



October 2023
BWC MOTEMS-Compliant Marine Oil Terminal and Berthing System
Development Project



Initial Study/Mitigated Negative Declaration

Prepared for Port of Stockton

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Prepared for

Port of Stockton
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Stockton, California 95203

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TABLE OF CONTENTS

1	Introduction	1
1.1	California Environmental Quality Act Process.....	1
1.2	Lead Responsible and Trustee Agencies.....	1
1.3	Public Participation, Consultation, and Coordination	4
1.3.1	Regulatory Guidance Related to Public Outreach and Coordination	4
1.4	Incorporation by Reference.....	5
1.4.1	City of Stockton 2040 General Plan.....	5
1.4.2	City of Stockton Municipal Code.....	5
1.4.3	City of Stockton Climate Action Plan.....	6
2	Project Description	7
2.1	Project Location and Environmental Setting	10
2.1.1	Regional Setting.....	10
2.1.2	Project Site Setting	10
2.2	Overview of MOTEMS	12
2.3	Overview of Existing BWC Operations at the Port	12
2.3.1	MOTEMS-Compliant Dock and Berthing System	13
2.3.2	Project Objectives.....	15
2.4	Proposed Project Construction.....	15
2.4.1	Site Preparation.....	15
2.4.2	Demolition of Existing Structures and Regrading	17
2.4.3	Marine Structure Construction.....	18
2.4.4	Utility Upgrades	22
2.4.5	Construction Schedule and Equipment.....	23
2.5	Proposed Project Operations	26
2.5.1	Product Receiving and Distribution	26
2.5.2	Maintenance.....	26
3	Environmental Checklist.....	27
3.1	Environmental Factors Potentially Affected	29
3.2	Determination.....	29
3.3	Evaluation of Environmental Impacts.....	30
3.3.1	Aesthetics	32
3.3.2	Agricultural and Forestry Resources	38
3.3.3	Air Quality.....	40

3.3.4	Biological Resources.....	47
3.3.5	Cultural Resources	68
3.3.6	Energy	73
3.3.7	Geology and Soils.....	78
3.3.8	Greenhouse Gas Emissions.....	86
3.3.9	Hazards and Hazardous Materials	96
3.3.10	Hydrology and Water Quality.....	102
3.3.11	Land Use and Planning.....	108
3.3.12	Mineral Resources.....	109
3.3.13	Noise	110
3.3.14	Population and Housing.....	120
3.3.15	Public Services	122
3.3.16	Recreation	124
3.3.17	Transportation	126
3.3.18	Tribal Cultural Resources.....	134
3.3.19	Utilities and Service Systems.....	137
3.3.20	Wildfire	141
3.3.21	Mandatory Findings of Significance.....	144
4	References	146

TABLES

Table 1	Regulatory Agencies and Authority	3
Table 2	Summary of Construction Schedule and Equipment.....	24
Table 3	San Joaquin Valley Air Pollution Control District Significance Thresholds	42
Table 4	Construction Emissions (Tons per Year).....	43
Table 5	Conservative Estimates of Attenuated Underwater Noise from the Proposed Project.....	57
Table 6	Attenuation Distances to Interim Injury Criteria for Fish	57
Table 7	Annual Construction Greenhouse Gas Emissions.....	93
Table 8	Maximum Allowable Noise Exposure by Land Use Per City of Stockton 2040 General Plan (L _{dn}).....	114
Table 9	Roadway Construction Noise Model Default Noise Emission Reference Level at 50 Feet by Phase.....	115
Table 10	Construction Daytime Noise Limits and Exceedances.....	117
Table 11	Vibration Velocities for Construction Equipment.....	118

Table 12	Project Vicinity Landfills	138
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FIGURES

Figure 1	Project Site and Vicinity Map	8
Figure 2	Existing and Proposed Pipeline Connections for BWC's MOTEMS-Regulated Products.....	9
Figure 3	Proposed Project Elements	16
Figure 4	Proposed In-Water and Overwater Project Elements	19
Figure 5	Loading Platform and Manifold Construction.....	20

PHOTOGRAPHS

Photograph 1	View of the Existing Shoreline at the Project Site, Looking West	11
Photograph 2	View of Project Site from Berth 7/8, Looking West.....	34
Photograph 3	View from the Project Site, Looking Southeast.....	35
Photograph 4	View of the Project Site Looking West, January 2023	49

APPENDICES

Appendix A	Site Plans
Appendix B	Air Quality Results and Assumptions
Appendix C	California Natural Diversity Database List

ABBREVIATIONS

2040 General Plan	<i>Envision Stockton 2040 General Plan</i>
AB	Assembly Bill
AB 32	California Global Warming Solutions Act of 2006
BNSF	BNSF Railway
BPS	best performance standard
Btu	British thermal unit
BWC	BWC Terminals LLC
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CALGreen	California Green Building Standards Code
Caltrans	California Department of Transportation
CAP	<i>City of Stockton Climate Action Plan</i>
CAPP	Community Air Protection Program
CARB	California Air Resources Board
CCT	Central California Traction Company
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbon
CFR	<i>Code of Federal Regulations</i>
CH ₄	methane
CHRIS	California Historical Resources Information System
CI	carbon intensity
City	City of Stockton
CMP	Crisis Management Plan (Contanda 2017)
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	CO ₂ equivalence
CPUC	California Public Utilities Commission
Crosstown Freeway	Ort J. Lofthus Freeway
cSEL	cumulative sound exposure level
CSLC	California State Lands Commission

cy	cubic yard
dB	decibel
dBA	A-weighted decibel
dbh	diameter at breast height
Delta	Sacramento-San Joaquin River Delta
DPM	diesel particulate matter
EFH	Essential Fish Habitat
EIR	environmental impact report
EO	Executive Order
ESA	Endangered Species Act
FCEV	fuel cell electric vehicle
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
g/cm ³	gram per cubic centimeter
GHG	greenhouse gas
gpd	gallons per day
GWP	global warming potential
HCFC	hydrochlorofluorocarbon
HFC	hydrofluorocarbon
I	Interstate
ICP	<i>United States Environmental Protection Agency, United States Coast Guard & Oil Spill Prevention & Response Integrated Facility Response/Contingency Plan (BWC 2022)</i>
ICSS	Integrated Control and Safety System
in/sec	inches per second
IS/MND	Initial Study/Mitigated Negative Declaration
ITMM	incidental take minimization measure
kg	kilogram
kWh	kilowatt hour
LCFS	Low Carbon Fuel Standard
L _{dn}	day/night average sound level
L _{eq}	equivalent sound level
LLDT	long lead double track
L _{max}	maximum sound level
L _{min}	minimum sound level
L _n	percentile-exceeded noise level
LOS	Level of Service

MBTA	Migratory Bird Treaty Act
MEI	Maximally Exposed Individual
MICR	Maximally exposed individual Increased Cancer Risk
MJ	Megajoule
MOTEMS	Marine Oil Terminal Engineering and Maintenance Standards
MRZ-1	Mineral Resource Zone-1
MS4	Municipal Separate Storm Sewer System
MT	metric ton
N ₂ O	nitrous oxide
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NMFS	National Marine Fisheries Service
NO _x	nitrogen oxide
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
O ₃	ozone
OPR	Governor's Office of Planning and Research
OPR Technical Advisory	<i>Technical Advisory on Evaluating Transportation Impacts in CEQA</i>
OSHA	Occupational Safety and Health Administration
PG&E	Pacific Gas and Electric
PM	particulate matter
PM ₁₀	particulate matter 10 microns or smaller in diameter
PM _{2.5}	particulate matter 2.5 microns or smaller in diameter
Port	Port of Stockton
PPV	peak particle velocity
PRC	Public Resources Code
REC	renewable energy credits
RMS	root-mean-square
RNG	renewable natural gas
ROG	reactive organic gases
RTP	Regional Transportation Plan
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCH	State Clearinghouse

SCR	selective catalytic reduction
SEL	sound exposure level
sf	square foot
SJCOG	San Joaquin Council of Governments
SJMSCP	San Joaquin County Multi-Species Habitat Conservation and Open Space Plan
SJVAB	San Joaquin Valley Air Basin
SJVAPCD	San Joaquin Valley Air Pollution Control District
SIP	state implementation plan
SMC	City of Stockton Municipal Code
SMP	soil management plan
SMR	steam methane reformer
SO _x	sulfur oxide
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SR	State Route
syngas	synthesis gas
TAC	toxic air contaminant
TIA	Transportation Impact Analysis
UP	Union Pacific Railroad
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
VMT	vehicle miles traveled
ZEV	Zero-Emission Vehicle

1 Introduction

1.1 California Environmental Quality Act Process

This Initial Study/Mitigated Negative Declaration (IS/MND) was prepared by the Port of Stockton (Port) to identify the potential environmental impacts of the proposed BWC MOTEMS-Compliant Marine Oil Terminal and Berthing System Development Project (proposed project) under the California Environmental Quality Act (CEQA; 13 Public Resources Code [PRC] 21000 et seq.) and the CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). The proposed project involves development of a Marine Oil Terminal Engineering and Maintenance Standards (MOTEMS)-compliant marine oil terminal (dock) and berthing system to support BWC Terminals LLC's (BWC's) existing liquid bulk terminal operations at the Port. The Port is the lead agency for the proposed project under CEQA.

One of the main objectives of CEQA is to disclose the potential environmental effects of proposed activities to the public and decision-makers. CEQA requires that the potential environmental effects of a project be evaluated prior to implementation. This IS/MND includes a discussion of the proposed project's impacts on the existing environment, including the identification of avoidance, minimization, and mitigation measures.

Under CEQA, the lead agency is the public agency with primary responsibility over approval of a proposed project. The Port has directed the preparation of an environmental document that complies with CEQA and will consider the information in this document when determining whether to approve the proposed project. The preparation of initial studies is guided by Section 15063 of the CEQA Guidelines, whereas Sections 15070 through 15075 guide the process for the preparation of a Negative or Mitigated Negative Declaration. Where appropriate and supportive to an understanding of the issues, reference will be made to the statute, the CEQA Guidelines, or appropriate case law.

This IS/MND meets CEQA content requirements by including a project description; descriptions of the environmental setting, potential environmental impacts, and mitigation measures for any potentially significant impacts; and discussion of the proposed project's consistency with plans and policies.

1.2 Lead Responsible and Trustee Agencies

The CEQA Guidelines identify "the lead agency as the public agency which has the principal responsibility for carrying out or approving a project" (14 CCR 15367). The Port is the CEQA lead agency for the proposed project and has the primary responsibility for carrying out the proposed project.

Projects or actions undertaken by the lead agency (in this case, the Port) may require subsequent oversight, approvals, or permits from other public agencies. Other such agencies are referred to as responsible agencies and trustee agencies. Pursuant to CEQA Guidelines Sections 15381 and 15386, as amended, responsible and trustee agencies are defined as follows:

1. A **responsible agency** is “a public agency which proposes to carry out or approve a project, for which a Lead Agency is preparing or has prepared an EIR or Negative Declaration. For the purposes of CEQA, the term ‘Responsible Agency’ includes all public agencies other than the Lead Agency which have discretionary approval authority over the project” (CEQA Guidelines Section 15381).
2. A **trustee agency** is “a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California” (CEQA Guidelines Section 15386). Trustee agencies have jurisdiction over natural resources held in trust for the people of California but do not have a legal authority over approving or carrying out a project. CEQA Guidelines Section 15386 identifies the following four agencies as potential trustee agencies for projects subject to CEQA:
 - California Department of Fish and Wildlife (CDFW), regarding “fish and wildlife, native plants designated as rare or endangered, game refuges, and ecological reserves”
 - California State Lands Commission (CSLC), regarding “state owned ‘sovereign’ lands such as the beds of navigable waters and state school lands”
 - California Department of Parks and Recreation, regarding “units of the State Park System”
 - University of California, regarding “sites within the Natural Land and Water Reserves System”

Table 1 summarizes the expected relevant regulatory agencies, their expected jurisdiction (i.e., trustee or responsible agency), and their statutory authority as related to the proposed project. The jurisdiction of these agencies will be confirmed through subsequent coordination.

Table 1
Regulatory Agencies and Authority

Regulatory Agency	Jurisdiction	Statutory Authority/Implementing Regulations
U.S. Army Corps of Engineers (USACE)	Responsible Agency	Reviews and authorizes in-water work under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. The proposed project is expected to require permits under these regulations.
CSLC	Responsible and Trustee Agency	Enforcing agency for the MOTEMS, which are required for all new marine oil terminals and berthing systems. The proposed project will meet MOTEMS requirements. Because CSLC must consider approving the MOTEMS for the proposed project, CSLC is a responsible agency as well as a trustee agency.
CDFW	Responsible Agency	Reviews and submits recommendations in accordance with CEQA. Reviews and authorizes in-water work and work in riparian areas under the California Fish and Game Code. The proposed project is expected to require a Streambed Alteration Agreement.
Central Valley Regional Water Quality Control Board (RWQCB)	Responsible agency	Reviews projects for authorization under the Porter-Cologne Water Quality Control Act and Clean Water Act Sections 401 (Water Quality Certification) and 402 (National Pollutant Discharge Elimination System [NPDES]). The proposed project is expected to require a Water Quality Certification but not a NPDES construction stormwater general permit due to its earthwork impacts being under 1 acre.
Office of Historic Preservation	Responsible Agency	Consults with federal lead agencies (in this case, USACE) under Section 106 of the National Historic Preservation Act (NHPA) regarding impacts on cultural resources that are either listed, or eligible for listing, on the National Register of Historic Places. As part of the USACE's permitting process, the proposed project is expected to require consultation with the State Historic Preservation Officer (SHPO) in accordance with NHPA Section 106.
San Joaquin Valley Air Pollution Control District (SJVAPCD)	Responsible agency	Review authority under the California Clean Air Act and responsible for implementing federal and state regulations at the local level and permitting stationary sources of air pollution. The proposed project may require a SJVAPCD permit.
San Joaquin County Department of Environmental Health	Responsible agency	Regulates the handling, disposal, generation of, and cleanup from accidental spills of hazardous waste, on-site petroleum storage, and drilling activities in San Joaquin County, which may be applicable to the proposed project.
San Joaquin Council of Governments (SJCOG)	Responsible agency	Reviews and approves projects obtaining coverage under the San Joaquin County Multi-Species Habitat Conservation and Open Space Plan (SJMSCP). The proposed project is expected to obtain coverage under the SJMSCP.
City of Stockton Building Department	Responsible agency	Reviews and approves mechanical, electrical, demolition, and building permits in Stockton, which are expected to be required for the proposed project.
City of Stockton Public Works	Responsible agency	Regulates movement of large vehicles through the City on roadways, which will be applicable to the proposed project.

Regulatory Agency	Jurisdiction	Statutory Authority/Implementing Regulations
Stockton Fire Department	Responsible agency	Reviews and approves fire protection systems, which will be applicable to the proposed project.

1.3 Public Participation, Consultation, and Coordination

Public participation is an integral part of the CEQA process. Public participation facilitates two-way communication between the public and the lead agency (the Port) decision-makers, ensuring that public concerns and input are considered in the final decision. The Port's public participation process ensures that interested persons are informed about discretionary decisions and have the opportunity to provide input. The Port also consults with public agencies in a variety of ways when developing CEQA documents, including direct agency outreach and distribution of documents. This Draft IS/MND will be posted on the Port's CEQA webpage at <https://www.portofstockton.com/ceqa-documents/> and will be the subject of a public meeting to be held during the 30-day public review period.

1.3.1 Regulatory Guidance Related to Public Outreach and Coordination

1.3.1.1 Assembly Bill 52

Assembly Bill (AB) 52 became effective on July 1, 2015, requiring lead agencies to consider the effects of projects on Tribal cultural resources and to conduct notification and consultation with federally and non-federally recognized Native American Tribes and the Native American Heritage Commission (NAHC) early in the environmental review process. Two Native American Tribes, the Buena Vista Rancheria of Me-Wuk Indians of California and the Wilton Rancheria Tribe, have requested consultation on CEQA documentation for projects at the Port. The Port notified these two Tribes—as well as the Tule River Indian Tribe, Confederated Villages of Lisjan, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the Wuksache Indian Tribe/Eshom Valley Band, and the Northern Valley Yokuts Tribe—of the proposed project by email and by letter on April 18 and April 21, 2023, and requested a search of NAHC's Sacred Lands Information File on April 26, 2023. The NAHC responded on May 30, 2023, that the search was negative. The Wilton Rancheria Tribe responded on May 11, 2023, and requested more information. The Port held a meeting with the Wilton Rancheria Tribe regarding the proposed project on June 14, 2023. Consultation is ongoing.

