scientifically significant paleontological resources throughout California, including in Monterey County (Bradley and Addicott 1968; Jefferson 2010; Paleobiology Database 2022; Powell et al. 2004; University of California Museum of Paleontology 2022; Wright 1972). Therefore, Quaternary marine terraces and Quaternary alluvial fan deposits are assigned high paleontological sensitivity.

Impacts and Recommendations

The proposed action involves several different components, the development of which vary in their potential to result in significant impacts to paleontological resources under CEQA or adverse effects under federal environmental protection laws. No ground disturbance would occur for replacement of the Lift Station No. 1 Force Main Air Release Valve Vault; therefore, this project component would have no impacts/effects to paleontological resources under CEQA and federal environmental protection laws, respectively. Excavations for six components (Lift Station No. 2, Lift Station No. 3, Lift Station No. 4, Lift Station No. 2 Force Main, Pipe Repair P-1, and Pipe Repair P-2) would take place solely within sediments assigned low paleontological sensitivity and would thus have a less-than-significant impact to paleontological resources under CEQA and no effect on paleontological

resources under federal environmental protection laws. Construction activities associated with the manhole replacement and rehabilitation would involve ground disturbance in areas where highly sensitive sediments are mapped. However, these activities would only affect previously disturbed sediments, so they would have a less-than-significant impact/no effect on paleontological resources. Installation of Lift Station No. 1 would involve ground disturbing activities in previously undisturbed sediments assigned high paleontological sensitivity (Quaternary marine terraces); therefore, there is potential for ground-disturbing activities to result in significant impacts/adverse effects to paleontological resources under CEQA and federal environmental protection laws.

Mitigation Measure PAL-1 is recommended to reduce potential impacts/effects to paleontological resources to a level of less-than-significant/no adverse effect. This mitigation measure involves the retention of a Qualified Paleontologist, implementation of a Worker Environmental Awareness Program training for construction personnel, paleontological monitoring during construction activities, and management of paleontological resources if discovered.

1 Introduction

Rincon Consultants, Inc. (Rincon) conducted a desktop Paleontological Resources Assessment (PRA) for the Moss Landing Wastewater System Rehabilitation Project (project or proposed action) in Monterey County, California. This assessment includes a literature review, paleontological sensitivity assessment, and reporting consistent with the professional standards of the Society of Vertebrate Paleontology (SVP; 2010).

Paleontological resources (i.e., fossils) are the remains or traces of prehistoric life. Fossils are typically preserved in layered sedimentary rocks and the distribution of fossils across the landscape is controlled by the distribution and exposure of the fossiliferous sedimentary rock units at and near the surface. Construction-related impacts that typically affect or have the potential to affect paleontological resources include mass excavation operations, drilling/borehole excavations, trenching/tunneling, and grading. Ground-disturbing construction activities associated with the proposed project would mainly consist of trenching and excavation. This PRA provides a list of the formations mapped at the surface within the project site and formations that underlie those mapped at the surface that may be impacted by project construction activities.

The Castroville Community Services District (District) will pursue federal funding opportunities for the proposed action, including funding from the State Water Resources Control Board (SWRCB) State Revolving Fund (SRF). In California, administration of the SRF program has been delegated by the United States Environmental Protection Agency to the SWRCB. In turn, the SWRCB requires that all projects being considered under the SRF program must comply with certain federal environmental protection laws. This PRA has been prepared to provide technical information and impact analysis and to review the proposed project in sufficient detail to determine to what extent the proposed action may result in significant impacts to paleontological resources under the California Environmental Quality Act (CEQA) or adverse effects to paleontological resources under federal environmental protection laws (also referred to as federal cross-cutters or CEQA-Plus). This PRA also provides a description of the formations, including types of fossils known to occur within the formations (if any) and the paleontological sensitivity for each formation.

1.1 Project Location

The project site is located in Moss Landing, a census-designated place in Monterey County, and is comprised of four lift station locations, 12 manhole locations, one air release valve vault in Struve Road, and 5,735 linear feet (LF) of pipeline alignments along roads including along Potrero Road, State Route (SR) 1, Sandholdt Road, and Struve Road. Figure 1 shows the project site's regional context, and Figure 2 through Figure 5 show the project site at a local scale.

Figure 1 Regional Location



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★ Project Location

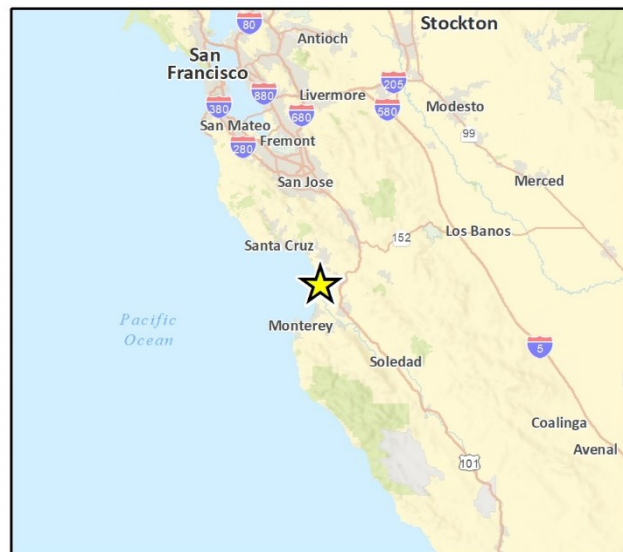


Fig 1 Regional Location

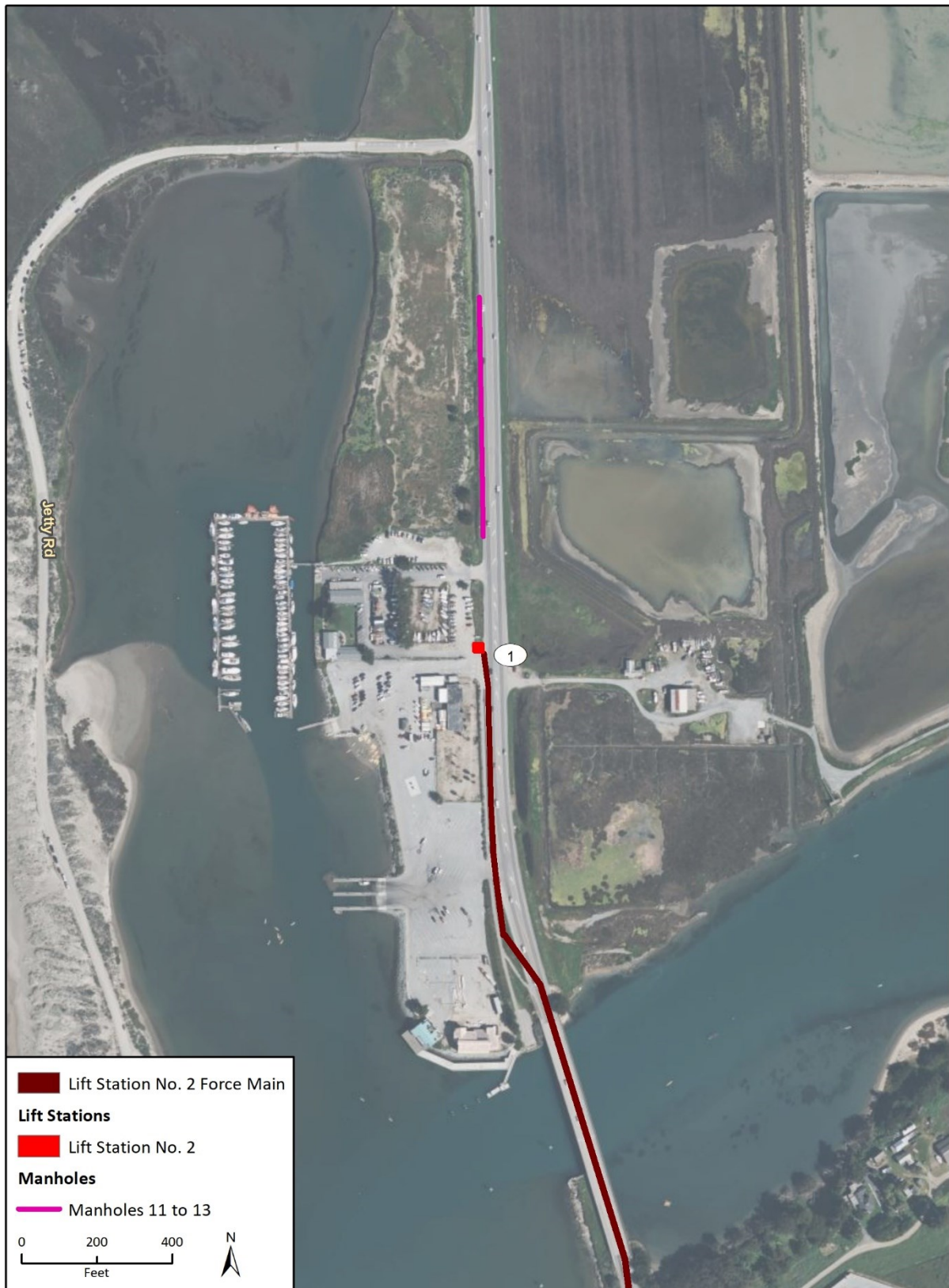
Figure 2 Project Site Location – North Extent



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Fig. 3-1 Project Components North

Figure 3 Project Site Location – North-Central Extent



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Fig. 3-24 Project Components - South

Figure 4 Project Site Location – South-Central Extent



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Fig. 3-2b Project Components (South)

Figure 5 Project Site Location – South Extent



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Fig. 5-2: Project Components South

1.2 Project Description

The proposed action would involve the replacement or rehabilitation of existing facilities that are part of the MLWWS. The proposed action is intended to optimize the existing system to serve existing demand and would not serve additional growth or new demand. The proposed system improvements are described in the following subsections.

Lift Station No. 1

Lift Station No. 1 would be demolished in its current location on Assessor's Parcel Number (APN) 413-061-042-000 and reconstructed in its entirety on the northeast corner of APN 413-012-014-000. The new lift station would consist of similar components as the existing Lift Station No. 1. A new 50-kilowatt (kW) backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 1. The capacity of the new lift station would be approximately equal to the capacity of the existing lift station. To accommodate the relocated lift station, a new concrete manhole would be installed along the existing sewer pipeline alignment in Struve Road, and the gravity sewer main along Struve Road would be extended from this manhole to the new lift station. A new force main would also be installed between the new lift station and the existing force main alignment in Struve Road to connect the new lift station to the sewer system. The gravity sewer and force main pipelines that currently connect the sewer system to the existing Lift Station No. 1 would be removed or abandoned in place. Electrical service for Lift Station No. 1 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2

Lift Station No. 2 would be rehabilitated in place at its current location on APN 413-022-006-000. Rehabilitation would include replacement of various belowground and aboveground features. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 2. The capacity of the rehabilitated lift station would be increased moderately as compared to the existing lift station to serve existing systemwide demand. Approximately five feet of sewer main would be installed to connect the lift station to a new grit-capturing polymer concrete manhole located immediately east and upstream of Lift Station No. 2.

Lift Station No. 3

Lift Station No. 3 would be demolished and reconstructed in its entirety in the same location as the existing lift station within the public right-of-way of Sandholdt Road immediately east of 7662 Sandholdt Road. The new lift station would consist of similar components as the existing Lift Station No. 3. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 3. A new grit-capturing polymer concrete manhole would be installed immediately west and upstream of the lift. Approximately five feet of sewer main would be installed to connect the lift station to this manhole. The capacity of the reconstructed lift station would be moderately increased in capacity as compared to the existing lift station to serve existing systemwide demand.

Lift Station No. 4

Lift Station No. 4 would be reconstructed in its entirety within the right-of-way of Potrero Road, approximately 220 feet east of its current location in the right-of-way of Potrero Road. The existing lift station, electrical control vault, and manhole would be demolished and removed, and the

existing gravity sewer and force main pipelines that connect the existing Lift Station No. 4 to the sewer system would be abandoned in place. The new lift station would consist of similar components as the existing Lift Station No. 4. A new 50-kW backup generator, security fencing with gate, and surfacing would also be installed at Lift Station No. 4. A new concrete manhole would be installed immediately east and upstream of the lift station. Approximately five feet of sewer main would be installed to connect the lift station to this manhole. In addition, force main piping would be installed to connect the new lift station to the existing force main pipeline that runs parallel to Portero Road. The capacity of the reconstructed lift station would be moderately increased as compared to the existing lift station to serve existing systemwide demand. Electrical service for Lift Station No. 4 would be re-located from its existing configuration to serve the new location.

Lift Station No. 2 Force Main

Approximately 3,890 LF of the Lift Station No. 2 force main would be replaced or rehabilitated. Of this, approximately 1,140 LF of the Lift Station No. 2 force main attached to the SR 1 bridge over Elkhorn Slough and between the bridge and Lift Station No. 2 would be replaced. Approximately 1,025 LF of the existing pipeline would be replaced via open trench north of the SR 1 bridge over Elkhorn Slough, and up to 200 LF on the south of the SR 1 bridge over Elkhorn Slough. The remainder of the Lift Station No. 2 force main south of the SR 1 bridge over Elkhorn Slough, which consists of approximately 1,525 LF of pipeline, would be rehabilitated with a cured in place pipeline liner, if determined to be necessary during construction.

Pipe Repair P-1

Approximately 1,250 LF of existing gravity sewer pipeline from Manhole 36 to Lift Station No. 3 would be replaced along the same alignment and slope. In addition, five existing manholes would be rehabilitated along this pipeline segment, which would include installation of a lining system, removal of manhole rungs (if present), and replacement of the manhole frame and cover at each manhole.

Pipe Repair P-2

Approximately 300 LF of existing sewer main between Manhole 38 and Manhole 39 would be replaced along the same alignment and slope. Manhole 38 would be rehabilitated, and Manhole 39 would be abandoned in place and reconstructed approximately 50 feet to the north. The portion of existing sewer main between the existing and relocated Manhole 39 would be abandoned in place.

Lift Station No. 1 Force Main Air Release Valve Vault

The existing combination air release and vacuum valves, as well as the isolation valve and appurtenances, would be replaced in the existing valve vault of the Lift Station No. 1 Force Main. No ground disturbance will be required for this project component.

Manholes

Several manhole improvements would be completed as part of the proposed action, which are summarized in Table 1.

Table 1 Proposed Manhole Improvements

Manhole Number(s)	Proposed Improvement
11 to 13	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion and mitigate infiltration/inflow ▪ Replacement of manhole frames and covers ▪ Installation of concrete protective rings on manholes ▪ Installation of marking posts on manhole covers to reduce potential for future mower impacts
27 to 29, 41 to 46	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers
30	<ul style="list-style-type: none"> ▪ Replacement with a polymer concrete manhole to minimize future corrosion
47	<ul style="list-style-type: none"> ▪ Lining with a 100 percent solids epoxy or polyurethane resin to prevent further corrosion ▪ Replacement of manhole frames and covers ▪ Raising to grade ▪ Installation of a locking frame and cover

Construction

Project construction would occur over the course of approximately 12 months from September 2023 to September 2024. The proposed action would be developed in three main phases: lift station relocation and rehabilitation; repair of manholes, air release valve vault and pipeline replacement; and Lift Station No. 2 Force Main rehabilitation and replacement. Construction equipment would be staged at off-site locations that would consist of disturbed and/or developed areas such as existing streets and parking lots.

Pipe Repairs P-1 and P-2 would be accomplished via open trenching methods. The pipeline trench would have a depth of approximately six to seven feet. Removal of the existing pipeline and installation of the new pipeline under the SR 1 bridge across Elkhorn Slough would occur from the bridge deck and abutments. Work on the banks below the bridge would only be completed by pedestrians on foot above the water line; no heavy equipment would drive on the banks near the bridge. The average depth of excavation for replacement and rehabilitation of the four lift stations would be approximately 14 feet.