1.3.1.2 Assembly Bill 617

AB 617 (C. Garcia, Chapter 136, Statutes of 2017) requires the California Air Resources Board (CARB) to develop an air toxic monitoring plan for the State, focusing on community air monitoring at the highest priority locations, considering factors such as the presence of sensitive receptors like schools and hospitals, whether the community is disadvantaged, and whether there is a high degree of exposure to toxic air contaminants (TACs) and criteria air pollutants. In response to AB 617, CARB has

established the Community Air Protection Program (CAPP). The goal of CAPP is to reduce exposure in communities most impacted by air pollution. CAPP works with local air districts to implement monitoring networks and address emission sources. Three AB 617 communities have been identified in the San Joaquin Valley, including the Southwest Stockton Community. The San Joaquin Valley Air Pollution Control District (SJVAPCD) is working closely with community residents, community businesses, and other key stakeholders, including the Port, to reduce exposure to harmful air pollutants in selected communities. Through the implementation of the AB 617 legislation, SJVAPCD, with input from the community, will deploy additional community-specific air quality monitoring to better understand the impacts of local sources of pollution and develop community-specific emission reduction programs. The Port is a member of the AB 617 Community Steering Committee and intends to be active in developing strategies to protect public health and the environment.

1.4 Incorporation by Reference

As permitted in Section 15150 of the CEQA Guidelines, CEQA lead agencies may reference all or portions of another document that is a matter of public record or is generally available to the public. Information from documents that have been incorporated by reference is briefly summarized in the appropriate sections of this IS/MND, along with a description of how the public may obtain and review these documents. The documents that are incorporated by reference in this IS/MND are summarized in Sections 1.4.1 through 1.4.3. Documents that are incorporated by reference are available for review at the Internet links provided in the following sections or during working hours from 8:00 a.m. to 5:00 p.m., Monday through Friday at the Port, at 2201 West Washington Street, Stockton, California 95201.

1.4.1 City of Stockton 2040 General Plan

The City of Stockton's (City's) *Envision Stockton 2040 General Plan* (2040 General Plan; State Clearinghouse [SCH] number 2017052062; City 2018a), which is available online at http://www.stocktongov.com/files/Adopted_Plan.pdf, is appropriate to incorporate by reference because the 2040 General Plan establishes the land use designations for the project site with which the proposed project is consistent. The 2040 General Plan identifies most of the areas surrounding the project site as industrial and port uses and specifically identifies the project area on the East Complex as Industrial. The 2040 General Plan also guides the maintenance, design, and operation of transportation resources in Stockton, including streets and highways within the project area, and sets regional noise standards based on land use designations.

1.4.2 City of Stockton Municipal Code

The City of Stockton Municipal Code (SMC), which is available online at <https://qcode.us/codes/stockton/>, is appropriate to incorporate by reference because the City designates Landmarks and Historic Sites under SMC Title 16, Division 7, Chapter 16.220. Landmarks

are artifacts, natural features, or structures notable for one or more of the following: archaeological interest; architectural artistry, style, or type; association with a historic event or person; association with the heritage of the city, state, or nation; visual characteristics; relationship to another landmark; or integrity as a natural environment. Port resources have been identified as having significant historical or cultural significance. SMC Title 16, Division 5, Chapter 16.130 provides protection for heritage oaks in Stockton.

1.4.3 City of Stockton Climate Action Plan

The City's Climate Action Plan (CAP; SCH number 2012042065; City 2014), which is available online at [http://www.stocktonca.gov/files/Climate Action Plan August 2014.pdf](http://www.stocktonca.gov/files/Climate%20Action%20Plan%20August%202014.pdf), is appropriate to incorporate by reference because the CAP provides goals and associated measures in the sectors of energy use, transportation, land use, water, solid waste, and off-road equipment. Consistent with SJVAPCD, the CAP relied on a goal of 29% reduction in greenhouse gas (GHG) emissions from business as usual by 2020. As described in the CAP (City 2014), the City will "revisit this plan in the future to examine whether there exist additional options to further reduce GHG emissions, and whether such options might be feasible in improved economic conditions" beyond 2020. An updated community GHG inventory was planned during fiscal year 2021 to 2022 but has not yet been released (City 2021a).

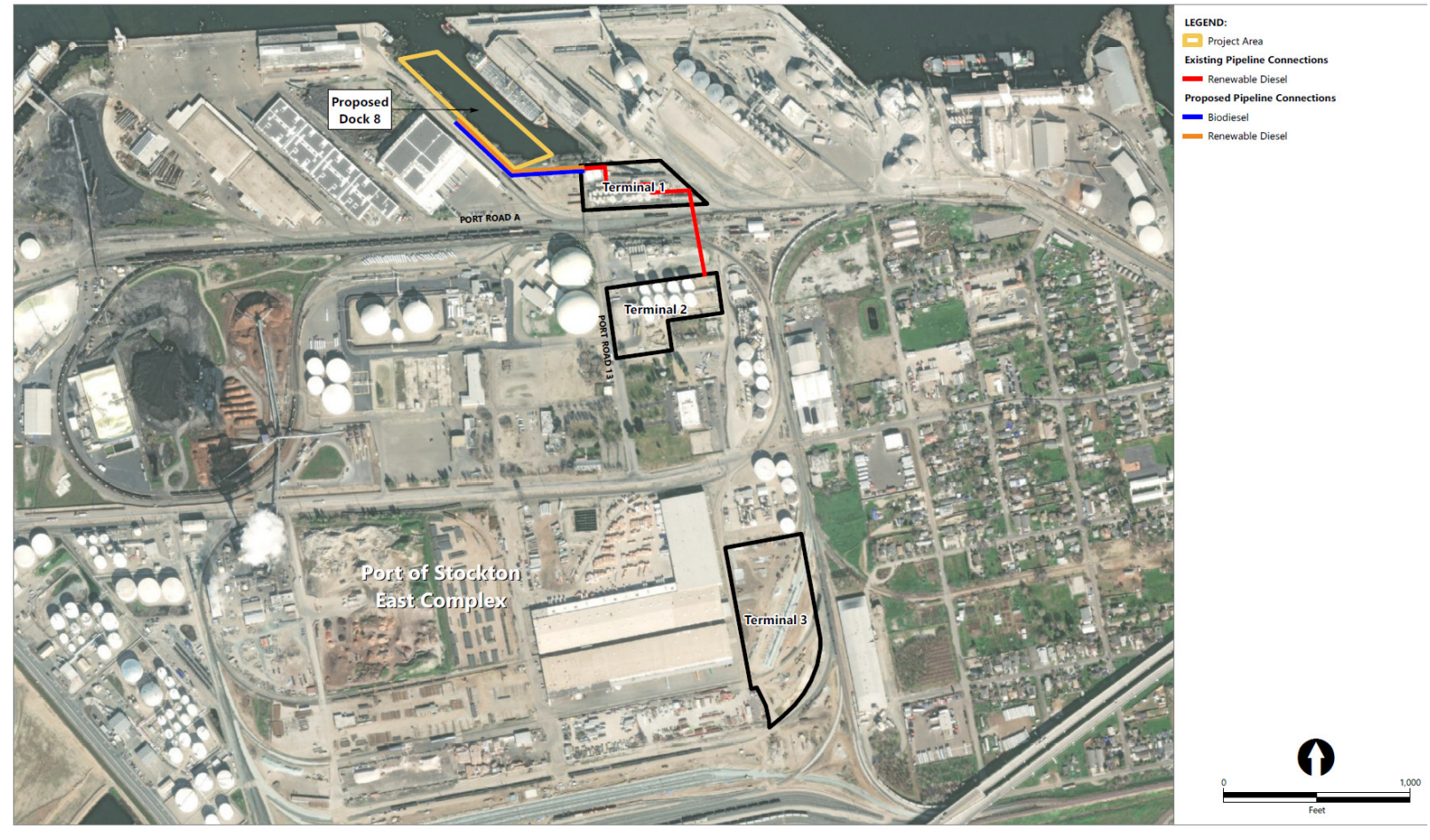
2 Project Description

The proposed project is the construction of a MOTEMS-compliant dock and berthing system at Berth 8 to support BWC's existing vessel operations at the Port. The proposed project site is located in the San Joaquin River just south of the Stockton Deep Water Ship Channel (DWSC; the Stockton DWSC is within the San Joaquin River) within an existing vessel slip west of Berth 7/8, southeast of the existing Port Police Dock, and along Port Road 5 north of its intersection with Port Road A in Stockton, California (Figure 1). The proposed project also includes installation of upland elements at Berth 8, including fire protection systems and mechanical and electrical equipment as well as pipelines to connect the new marine dock and berthing system with BWC Terminals 1 and 2 to the southeast (Figure 2). The proposed project would not result in additional cargo throughput to existing BWC terminal facilities at the Port. The proposed project requires issuance of a marine terminal service agreement between the Port and BWC, which triggers the requirement for the Port to comply with CEQA.

Figure 1
Project Site and Vicinity Map



Figure 2
Existing and Proposed Pipeline Connections for BWC's MOTEMS-Regulated Products



2.1 Project Location and Environmental Setting

CEQA Guidelines Section 15063(d)(1) requires that an Initial Study identify the environmental setting. This setting is used to determine environmental impacts. The environmental setting as it relates to individual resource topics is described in Section 3.

2.1.1 Regional Setting

The Port is located approximately 75 miles east of San Francisco and 40 miles southeast of Sacramento. The Port is bisected by the San Joaquin River (within which is the Stockton DWSC) and is subsequently divided into the East Complex and the West Complex (Rough and Ready Island). The Port is located within the City's urban core, which is characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels. The East Complex, where the proposed project would be located, encompasses approximately 680 acres bounded to the north by the San Joaquin River/Stockton DWSC and turning basin; to the east and south by the Port's Public Beltline Railroad main lead and BNSF Railroads; and to the west by the San Joaquin River.

In the area surrounding the project site, the Port leases property for a variety of industrial uses, characterized by the presence of storage tanks, maritime terminals, cementitious materials storage structures, grain silos, railroad facilities, large storage buildings, and stockpiles of various commodities that are not associated with the proposed project. The City's 2040 General Plan (City 2018a) designates the project site for industrial use, and the zoning classification of the project site is Port, and surrounding parcels is "Port; Industrial, General; or Unzoned."

2.1.2 Project Site Setting

The proposed MOTEMS-compliant dock and berthing facility would be located in an existing vessel slip west of Berth 7/8 (Figure 1). The project site currently consists of open water and an approximately 25-foot-wide area between the shoreline and Port Road 5 as depicted in Photograph 1. Vegetation in the shoreline area consists of an assemblage of trees and shrubs growing from the bank and include weed species such as tree of heaven (*Ailanthus alissima*) and giant reed (*Arrundo donax*). Other species that are present include California native species such as California black walnut (*Juglans californica*), valley oak (*Quercus lobata*), box elder (*Acer negundo*), fan palm (*Washingtonia filifera*), and elderberry (*Sambucus mexicana*). The project site includes six existing unused in-water creosote-treated wood piles at its northwest end, north of which are the Port Police Dock and Berth 9 (both outside the project site). West of the project site are Port Road 5 and Port buildings and associated development, south of the project site are a BWC tank farm facility and a deteriorated approximately 50-foot-long in-water pier structure, and east of the project site is Berth 7/8, which is currently used by BWC as well as other Port tenants for liquid cargo transfer

operations. BWC has received temporary authorization from CSLC to conduct transfer operations of several MOTEMS-regulated liquid cargoes at Berth 7/8 while the proposed project is constructed.

Photograph 1

View of the Existing Shoreline at the Project Site, Looking West



Anchor QEA site visit on June 5, 2023

2.2 Overview of MOTEMS

The California Legislature enacted the Lempert-Keene Seastrand Oil Spill Prevention and Response Act (OSPR) in 1990 in response to two major oil spills. OSPR covers all aspects of marine oil spill prevention and response in California and gives CSLC certain authority over marine terminals.

MOTEMS are building standards codified in *California Building Code*, Chapter 31F – Marine Oil Terminals and apply to all marine terminals in the state that service petroleum products. MOTEMS were designed to ensure marine oil terminals meet current seismic safety standards and to provide minimum engineering, inspection, and maintenance criteria to prevent oil spills and protect public health, safety, and the environment. in compliance with OSPR. New marine oil terminals and new berthing systems are required to have MOTEMS-compliant evaluations prior to construction and to complete an audit prior to commencement of marine operations. For existing marine oil terminals, all proposed new, substantially modified, or re-designed structural, berthing, mooring, fire, piping/pipeline, mechanical, or electrical systems or components must also be evaluated prior to any modifications and audited prior to use. MOTEMS compliance is overseen by CLSC.

Specific to the proposed project, per an updated definition of “oil” included in AB 154 in 2021, renewable diesel and biodiesel are considered marine oil products under MOTEMS and vessels or barges handling these products must load and offload the product at a MOTEMS-compliant marine oil terminal and berthing system (CDFW 2022). Both vessels or barges could transport products to and from the Port’s docks for BWC’s operations; this document refers to both as “vessels.”

2.3 Overview of Existing BWC Operations at the Port

BWC is a liquid storage company that receives and stores clients’ renewable fuels, feedstocks, chemicals, petroleum, and agricultural products throughout the United States. BWC currently operates three upland terminals at the Port (Figures 1 and 2) and uses Berth 7/8 for vessel or barge operations, summarized as follows:

- **BWC Operations that Involve Terminal 1 (BWC Tank Farm):** Terminal 1 is located on Port Road A just west of Port Road 4. BWC receives and stores biodiesel and diesel exhaust fluid at Terminal 1. Biodiesel is received by on-terminal rail or vessel at Berth 7/8, after which it is piped to Terminal 1. Biodiesel is stored in aboveground storage tanks (ASTs) at Terminal 1 and either shipped out from Terminal 1 by truck or piped to Terminal 2 where it is blended with renewable diesel for outbound shipment by truck. Diesel exhaust fluid is received by vessel, at Berth 7/8, after which it is piped to ASTs at Terminal 1, and shipped outbound by truck and rail. Renewable diesel is received via rail at Terminal 1, piped to Terminal 2, stored in ASTs at Terminal 2, and shipped outbound at Terminal 2 by truck.

- **BWC Operations that Involve Terminal 2 (BWC Tank Farm):** Terminal 2 is located approximately 300 feet to the south of the project site between Port Roads 11 and 13 and Port Roads G and H. BWC receives renewable diesel at Terminal 1 via rail after which it is piped to Terminal 2, stored in ASTs, and shipped outbound by truck from Terminal 2. Biodiesel not shipped directly out of Terminal 1 is piped from Terminal 1 to Terminal 2 where it is blended with renewable diesel for outbound shipment from Terminal 2 by truck. BWC receives vegetable oil and animal fats at Terminal 3 via rail, pipes the products to Terminal 2 where they are stored in ASTs, then pipes the products through Terminal 1 to Berth 7/8 for outbound shipment via vessel.
- **BWC Operations that Involve Terminal 3 (BWC Rail Depot):** Terminal 3 is a rail depot located just east of Port Road 21. This terminal only handles products that are not MOTEMS-regulated products. Vegetable oil and animal fats are received at Terminal 3 via rail, piped to Terminal 2 for storage, then piped through Terminal 1 to Berth 7/8 for outbound shipment via vessel.
- **BWC Operations that Involve Berth 7/8 (Public Marine Terminal):** Biodiesel, diesel exhaust fluid, and renewable diesel are received at Berth 7/8 by vessel. All products are unloaded at Berth 7/8 using marine pumps located on the vessel and piped directly to the terminals using two existing pipelines. Vegetable oil and animal fats are shipped outbound by vessels and barges at Berth 7/8. These products are piped directly to Berth 7/8 using two existing pipelines. Berth 7/8 is a public Port marine dock that is also shared with several other Port tenants.

Pipelines connect Berth 7/8 to the two tank farms and the different products are piped through different pipelines, directly to Terminals 1 and 2 from the dock. In addition, because the two tank farms support different clients, operations at each terminal are distinct and separate.

2.3.1 MOTEMS-Compliant Dock and Berthing System

California's demand for energy is increasing. Alternative diesel fuels, such as renewable diesel and biodiesel are important bridge fuels that can facilitate the transition to zero-emission operations. Both fuels meet federal Renewable Fuel Standard and the California Low Carbon Fuel Standard (LCFS) goals for lower-emitting fuels. As domestically produced fuels, renewable diesel and biodiesel can also play an important role in increasing energy security.

As compared to transport solely by rail or truck, transport of renewable diesel and biodiesel by vessel would improve operational efficiency, which is consistent with BWC business operations planning. The Port issued BWC a lease to construct and operate Terminal 2 in 2019 (construction and operations were fully assessed in the *Contanda Renewable Diesel Bulk Liquid Terminal Development*

Project Final Environmental Impact Report [EIR; Port of Stockton 2019]¹). Consistent with the analysis and assumptions included in the 2019 EIR, BWC planned to receive and distribute renewable diesel by vessels using the existing Berth 7/8 facility and vessel calls related to renewable diesel were fully assessed in the 2019 EIR. Similarly, as part of the *Contanda Marine Terminal Expansion at the Port of Stockton Initial Study/Mitigated Negative Declaration* (Port of Stockton 2018)² project, BWC considered handling of biodiesel at Terminal 1 and vessel calls were analyzed in the IS/MND.