During construction activities, temporary bypass systems would be utilized to maintain flows through the MLWWS, which would include trucking wastewater from upstream manholes to downstream manholes or installing temporary aboveground pumps with temporary aboveground pipelines.

Temporary dewatering activities would also be required during construction activities at Lift Station Nos. 1, 2, 3, and 4 and Pipe Repair P-1. Groundwater would be disposed of via the following methods at each location:

- **Lift Station No. 1:** Groundwater would either be discharged to an on-site infiltration pond (up to four feet in depth) for percolation or injected via an on-site injection well (approximately 20 feet in depth) back into the underlying groundwater basin.
- **Lift Station No. 2:** Groundwater would be injected back into the underlying groundwater basin via injection wells (approximately 20 feet in depth) installed within the District's Lift Station No. 3 property.

- **Lift Station No. 3/Pipe Repair P-1:** A temporary berm would be installed within the open trench of Pipe Repair P-1, and groundwater would be discharged into the pond created by the temporary berm for percolation back into the underlying groundwater basin. Alternatively, a series of injection wells (approximately 20 feet in depth) would be installed within Sandholdt Road near these project components for injecting groundwater back into the underlying groundwater basin.
- **Lift Station No. 4:** Groundwater would be injected back into the underlying groundwater basin via injection wells (approximately 20 feet in depth) installed in the unpaved shoulder of Potrero Road within the County's right-of-way in close proximity to the existing and proposed locations of Lift Station No. 4.

Operation and Maintenance

Once construction of the proposed action is complete, the operation and maintenance needs of the MLWWS would generally be reduced due to improved infrastructure reliability resulting from the installation of corrosive-preventive materials, grit-capturing polymer concrete manholes at key locations to reduce damage caused by sand and shells, and the use of newer, more durable materials.

2 Regulations

2.1 Federal Regulations

As a CEQA-Plus project, this project must comply with several federal regulations in addition to the requirements of CEQA. The only such regulation that addresses paleontological resources is the National Historic Preservation Act, which is detailed below:

National Environmental Policy Act (42 United States Code, Section 4321 et seq.; 40 Code of Federal Regulations, Section 1502.25)

The National Environmental Policy Act, as amended, directs federal agencies to “preserve important historic, cultural, and natural aspects of our national heritage (Section 101[b][4]).” The current interpretation of this language includes scientifically important paleontological resources among those resources potentially requiring preservation.

National Historic Preservation Act of 1966 (6 United States Code 470)

The National Historic Preservation Act (NHPA) applies to paleontological resources that are found in culturally-related contexts; these related materials qualify as cultural resources. Consequently, recovery and treatment protocols included in the project-specific Cultural Resources Management Plan should be followed for discoveries of paleontological resources in culturally-related contexts.

Paleontological Resources Preservation Act

The Paleontological Resources Preservation Act (PRPA) is part of the Omnibus Public Land Management Act of 2009 (Public Law 111-011 Subtitle D). The PRPA directs the Secretary of the Interior or the Secretary of Agriculture to manage and protect paleontological resources on federal land, and develop plans for inventorying, monitoring, and deriving the scientific and educational use of such resources. The PRPA prohibits the removal of paleontological resources from federal land without a permit, establishes penalties for violations, and establishes a program to increase public awareness about such resources. While specific to activity occurring on federal lands, some federal agencies may require adherence to the directives outlined in the PRPA for projects on non-federal lands if federal funding is involved, or the project includes federal oversight.

2.2 State Regulations

California Environmental Quality Act

Paleontological resources are protected under CEQA, which states a project would “normally” have a significant effect on the environment if project effects exceed an identified threshold of significance (CEQA Guidelines Section 15064.7[a]). Appendix G of the CEQA Guidelines (the Environmental Checklist Form) provides suggested thresholds of significance for evaluating a project’s environmental impacts, including impacts to paleontological resources. In Section VII(f), the question is posed thus: “Will the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?” To determine the uniqueness of a given

paleontological resource, it must first be identified or recovered (i.e., salvaged). Therefore, CEQA mandates mitigation of adverse impacts, to the extent practicable, to paleontological resources.

CEQA does not define “a unique paleontological resource or site.” However, the SVP (2010) has defined a “significant paleontological resource” in the context of environmental review as follows:

Fossils and fossiliferous deposits, here defined as consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information.

Paleontological resources are typically to be older than recorded human history and/or older than middle Holocene (i.e., older than about 5,000 radiocarbon years) (SVP 2010).

The loss of paleontological resources meeting the criteria outlined above (i.e., a significant paleontological resource) would be a significant impact under CEQA, and the CEQA lead agency is responsible for mitigating impacts to paleontological resources, where practicable, in compliance with CEQA and other applicable statutes.

California Public Resources Code

California Public Resources Code Section 5097.5 states:

No person shall knowingly and willfully excavate upon, or remove, destroy, injure, or deface any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands. Violation of this section is a misdemeanor.

Here “public lands” means those owned by, or under the jurisdiction of, the State or any city, county, district, authority, or public corporation, or any agency thereof. Consequently, public agencies are required to comply with Public Resources Code Section 5097.5 for their own activities, including construction and maintenance, and for permit actions (e.g., encroachment permits) undertaken by others.

2.3 Regional and Local Regulations

2010 Monterey County General Plan

The Conservation and Open Space Element of the 2010 Monterey County General Plan (County of Monterey 2010) addresses paleontological resources and includes the following goal and policies applicable to the proposed project:

Goal OS-7 Encourage the conservation and identification of the County’s paleontological resources.

OS-7.1 Important representative and unique paleontological sites and features shall be identified and protected. Developers shall be required to complete Phase I (reconnaissance level) paleontological reviews in any formation known to yield important elements of the fossil record. If significant fossil deposits are found during grading activities, data recovery

shall be required to obtain a sample of materials from such deposits prior to their systematic destruction.

OS-7.3 Development proposed within high and moderate sensitivity zones and known fossil-bearing formations shall require a paleontological field inspection prior to approval. Routine and Ongoing Agricultural Activities are exempted from this policy in so far as allowed by state or federal law.

OS-7.4 Development proposed in low sensitivity zones are not required to have a paleontological survey unless there is specific additional information that suggests paleontological resources are present.

3 Paleontological Resources Assessment Guidelines

Paleontological resources are limited, nonrenewable resources of scientific, cultural, and educational value and are afforded protection under state and local laws and regulations. This PRA satisfies Public Resources Code Section 5097.5 requirements, follows guidelines and significance criteria specified by the SVP (2010).

3.1 Paleontological Sensitivity

Paleontological sensitivity refers to the potential for a geologic unit to produce scientifically significant fossils. Direct impacts to paleontological resources occur when earthwork activities, such as grading or trenching, cut into the geologic deposits within which fossils are buried and physically destroy the fossils. Because fossils are the remains of prehistoric animal and plant life, they are considered to be nonrenewable. These activities may constitute significant impacts under CEQA or adverse effects under federal environmental protection laws and may require mitigation. Sensitivity is determined by rock type, history of the geologic unit in producing significant fossils, and fossil localities recorded from that unit. Paleontological sensitivity is derived from the known fossil data collected from the entire geologic unit, not just from a specific survey.

The discovery of a vertebrate fossil locality is of greater significance than that of an invertebrate fossil locality, especially if it contains a microvertebrate assemblage. The recognition of new vertebrate fossil locations could provide important information on the geographical range of the taxa, their radiometric age, evolutionary characteristics, depositional environment, and other important scientific research questions. Vertebrate fossils are almost always significant because they occur more rarely than invertebrates or plants. Thus, geological units having the potential to contain vertebrate fossils are considered the most sensitive.