After construction of Terminal 1 was complete and Terminal 2 construction was underway, CSLC notified BWC and the Port that renewable diesel and biodiesel were considered marine oil products under MOTEMS and vessels handling these products must load and offload the product at a MOTEMS-compliant dock and berthing system, per an updated definition of “oil” included in AB 154 (and OSPR). At that time, Berth 7/8 was not a MOTEMS-compliant dock, so BWC was unable to commence biodiesel or renewable diesel product receipt or distribution via vessels to/from Terminals 1 or 2. BWC has been using its existing rail unloading racks for all inbound biodiesel at Terminal 1 and renewable diesel at Terminal 2; however, the available rail service and rack space is not adequate to support the volumes analyzed in the 2019 EIR and meet market demands.

Over the past few years, BWC worked closely with CSLC to obtain approval to temporarily use the existing Berth 7/8 for handling marine oil products while a more extensive, permanent solution was identified. In late June 2023, BWC received approval from CSLC to temporarily commence marine oil products transfers at the existing Berth 7/8.

BWC has also worked closely with CSLC and the Port to plan for establishing a permanent MOTEMS-compliant dock at the Port that would support marine oil product operations at Terminals 1 and 2. BWC initially evaluated making extensive improvements to the existing Berth 7/8 to meet MOTEMS compliance requirements. However, the improvements would require closure of the dock for an extended period to complete the necessary repairs, which would significantly impact the Port and other Port tenants that also use the dock for maritime operations. BWC, CSLC, and the Port identified an alternative solution for the permanent MOTEMS-compliant dock that would offer improved seismic safety, be both less impactful to other Port tenants as well as more cost-effective than upgrading the existing Berth 7/8: constructing a new MOTEMS-compliant dock and berthing system across from existing Berth 7/8. The proposed new dock would be called Berth 8 and existing Berth 7/8 would become Berth 7. The dock itself would be a public Port marine dock; however, all non-dock infrastructure to be installed as part of the proposed project would be exclusively available for BWC’s use.

¹ Certified and adopted by the Port in April 2019.

² Approved by the Port in December 2018.

2.3.2 Project Objectives

As outlined above, the proposed project's goal is to construct a new permanent MOTEMS-compliant dock to support long-term marine shipments of renewable diesel and biodiesel to BWC's existing terminals, while not negatively affecting existing marine operations at the Port. With vessel-based renewable diesel and biodiesel operations, BWC would be able to transport these products for customers in an efficient manner while meeting all seismic and safety standards, increasing the availability of renewable fuels and contributing to energy security in the region.

To accomplish this goal, the following key project objectives must be accomplished:

- Construct a new permanent dock meeting MOTEMS seismic and safety regulations and perform all necessary evaluations and audits to ensure MOTEMS-compliant operations.
- Connect the new permanent MOTEMS dock and berthing system to BWC's existing facilities at the Port to enable receipt and distribution of renewable diesel and biodiesel by vessel.
- Obtain a marine terminal service agreement with the Port inclusive of commercial terms consistent with the proposed project.

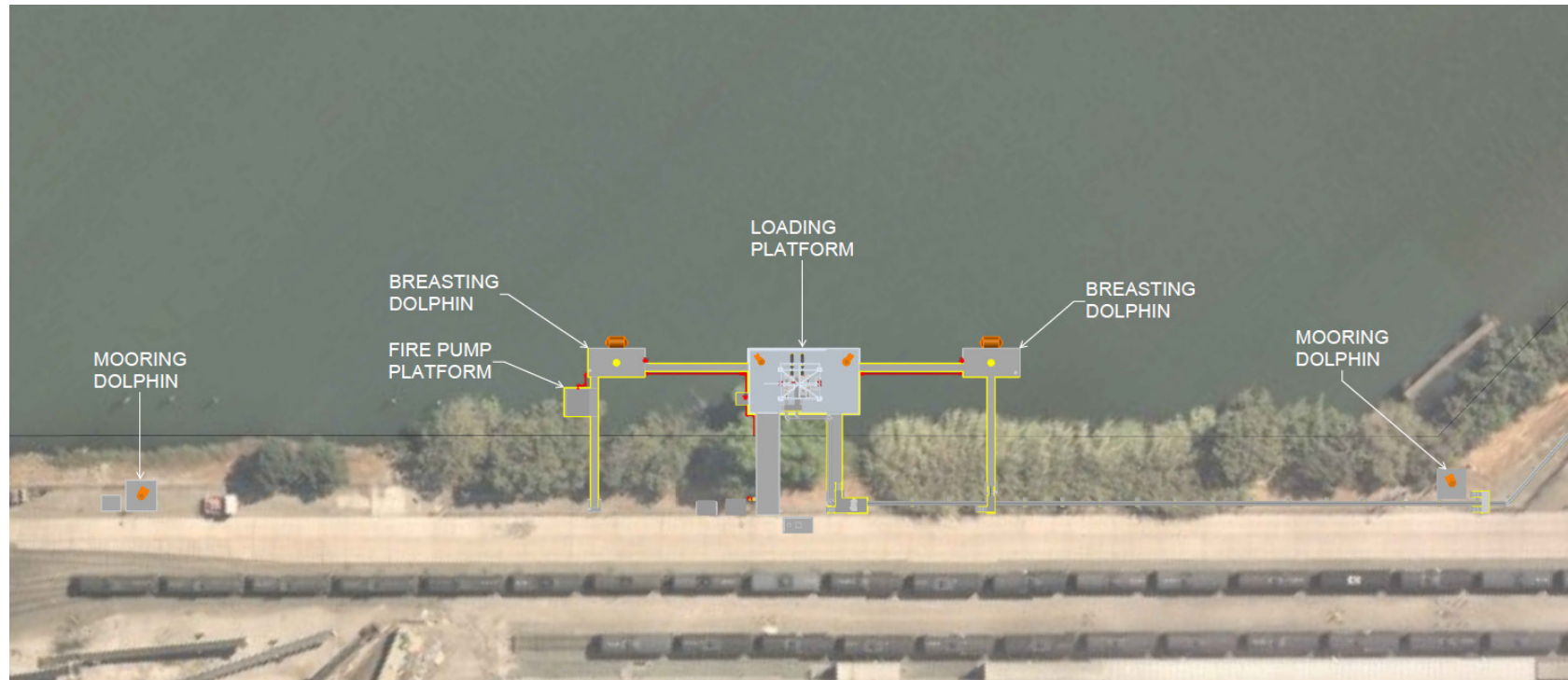
2.4 Proposed Project Construction

This section provides details on the proposed construction activities, which are illustrated in the site plans provided as Appendix A.

2.4.1 Site Preparation

Site preparation activities would include limited clearing, vegetation removal, and grading in the undeveloped embankment along the shoreline of the project site (approximately 700 linear feet; Figure 3). Staging is anticipated to occur in the upland area just northwest of the Port Police Dock; this area has previously been used for staging and laydown, so minimal or no grading is expected to be required. Clean imported gravel would be laid at the entrances to the staging area as an erosion control measure. Construction equipment and materials would be delivered by truck or barge via Berth 9 to the staging area for each phase of work.

Figure 3
Proposed Project Elements



2.4.2 Demolition of Existing Structures and Regrading

Construction would begin with demolition of existing structures that are no longer needed and within or near to the proposed project footprint as follows:

- Removal of the six 18-inch in diameter existing creosote-treated wood piles at the northwest end of the project site: These piles would be cut off 3 feet below the mudline and left in place below the surface. Creosote-treated wood would be hauled off site for proper landfill disposal. Removal activities would be conducted from a barge or from the shore.
- Removal of the deteriorated approximately 50-foot-long pier structure at the southwest end of the project site: This structure includes approximately 24 creosote-wood treated piles and 400 square feet (sf) of wooden decking. The entire structure would be removed as part of the proposed project. Wooden decking would be removed using a crane operating from a barge or the shoreline. These piles would be cut off 3 feet below the mudline and left in place below the surface. Creosote-treated wood would be hauled off site for proper landfill disposal. Removal activities would be conducted from a barge or from the shore. The existing pier structure at the southeast end of the project site is to remain, as the Port's auxiliary fire pump is located on this structure.
- Care would be taken to minimize debris falling into the water. Debris containment booms, floating debris screens, and/or absorbent booms would be positioned beneath and alongside work areas as needed whenever possible. If barges or floating platforms are used, they would be moored in a position to capture and contain the debris generated during any in-water work. If debris reaches the water, personnel in workboats would immediately retrieve the debris for proper handling and disposal.

Regrading would also occur in the upland areas just west of the proposed dock and two mooring dolphins. In total, an approximately 7,000-sf area would be regraded using on-site soil. An export of approximately 500 cubic yards (cy) of existing material may be required as part of the proposed project. Disturbance would occur to a maximum depth of 15 feet below the ordinary high water mark. Additionally, as part of regrading activities, the following trees and shrubs would be removed:

- Five valley oak (*Quercus lobata*) trees, including a 21-inch diameter at breast height (dbh) tree, 18-inch dbh tree, 16-inch dbh tree, 15-inch dbh tree, and 6-inch dbh tree
- Two black walnut (*Juglans hindsii*) trees, including a 35-inch dbh tree and 8-inch dbh tree
- Approximately 30 tree of heaven (*Ailanthus altissima*) trees between 4- and 20-inch dbh
- Multiple stems of giant reed (*Arrundo donax*) greater than 1 inch in diameter over approximately 2,700 sf or 0.62 acre
- A 30-inch dbh fan palm (*Washingtonia filifera*) tree
- A 17-inch dbh box elder (*Acer negundo*) tree
- Between 50 and 60 stems of elderberry (*Sambucus mexicana*) greater than 1 inch in diameter

Due to the Port security requirements associated with the nature of operations at the new MOTEMS-compliant dock and berthing system, no vegetation replanting would be permitted to occur on site.

2.4.3 Marine Structure Construction

The dock and berthing system would be constructed after site preparation and demolition activities are complete. Construction would include in-water elements associated with the marine structures and onshore elements to support vessel and pipeline connections.

2.4.3.1 In-Water and Overwater Elements

In-water and overwater elements of the proposed project include the following:

- **One loading platform.** The loading platform is the primary overwater structure that supports the transfer piping and equipment as well as two quick-release mooring hook units to facilitate the safe mooring of vessels during transfer operations, as depicted in Figure 4. The loading platform would be 60-foot by 35-foot (2,100 sf) in plan, supported by twelve 30-inch diameter steel pipe piles. The loading platform would support the transfer manifold through which all products would be transferred to the onshore tank farm via pipelines. The pipeline system would include emergency block valves and shore isolation valves (SIVs), which is an onshore shutoff system. The loading platform would also support a steel-framed hose tower to store the hoses between transfers. The hose tower would be designed to initially accommodate two pipelines and two hoses with the potential to expand operational use to accommodate up to four pipelines, five hoses, egress stairs, and a hydraulic crane, as depicted in Figure 5.
- **Two breasting dolphins.** The dolphins would be used to stabilize vessels during approach and transfer. The dolphins also each support a floating, foam-filled marine fender and a mooring bollard as an emergency mooring point. The fenders would be floating type, designed to accommodate the variety of vessels likely to call at the berth. Breasting dolphins would be located to the northwest and southeast of the loading platform. Each dolphin would be approximately 15 feet by 30 feet (450 sf) and each would be supported by eight 30-inch steel piles. Six 24-inch square precast concrete piles would be installed to provide a reaction surface for the floating fender to transfer berthing and breasting loads to the dolphin structure.
- **One fire pump platform.** The fire pump platform would support a dedicated fire pump for protection of the dock that would be independent of the Port-wide firewater system and would be able to draw water directly for the slip. The fire pump platform would be located adjacent to the northwest breasting dolphin and measure 18 feet by 15 feet in size, for a total area of 270 sf. The fire pump platform would be supported by four 30-inch steel piles and support an open-walled, metal deck roof structure to protect the fire pump.

- **One approach trestle.** The approach trestle would provide pedestrian and lightweight vehicle access to the loading platform. The 60-foot by 15-foot (900 sf) approach trestle would span between the loading platform and an onshore abutment.
- **One pipeway trestle.** The pipeway trestle would support piping and provide emergency pedestrian egress from the loading platform. The 60-foot by 8-foot (480 sf) pipeway trestle would span between the loading platform and an onshore abutment.
- **Catwalks and gangways.** Catwalks and gangways would be located around the loading platform to provide personnel access. Their dimensions would be approximately 4 feet by 300 feet (1,200 sf).

Figure 4
Proposed In-Water and Overwater Project Elements

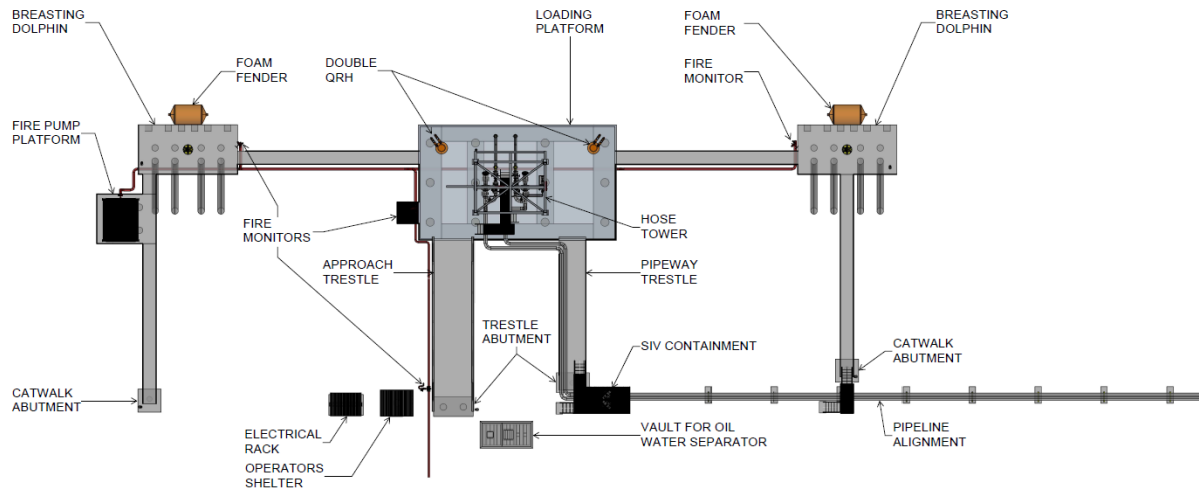
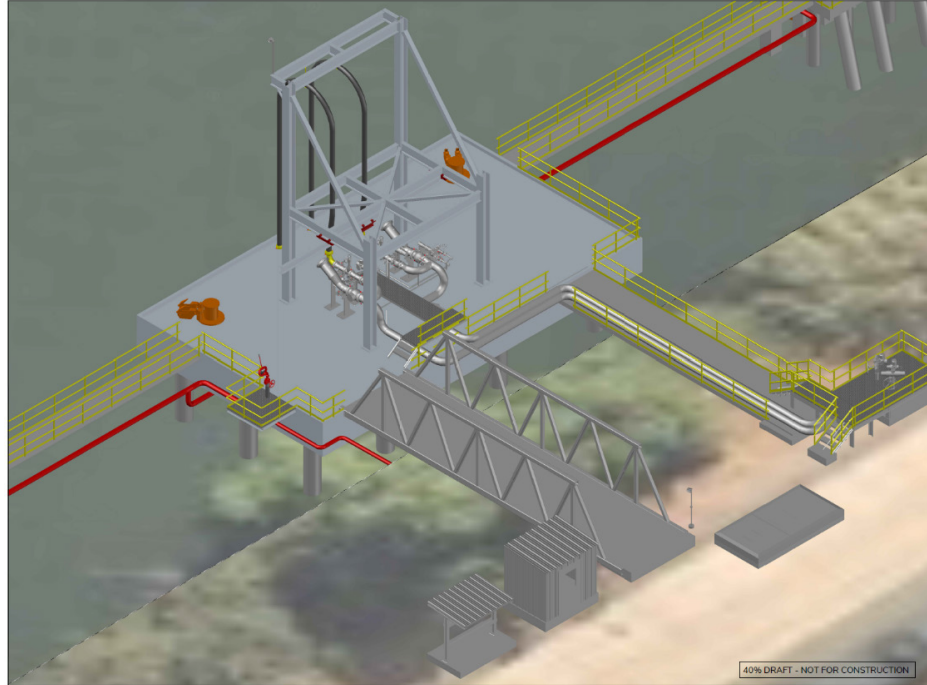
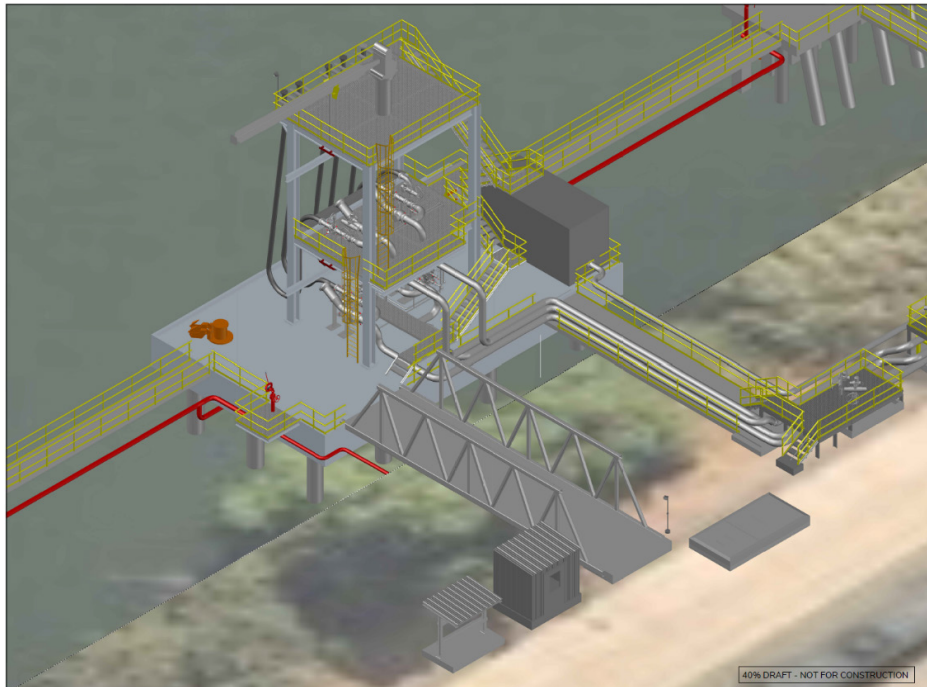