3.2 Resource Assessment Criteria

In its Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources, the SVP outlines guidelines for categorizing paleontological sensitivity of geologic units within a project area. The SVP describes sedimentary rock units as having a high, low, undetermined, or no potential for containing significant nonrenewable paleontological resources. This criterion is based on rock units within which vertebrates or significant invertebrate fossils have been determined by previous studies to be present or likely to be present. Significant paleontological resources are fossils or assemblages of fossils, which are unique, unusual, rare, uncommon, diagnostically, stratigraphically, taxonomically, or regionally (SVP 2010). The paleontological sensitivity of the project site has been evaluated according to the following SVP (2010) categories:

- **High Potential (Sensitivity).** Rock units from which significant vertebrate or significant invertebrate fossils or significant suites of plant fossils have been recovered are considered to have a high potential for containing significant non-renewable fossiliferous resources. These units include but are not limited to, sedimentary formations and some volcanic formations which contain significant nonrenewable paleontological resources anywhere within their

geographical extent, and sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Sensitivity comprises both (a) the potential for yielding abundant or significant vertebrate fossils or for yielding a few significant fossils, large or small, vertebrate, invertebrate, or botanical and (b) the importance of recovered evidence for new and significant taxonomic, phylogenetic, ecologic, or stratigraphic data. Areas which contain potentially datable organic remains older than recent, including deposits associated with nests or middens, and areas that may contain new vertebrate deposits, traces, or trackways are also classified as significant. Full-time monitoring is typically recommended during any project-related ground disturbance in geologic units with high sensitivity.

- **Low Potential (Sensitivity).** Sedimentary rock units that are potentially fossiliferous but have not yielded fossils in the past or contain common and/or widespread invertebrate fossils of well documented and understood taphonomic (processes affecting an organism following death, burial, and removal from the ground), phylogenetic species (evolutionary relationships among organisms), and habitat ecology. Reports in the paleontological literature or field surveys by a qualified vertebrate paleontologist may allow determination that some areas or units have low potentials for yielding significant fossils prior to the start of construction. Generally, these units will be poorly represented by specimens in institutional collections and will not require protection or salvage operations.
- **Undetermined Potential (Sensitivity).** Specific areas underlain by sedimentary rock units for which little information is available are considered to have undetermined fossiliferous potentials. Field surveys by a qualified vertebrate paleontologist to specifically determine the potentials of the rock units are required before programs of impact mitigation for such areas may be developed.
- **No Potential.** Rock units of metamorphic or igneous origin are commonly classified as having no potential for containing significant paleontological resources

4 Methods

Rincon reviewed published geologic maps to identify the geologic units present at and below the surface within the project site (Dupre and Tinsley 1980; Wagner et al. 2002). Rincon reviewed the online paleontological collections database of the University of California Museum of Paleontology (UCMP; 2022) and Paleobiology Database (PBDB; 2022) and consulted primary literature to identify known fossil localities in Monterey County and surrounding regions from similar geologic units to those identified within the project site. The project area contains no bedrock exposures, so a field survey was not warranted.

Paleontological sensitivity ratings of the geological formations were assigned based on the findings of the records search and literature review and based on the potential effects to nonrenewable paleontological resources from project construction following SVP (2010) guidelines.

5 Description of Resources

5.1 Geologic Setting

The project site is located in the Coast Ranges geomorphic province, one of the eleven geomorphic provinces of California (California Geological Survey 2002). The Coast Ranges extend along the majority of California's coast from the California-Oregon border to Point Arguello in Santa Barbara County in the south and consist of northwest-trending mountain ranges and valleys. The Coast Ranges are composed of Mesozoic and Cenozoic sedimentary, igneous, and metamorphic strata. The eastern side is characterized by strike-ridges and valleys in the Upper Mesozoic strata. The Coast Ranges province runs parallel to and overlaps the San Andreas Fault in some areas (California Geological Survey 2002).

Locally, the project site is within the *Moss Landing* United States Geological Survey 7.5-minute quadrangle. Parts of the project site border Monterey Bay and cross the entrance of Elkhorn Slough (Figure 2 and Figure 3).

5.2 Geology of the Project Site

The surface geology of region around the project area was mapped at a scale of 1:100,000 by Wagner et al. (2002), who identified five geologic units underlying the project site as shown in Figure 6. These units consist of Quaternary dune sand (Qd), Quaternary eolian sand (Qe), Quaternary basin deposits (Qb), Quaternary marine terraces (Qmt), and Quaternary alluvial fan deposits (Qf).

Quaternary Dune Sand (Qd)

Quaternary dune sand underlies much of the central portion of the project site (Figure 6). Quaternary dune sand consists of unconsolidated, well-sorted, fine- to medium-grained sand that forms strips of coastal dunes (Dupre and Tinsley 1980). Quaternary dune sand is Holocene in age and up to 80 feet thick. Given this age, Quaternary dune sand sediments are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources. Therefore, they have **low paleontological sensitivity**.

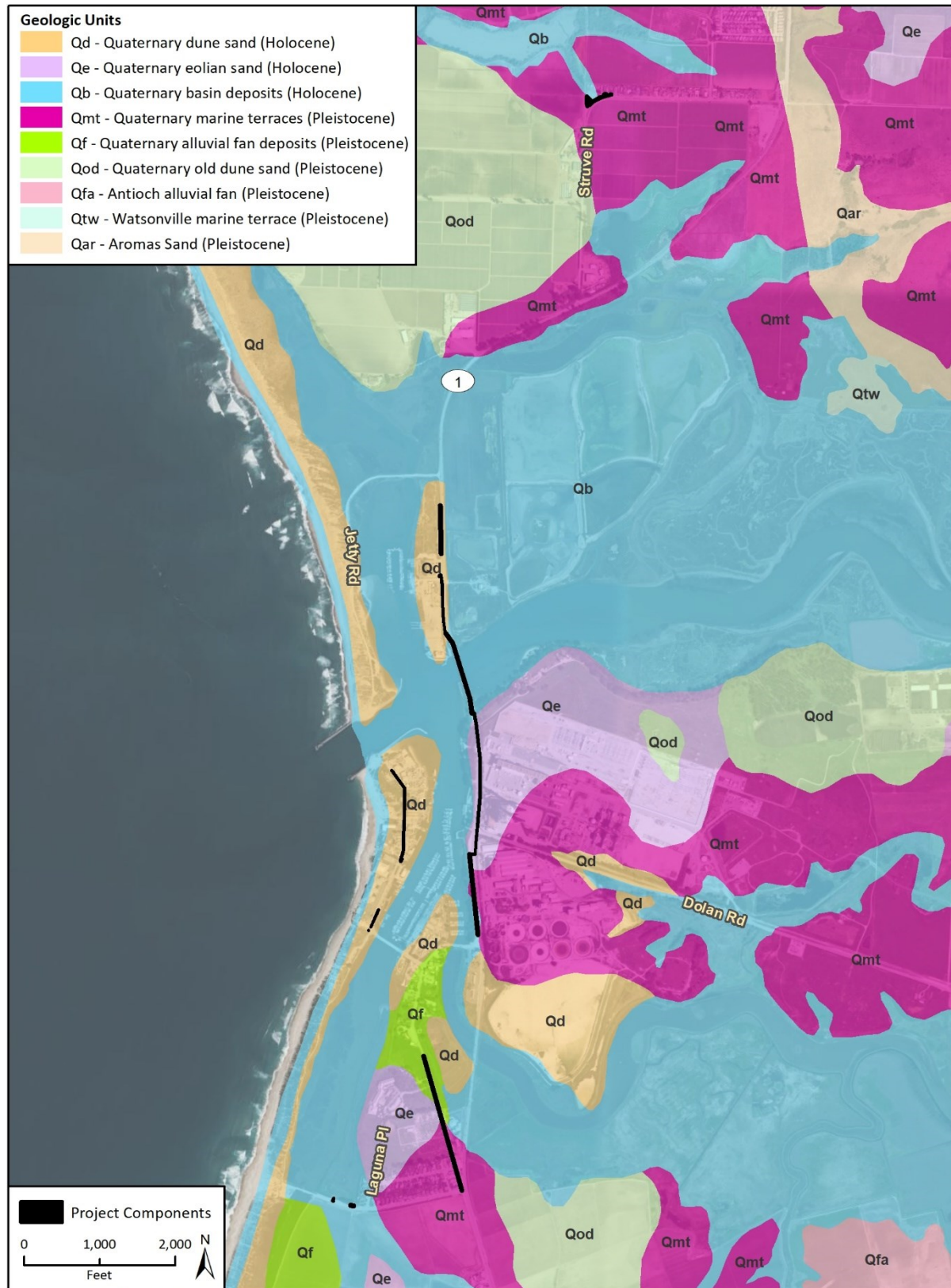
Quaternary Basin Deposits (Qb)

Quaternary basin deposits underlie small areas throughout the project site (Figure 6). Quaternary basin deposits consist of unconsolidated clay and silty clay filled with organic material and occasionally thin beds of silt or silty sand (Dupre and Tinsley 1980). Quaternary basin deposits are Holocene in age, up to 30 feet thick, and were deposited in estuarine, lagoon, tidal flat, lake, or flood basin environments. Given their age, Quaternary basin deposits are likely too young (i.e., less than 5,000 years old) to preserve paleontological resources. Therefore, they have **low paleontological sensitivity**.

Quaternary Eolian Sand (Qe)

Quaternary eolian sand underlies the central and parts of the southern portion of the project site (Figure 6). Quaternary eolian sand consists of weakly to moderately consolidated, moderately well-

Figure 6 Geologic Map of Project Site



sorted silt and sand that represents Pleistocene-aged coastal dune fields (Dupre and Tinsley 1980). Coastal dune deposits very rarely preserve fossils in California (Jefferson 2010; PBDB 2022; UCMP 2022). Therefore, Quaternary eolian sand has **low paleontological sensitivity**.

Quaternary Marine Terraces (Qmt)

Quaternary marine terrace deposits underlie areas scattered throughout portion of the project site (Figure 6). Quaternary marine terrace deposits consist of semiconsolidated, moderately to poorly sand with thin, laterally discontinuous gravel beds (Dupre and Tinsley 1980). Quaternary marine terrace deposits represent Pleistocene-aged, near-shore marine environments. Marine terrace deposits similar to Quaternary marine terrace deposits have produced vertebrate and invertebrate fossils throughout California, including near Monterey Bay (Bradley and Addicott 1968; Jefferson 2010; Powell et al. 2004; Wright 1972). Therefore, Quaternary marine terrace deposits have **high paleontological sensitivity**.

Quaternary Alluvial Fan Deposits (Qf)

Quaternary alluvial fan deposits are found in a portion of the southern part of the project site (Figure 6). Quaternary alluvial fan deposits consist of alluvial silt, sand, and gravel that is Pleistocene in age (Wagner et al. 2002). Pleistocene alluvial deposits have produced paleontological resources throughout California, including in Monterey County (Jefferson 2010; PBDB 2022; UCMP 2022). The UCMP (2022) records a camel (*Camelops*) fossil from gravel in Moss Landing. Given the fossil-producing history of sediments similar to Quaternary alluvial fan deposits throughout the region, they have **high paleontological sensitivity**.

6 Evaluation, Impacts, and Recommendations

6.1 Paleontological Sensitivity Evaluation

The project site is underlain by five distinct geologic units, as shown in Figure 6 in Section 5.2, *Geology of the Project Site*. Three of these geologic units (Quaternary dune sand, Quaternary basin deposits, and Quaternary eolian sand) have low paleontological sensitivity, and two of these geologic units (Quaternary marine terraces and Quaternary alluvial fan deposits) have high paleontological sensitivity. Depending on their location, the various project components are underlain by different geologic units, which are summarized in Table 2.

Table 2 Paleontological Sensitivity of Project Components

Project Component	Geologic Unit	Paleontological Sensitivity (SVP 2010)
Lift Station No. 1	Quaternary basin deposits	Low
	Quaternary marine terraces	High
Lift Station No. 2	Quaternary dune sand	Low
Lift Station No. 3	Quaternary dune sand	Low
Lift Station No. 4	Quaternary basin deposits	Low
Lift Station No. 2 Force Main	Quaternary dune sand	Low
	Quaternary eolian sand	Low
	Quaternary basin deposits	Low
Pipe Repair P-1	Quaternary dune sand	Low
Pipe Repair P-2	Quaternary dune sand	Low
Lift Station No. 1 Force Main Air Release Valve Vault	Quaternary marine terraces	High
Manholes	Quaternary dune sand	Low
	Quaternary basin deposits	Low
	Quaternary eolian sand	Low
	Quaternary marine terraces	High
	Quaternary alluvial fan deposits	High

6.2 Impacts

Ground-disturbing activities (i.e., grading, excavation, boring, trenching) in previously undisturbed portions of the project site that are underlain by geologic units with a high paleontological sensitivity (i.e., Quaternary alluvial fan or Quaternary marine terrace deposits) may result in significant impacts to paleontological resources under CEQA or adverse effects to paleontological resources under federal environmental protection laws. If construction activities result in the destruction, damage, or loss of scientifically important paleontological resources and associated stratigraphic and paleontological data, they would be considered as having a significant impact or adverse effect on paleontological resources.

Table 3 summarizes the potential for construction activities associated with each project component to result in significant impacts to paleontological resources. No ground disturbance would occur for replacement of the Lift Station No. 1 Force Main Air Release Valve Vault; therefore, this project component would have no impacts/effects to paleontological resources under CEQA and federal environmental protection laws, respectively. Project activities associated with Lift Station No. 2, Lift Station No. 3, Lift Station No. 2 Force Main, Pipe Repair P-1, Pipe Repair P-2, and all manhole improvements involve the rehabilitation or repair of existing facilities in their current location. Ground-disturbing activities associated with these phases of project construction would only affect previously-disturbed sediments. Therefore, as shown in Table 3, these project activities would have a less-than-significant impact under CEQA and no effect under federal environmental protection laws on paleontological resources.

Table 3 Potential for Impacts to Paleontological Resources by Project Component

Project Component	Located in Geologic Unit of High Paleontological Sensitivity?	Disturbance in Previously Undisturbed Soils?	Potentially Significant Impact/Adverse Effect?
Lift Station No. 1	Yes (New Lift Station No. 1 Location)	Yes	Yes
Lift Station No. 2	No	No	No
Lift Station No. 3	No	No	No
Lift Station No. 4	No	No	No
Lift Station No. 2 Force Main	No	No	No
Pipe Repair P-1	No	No	No
Pipe Repair P-2	No	No	No
Lift Station No. 1 Force Main Air Release Valve Vault	Yes	No	No
Manholes	Yes (Manholes 27 to 30 and 41 to 47)	No	No

Two project components, Lift Station No. 1 and Lift Station No. 4, would be relocated to new sites, and would therefore require excavations approximately 14 feet below ground level in previously undisturbed sediments. The potential injection wells utilized to dispose of groundwater produced during temporary dewatering activities at these sites would also require ground disturbance to a depth of approximately 20 feet below ground level. The proposed site for the new Lift Station No. 4 is underlain by Quaternary basin deposits, which are sediments with low paleontological sensitivity (Figure 6). The proposed site for the new Lift Station No. 1 is underlain by two geologic units: Quaternary basin deposits (low paleontological sensitivity) and Quaternary marine terraces (high paleontological sensitivity; Figure 6). Therefore, as shown in Table 3, construction of the new Lift Station No. 4 is anticipated to have a less-than-significant impact under CEQA and no effect under federal environmental protection laws on paleontological resources, and construction of the new Lift Station No. 1 has the potential to result in a significant impact under CEQA and adverse impact under federal environmental protection laws to paleontological resources.

6.3 Recommendations

The following mitigation measure would address potentially significant impacts/adverse effects if paleontological resources are encountered during project ground-disturbing activities. This measure would only apply to ground disturbing activities associated with the construction of the new Lift Station No. 1. Implementation of Mitigation Measure PAL-1 would effectively mitigate the project's potentially significant impacts/adverse effects to these resources through the recovery, identification, and curation of previously unrecovered fossils.