Figure 5
Loading Platform and Manifold Construction
Initial Build-Out



Future Build-Out



In summary, installation of 44 in-water piles would be required, including the following:

- Twelve 30-inch round steel piles for the loading platform
- Sixteen 30-inch round steel piles for the breasting dolphins
- Twelve 24-inch square precast concrete piles for the breasting dolphins' reaction surface
- Four 30-inch round steel piles for the fire pump platform

It is anticipated that marine piles would be installed using an impact hammer operated from a barge, although it is possible that a vibratory hammer may be used if soil conditions allow. Piles would be lowered into place from a crane operating on a barge, then driven to depth. The estimated length of each pile is 130 feet, with a maximum tip elevation of 95 feet depth below the mudline. Some piles would be installed to 70 to 80 feet below the mudline. As outlined in Section 2.4.5, in-water pile driving is anticipated to occur over 8 to 10 weeks with an estimate of up to 22 days of actual pile driving. It is anticipated that between 2 and 4 piles would be installed per day.

When factoring in the removal of existing structures at the project site, overwater coverage associated with the new dock and berthing system would increase by 5,089 sf compared to existing conditions. The proposed project would result in a nominal increase in the amount of fill that is within the San Joaquin River as compared to existing conditions. Net fill below the mean high water (MHW) line would be increased by 185 cy over 153 sf as a result of the proposed project.

2.4.3.2 Onshore Elements

Onshore components would include elements necessary to monitor product transfer, house equipment, and facilitate transfer of product from vessels to the dock and berthing system, and ultimately to the pipelines leading to BWC's existing terminals.

The onshore structures would include the approach trestle abutment structure, the pipeway trestle abutment, an operator's shelter, an electrical panel frame, an emergency oil spill boom reel slab foundation, a buried vault for an oil-water separator, and a SIV containment curb. An operator's shelter would house process monitoring instrumentation, process controls, an emergency shutdown activation station, the mooring hook monitoring system, and allow for CCTV and line-of-sight monitoring of transfer operations. The shelter would include a central control system for standard operational and emergency use and would be raised from the ground per MOTEMS requirements to provide a better sightline and isolate the shelter from potentially hazardous areas in case of emergency. A vault housing the oil-water separator would be used to treat contact water from the loading platform and fire pump platform.

Two onshore mooring dolphins would also be constructed, one each to the northwest and southeast of the walkway platform, as depicted in Figure 3. At each dolphin, four 30-inch steel piles would be installed at a maximum depth of 100 feet. The dolphins would be used for securing longer vessels;

near the northwest dolphin, there would be an emergency oil spill containment boom reel (a hydraulic deployment system for a containment boom oil spill barrier).

Connections from the offshore transfer manifold through the SIV containment area and to the onshore tank farm would also be located onshore. Initially, two pipeline connections would provide transfers (one per product) but it is anticipated that up to four pipelines would transfer product in the future. A pipeline inspection pig launcher (contained on the loading platform near the transfer manifold) and a pig receiver (at the tank farm) would also be constructed onshore. Proposed pipelines would be supported by small foundations.

Minor cleanup of the slope of the embankment would take place during construction, and slope protection (riprap) would be installed along the waterline, between mean lower low water and mean higher high water.

In summary, 13 onshore piles would be required in upland areas, including the following:

- Eight 30-inch round steel piles for the two mooring dolphins
- Two 30-inch round steel piles for the catwalk abutments
- Three 30-inch steel piles for the trestle and pipeway abutment

Upland piles would be installed using an impact hammer and likely driven from shore by truck or from the water by barge. As outlined in Section 2.5.5, upland pile driving is anticipated to occur over 3 to 4 weeks with an estimate of up to 5 days of actual pile driving. It is anticipated that 3 to 5 piles would be installed per day.

2.4.4 Utility Upgrades

Constructing a MOTEMS-compliant facility requires that the in-water and overwater and upland elements of the facility include certain safety and oil spill/pollution-prevention features and utility upgrades. These upgrades would occur throughout the project site. The proposed project would potentially tie into the Port's or BWC water system, likely in the upland portion of Berth 8, at BWC's Terminal 1, or at Berth 7/8, as a potential backup for the fire water system and to the Port's electrical connections through PG&E. Predicted electricity requirement would be 250 to 350 kilowatt hours (kWh) per day. There would be minor electrical and water demands during construction and operation; the proposed project would not require a sewer connection.

2.4.4.1 Pollution Prevention

Both upland and overwater portions of the facility would be designed to prevent oil releases and stormwater from entering the river and groundwater. Stormwater from the upland portion of the project site would either directly sheet flow into the slip or enter the Port's existing storm drains on the East Complex docks.

The loading platform would be protected by a curb, sized to provide emergency secondary containment in accordance with MOTEMS. In addition, the curbed areas are also equipped with a drainage system to collect and dispose of rainwater that accumulates in the curbed manifold transfer areas. An oil-water separator would be installed onshore to treat contact water collected at the loading platform. The SIVs would be installed in upland facilities of the new dock and berthing system. The emergency shutdown valves would be installed on the dock and berthing system per MOTEMS.

2.4.4.2 Safety

New fire safety and life safety appurtenances would be compliant with MOTEMS requirements, and any existing features would be upgraded to meet or exceed MOTEMS. Safety measures include provision of potable water to the transfer area to supply eyewash stations and vessels; safe supply of pressurized air for valve operation, hose clearing, line pigging and other uses; a fire pump and fire suppression equipment, as mandated by MOTEMS, the U.S Coast Guard (USCG), and the fire marshal; and new navigation aids, likely including lighting on each dolphin, per USCG and Port requirements.

2.4.5 Construction Schedule and Equipment

Construction is anticipated to take up to 37 weeks to complete, beginning as soon as all anticipated permits and approvals are obtained. All in-water work activities, including pile foundation installation and concrete deck formwork, would occur during the approved in-water work window (July 1 to November 30). Table 2 provides a summary of the construction schedule and equipment used for each phase of construction.

Table 2
Summary of Construction Schedule and Equipment

Construction Phase	Schedule			Construction Equipment					
	Start Date	End Date	Duration	Equipment Type	On-Road/ Off-Road	Number of Equipment	Equipment Horsepower	Hours per Day	Total Days
Mobilization/Site Preparation	June 2024	June 2024	3 weeks	forklift/backhoe	off-road	1	100	4	15
				air compressor	off-road	1	75	5	15
				diesel generator	off-road	1	300	5	15
				45-ton crane	off-road	1	180	2	15
				welding truck/rig	off-road	1	50	4	15
				dump truck	on-road	1	350	4	15
				excavators	off-road	1	36	4	15
				graders	off-road	1	148	4	15
Pile-Driving (Land-Based) Abutments, Mooring Dolphins	June 2024	September 2024	3–14 weeks	225-ton crane	off-road	1	297	8	15
				diesel hammer	off-road	1	83	6	15
				man lift	off-road	1	67	4	15
				work skiff	marine	1	40	4	15
				miscellaneous truck deliveries	on-road	1	300	1	15
Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins, Fire Pump Platform	July 2024	September 2024	8–10 weeks	140-ton crane	off-road	1	250	8	25
				150×52 barge	marine	2	n/a	8	25
				deck winch	marine	2	160	1	25
				tender tug	marine	1	430	2	25
				work skiff	marine	1	40	4	25
				diesel impact hammer	off-road	1	595	4	25
				vibratory hammer	off-road	1	n/a	2	25
				man lift	off-road	1	67	4	25
				welder	off-road	1	85	2	25

Construction Phase	Schedule			Construction Equipment					
	Start Date	End Date	Duration	Equipment Type	On-Road/ Off-Road	Number of Equipment	Equipment Horsepower	Hours per Day	Total Days
				compressor	off-road	1	75	2	25
				generator	off-road	1	10	2	25
				miscellaneous truck deliveries	on-road	1	300	1	25
Deck construction	July 2024	November 2024	18–20 weeks	140-ton crane	off-road	1	250	8	100
				30-ton crane	off-road	1	152	8	100
				150×52 barge	marine	1	n/a	8	100
				deck winch	marine	1	160	1	100
				tender tug	marine	1	430	2	20
				work skiff	marine	1	40	4	100
				man lift	off-road	1	67	8	100
				welder	off-road	1	85	2	100
				compressor	off-road	1	75	2	100
				generator	off-road	1	10	4	100
				concrete truck	on-road	3	385	8	20
				concrete pumper	off-road	1	300	8	20
				miscellaneous truck deliveries	on-road	1	300	1	40
Demobilization	November 2024	November 2024	2 weeks	tractor/loader	off-road	1	300	4	10
				grader	off-road	1	148	4	10
				air compressor	off-road	1	75	4	10
				paving equipment	off-road	1	89	4	10

2.5 Proposed Project Operations

2.5.1 *Product Receiving and Distribution*

Following construction, BWC would permanently consolidate all its vessel-based marine oil product operations at Berth 8. The new Berth 8 would be designed to accommodate a range of vessel classes, up to 50,000 DWT tankers consistent with previous CEQA assessments. The existing slip in which Berth 7/8 and the new Berth 8 would be located can only accommodate one vessel at a time; once Berth 8 is operational, only one of the two docks could be used at any single time. Other Port tenant vessels (or BWC vessels carrying non-MOTEMS cargoes) could not dock at Berth 7/8 if there was a BWC vessel at Berth 8 and conversely, if another vessel is docked at Berth 7/8, a BWC vessel could not dock at Berth 8. The new dock and berthing system was designed to handle the throughput previously assessed in the 2018 IS/MND and the 2019 EIR. Because the slip width limits the number of vessels that can dock within it at the same time, the proposed project would not be growth-inducing or add vessel capacity to BWC or Port operations.

The new Berth 8 dock and berthing system would operate 24 hours per day, 7 days per week subject to the working hours of dockworkers. Lighting would be installed for operations during nighttime hours. As shown in Figure 2, once operational, product would be transferred from Berth 8 via pipeline connections to the existing tank farms for storage. Biodiesel would be piped directly through Terminal 1 for storage in ASTs. Via separate pipelines, renewable diesel would be piped through pipelines that flow through Terminal 1 to Terminal 2 for storage in ASTs. BWC anticipates handling renewable diesel and biodiesel at the new Berth 8 (Figure 2). Product would also continue to be received and shipped via truck and rail.

2.5.2 *Maintenance*

BWC and the Port would ensure that the new dock is maintained in accordance with MOTEMS requirements. Dock maintenance activities are anticipated to include the following:

- Annual structural and equipment inspections
- As-needed fender repair and replacement
- As-needed servicing, removal, or replacement of topside equipment
- Annual routine inspection of cargo transfer hoses, pipelines, life safety, and fire protection systems

As-needed maintenance dredging operations, which would be conducted annually on an as-needed basis, as part of the Port's dock-wide maintenance dredging program.

3 Environmental Checklist

- 1. Project Title:** Port of Stockton BWC MOTEMS-Compliant Marine Oil Terminal and Berthing System Development
- 2. Lead Agency:** Port of Stockton
2201 West Washington Street
Stockton, California 95203
- 3. Contact Person:** Jason Cashman
- 4. Project Location:** The proposed project is located off of the San Joaquin River, just west of Berth 7/8, and along Port Road 5, on the Port's East Complex.
- 5. Project Sponsor:** Port of Stockton
- 6. General Plan Designation:** Industrial
- 7. Zoning:** Port
- 8. Description of Project:** The proposed project includes the following:
 - Site preparation, including removal of creosote-treated wood piles
 - Construction of new dock and berthing system, including the dock, breasting dolphins, loading platform, and hose tower
 - Construction of onshore structures such as an approach trestle abutment, pipeway trestle abutment, an operator's shelter, a vault for an oil-water separator, a shore isolation valve containment curb, and onshore mooring dolphins
 - Regrading of the shoreline slope and placement of riprap
 - Utility upgrades throughout the project site
- 9. Surrounding Land Uses and Setting:** Surrounding land uses in the Port are industrial. Surrounding land uses in the City's urban core are characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels.
- 10. Other Public Agencies Whose Approval Is Required:**
 - Clean Water Act Section 404 Permit from the USACE Sacramento District
 - ESA Section 7 consultations with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS)
 - NHPA Section 106 consultation with the SHPO
 - Clean Water Act Section 401 Water Quality Certification from the CVRWQCB
 - Lake and Streambed Alteration Agreement from CDFW
 - Coverage under the SJMSCP from the SJCOG for potential impacts and mitigation for special-status terrestrial species and habitats
 - MOTEMS approval from the CSLC
 - Authority to Construct Permit from the SJVAPCD

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code Section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?

Two Native American Tribes requested consultation under CEQA Guidelines (commonly known as AB 52): the Buena Vista Rancheria of Me-Wuk Indians of California and the Wilton Rancheria Tribe. The Port notified these two Tribes—as well as the Tule River Indian Tribe, Confederated Villages of Lisjan, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the Wuksache Indian Tribe/Eshom Valley Band, and the Northern Valley Yokuts Tribe—of the proposed project by email on April 18 and April 21, 2023, and will provide the IS/MND to the Tribes. No Tribal cultural resources have been identified in the project area. The Wilton Rancheria Tribe responded on May 11, 2023, and requested more information. The Port held a meeting with the Wilton Rancheria Tribe regarding the proposed project on June 14, 2023. Consultation is ongoing.

3.1 Environmental Factors Potentially Affected

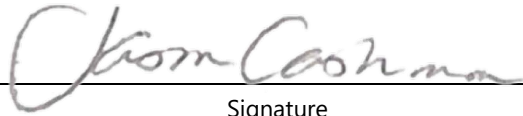
The environmental factors checked below would be potentially affected by the proposed project, involving at least one impact that is potentially significant (after incorporation of mitigation measures) as indicated by the checklist.

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

3.2 Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed subsequent activity 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 "potentially significant unless mitigated" impact on the environment, but at least one effect: 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards; and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects: a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards; and b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

	9/29/2023
_____ Signature	_____ Date
Jason Cashman	Port of Stockton
_____ Printed Name	_____ For

3.3 Evaluation of Environmental Impacts

1. A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
2. All answers must take account of the whole action involved, including off site as well as on site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
4. "Negative Declaration: Less Than Significant with Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less-Than-Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less-than-significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).
5. Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used, or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significance.

3.3.1 Aesthetics

Except as provided in Public Resources Code Section 21099, would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b.	Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway?	☐	☐	☐	☒
c.	In nonurbanized 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 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?	☐	☐	☒	☐
d.	Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☒	☐	☐

3.3.1.1 Affected Environment

3.3.1.1.1 Regional Setting

The proposed project is located within the City's urban core, which is characterized by a mix of heavy industrial uses with limited landscape features, older residential neighborhoods, neighborhood commercial shopping centers, and a variety of other commercial and industrial parcels. The proposed project would occur entirely within Port property, on the Port's East Complex. In most of the areas surrounding the project site, the Port leases property for a variety of industrial uses characterized by storage tanks, railroad facilities, large storage buildings, and stockpiles of various commodities. The closest non-mobile sensitive receptor is a neighborhood, located approximately 0.25 mile (1,320 feet) north-northeast of the project site. Other sensitive receptors in the vicinity of the project site include the Boggs track neighborhood, located approximately 0.4 mile (2,112 feet) southeast of the project site, and a mobile home park 0.35 mile (1,848 feet) to the northwest of the project site. Regional land uses that affect the visual character include residential infill, agricultural lands, industrial and commercial facilities, BNSF Railway (BNSF) rail lines and right-of-way, and the San Joaquin River (serving industrial, recreational, and natural uses).