PAL-1 Paleontological Resources Monitoring and Mitigation

The following measures should be implemented during construction of the new Lift Station No. 1:

- **Qualified Paleontologist.** The District should retain a Qualified Paleontologist prior to the construction of the new Lift Station No. 1. The Qualified Paleontologist should direct all mitigation measures related to paleontological resources. A qualified professional paleontologist is defined by SVP standards as an individual preferably with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for at least two years (SVP 2010).
- **Paleontological Worker Environmental Awareness Program.** Prior to the start of construction, the Qualified Paleontologist or their designee should conduct a paleontological Worker Environmental Awareness Program training for construction personnel regarding the appearance of fossils and the procedures for notifying paleontological staff should fossils be discovered by construction staff.
- **Paleontological Monitoring.** Full-time paleontological monitoring should be conducted during ground-disturbing construction activities associated with construction of the new Lift Station No. 1. Paleontological monitoring should be conducted by a qualified paleontological monitor, who is defined as an individual who has experience with collection and salvage of paleontological resources and meets the minimum standards of the SVP (2010) for a Paleontological Resources Monitor. The duration and timing of the monitoring should be determined by the Qualified Paleontologist based on the observation of the geologic setting from initial ground disturbance, and subject to the review and approval by the District. If the Qualified Paleontologist determines that full-time monitoring is no longer warranted, based on the specific geologic conditions once the full depth of excavations has been reached, they may recommend that monitoring be reduced to periodic spot-checking or ceased entirely. Monitoring should be reinstated if any new ground disturbances are required, and reduction or suspension should be reconsidered by the Qualified Paleontologist at that time. In the event of a fossil discovery by the paleontological monitor or construction personnel, all work in the immediate vicinity of the find should cease. A Qualified Paleontologist should evaluate the find before restarting construction activity in the area. If it is determined that the fossil(s) is (are) scientifically significant, the Qualified Paleontologist should complete the following conditions to mitigate impacts/effects to significant fossil resources:
 - a. **Fossil Salvage.** If fossils are discovered, the paleontological monitor should have the authority to halt or temporarily divert construction equipment within 50 feet of the find

until the monitor and/or lead paleontologist evaluate the discovery and determine if the fossil may be considered significant.¹

- b. **Fossil Preparation and Curation.** Once salvaged, significant fossils should be identified to the lowest possible taxonomic level, prepared to a curation-ready condition, and curated in a scientific institution with a permanent paleontological collection along with all pertinent field notes, photos, data, and maps. Fossils of undetermined significance at the time of collection may also warrant curation at the discretion of the Qualified Paleontologist.
- **Final Paleontological Mitigation Report.** Upon completion of ground-disturbing activity (and curation of fossils if necessary), the Qualified Paleontologist should prepare a final report describing the results of the paleontological monitoring efforts associated with the project. The report should include a summary of the field and laboratory methods, an overview of the project geology and paleontology, a list of taxa recovered (if any), an analysis of fossils recovered (if any) and their scientific significance, and recommendations. The report should be submitted to the District. If the monitoring efforts produce fossils, then a copy of the report should also be submitted to the designated museum repository.

¹ Typically, fossils can be safely salvaged quickly by a single paleontologist and not disrupt construction activity. In some cases, larger fossils (such as complete skeletons or large mammal fossils) require more extensive excavation and longer salvage periods. Bulk matrix sampling may be necessary to recover small invertebrates or microvertebrates from within paleontologically sensitive deposits.

7 References

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- Society of Vertebrate Paleontology (SVP). 2010. Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources. *Society of Vertebrate Paleontology*, 1–11.
- University of California Museum of Paleontology (UCMP). 2022. UCMP online database specimen search portal, <http://ucmpdb.berkeley.edu/> (accessed April 2022).
- Wagner, D.L., H.G. Greene, G.J. Saucedo, and C.L. Pridmore. 2002. Geologic map of the Monterey 30' x 60' quadrangle and adjacent areas, California [map]. *California Geological Survey*, Regional Geologic Map No. 1, scale 1:100,000.
- Wright, R.H. 1972. Late Pleistocene marine fauna, Goleta, California. *Journal of Paleontology*, Volume 46, pp. 688-695.

8 List of Preparers

Resumes for all preparers are included in Appendix A.

Rincon Consultants, Inc.

Primary Author

- Andrew McGrath, Paleontologist

Technical Review

- Jennifer DiCenzo, Senior Paleontologist
- David Daitch, Principal Paleontologist

Appendix A

Staff Resumes

EDUCATION

Ph.D., Ecology & Evolutionary Biology, University of Colorado; Boulder, Colorado (2008)

M.S., Geology, University of Colorado; Boulder, Colorado (2001)

B.A., Biology, The Evergreen State College; Olympia, Washington (1995)

EXPERIENCE

Rincon Consultants, Inc. (2013 – present)

SWCA Environmental Consultants (2003 – 2013)

Rocky Mountain Paleontology (2000 – 2008)

University of Colorado Boulder (1997 – 2006)

PERMITS

BLM Paleontological Resources Permit – Principal Investigator
Nevada Permit #N93678
California Permit #CA-16-01P

David J. Daitch, PhD

SENIOR PALEONTOLOGIST/ PROGRAM MANAGER

Dr. Daitch is a Senior Paleontologist and Program Manager at Rincon Consultants. He has worked for over 20 years in the paleontological and biological sciences as a field investigator, laboratory and museum technician, and teacher. Dr. Daitch has over 15 years of paleontological consulting experience. Dr. Daitch's paleontological experience has focused on the collection and identification of primarily Cenozoic terrestrial fossils of western North America with moderate experience in Mesozoic terrestrial fossils and Paleocene and Mesozoic marine fossils of the western United States.

Dr. Daitch has extensive experience in the field and in project management, conducting and coordinating both small and large projects. He has conducted fieldwork, supervised field staff, and managed the technical and administrative side of more than 100 paleontological studies in the western United States. These projects have included preliminary evaluations, field surveys, field collections and excavations, field-based research, field-based and desktop paleontological resources assessments, paleontological mitigation and monitoring plan development, and construction compliance monitoring. Individual projects have ranged in size from small telecommunications project to large-scale linear (transmission and transportation) projects over a thousand miles in length. Dr. Daitch has coordinated compliance monitoring on a range of projects that include traditional and renewable energy projects, transmission projects, housing and commercial developments, and large-scale seismic surveys. He has written or supervised the preparation of numerous technical documents including Paleontological Resources Assessments and Technical Reports (including California Department of Transportation PIRs, PERs and PMPs); Impact Analyses; Paleontological Mitigation and Monitoring Plans; paleontological resources sections of Environmental Impact Reports (EIRs), Initial Study-Mitigated Negative Declarations (IS-MNDs), Environmental Assessments (EAs), and Environmental Impact Statements (EISs); and construction compliance monitoring reports.