3.3.1.1.2 Scenic Highways

California's Scenic Highway Program was created by the State Legislature in 1963 with the purpose of protecting and enhancing the natural scenic beauty of California highways and adjacent corridors through special conservation treatment. The state laws governing the Scenic Highway Program are

found in the Streets and Highways Code, Sections 260 through 284. A list of California's scenic highways and a map showing their locations may be obtained from the California Department of Transportation's (Caltrans's) Scenic Highway Coordinators (Stockton Port District 2013). There are no designated state scenic highways in the immediate vicinity of the proposed project. The closest scenic highway to the project site is the portion of Interstate-580 (I-580) from I-5 to I-205, which is located 20 miles southwest of the Port.

3.3.1.1.3 Study Area Setting

The proposed project is located on the Port's East Complex; the visual landscape in the study area of both comprise largely industrial facilities, roads and railways, and barren parcels planned for development. As described in Section 2.1.2 and depicted in Photograph 1, the project site consists of open water, the shoreline, and an upland area between the shoreline and Port Road 5. As shown in Photograph 2, vegetation in the shoreline area consists of an assemblage of trees, shrubs, and weed species growing from the bank of the river. South of the project site is a BWC tank farm facility (Terminal 1). East of the site is Berth 7/8, which is currently used by BWC for temporary cargo transfer operations and used by other Port tenants for cargo transfer operations. North of the project site are the Port Police Dock and the San Joaquin River. West of the site are Port Road 5, a rail line, and an industrial warehouse building. Other sites in the vicinity have similar characteristics and industrial uses.

3.3.1.1.4 Project Viewshed

Views throughout the project area are largely obscured by industrial developments and busy roadways within the Port, as depicted in Photograph 3. As previously stated, the nearest residential receptor is located approximately 0.25 mile (1,320 feet) north-northeast of the project site, and the nearest recreational area is the San Joaquin River, located just 0.05 mile (300 feet) north of the project site. A public park, Louis Park, and boat launch is located approximately 0.75 mile (3,960 feet) northwest of the project site on the opposite side of the San Joaquin River. The project site is visible from the nearest recreational receptors, which are users of the San Joaquin River, but would not be visible from the nearest residential receptors as views are largely obscured by vegetation, buildings, and industrial infrastructure.

Photograph 2
View of Project Site from Berth 7/8, Looking West



Photograph 3
View from the Project Site, Looking Southeast



3.3.1.2 Impact Evaluation

A: Would the project have a substantial adverse effect on a scenic vista?

No Impact. There are no applicable regulations governing scenic quality at the project site, and the visual character of the study area would not be changed by the proposed project. The existing visual character in the study area is not considered scenic, nor are there any identified scenic vistas within the project area. Therefore, there would be no impact to scenic vistas.

B: Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a scenic highway?

No Impact. The proposed project would not affect any rock outcroppings or historic buildings along a scenic highway. There are no designated state scenic highways within the project area, and the visual character of the study area (industrial and Port uses) is consistent with the proposed project. Therefore, there would be no impact to scenic resources.

C: In nonurbanized areas, would the project 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 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?

Less-than-Significant Impact. The proposed project is located within the City's urban core and would not conflict with applicable zoning. There are no applicable regulations governing scenic quality at the project site, and the visual character of the study area would not be changed by the proposed project.

The most prominent permanent visual change resulting from the proposed project would be from installing the steel-framed hose tower on top of the loading platform. The height of the tower would be 35 feet from the loading platform. All proposed project components would be consistent with the existing visual character of the project site and its surroundings, which includes other industrial features similar or larger in scale.

Short-term construction activities would be obscured from view by on-site and adjoining developments. Truck or other vehicle traffic generated by construction would not alter the visual character of the project site and surroundings due to its location within an industrialized area.

Although the proposed project would result in a change in the visual character of the project area itself, specifically from changing a site largely consisting of a vegetated shoreline and open water to a fully constructed and operational dock and berthing system, the coherence and unity of the established patterns of landscape features with the adjoining properties would be maintained due to the proposed project's similar aesthetic. Based on this analysis, there would be a less-than-significant impact to the existing visual character or quality of the project site from the proposed project.

D: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less-than-Significant Impact After Mitigation. Short-term construction activities, while anticipated to occur generally between 7:00 a.m. and 7:00 p.m., would introduce temporary sources of light and glare. Once completed, the new Berth 8 dock and berthing system is expected to operate 24 hours per day, and the proposed project would include the use of fixed lighting to illuminate the dock and work areas. Additionally, the proposed project would introduce new potential sources of glare, including new infrastructure in and over the water and in the adjacent uplands.

These new sources of light and glare would be limited to an industrial area with day and nighttime views that are both already affected as well as shielded from sensitive visual receptors by existing topography, industrial developments, rail lines, railcars, landscaping, and buildings. In the immediate

project area, the proposed project could change or possibly worsen light and glare conditions for workers at the dock areas.

Implementation of the following mitigation measure would ensure that lighting and sources of glare are shielded from surrounding areas and that day or nighttime views would not be adversely affected in the project area:

MM-AES-1: Lighting Plan. BWC will submit for approval a lighting plan for the Berth 8 dock and berthing system prior to building permit issuance. The lighting plan shall demonstrate that project lighting is shielded from surrounding areas, and that only the minimum amount of lighting required for safety purposes is provided to avoid adverse effects on surrounding areas. The lighting plan shall also include shielding that would be installed to meet City and Port requirements. In general, lighting fixtures shall be shielded downward and away from the adjacent street and facilities. Construction of the Berth 8 dock and berthing system shall be in conformance with the approved plan.

Implementation of MM-AES-1 (Lighting Plan) would ensure that any new source of substantial light or glare would not adversely affect day or nighttime views in the area as compared to existing conditions. Impacts would be less than significant.

3.3.2 Agricultural and Forestry Resources

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project, and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b.	Conflict with existing zoning for agricultural use or a Williamson Act contract?	☐	☐	☐	☒
c.	Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public 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.	Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e.	Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.3.2.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project site as "Industrial," and the zoning classification of the project site and surrounding parcels is "Port" (City 2021b). The project site is zoned for non-agricultural uses, which precludes the lease area from qualifying for Williamson Act contracts. Port areas are designated for the operation of port facilities, including wharves, dockage, warehousing, and related port facilities.

Neither the project site nor the immediate surrounding areas currently support agricultural use or forestry resources. The project site is currently vacant and consists of open water, the shoreline, and an upland area between the shoreline and Port Road 5. There is no timberland or forest land on the project site, and all property surrounding the site has been developed for industrial or urban land uses.

3.3.2.2 Impact Evaluation

A: Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The proposed project would not result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use. Therefore, there would be no impact.

B: Would the project conflict with existing zoning for agricultural use or a Williamson Act contract?

No Impact. No farmland exists in the project site. The zoning classification of the project site and surrounding parcels is Port (City 2021b), and the project area is not subject to a Williamson Act contract. Therefore, there would be no impact.

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])?

No Impact. The proposed project would not conflict with or change any zoning or use of forest land, timberland, or timberland zoned Timberland Production. Therefore, there would be no impact.

D: Would the project result in the loss of forest land or conversion of forest land to nonforest use?

No Impact. No forest lands exist near the project site. Therefore, there would be no impact.

E: Would the project involve other changes in the existing environment that, 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?

No Impact. No forest or farmlands exist near the project site. Therefore, there would be no impact.

3.3.3 Air Quality

When available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
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?	☐	☐	☒	☐
c.	Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d.	Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.3.1 Affected Environment

3.3.3.1.1 Environmental Setting

The proposed project is located within the San Joaquin Valley Air Basin (SJVAB), which is bordered by the Sierra Nevada to the east, the Coast Ranges to the west, and the Tehachapi Mountains to the South and is made up of eight counties in California's Central Valley: San Joaquin, Stanislaus, Merced, Madera, Fresno, Kings, Tulare, and the SJVAB portion of Kern. The climate within the SJVAB is typical of inland valleys in California, with hot, dry summers and cool, mild winters. Daytime temperatures in the summer often exceed 100°F, with lows in the 60s. In winter, daytime temperatures are usually in the 50s, with lows around 35°F. Fog is common in the winter and may persist for days. Winds are predominantly up-valley (from the north) in all seasons, but more so in the summer and spring. Winds in the fall and winter are generally lighter and more variable in direction, but generally blow toward the south and southeast.

Because of the Central Valley's unique physical characteristics, the pollution potential in the area is very high. Surrounding elevated terrain, in conjunction with temperature inversions, frequently restricts lateral and vertical dilution of pollutants. Ozone (O₃), the major component of the Central Valley's summertime smog, is formed via chemical reactions between reactive organic gases (ROG) and nitrogen oxides (NO_x) in the presence of ultraviolet radiation or sunlight. Abundant sunshine and warm temperatures in summer are ideal conditions for the formation of photochemical oxidants, leading to frequent photochemical pollution, or O₃. Tiny particles of solids or liquids (excluding pure water) that are suspended in the atmosphere are known as particulate matter (PM) and are classified according to their diameter in microns as either PM_{2.5} (particulate matter 2.5 microns or smaller in diameter) or PM₁₀ (particulate matter 10 microns or smaller in diameter). PM can be emitted directly

(primary PM, such as dust or soot), or can form in the atmosphere through photochemical reactions or gaseous precursors (secondary PM). Much of the Central Valley's ambient PM₁₀ and PM_{2.5} is secondary PM, formed in atmospheric reactions of NO_x. Due to the combined air pollution sources within the SJVAB and meteorological and geographical effects that limit dispersion of air pollution, the SJVAB can experience high air pollutant concentrations.

3.3.3.1.2 *Regulatory Setting*

The U.S. Environmental Protection Agency (USEPA) enforces federal air quality regulations. The federal Clean Air Act of 1970, amended in 1990, authorized the establishment of national health-based air quality standards, set deadlines for their attainment, and established actions required of areas that exceed these standards. Air agencies in areas that exceed the National Ambient Air Quality Standards (NAAQS) are required to develop state implementation plans (SIPs) to show how they will achieve NAAQS. USEPA's responsibility to control air pollution in individual states is primarily to review submittals of SIPs prepared by each state.

In California, the CARB prepares and enforces federally required SIPs to achieve and maintain NAAQS and California Ambient Air Quality Standards (CAAQS), which were developed as part of the California Clean Air Act adopted in 1988. CAAQS for criteria pollutants are equal to or more stringent than NAAQS and include other pollutants for which there are no NAAQS. In addition, CARB is responsible for assigning air basin attainment and non-attainment designations in California. Air basins are designated as being in attainment if the levels of a criteria air pollutant meet CAAQS for the pollutant and are designated as being in non-attainment if the level of a criteria air pollutant is higher than CAAQS.

The SJVAPCD is the air district for SJVAB, which is where the project site is located. SJVAPCD prepares air quality plans for SJVAB to comply with national and state standards that are used to assess potential air quality impacts. The San Joaquin Valley has been in attainment for carbon monoxide (CO) since 1994 and reached attainment for the federal PM₁₀ standard in 2008. The entire air basin is classified as non-attainment for the CAAQS 24-hour and annual PM₁₀ standards, the CAAQS annual PM_{2.5} standard, and the CAAQS 1-hour and 8-hour O₃ standards. The SJVAB is also classified as non-attainment for the NAAQS 8-hour O₃ standard and the 24-hour and annual PM_{2.5} standards (SJVAPCD 2015a).

The SJVAPCD-recommended thresholds for determining whether projects have significant adverse air quality impacts are provided in its *Guidance for Assessing and Mitigating Air Quality Impacts* (SJVAPCD 2015b). Table 3 shows SJVAPCD thresholds. These thresholds are applied separately to construction emissions, permitted operational emissions, and non-permitted operational emissions.

Table 3
San Joaquin Valley Air Pollution Control District Significance Thresholds

Air Pollutant	Construction Emissions Threshold (tons per year)	Permitted Sources Operational Emissions Threshold (tons per year)	Non-Permitted Sources Operational Emissions Threshold (tons per year)
ROG	10	10	10
NO _x	10	10	10
CO	100	100	100
SO _x	27	27	27
PM ₁₀	15	15	15
PM _{2.5}	15	15	15

Source: SJVAPCD 2015a

3.3.3.2 Impact Evaluation

Construction: Construction emissions would be generated by construction equipment, including diesel-powered off-road equipment, trucks used to transport material on-site and limited off-site movements, and worker vehicles associated with construction. Construction is anticipated to occur over a period of up to 37 weeks beginning in 2024. Proposed project construction would consist of the following improvements over six phases that would generally occur sequentially: Mobilization; Mobilization/Site Preparation; Pile-Driving (Land-Based) Abutments, Mooring Dolphins; Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins; Fire Pump Platform; and Demobilization.

Based on the construction schedule (Table 2), maximum daily and annual construction emissions were calculated by individual activity and total activity. Construction emissions would result from diesel-fueled construction equipment and on-road vehicles as shown in Table 4. Land- and marine-based construction emissions for the proposed project were calculated using California Emissions Estimator Model (CalEEMod) software, version 2022.1 (CAPCOA 2022). Commercial harbor draft emission factors for marine-based construction equipment were obtained from the EMFAC2021 OFFROAD2021 model (CARB 2023a). A full description of construction assumptions, including equipment horsepower ratings, is included in Appendix B.

Table 4
Construction Emissions (Tons per Year)

	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Phase 1: Mobilization/Site Preparation	0.01	0.05	0.06	<0.005	<0.005	<0.005
Phase 2: Pile-Driving (Land-Based) Abutments, Mooring Dolphins	<0.005	0.02	0.02	<0.005	<0.005	<0.005
Phase 3: Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins, Fire Pump Platform	0.13	1.02	0.91	<0.005	0.05	0.04
Phase 4: Deck Construction	0.02	0.16	0.13	<0.005	0.01	0.01
Phase 6: Demobilization	0.01	0.05	0.05	<0.005	<0.005	<0.005
Maximum Annual Emissions	0.16	1.29	1.17	<0.005	0.08	0.05
Thresholds	10	10	100	27	15	15
Significant?	No	No	No	No	No	No

Note:

Sum of phase emissions may differ from totals shown due to individual rounding.

Operations: As discussed in Section 2.5, the proposed project involves constructing a MOTEMS-compliant dock and berthing system to support previously assessed vessel operations. Because the width of the slip limits the number of vessels that can dock within it at the same time, the new Berth 8 would not be growth-inducing or add vessel capacity to the Port or BWC's operations. Aside from MOTEMS-regulated products being handled at the new Berth 8 instead of the existing Berth 7/8, there would be no other anticipated operational changes at Terminals 1, 2, or 3 and there would be no increase in product throughput beyond what was previously assessed in the 2018 IS/MND and 2019 EIR. Therefore, there would be no increased truck, vessel, or rail trips associated with the proposed project and no new operational air emissions as a result of the proposed project.

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

Less-than-Significant Impact. SJVAPCD has established thresholds of significance for criteria pollutant emissions, which are based on New Source Review offset requirements for stationary sources and the NAAQS and CAAQS. These thresholds represent a regional approach to meeting the NAAQS and CAAQS, recognizing SJVAPCD's attainment status, emission sources, and regional geography. Because the SJVAB is an extreme O₃ nonattainment area, stationary sources in SJVAPCD are subject to some of the toughest regulatory requirements in the nation. Emission reductions achieved through the implementation of offset requirements are a major component of SJVAPCD's air quality plans. Therefore, projects with emissions below the thresholds of significance for criteria pollutants would be determined to not conflict or obstruct implementation of the air quality plans, whereas emissions exceeding those thresholds would conflict with and obstruct implementation.

Table 4 presents the construction emissions resulting from the proposed project. As shown, construction emissions would be below significance thresholds. There are no expected operational emissions related to the proposed project. Therefore, the proposed project would not conflict with or obstruct implementation of the regional air quality plan and impacts would be considered less than significant.

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

Less-than-Significant Impact. SJVAPCD has developed quantitative criteria to evaluate the significance of air emissions under CEQA. Specifically, a significant impact would occur if implementation of a project would result in emissions that exceed the SJVAPCD-established thresholds shown in Table 3. As shown in Table 4, construction emissions would be below SJVAPCD significance thresholds. As there would be no impact from operations, impacts would be less than significant.

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

Less-than-Significant Impact. A significant impact would occur if a project would emit TACs that could cause a significant increase in health risks, including both carcinogenic and non-carcinogenic risks. A project is considered to have a significant TAC impact under the following circumstances:

- It would result in ground-level concentrations of carcinogenic TACs that would increase the probability of contracting cancer for the maximally exposed individual by 20 in 1 million or more (SJVAPCD 2015b).
- It would increase ground-level concentrations of non-carcinogenic TACs that would result in an acute or chronic hazard index exceeding 1 for the maximally exposed individual receptor (SJVAPCD 2015b).

Impacts to sensitive receptors are typically evaluated in terms of exposure to TACs. CARB classifies diesel particulate matter (DPM) as a TAC (17 CCR 93000) and uses PM₁₀ emissions from diesel exhaust as a surrogate for DPM. Health effects from carcinogenic TACs are described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. More than 90% of DPM is less than 1 micrometer in diameter, and thus is a subset of PM_{2.5}. PM_{2.5} comes from a variety of sources, but primarily from the burning of carbon-based fuels, such as gasoline, diesel, and wood. Numerous scientific studies have linked exposure to airborne PM_{2.5} to increased severity of asthma attacks, development of chronic bronchitis, decreased lung function in children, respiratory and cardiovascular hospitalizations, and even premature death in people with existing heart or lung disease (CARB 2023b). Because DPM is a subset of PM_{2.5}, DPM also contributes to the same non-cancer health effects as PM_{2.5} exposure.

These effects include premature death, hospitalizations, and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function in children. Several studies suggest that exposure to DPM may also facilitate development of new allergies. Those most vulnerable to non-cancer health effects are children whose lungs are still developing and the elderly, who often have chronic health problems (CARB 2023c).

Proposed project construction activities would result in temporary DPM emissions from the combustion of diesel fuel in off-road construction equipment engines and on-road trucks. The health risks of TAC emissions are typically quantified when both of the following apply: sensitive receptors are located within 1,000 feet of an emission source; and exposure would occur over several years. The closest sensitive receptor would be a neighborhood located approximately 0.25 mile (1,320 feet) north-northeast of the project site. During construction of the proposed project, emissions of DPM would be intermittently generated over a 37-week period starting in 2024.

Due to the short construction period and the distance between the proposed construction activities and residential sensitive receptors, construction of the proposed project would not expose sensitive receptors to substantial pollutant concentrations. DPM is a component of PM_{2.5}, which is shown in Tables 3 and 4, and would be generated primarily from construction equipment exhaust more than 1,000 feet from the nearest receptor. As discussed, the proposed project would not result in any changes to operations that would result in new air emissions.

The proposed project would result in less-than-significant cancer risks, chronic health hazards, and acute health hazards at the maximally affected individual receptors. Therefore, the proposed project's health risk impacts would be less than significant.

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

Less-than-Significant Impact. SJVAPCD's CEQA guidance (SJVAPCD 2015b) defines a significant odor impact as one that creates objectionable odors affecting a substantial number of people. The guidance also lists facility types that commonly produce odors and the separation distance from sensitive receptors (typically 1 mile) needed to prevent significant odor impacts. As noted in SJVAPCD's guidance, the list of facility types is not meant to be all-inclusive. Consequently, SJVAPCD recommends that all potential odor sources be evaluated in additional detail if they are located within 1 mile of sensitive receptors (SJVAPCD 2015b).

The predominant winds in the project area are from the northwest, west-northwest, and west. The nearest residences in the predominant downwind direction are roughly 0.4 mile (2,112 feet) away. Although residences to the northeast and northwest are closer (0.25 mile [1,320 feet] and 0.35 mile [1,848 feet],

respectively), those locations would be located downwind of the project site on a very infrequent basis and are therefore unlikely to experience nuisance odors from the proposed project.

During construction, diesel exhaust from construction equipment could generate odors. However, several pieces of construction equipment would need to operate concurrently in a relatively small area to generate a constant plume of diesel exhaust that could cause objectionable odors, and these circumstances would not occur as part of the proposed project. Construction would occur over a broad area, and construction equipment would not all operate at the same time. As discussed, the proposed project would not result in any changes to operations that would result in new air emissions. Therefore, this impact is considered less than significant.

3.3.4 Biological Resources

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐
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?	☐	☒	☐	☐

3.3.4.1 Affected Environment

Biological conditions occurring in the project area were observed during a reconnaissance survey conducted on March 28, 2023, to assess habitat conditions and evaluate the area's potential to support special-status species or sensitive habitats (Anchor QEA 2023). A search of the California Natural Diversity Database (CNDDDB) was conducted to identify recorded special-status species occurrences within the U.S. Geological Survey Stockton West 7.5-minute quadrangle and surrounding quadrangles (Terminous, Lodi South, Waterloo, Stockton East, Manteca, Lathrop, Union Island, and Holt; CDFW 2023).

3.3.4.1.1 *Habitat Communities*

The project site is located within a highly developed and industrialized area and is surrounded by existing industrial developments characterized by storage tanks, industrial buildings, concrete surfaced storage or staging areas, stockpiles of various commodities, roadways, and rail lines. The property is bounded by Terminal 1 to the south, Berth 7/8 to the east, the Port Police Dock and the San Joaquin River on the north, and Port Road 5, a rail line, and an industrial warehouse building on the west.

The western shoreline and bank where the proposed Berth 8 would be located is earthen with riprap. A narrow band of trees and herbaceous vegetation occurs along the waterline and the top of bank. Trees line the approximately 25-foot-wide zone between the water line and the paved or graveled surface of Port Road 5 and the equipment yard to the south. California native trees grow from the bank including valley oak (*Quercus lobata*), box elder (*Acer negundo*), California black walnut (*Juglans hindsii*), elderberry (*Sambucus mexicana*), and fan palm (*Washingtonia filifera*). An ornamental vining plant grows among the understory and through the tree canopy in all reaches. Non-native trees are also found along the vegetated zone including tree of heaven (*Ailanthus altissima*). The invasive species giant reed (*Arundo donax*) also grows for approximately 200 linear feet along the waterside on the western leg. Patches of pampas grass (*Cortaderia jubata*) were observed among the trees and at the waterline during 2023 site surveys.

Herbaceous growth is found in the understory of the waterside vegetation and along the upper interface with the adjacent road and yard. This vegetation is composed of common non-native annual grasses and invasive broadleaf species including rip-gut brome (*Bromus diandrus*), foxtail chess (*Bromus madritensis*), slender oat (*Avena barbata*), smilo grass (*Stipa miliacea*), rattail fescue (*Festuca myuros*), Italian thistle (*Carduus pycnocephalus*), yellow-starthistle (*Centaurea solstitialis*), geranium (*Geranium molle*), filaree (*Erodium cicutarium*, *E. moschatum*), black mustard (*Brassica nigra*), field mustard (*Brassica rapa*), stinkwort (*Dittrichia graveolens*), wild radish (*Raphanus raphanistrum*), and bedstraw (*Galium* sp.).

A band of Himalayan blackberry (*Rubus armeniacus*) is also present north of the trees lining the western bank and extends from the top of the bank to the waterline. At the water line, a few stems of cattails (*Typha latifolia*) and yellowflag iris (*Iris psuedacorus*) were observed.

The vegetated areas along the shoreline in the project area are geographically isolated from other potential terrestrial wildlife habitat areas with no direct land-based corridors or connectivity.

Photograph 4

View of the Project Site Looking West, January 2023



3.3.4.1.2 Wetlands and Jurisdictional Waters

Potentially jurisdictional water features were identified during the March 2023 site visits (Anchor QEA 2023). Berth 8 would be constructed in a slip (which also contains Berth 7/8) that is within the San Joaquin River, a traditionally navigable water that would qualify as waters of the United States and waters of the State of California. The slip spans approximately 1,025 feet southeast from the San Joaquin River. At the project site, the slip is approximately 440 feet wide. No wetlands were identified in the project site.

3.3.4.1.3 Special-Status Wildlife Species

The CNDDDB identifies 25 special-status wildlife (candidate, threatened, or endangered under the federal Endangered Species Act [ESA] or California Endangered Species Act [CESA], state species of special concern [SSC], or CDFW fully protected) species that have been documented within the study area, as identified through a search of the proposed project U.S. Geological Survey quadrangle and

eight surrounding quadrangles (Appendix C; CDFW 2023). Potential species occurrence in the project area was determined based on habitat requirements, existing on-site conditions, and historic species observations.

The San Joaquin River is within designated critical habitat for green sturgeon (*Acipenser medirostris*), delta smelt (*Hypomesus transpacificus*), and Central Valley steelhead (*Oncorhynchus mykiss*).

San Joaquin River waters in the project area also provide habitat for Central Valley fall-run and late fall-run Chinook salmon (*Oncorhynchus tshawytscha*) and longfin smelt (*Spirinchus thaleichthys*) and are considered Essential Fish Habitat (EFH) for Pacific salmon and groundfish (NMFS 2008).

The project site's developed condition and location within a highly industrial and urban area precludes the presence of most terrestrial special-status species, although vegetation at or surrounding the project site may be marginally suitable for some transitory species adapted to disturbance areas and may have a moderate to high potential for occurrence in or around the project area. This includes valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*), Swainson's hawk (*Buteo swainsoni*), white-tailed kite (*Elanus leucurus*), song sparrow (*Melospiza melodia*), tricolored blackbird (*Agelaius tricolor*), yellow-headed blackbird (*Xanthocephalus xanthocephalus*), and other Migratory Bird Treaty Act (MBTA)-protected bird species. These potentially present species are described in the following subsections.

Southern green sturgeon. The southern green sturgeon distinct population segment (DPS) includes green sturgeon throughout California, Oregon, Washington, and British Columbia, with designated freshwater critical habitat in the mainstem Sacramento River downstream of Keswick Dam, Feather River below Oroville Dam, Yuba River below Daguerre Point Dam, and the Sacramento-San Joaquin Delta. Subadult and adult green sturgeon inhabit nearshore oceanic waters, bays, and estuaries while also migrating to and from freshwater habitats. Freshwater occurrence of this species occurs during the early life history stage (less than 4 years old) and later when adults return to freshwater to spawn (spawn age range of 10 to 15 years old). Spawning occurs in the spring and summer, as recorded in the upper Sacramento River and tributaries such as the Feather, Yuba, and American rivers. During the juvenile stage, green sturgeon can be found throughout the freshwater portions of their habitat the entire year.

Although the in-water portions of the project site do not provide suitable spawning habitat for green sturgeon, the species may occur within waters of the project area during the upstream migration of spawning adults and downstream migration, resting, and foraging of juveniles (Caltrans and Port 2013). In addition, the project area waters are within designated critical habitat for green sturgeon.

Delta smelt. The delta smelt is a euryhaline fish with a habitat range extending from the lower reaches of the Sacramento and San Joaquin rivers, through the Sacramento-San Joaquin River Delta (Delta), and into Suisun Bay. Delta smelt are a relatively small species (2 to 3 inches long) that

typically have an annual life cycle, although some individuals may live up to 2 years. Prior to spawning, adult delta smelt tend to migrate upstream into the lower reaches of the Sacramento and San Joaquin River systems, where spawning occurs from approximately February through June, with the greatest spawning activity occurring in April and May. Females deposit adhesive eggs on substrates such as gravel, rock, and submerged vegetation. Eggs hatch in approximately 2 weeks, when planktonic larvae are passively dispersed downstream by river flow. Larval and juvenile delta smelt rear within the estuarine portions of the Delta for a period of approximately 6 to 9 months before beginning their upstream spawning movement into freshwater areas of the lower rivers.

The in-water portions of the project site do not provide the shallow edge waters preferred by smelt during spawning, which typically occurs within sloughs and shallow edge waters located within the upper Delta. Project area waters are, however, within designated critical habitat for delta smelt.

Central Valley steelhead. The Central Valley DPS of steelhead includes all populations in the Sacramento and San Joaquin rivers and their tributaries. The current distribution ranges from Keswick Dam in the Upper Sacramento River to the Merced River in the San Joaquin River Basin, with distribution primarily limited by impassable dams. Anadromous adults make their upstream spawning migrations beginning in July (peaking in September and October) after residing in the ocean for 2 to 3 years. Spawning occurs from December through April. Spawning, incubation, and the majority of rearing occurs farther upstream than the project area.

The in-water portions of the project site do not contain river bottom habitat suitable for spawning or incubation. However, steelhead may occur in project area waters during the upstream migration of spawning adults and downstream migration, resting, and foraging of juveniles (Caltrans and Port 2013). In addition, project area waters are within designated critical habitat for this species.

Central Valley fall-run/late fall-run Chinook salmon. The Central Valley fall-run and late fall-run evolutionary significant units (ESUs) of Chinook salmon are two of the four distinct runs of salmon that spawn in the Sacramento-San Joaquin River system. The ESUs include all naturally spawned populations of fall-run Chinook salmon in the Sacramento and San Joaquin river basins and their tributaries east of Carquinez Strait. Fall-run Chinook salmon are the most abundant run in the Central Valley (CDFW 2017). Fall-run salmon generally start migrating from the ocean and begin spawning in the tributaries of the San Joaquin River during the early fall, when water temperature begins to cool. Fall-run spawning occurs within the first 20 river miles below the first major dams and reservoirs on the Merced, Tuolumne, and Stanislaus rivers during October, November, and December.

Although the in-water portions of the project site do not provide suitable spawning habitat for Central Valley fall-run and late fall-run Chinook salmon, they may occur in project area waters during the upstream migration of spawning adults and downstream migration, resting, and foraging of

juveniles (Caltrans and Port 2013). In addition, project area waters are within designated EFH for this species.

Longfin smelt. Longfin smelt, a small-sized euryhaline and anadromous fish, was historically among the most abundant fish in the Delta. Spawning adults congregate at the upper end of Suisun Bay and in the lower and middle Delta, especially in the Sacramento River channel and adjacent sloughs (USACE 2015). As they mature in the fall, adults found throughout San Francisco Bay migrate to brackish or freshwater in Suisun Bay, Montezuma Slough, and the lower reaches of the Sacramento and San Joaquin rivers.

Although juveniles and adults are present throughout the estuary year-round (potentially including project area waters), the majority of the population is concentrated in the Suisun, San Pablo, and Central bays, as well as nearshore waters during the summer months. The in-water portions of the project site do not provide suitable spawning habitat for this species.

Valley elderberry longhorn beetle. The valley elderberry longhorn beetle (VELB) is a medium-sized beetle dependent upon elderberry shrubs (*Sambucus* spp.) during its entire life cycle. Adult beetles emerge in the spring from pupation inside the wood of these trees as they begin to bloom. Emerging adults form distinctive, small oval exit holes in elderberry shrubs. Based on the species' recovery plan, VELB occupies elderberry shrubs in clumps, with the largest distance between plants approximately 600 to 800 meters. Elderberry patches are more likely to be occupied by VELB if there is another occupied habitat within 10 to 20 kilometers (USFWS 2019).

There are approximately 13 elderberry shrubs along the western and southern shorelines of the project site. The elderberry shrubs were not surveyed for evidence of VELB occupation during the March 2023 surveys and VELB has a low likelihood of occurring in the area due to the disturbed nature of the surrounding area and lack of documented sightings of the species in the vicinity. In addition, there are no current protected VELB-suitable patches of elderberry shrubs along the San Joaquin River, with the exception of one in the Delta. There have been 14 documented occurrences in the Middle San Joaquin-Lower Merced-Lower Stanislaus Rivers according to the CNDDB (USFWS 2019). However, because the host plant for VELB occurs within the project area, there is potential for VELB occurrence at the project site (Anchor QEA 2023).

Swainson's hawk. Swainson's hawk is a long-distance migrant species. Central Valley populations winter primarily in Mexico and arrive at their Central Valley breeding grounds in mid-March to early April. Nests are generally found in scattered trees or along riparian systems adjacent to agricultural fields or pastures. Egg laying generally occurs in April, and young are present in May and June. Most young have fledged the nest by the end of July and are relatively independent of parental protection; however, fledged young remain with their parents until they depart in the fall for migration. Migration to wintering grounds generally occurs around September; however, some individuals or

small groups may winter in California (Caltrans and Port 2013). Swainson's hawks are regularly observed throughout the Port.

Trees along the shoreline of the project site may provide nesting habitat to the Swainson's hawk. An active hawk nest was observed in a pecan tree within the proposed project footprint and Swainson's hawks were observed circling the nest during March 2023 surveys (Anchor QEA 2023).

White-tailed kite. White-tailed kites nest and forage in a variety of settings. They hunt over grassland, savanna, cultivated fields, marshes, and riparian woodland and are also commonly observed foraging along freeway medians and edges. Kites prey primarily on voles and other small rodents but also eat birds, snakes, lizards, frogs, and large insects. They build stick nests in the tops of trees, preferentially near an open foraging area, and typically forage within 0.5 mile of the nest during breeding season, which extends from February through October. The nearest white-tailed kite occurrence was recorded approximately 3.6 miles southeast of the project area in April 2002 (CDFW 2023).

As with Swainson's hawk, trees along the shoreline of the project site may provide perching and low-quality nesting opportunities, but the project site and surrounding area offers marginal foraging opportunities due to the amount of disturbance.

Song sparrow – Modesto population. The Modesto population of song sparrow is a subspecies typically found in the north-central portion of the Central Valley. This population is typically found in emergent freshwater marshes dominated by tules (*Scirpus* spp.) and cattails (*Typha* spp.) as well as riparian willow (*Salix* spp.) thickets. These song sparrows are also known to nest in riparian forests of valley oak with a sufficient understory of blackberry (*Rubus* spp.), along vegetated irrigation canals and levees, and in recently planted valley oak restoration sites.