PROJECT EXPERIENCE

PROJECT MANAGEMENT/SENIOR TECHNICAL OVERSIGHT/SENIOR PALEONTOLOGIST

- California High Speed Rail, Bakersfield to Palmdale Segment (Senior Paleontologist)
- SCE Eldorado-Lugo-Mojave Capacitor Project (Principal Paleontologist)
- Fresno Storm Water Treatment Plant Project (Principal Paleontologist)
- SR 99-Fulkerth Interchange Road Project (Principal Paleontologist)
- Columbia Solar Project (Qualified Paleontologist/Project Manager)
- San Juan Oaks Specific Plan EIR (Senior Paleontologist/Technical Lead)
- San Benito County Regional Park EIR (Senior Paleontologist/Technical Lead)
- California Flats Solar EIR (Monterey County) (Senior Paleontologist)
- Hollister Avenue Widening Project IS-MND (Principal Paleontologist)
- Milpitas Recycled Water Conversion Project (Principal Paleontologist)
- City of Fresno Water Treatment Project (Principal Paleontologist)



PROJECT EXPERIENCE, CONT'D

- Caltrans SR-99/Fulkerth Avenue Interchange Project (Senior Paleontologist/Technical Lead)
- City of Riverside Magnolia and Plaza Substation Paleontological Resources Study (Senior Paleontologist/Technical Lead)
- City of Menifee Santiara Residential Development Paleontological Resources Study (Senior Paleontologist/Technical Lead)
- Monarch Cove Inn EIR Paleontological Impacts Analysis (Senior Paleontologist/Technical Lead)
- WKN Wind Development Project, Palm Springs (Project Manager/Technical Oversight)
- PG&E City of Humboldt Transmission Line Improvement Project (Technical Oversight)
- San Gorgonio Wind Development Project, Palm Springs (Project Manager)
- Mascot Substation Construction Project, Paleontological Monitoring (Project Manager/Technical Oversight)
- Blackstone Residential Development Project (Technical Oversight)
- Williams Ryan Gulch 3-D Seismic Exploration Project Paleontological Studies (Field Coordinator and Supervisor)

FIELD AND TECHNICAL PALEONTOLOGIST

- Wellstar North Park Well Pads Paleontological Studies
- Seep Ridge Road Project Paleontological Studies
- Monogram Mesa Exploration Mining Project
- Newfield Tribal Oil and Gas Development Project
- Carter Burgess I-25 North Improvement EIS
- O & G Environmental – Helmer Gulch EIS
- Felsburg, Holt, and Ulleveg – Arapahoe Rd. Improvement Project
- Carter Burgess - East Eagle Interchange EIS
- Felsburg, Holt, and Ullevig – Pecos Street EIS
- Indiana St-Croke Canal EIS
- Federal Blvd EIS
- SH 58-44th Ave EIS
- Northern Integrated Supply Project
- NW Corridor Highway Project
- Transystems, Arapahoe Rd, Boston St., and Clinton St. intersection Project
- Smith Environmental Inc., Cherry Creek Dr South, and Federal/Spear Interchange Project

PUBLICATIONS

Daitch, D. J. 2008. Teeth, Molecules, and Populations: An Integrated View of Evolving Morphology. Doctoral Dissertation, University of Colorado, Boulder, CO.

Daitch D. J. and Guralnick, R. 2007. Geographic variation in tooth morphology of the Arctic fox *Vulpes (Alopex) lagopus*. *Journal of Mammalogy*, 88 (2): 384-393.

Murphey, P.C., and Daitch, D. 2007. Paleontological overview of oil shale and tar sands areas in Colorado, Utah and Wyoming: U.S. Department of Energy, Argonne National Laboratory Report Prepared for the U.S. Department of Interior Bureau of Land Management, 463 p. and 6 maps (scale 1:500,000).

Daitch, D. J. 2001. Evolutionary patterns in *Didymictis protenus* (Mammalia: Carnivora) from the Willwood Formation, Bighorn Basin, Wyoming. Master's Thesis. University of Colorado, Boulder, CO. pp. 160.





Jennifer DiCenzo

Paleontological Program Manager

Ms. DiCenzo has over 10 years of fieldwork and consulting experience in California paleontology and archaeology. She received her B.A. degree in anthropology with a focus in archaeology and a minor in geology with a focus on paleontology at San Diego State University in 2012. She has made substantial contributions supervising field staff, surveying, construction mitigation monitoring, conducting data recovery, salvaging fossils, preparing fossils in laboratory settings, writing technical assessments, developing and administering monitoring and mitigation plans, and managing projects. Ms. DiCenzo has coordinated compliance monitoring on a range of projects including renewable energy, housing and commercial development, transportation, and utility projects. She has written or supervised the preparation of numerous technical documents including paleontological resources assessments and technical reports, impact analyses, paleontological mitigation and monitoring plans, paleontological sections of Environmental Impact Reports, Environmental Assessment, Initial Study-Mitigated Negative Declarations, paleontological monitoring reports, and paleontological survey reports.

EDUCATION

BA, Anthropology, Minor in Geology, San Diego State University, San Diego, California

YEARS OF EXPERIENCE

10+

EXPERIENCE

Rincon Consultants, Inc.
(2021 to present)

Red Tail Environmental, Inc.
(2018 to 2021)

Paleo Solutions, Inc.
(2012 to 2018)

SELECT PROJECT EXPERIENCE

Senior Paleontologist/Project Manager, County of San Luis Obispo - San Luis Obispo County Paso Basin Land Use Management Area Planting Ordinance Program Environmental Impact Report, San Luis Obispo County

Ms. DiCenzo was responsible for overseeing the paleontological study for incorporation into the Program Environmental Impact Report for this project. The study consisted of reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and recommending measures to mitigate impacts to fossil resources.

Senior Paleontologist, City of San Luis Obispo Utilities Department – Water Resource Recovery Facility Project, San Luis Obispo County

Ms. DiCenzo was responsible for providing oversight and coordination of paleontological fieldwork for this ongoing mass excavation into Quaternary older alluvial deposits.

Senior Paleontologist/Project Manager, City of Port Hueneme – Bubbling Springs Routine Maintenance Agreement Project, Ventura County

Ms. DiCenzo oversaw preparation of the paleontological resources section of the Initial Study-Negative Declaration for the project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity analysis and providing measures to mitigate impacts to fossil resources.

Senior Paleontologist/Project Manager, Santa Clarita Valley Water Agency – South Wells PFAS Groundwater Treatment Facility Project, Ventura County

Ms. DiCenzo oversaw preparation of the paleontological resources section for the Initial Study-Mitigated Negative Declaration for this project. The study included reviewing existing literature and geological mapping to provide a paleontological resources assessment and sensitivity ratings and providing measures to mitigate impacts to fossil resources during construction.



SELECT PROJECT EXPERIENCE (CONTINUED)

Principal Investigator/Project Manager, Casitas Municipal Water District – Ventura-Santa Barbara Intertie Project, Ventura County

Ms. DiCenzo is responsible for managing paleontological consulting, monitoring, and reporting for several ongoing projects related the Ventura-Santa Barbara Intertie Project. Ms. DiCenzo supervises and coordinates paleontological field personnel and provides guidance related to handling of paleontological resource localities during excavations into multiple geologic units with a range of sensitivities.

Senior Paleontologist/Project Manager, Southern California Edison – Valle Substation Project, Ventura County

Ms. DiCenzo was responsible for providing oversight and coordination of all fieldwork and prepared a summary of findings for a paleontological survey of this proposed utility improvements project.

Senior Paleontologist, Southern California Edison – Valley South Subtransmission Line Project, Riverside County

Ms. DiCenzo was responsible for leading a crew of eight team members through 17 miles of a proposed linear transmission line alignment. All survey work was incorporated into the Proponent's Environmental Assessment (PEA) for Southern California Edison. This included proper Bureau of Land Management authorization and permitting to conduct surveying and a research design for field reconnaissance related to the PEA, Environmental Impact Statement/Environmental Impact Report documentation for the transmission line.

Paleontologist, California Department of Transportation District 8 – French Valley Parkway/Interstate 15 Project, Riverside County

Ms. DiCenzo was one of two paleontologists responsible for surveying, planning, construction mitigation monitoring, and writing the paleontological technical sections of the final survey and monitoring reports for excavations into the highly sensitive Pauba Formation in a complex area of the project requiring work on a busy freeway and city streets.

Project Manager/Senior Paleontologist, Greystar/City of San Diego – Sixth and Olive Project, San Diego County

Ms. DiCenzo was responsible for recovering 70 fossil specimens from nine localities for a mass excavation 70+ feet into San Diego Formation near Balboa Park in eastern Downtown San Diego. She drafted the budget, prepared the proposal, attended preconstruction meetings with the City of San Diego, provided record search and literature review results, then applied cross-trained archaeological and paleontological field and technical support during the project, provided project management/scheduling, salvaged fossil specimens, prepared fossil specimens in the laboratory, curated the fossil collection, and wrote the final paleontological monitoring report.