Valley oaks are present in the project area, but the habitat is of low quality and surrounded by development. Habitat in the project area is not likely to support nesting song sparrows but could be used for perching or foraging on the way to more suitable nesting habitat.

Tricolored blackbird. The tricolored blackbird is a medium-sized songbird that inhabits wetland and freshwater marsh habitat in the Central Valley and surrounding foothills of California. Although some tricolored blackbird individuals will reside in Central Valley throughout the year, other individuals will migrate from their first nesting sites in the San Joaquin Valley to a second nesting site located in more northern regions. Breeding colonies require a nearby source of water, suitable nesting substrate, and natural grassland, woodland, or agricultural areas to forage. Historically, breeding colonies had been strongly associated with emergent marshes, but recently there has been a shift to non-native vegetated and active agricultural areas (USFWS 2023).

The small stands of giant reed and cattails at the project site would not likely support breeding tricolored blackbirds. Any individuals in the area would most likely be passing through on their way to more suitable foraging and nesting areas to the south and west of the Port facilities.

Yellow-headed blackbird. Yellow-headed blackbirds are medium-sized blackbirds that are found in cattail-dominated freshwater marshes of the western United States. This species typically nests in colonies in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds. Nests are firmly lashed to standing vegetation (cattails, bulrushes, reeds) growing in water, usually no more than three feet above water's surface. When not nesting, they gather in flocks in open fields, often with other species of blackbirds (CDFW 2023).

As with the tricolored blackbird, the vegetation in the project area would not likely support breeding yellow-headed blackbirds, but could provide foraging opportunities. Any individuals in the area would most likely be passing through on their way to more suitable foraging and nesting areas to the south and west of the Port facilities.

Migratory Bird Treaty Act-protected species. The MBTA makes it illegal for anyone 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 permit issued pursuant to federal regulations. The project area is located in an industrial environment and subject to constant anthropogenic disturbance, including regular discing of vegetation, and would only potentially provide foraging habitat for migratory bird species. Habitat adjacent to the project along the San Joaquin River could provide nesting opportunities for some migratory bird species. Other species protected under the MBTA may occur transiently throughout the year.

3.3.4.1.4 *Special-Status Plant Species*

There are 20 plant species considered rare, threatened, or endangered by the California Native Plant Society (CNPS; a CNPS Rank 1 or 2 species) with recorded occurrences in the vicinity of the project site, as identified through a search of the proposed project quadrangle and eight surrounding quadrangles (Appendix C; CDFW 2023). Of these 20 species, two are state or federal endangered: palmate-bracted bird's-beak (*Chloropyron palmatum*; federal and state endangered) and Sacramento-San Joaquin River Delta (Delta) button-celery (*Eryngium racemosum*; state endangered). Due to the lack of suitable habitats within the project area, none of the special-status plant species with recorded occurrences within the vicinity of the study area have the potential to occur within the project site.

3.3.4.2 Impact Evaluation

A: Would this 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?

Less-than-Significant Impact After Mitigation. Within the project footprint, the aquatic environment is degraded by industrial development and activities. The channel substrate in the project area is dominated by mud and silt with a benthic invertebrate community dominated by invasive Asian clams (USACE 2015). Although most of the shoreline in the project area is armored and lined with riprap, it provides minimal upland riparian vegetation that could provide habitat to various terrestrial species.

The proposed project would result in temporary increases in turbidity associated with pile removal and installation and temporary increases in underwater noise from construction, particularly pile installation, which has the potential to adversely affect fish that could be present in the project site. This may include mortality, injury, or behavioral impacts if fish are present in proximity to turbidity or the pile-driving source. The area within which fish have the potential for physical injury associated with increased sound pressure levels during pile driving would be confined to the slip immediately around the proposed dock and extend north across the San Joaquin River channel. Farther upstream and downstream impacts in the San Joaquin River related to underwater noise would be prevented by the channel and slip geometry and location of construction activity within the slip (sound wave propagation stops when the shoreline is encountered). This area of potential impact would be relatively small in comparison to the size of the San Joaquin River.

The following mitigation measures would be implemented during construction to reduce the potential for turbidity and underwater noise to impact special-status aquatic species:

MM-BIO-1: Conduct In-Water Construction During the Approved In-Water Work Window. *Pile driving and other in-water activities will only occur during the approved annual in-water work window for the San Joaquin River near the Port, which is between July 1 and November 30. The Port will obtain permits and approvals from USACE, NMFS, USFWS, RWQCB, and CDFW for the proposed project; these permits will include compliance with this window.*

MM-BIO-2: Employ "Soft-Start" Techniques and Conduct Underwater Monitoring During Impact Pile Driving. *During construction, the Port will implement soft start techniques for impact pile driving, which is industry standard and will be required per regulatory permits. To verify that conditions meet the assumptions used in the noise analysis, the Port will prepare an underwater noise monitoring plan, obtain agency approval of the plan, and conduct noise monitoring during impact hammer use. If*

needed, the contractor would employ a bubble curtain or similar noise attenuation during all impact hammer use.

Mitigation measures MM-BIO-1 (Conduct In-Water Construction During the Approved In-Water Work Window) and MM-BIO-2 (Employ "Soft-Start" Techniques and Conduct Underwater Monitoring During Impact Pile Driving) would minimize underwater noise impacts on fish by timing proposed project construction to the months when certain special-status fish species are least likely to be present, employing a soft-start technique to impact pile driving that allows fish to disperse from the project area, and employing a noise attenuation methodology to reduce the area of impact.

For construction during the established in-water construction window (MM-BIO-1), delta smelt and longfin smelt are not anticipated to be present in the project area, and therefore would not be expected to be affected by impact pile driving noise during this period. Salmonids are similarly unlikely to be present during the construction window. Although some steelhead may migrate early, their likelihood of occurring in the project area during the in-water construction window remains very low and would be confined to the latter portion of the construction window. There is a small potential for green sturgeon to be present in the project area during and outside the construction window, and there is very low risk for green sturgeon injury from pile driving. The use of soft-start techniques during all pile driving (MM-BIO-2) would further reduce the potential for fish to be present and subject to physical injury within the relatively small area of construction impacts anticipated for the proposed project.

To support the proposed dock, thirty-two 30-inch steel in-water piles and twelve 24-inch precast concrete piles would be installed using an impact pile driver or vibratory hammer. It is not possible to use smaller-sized piles to support the size and operation of the structure. Vibratory hammers generally produce less sound than impact hammers and are often employed as an avoidance measure to reduce the potential for adverse effects on fish that can result from impact pile driving, so would be considered an option for construction. Up to four piles would be installed each day with pile driving only during daylight hours (a maximum of 11 hours a day) during the approved in-water work window between July 1 and November 30. Using this construction information, a bioacoustics analysis was conducted for in-water pile installation activities associated with the proposed project. Conservative worst-case estimates of underwater noise from impact driving the piles required for the proposed project using sound attenuation (MM-BIO-2) are provided in Table 5.

Table 5**Conservative Estimates of Attenuated Underwater Noise from the Proposed Project**

Pile Diameter and Type	Peak (dB)	SEL (Single Strike)	RMS (dB)	Reference Distance	Installation Details
30-inch steel pile	210	177	190	10 meters	Up to 4 piles per day; 4,400 strikes per day
24-inch pre-cast concrete pile	188	166	176	10 meters	Up to 4 piles per day; 4,400 strikes per day

Notes:

Source sounds are from Caltrans 2020 Table I.2-1a steel pipe 30-inch-diameter piles, Florence, Oregon; and Caltrans 2020 Table 1.2-1c 24-inch concrete octagonal pile, Oakland, California.

A bubble curtain or similar attenuation method is assumed to be used as was used in the source sound example.

The distance at which underwater noise would attenuate to established sound thresholds for fish is provided in Table 6.

Table 6**Attenuation Distances to Interim Injury Criteria for Fish**

Interim Criteria	Sound Threshold	Attenuation Distance to Sound Threshold (30-inch steel piles)	Attenuation Distance to Sound Threshold (24-inch concrete piles)
Peak	206 dB Peak	18 meter	1 meter
cSEL, fish greater than 2 grams	187 dB cSEL	578 meters	107 meters
cSEL, fish less than 2 grams	183 dB cSEL	631 meters	117 meters
Behavioral disturbance	150 dB	4,642 meters	541 meters

Notes:

Sound impacts are effectively eliminated when sound waves encounter a land mass, such as a bend in the river; therefore, the attenuation distances would be less than shown in Table 6 in directions from the source sound where the riverbank is encountered before the attenuation distance is reached.

As shown in Table 6, the peak sound threshold, representing potential instantaneous fish injury, is relatively close to the activity for both the installation of 30-inch steel piles and 24-inch concrete piles (18 meters and 1 meter respectively). Although unlikely, if fish were within 18 meters of 30-inch steel piles and 1 meter of 24-inch concrete piles at the time of installation, they could incur instantaneous injury as the injury threshold of 206 dB would be surpassed. However, it is very unlikely that fish would be within the area of peak noise exposure during pile installation as fish are likely to leave the immediate vicinity of pile installation during the soft-start period and because the proposed project would be constructed during the standard in-water work window. The cumulative sound exposure level (cSEL) metric, which represents potential fish injury due to accumulative effects of noise, may be exceeded within 578 meters of the activity when installation of 30-inch steel piles is occurring and 107 meters of the activity when installation of 24-inch concrete piles is occurring

(green sturgeon in the project area would be adults and thus greater than 2 grams). Practically, the river morphology and the presence of land masses in the area would reduce the attenuation distance during the installation of 30-inch steel piles to 335 meters. Further, all potential for fish injury and behavioral disturbance is short-term and temporary, limited to the duration of pile-driving activity.

The Port recognizes that CDFW considers compensatory mitigation to be required for projects seeking Streambed Alteration Agreements, such as the proposed project, which have the potential to exceed this threshold. Therefore, the Port would require that fish habitat credits be purchased to offset this temporary impact (as detailed in MM-BIO-3) in accordance with a ratio consistent with a range of recent mitigation proposals that have been coordinated with CDFW.

The following mitigation measure would be implemented to compensate for temporary habitat impacts to special-status aquatic species:

MM-BIO-3: Purchase Aquatic Habitat Credits. *BWC will purchase 0.15 fish habitat conservation credits from a suitable, available mitigation bank (e.g., Liberty Island Conservation Bank, North Delta Conservation Bank, etc.).*

It is also important to consider the effects of cumulative underwater noise exposures related to mortality, physiology, and behavior, including the effects of exposure to multiple impacts from pile driving and strike intermittency. One issue in this regard is whether exposure to a very frequent sequence of high-level underwater sound pressure has a different effect than exposure to a sequence that allows some “recovery” time for fish (Caltrans 2020). During impact driving for the proposed project, the strike duration would be greater than during typical impact driving (e.g., one strike every few seconds compared to several per second). The estimated 4,400 strikes per day for the proposed project would not occur in rapid succession but in small periods of activity throughout a full day of construction. This allows for fish recovery time between strikes and allows more time for fishes to respond behaviorally to underwater noise.

Another aspect of cumulative exposure that needs consideration is the potential effect on a fish that is exposed to pile driving and then exposed again to pile driving sound pressure several hours, days, or weeks later. Fish are typically not stationary; therefore, they would be expected to move in and out of the project area. Green sturgeon are extremely rare in the project area and unlikely to be present. If present in the project area and subject to increased underwater noise once, it is unlikely that they would return within a number of hours, days, or even weeks during the same construction activity. However, the current NMFS impact assessment method, which is implemented with their calculator tool, assumes that fish are stationary throughout any pile-driving activities and that they do not transit through the project area or even move to different locations within the threshold zones. This results in an overestimate of the potential impact to migratory fishes when considering the cSEL metric. Though specific research has not been conducted for green sturgeon, peer-reviewed research

for pallid sturgeon (*Scaphirhynchus albus*), lake sturgeon (*Acipenser fulvescens*), shortnose sturgeon (*A. brevirostrum*), and Atlantic sturgeon (*A. oxyrinchus*), all within the same genus or family as green sturgeon and with similar physiologies, suggests that fishes in the sturgeon family do not accumulate physiological injury that could result in mortality at a cSEL of 208 dB, and that sturgeon are likely to avoid impact pile driving and would not remain in an area long enough to experience physiological effects. This provides empirical evidence that the cSEL metric of 187 dB is not a scientifically supported criterion for assessing the potential for pile-driving noise to impact sturgeon, and in fact, sturgeon are not likely to accumulate injury from cumulative exposure until a cSEL of 207 dB is reached (Halvorsen et al. 2012; Jacobs et al. 2016; Krebs et al. 2016; Popper et al. 2016). Furthermore, green sturgeon have a physostomous (open) swim bladder that has been empirically shown to result in fewer effects from noise exposure than other fishes with a physoclistous (closed) swim bladder, also supporting that the cSEL criterion is overly conservative when applied to sturgeon (Halvorsen et al. 2012).

Though green sturgeon may be present in the project area within the area that injury could theoretically occur due to cumulative exposure to underwater sound above the 187 dB cSEL regulatory threshold, the threshold for sturgeon is overly conservative and not scientifically supported. It is also extremely unlikely that sturgeon would remain in the project area throughout a full period of impact pile driving because sturgeon typically behaviorally respond to pile driving by exiting the area. The best available science regarding sturgeon physiological response to underwater noise and behavioral response to pile driving suggest that the cSEL metric is overly conservative. A reasonable worst-case scenario of impact pile driving for the proposed project would not cause negative impacts, injury, or mortality to green sturgeon.

Long-term impacts on special-status aquatic species and their associated critical habitats associated with construction of the proposed project would occur from an increase in shading from overwater structures associated with installation of the dock and berthing system; loss of riparian vegetation along the shoreline where the structures would be installed; and loss of benthic habitat from pile installation. The net increase of 5,089 sf of overwater structures may increase the amount of predation on juvenile salmonids or other native species should they occur in the project site. Riparian vegetation when present in a wide buffer along the shoreline disperses light to reduce water temperature; provides overhanging vegetation, roots, and large wood to increase habitat complexity; and recruits forage material to support juvenile fish forage and rearing. The proposed project would remove vegetation along approximately 700 feet of the shoreline, resulting in 7,000 sf of impacted shoreline habitat. The placement of the piles and shoreline protection would remove approximately 153 net sf of benthic habitat; however, the piles would provide substrate for epifauna including encrusting organisms that provide forage material for rearing and migrating fish. Due to the existing degraded condition of the shoreline, aquatic, and benthic habitat, permanent adverse impacts would be minimal and likely limited to the loss of marginal aquatic habitat within the immediate footprint

of the proposed structure but do represent a loss of function in an area with minimal functional habitat.

The approximately 10-foot-wide band of native and non-native trees, shrubs, and herbaceous vegetation that occurs along the waterline and the top of bank in the location of the proposed Berth 8 provides potential habitat for listed terrestrial species. In addition, the project area is within the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America. There are mature trees on site that have the potential to serve as roosting or nesting sites, and some birds may forage in the existing vegetation on site. Several of the existing trees would be removed to construct the proposed project, which could remove nesting and roosting sites. Removal of approximately 7,000 sf of vegetation along the shoreline of the project site could potentially significant impact listed terrestrial species. The vegetation contains elderberry shrubs which are the host plant for VELB. Mature trees along the shoreline provide suitable nesting habitat for listed birds and raptors. If present, nesting Swainson's hawks or white-tailed kites may be disturbed during construction. Features away from the project site may have habitat value to special-status species (e.g., nearby trees and the San Joaquin River), but these features would not be directly affected by the proposed project. Site grading, excavation, and construction activities associated with construction could also temporarily affect or displace potential bird nesting activities on site.

The following mitigation measure would be implemented to minimize the potential for impacts to listed terrestrial species:

MM-BIO-4: Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB. *To avoid impacts on potentially present special-status species, BWC will apply to obtain coverage under the SJMSCP. The SJMSCP is a voluntary program that allows for participants to be issued streamlined ESA and CESA approvals and to mitigate for habitat impacts to certain special-status species through paying establishing mitigation fees. BWC will submit an application for coverage to San Joaquin Council of Governments (SJCOG), the agency that administers the SJMSCP, within 60 days of project construction. SJCOG will review the proposed project, prepare a staff report, and submit the report to the SJMSCP Habitat Technical Advisory Committee, which determines whether the proposed project will be covered under the SJMSCP. Assuming the proposed project is approved for coverage, a SJCOG biologist will conduct a site visit to determine which incidental take minimization measures (ITMMs) included in the SJMSCP are applicable to the project. SJCOG will then execute a final summary of applicable ITMMs for the proposed project. ITMMs will include surveys, monitoring, and applying temporary construction buffers, if determined appropriate by SJCOG. BWC will implement all*

required ITMMs identified by the SJCOG. Ground disturbance will not occur until the ITMMs have been satisfied.