Project Manager/Paleontologist, City of San Diego – Courthouse Commons South Block Project, San Diego County

Ms. DiCenzo attended preconstruction meetings with City of San Diego and provided record search and literature review. Ms. DiCenzo provided paleontological technical expertise, monitoring, salvaging, and project management/scheduling for a mass excavation into very old paralitic deposits.

Project Manager/Field Paleontologist/Report Author, City of San Diego – Ashley Falls Large Scale Storm Flow Storage Lid Project, San Diego County

Ms. DiCenzo estimated project budget and prepared proposal, performed preliminary record search and literature review of project area, attended the preconstruction meeting, delivered the Worker Environmental Awareness Program (WEAP) training, created a WEAP training tri-fold, scheduled monitoring personnel, monitored, and wrote the report for a storm flow drain in Rancho Santa Fe.

Project Manager/Field Paleontologist, United States General Services Administration – San Ysidro Land Port of Entry Phase 3 Project, San Diego County

Ms. DiCenzo scheduled personnel and delivered WEAP training for a re-routing, re-aligning, widening, and expansion of the inspection areas and parking facility at Mexico's El Chaparral facility at the United States/Mexico border at San Ysidro.





Andrew J. McGrath, PhD

Staff Paleontologist

Dr. McGrath has nine years of paleontological research experience, including field experience in California and Bolivia, six presentations at international conferences, and four first-author publications. Dr. McGrath earned his PhD in Earth Science in 2021 from the University of California, Santa Barbara. His dissertation involved the description of South American native ungulate and rodent fossils and analyses of their phylogenetic relationships, biochronology, and locomotory paleobiology. Since joining Rincon in July 2021, Dr. McGrath has conducted paleontological monitoring, paleontological field surveys, and desktop analyses and prepared technical documents (e.g., Environmental Impact Reports, Initial Studies, construction compliance monitoring reports, and paleontological mitigation plans).

EDUCATION

PhD, Earth Science, University of California, Santa Barbara (2021)

Certificate in College and University Teaching, University of California, Santa Barbara (2021)

BA, Biology &
BA, Evolutionary Biology,
summa cum laude, Case
Western Reserve University,
Cleveland, Ohio (2016)

YEARS OF EXPERIENCE

1

SELECT PROJECT EXPERIENCE

Paleontologist, Blythe Mesa Solar, LLC – Blythe Mesa Solar II Project, Blythe, California (2021 to present)

The Blythe Mesa Solar II project involves the construction of several large solar photovoltaic arrays. Dr. McGrath was responsible for scheduling paleontological monitors, cataloging fossil discoveries, ensuring environmental compliance for paleontological monitoring, and occasionally serving as a paleontological monitor.

Paleontologist, Southern California Edison Company – Cal City Substation 115 kV Upgrade Project, Kern and San Bernardino Counties, California (2021 to 2022)

The Cal City Substation 115 kV Upgrade project analyzed several proposed routes for new and upgraded utility lines near California City, California. Dr. McGrath assisted in the field survey and was the primary author of the Paleontological Resources Technical Report.

Paleontologist, Stanislaus County Council of Governments – 2022 Stanislaus County Regional Transit Plan Project (2022)

Dr. McGrath prepared the paleontological resources section of the Environmental Impact Report in support of Stanislaus County's 2022 Regional Transit Plan.

Paleontologist, City of San Pablo – 3516 San Pablo Dam Road Self-Storage Project, San Pablo, California (2021)

Dr. McGrath prepared the paleontological resources analysis of the Initial Study-Mitigated Negative Declaration pertaining for a proposed self-storage facility.

Paleontological Monitor, Casitas Municipal Water District – West Ojai Avenue Pipeline Replacement Project, Ojai, California (2021)

The West Ojai Pipeline Replacement Project involves upgrading water pipeline segments that were undersized and approaching the end of their service life. Dr. McGrath monitored for paleontological resources during trenching by visually inspecting trenches and spoils for the presence of fossil remains.



OTHER PROJECT EXPERIENCE

Environmental Review Documents

- Del Valle Substation Project (Addendum to Paleontological Resources Analysis)
- Slover and Cherry Logistics Facility Project (Initial Study)
- Phase 2 Foster Park Fish Passage Improvement Project (Initial Study)
- Charolais Ranch Subdivision Project (Environmental Impact Report)
- Mesa Tanks Replacement Project (Categorical Exemption Documentation)
- Rohnert Park 2040 General Plan Update (Environmental Impact Report)
- City of Millbrae General Plan Update and Specific Plan Update (Environmental Impact Report)
- Lee Subdivision Project (Environmental Impact Report)
- Trinity County General Plan Update (Background Report)
- SoCalGas Pipeline Safety Enhancement Program—Various Projects (Draft Environmental Report)
- 200 Portage Road Condominium (Environmental Impact Report)
- Lee Subdivision Project (Environmental Impact Report)
- Coarsegold Water Treatment – Cultural Study (Paleontological Resources Assessment)
- 2022 Tulare County RTP/SCS Project (Environmental Impact Report)
- 2022 Stanislaus County RTP/SCS Project (Environmental Impact Report)
- City of Piedmont Housing Element Update (Environmental Impact Report)
- Key Energy Storage Project (Paleontological Resources Assessment)
- James Irrigation District Solar Project #1 (Initial Study)
- South Livermore Sewer Expansion Project (Initial Study)
- Cornfield Arroyo Seco Specific Plan Update (Environmental Impact Report)
- Cal City Substation 115 kV Upgrade Project (Paleontological Resources Technical Report)

Paleontological Surveys

- Del Valle Substation Project (Field Survey)
- Cal City Substation 115 kV Upgrade Project (Field Survey)

Paleontological Monitoring

- Blythe Mesa Solar II Project
- Grand Ave and Lion St Pipeline Replacement Project
- Bluffs at Ridgemark Environmental Compliance Project

SELECT PUBLICATIONS

- McGrath, A.J., Chick, J., Croft, D.A., Dodson, H.E., Flynn, J.J., & Wyss, A.R. 2022. Cavioids, chinchilloids, and erethizontoids (Hystricognathi, Rodentia, Mammalia) of the early Miocene Pampa Castillo Fauna, Chile. *American Museum Novitates*, 3984: 1–46.
- McGrath, A.J., Anaya, F., & Croft, D.A. 2020. New proterotheriids (Liptopterna, Mammalia) from the middle Miocene of Quebrada Honda, Bolivia, and trends in diversity and body size of proterotheriid and macraucheniid liptopterns. *Ameghiniana*, 57(2): 159–188.
- McGrath, A.J., Flynn, J.J., & Wyss, A.R. 2020. Proterotheriids and macraucheniids (Liptopterna: Mammalia) from the Pampa Castillo fauna, Chile (early Miocene, Santacrucian SALMA) and a new phylogeny of Proterotheriidae. *Journal of Systematic Palaeontology*, 18(9), 717–738.



Appendix G

Noise and Vibration Modeling

Groundborne Noise and Vibration Modeling

Notes

The reference distance is measured from the nearest anticipated point of construction equipment to the nearest structure.

Equipment	Reference Level Inputs			
	PPV _{ref} (in/sec)	Lv _{ref} (VdB)	RMS _{ref} (in/sec)	Reference Distance
Vibratory Roller	0.21	94	0.050	25
Caisson drilling	0.089	87	0.022	25
Loaded trucks	0.076	83	0.014	25
Jack hammer	0.035	79	0.009	25

Equipment	Vibration Level at Receiver			
	Distance (feet)	PPV _x (in/sec)	Lv _x (VdB)	RMS _x (in/sec)
Vibratory Roller	25	0.2100	94	0.050
Caisson drilling	25	0.0890	87	0.022
Loaded trucks	25	0.0760	83	0.014
Jack hammer	25	0.0350	79	0.009

Source

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual (CT-HWANP-RT-20-365.01.01). April. <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf>.

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