If BWC is unable to obtain coverage under the SJMSCP, BWC will implement alternatives to SJMSCP coverage that are consistent with CDFW's standard requirements, including surveys and avoidance measures. If equipment staging, site preparation, or other project-related construction work is scheduled to occur between February 1 and September 15 (the nesting season of protected raptors and other avian species), a qualified biologist will conduct a pre-construction survey of the project area for active nests within 7 days prior to starting project construction. The minimum survey area will be 250 feet for passerines, 500 feet for small raptors, and 1,000 feet for larger raptors. Surveys will be conducted during periods of peak activity (early morning or dusk) and be of sufficient duration to observe movement patterns. If a lapse in project-related work of 15 days or longer occurs, another survey will be performed before construction is reinitiated. If any active bird nests are found, a buffer around the nest will be established by the biologist in coordination with CDFW. The buffer area will be fenced off from work activities and avoided until the young have fledged, as determined by the biologist. The biologist will monitor the active nest until the young have fledged, for at least 2 hours per day when project activities are occurring to observe the behavior of the nesting birds. If the birds show signs of disruption to nesting activities (e.g., defensive flights or vocalizations directed toward project personnel, standing up from a brooding position, or flying away from the nest), the buffers will be expanded by the biologist until no further interruptions to nesting behavior are detectable. Specifically, the following surveys and avoidance measures will be implemented:

- For nesting Swainson's hawks, if construction activities occur between March 15 and September 1, preconstruction surveys of suitable habitat will be conducted and will generally follow the Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley (Swainson's Hawk Technical Advisory Committee 2000). At a minimum, two surveys will be conducted. Prior to the start of the surveys, CDFW will be contacted to discuss potential changes to the survey methodology based on site-specific conditions, including establishment of buffer distances.
- If an active Swainson's hawk nest is found within the construction impact area and buffer zone during the breeding season, then no construction activities will be permitted within these buffers. These buffers may be reduced only by a qualified biologist, who may consult with CDFW to make sure a reduced buffer will not harm the nest. If a buffer is reduced, then a qualified wildlife biologist will be retained to monitor the nest and the behavior of the nesting birds. If the biologist determines that the proposed Project has potential to disturb nesting activities, then construction within the buffer will be suspended until the young have fledged, as determined by a qualified biologist. CDFW will be notified if construction causes a nest to fail.

- For nesting white-tailed kites, preconstruction surveys will investigate all potential nesting trees on the project site (especially treetops 15 to 59 feet above the ground in deciduous trees) during the nesting season (February 15 to September 15) whenever white-tailed kites are noted on site or within the vicinity of the site.
- A setback of 100 feet from nesting areas (if identified) will be established and maintained for the period encompassing nest building and continuing until fledglings leave the nests. Setbacks will be marked by brightly colored temporary fencing.
- For VELB, alternatives to SJMSCP coverage include the following for areas with elderberry bushes identified in pre-construction surveys:
 - For elderberry shrubs present on the project site, a setback of 20 feet from the dripline of each elderberry bush will be established.
 - Brightly colored flags or fencing will be placed surrounding elderberry shrubs throughout the construction process.
 - For all shrubs without evidence of VELB exit holes which cannot be retained on the project site as described in the previous two bullets, the Port will count all stems of 1-inch or greater diameter at ground level during preconstruction surveys. Compensation for removal of these stems will be provided by the Port in coordination with the U.S. Fish and Wildlife Service (USFWS) and CDFW.
 - For all shrubs with evidence of VELB exit holes, the Port would undertake transplanting of elderberry shrubs displaying evidence of VELB occupation to VELB mitigation sites during the dormant period for elderberry shrubs (November 1 to February 15). For elderberry shrubs displaying evidence of VELB occupation that cannot be transplanted, compensation for removal of shrubs will be provided by the Port in coordination with USFWS.

Construction has the potential to result in accidental spills, if improperly managed. Various contaminants, such as fuel oils, grease, and other petroleum products used in construction and operational activities, could be introduced into nearby waters (e.g., the San Joaquin River) through surface runoff. Contaminants may be toxic to aquatic and terrestrial wildlife. Because the proposed project would include less than 1 acre of ground disturbance, BWC would not be required to obtain an NPDES Construction Stormwater General Permit; however, general BMPs and runoff prevention measures should be implemented to prevent impacts to water quality.

Operation of the proposed project would involve offloading renewable diesel and biodiesel and piping it through fully enclosed pipelines connecting the dock to existing BWC terminals at the Port. Operation of the dock at this location would not result in additional vessel calls or product throughput beyond levels previously evaluated in prior CEQA documents. Although vessel operations would be slightly west of existing vessel operations at Berth 7/8, they would otherwise be consistent with existing conditions on the eastern side of the slip in which the proposed project would be located. As such, operation of the proposed project would not be expected to generate

significant levels of noise above existing conditions or any other effects that would adversely impact special-status species or habitats.

The following mitigation measures would be implemented to reduce potential construction and operational impacts to off-site sensitive habitats and species from spills or polluted runoff:

MM-BIO-5: Stormwater Management Controls. *Standard construction best management practices—including but not limited to use of storm drain inlet filters, erosion control (e.g., straw wattles), and maintenance of spill control kits—will be implemented during construction to control or respond to spills or other potential sources of construction-related pollution.*

MM-BIO-6: Soil Management Plan (SMP) Implementation. *Operation of the proposed facility will include implementation of the facility SMP, which includes plans for leak prevention, control, and management. As a component of the SMP, BWC will provide annual California Environmental Reporting System submittals detailing quantities and management of potentially hazardous materials at the proposed facility.*

Mitigation measures MM-BIO-1 (Conduct In-Water Construction During the Approved In-Water Work Window), MM-BIO-2 (Employ “Soft-Start” Techniques and Conduct Underwater Monitoring During Impact Pile Driving), and MM-BIO-4 (Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB) would reduce the potential exposure of special-status species to construction impacts to the extent feasible and mitigate for the removal of elderberry shrubs associated with vegetation clearing required as part of the proposed project. Regarding construction during the established in-water construction window (MM-BIO-1), delta smelt and longfin smelt are not anticipated to be present in the project area and would therefore not be affected by impact pile driving noise during this period. Salmonids are similarly unlikely to be present during the construction window. Although some steelhead may migrate early, their likelihood of occurring in the project area during the in-water construction window remains very low and would be confined to the latter portion of the construction window. There is a small potential for green sturgeon to be present in the project area during and outside the construction window, and there is very low risk for green sturgeon injury from pile driving. The use of soft-start techniques during all pile driving (MM-BIO-2) would further reduce the potential for fish to be present and subject to physical injury within the relatively small area of construction impacts anticipated for the proposed project. Implementation of MM-BIO-3 (Purchase Aquatic Habitat Credits) would offset the potential temporary impacts to green sturgeon that could occur within 74 meters of the pile driving activity should they be present there at that time. Implementation of MM-BIO-4 (Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB) would reduce the potential exposure of terrestrial special-status species to construction impacts by completing surveys and establishing buffer zones to ensure impacts are avoided, as well as providing habitat mitigation through paying SJMSCP fees. Implementation of MM-BIO-5 (Stormwater Management Controls) and

MM-BIO-6 (SMP Implementation) would reduce the potential for pollutant inputs to the waterbody that could adversely impact special-status aquatic species and water quality by implementing and maintaining BMPs during construction.

With implementation of mitigation measures MM-BIO-1 through MM-BIO-6, impacts to special-status species would be reduced to less than significant.

B: Would this 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?

Less-than-Significant Impact After Mitigation. The proposed project includes construction on the shoreline and within waters connected to the San Joaquin River. This area contains a band of riparian vegetation consisting of native and non-native trees, shrubs, and herbaceous plants. These habitats could potentially support listed aquatic and terrestrial species and nesting birds. Approximately 7,000 sf would be graded along the shoreline during site preparation.

Permanent riparian habitat impacts would occur from removal of riparian vegetation along the shoreline where the new dock would be installed. The proposed project would remove vegetation along approximately 7,000 feet of the shoreline at the project site. Riparian vegetation to be removed includes native species, including five valley oak trees (including a 21-inch dbh tree, 18-inch dbh tree, 16-inch dbh tree, 15-inch dbh tree, and 6-inch dbh tree), two black walnut trees (including a 35-inch dbh tree and 8-inch dbh tree), and between 50 and 60 stems of elderberry greater than 1 inch in diameter. Other non-native vegetation to be removed includes approximately 30 tree of heaven trees between 4 and 20-inch dbh, multiple stems of giant reed greater than 1 inch in diameter over an approximately 2,700 sf or 0.62 acre area, a 30-inch dbh fan palm tree, and a 17-inch dbh box elder tree. Tree replanting onsite in the project area is not feasible due to Port security requirements associated with marine terminals.

Due to the existing degraded condition of the shoreline, permanent adverse impacts would be minimal and limited to the loss of marginal riparian habitat within the immediate footprint of the proposed project, but do represent a loss of function in an area with minimal functional habitat. The proposed project's riparian habitat impacts associated with removal of native tree and shrub species could constitute a potentially significant impact.

Implementation of MM-BIO-4 (Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB) would address and mitigate for the effects on elderberry. Additionally, the following mitigation measure would be implemented to compensate for the loss of native riparian vegetation associated with the proposed project:

MM-BIO-7: Offsite Riparian Revegetation Program. *To compensate for removal of riparian vegetation at the project site, the Port will coordinate with San Joaquin County Parks to replant valley oak trees at the Oak Grove Regional Park (located at 4520 W Eight Mile Road in Stockton) where valley oak savanna occurs over approximately 170 acres. The park accepts donations of support for native tree plantings onsite to enhance and restore habitat. Using a replacement ratio of three to one for all native trees (excluding elderberry shrubs which will be mitigated for through the SJMSCP) removed at the project site, a total of 24 trees will be funded for planting within the regional park. The 24 trees to be replanted will be at least 15-gallon container stock. These trees will be contiguous with existing habitat and preserved in perpetuity. Coordination with San Joaquin County Parks is necessary to finalize location and funding details to facilitate oak tree replanting mitigation.*

Through implementing MM-BIO-7, all native trees removed from the project site would be replaced at the Oak Grove Regional Park at a standard replacement ratio (3:1). By enhancing the habitat at Oak Grove Regional Park, new age class trees would be added to older age class trees already existing at the park, further supporting natural regeneration. Replanting the trees in such an environmental would result in increased environmental benefits than onsite replanting would if that was an option. Removal of elderberry shrubs as part of the proposed project would be mitigated through implementation of MM-BIO-4 in coordination with the SJCOG. Removal of non-native invasive riparian species present at the project site, including tree of heaven, giant reed, Himalayan blackberry, and pampas grass, would result in beneficial effects from eliminating propagule sources from the riparian area, preventing the further spread of invasive species. Accordingly, with implementation of mitigation measures MM-BIO-4 through MM-BIO-7, impacts to riparian habitats would be considered less than significant.

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

Less-than-Significant Impact. The proposed project would result in permanent fill and shading within the San Joaquin River, which qualifies as waters of the United States and waters of the State of California. Temporary impacts to the San Joaquin River would also occur during construction, as detailed under checklist Question A. No jurisdictional wetlands occur in the project site. Approximately 500 cy of material above the MHW would be excavated along the bank to accommodate construction of the new dock and associated infrastructure. An additional 2,500 cy of soil, vegetation, and riprap would be removed and replaced to protect the existing shoreline. Impacts to waters would be limited to that necessary to construct the proposed project and would be restored to pre-construction conditions to the extent feasible. The proposed project would result in a negligible increase in the amount of fill that is within the San Joaquin River as compared to existing conditions. Net fill below the MHW line would be increased by 185 cy over 153 sf as a result of the proposed project.

Implementation of MM-BIO-3 (Purchase Aquatic Habitat Credits) would offset the nominal fill caused by the proposed project.

Based on this analysis, the proposed project would result in less than significant impacts to jurisdictional waters.

D: Would this 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?

Less-than-Significant Impact After Mitigation. Aquatic species potentially present in the action area may experience impacts from construction-related water quality impacts (e.g., turbidity, sediment suspension, pollutant dispersion, or accidental spills), underwater noise, impediment of localized movement, loss of benthic habitat, loss of riparian habitat, and a shift in vessel traffic from the east side to the west side of the slip. Proposed project construction, primarily pile driving, may impede localized movement or migration of special-status fish (if present). Passage within the San Joaquin River north of the project area would remain unaffected, and fish would therefore remain able to move up- and downstream in the river. Most federally listed fish species are unlikely to be present in the project area during construction; therefore, impacts to movement and migration to those species are not anticipated. Green sturgeon, however, have a low to moderate potential to occur; therefore, pile driving may temporarily impede their movement or migration. This would include displacement from within the project area during pile driving. There is also a very small potential for early migrating steelhead to be present, although such presence would be confined to the latter portion of the in-water construction window.

Although the project area is along the Pacific Flyway, an established air route of waterfowl and other birds migrating between wintering grounds in Central and South America and nesting grounds in Pacific Coast states and provinces of North America, the developed nature of the surrounding area likely preclude migratory bird species from using the project site as a stopover during their migration.

Implementation of MM-BIO-1 (Conduct In-Water Construction During the Approved In-Water Work Window), MM-BIO-2 (Employ “Soft-Start” Techniques and Conduct Underwater Monitoring During Impact Pile Driving), and MM-BIO-4 (Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB) would reduce the proposed project’s potential impacts to wildlife movement to less than significant.

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

Less-than-Significant Impact After Mitigation. According to the Stockton Heritage Tree Ordinance (Section 16.240.020), a Heritage Tree is any valley oak, coast live oak (*Quercus agrifolia*), and interior

live oak (*Quercus wislizenii*) with a trunk diameter of 16 inches or more, measured at 24 inches above actual grade, located on public or private property within the limits of the City. For oak trees with multiple trunks, the combined total trunk diameter is used for all trunks measuring six inches or greater measured at 24 inches above actual grade. Any heritage tree that is removed is required to be replaced at a three to one ratio at the discretion of the Community Development Director (Director) (City 2023a). Five valley oak trees within the proposed project footprint are anticipated to be removed or trimmed during site preparation. These trees may be considered Heritage Trees by the City and subject to replacement as required by the ordinance.

The Port would work with the City of Stockton to ensure that MM-BIO-7 meets the requirements for mitigating in accordance with the Stockton Heritage Tree Ordinance. Per MM-BIO-7, 24 valley oak trees would be replanted and only 15 valley oak trees would be required to be replanted to comply with the Ordinance. There are no other local policies or ordinances for protecting biological resources that are applicable to the project site. Therefore, with implementation of MM-BIO-7, the proposed project would not conflict with local policies or ordinances protecting biological resources.

F: Would this 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?

Less-than-Significant Impact After Mitigation. The SJMSCP is the only conservation plan in the project area. As discussed under checklist question A, the riparian vegetation may provide suitable nesting and roosting habitat for Swainson's hawk, white-tailed kite, song sparrow, tricolored blackbird (*Agelaius tricolor*), yellow-headed blackbird, and other MBTA-protected bird species. VELB may be present in elderberry bushes observed in the vegetated area. Construction activities associated with the proposed project would directly remove trees and elderberry plants. Because the proposed project has the potential to temporarily adversely affect special-status species covered by the SJMSCP, it has the potential to conflict with biological resource goals and policies from the SJMSCP (San Joaquin County 2000).

As outlined in MM-BIO-4 (Obtain Coverage Under the SJMSCP or Implement Protective Measures for Nesting Birds and VELB), the proposed project would seek coverage and pay all required mitigation fees required under the SJMSCP. With implementation of MM-BIO-4, the proposed project would directly or substantively comply with the requirements of the SJMSCP and impacts would be less than significant.

3.3.5 Cultural Resources

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	☐	☐	☐	☒
b.	Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c.	Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

3.3.5.1 Affected Environment

The Delta has probably been occupied since the late Pleistocene and early Holocene, beginning approximately 11,000 years ago. However, alluvial processes have likely erased most early archaeological sites. The earliest documented sites in the region date to approximately 9,000 years ago and are thought to have been mobile communities focused on hunting and fishing (Chartkoff and Chartkoff 1984; Milliken et al. 2007). Warm and dry conditions in the mid-Holocene (approximately 7,000 to 3,000 years ago) are associated with a change in subsistence focus toward plant gathering; millingstones are common during this period, though communities are still thought to have been fairly mobile (Fagan 2003). Later in this period, a trend toward sedentary communities and economic diversification emerges. The late Holocene is characterized by a continued increase in economic diversity and sociopolitical complexity, with emphasis on long-distance trade (Chartkoff and Chartkoff 1984; Moratto 1984). Cultures from this era correspond with ethnographically described cultures.

The project area is in the traditional territory of the Yokuts Tribe and may also have been used or settled by Plains Miwok and Wintun peoples. Yokuts communities were organized into multiple Tribes united by a common language (Golla 2007). They lived throughout the San Joaquin Valley and relied on the region's rich fishing and hunting resources (Kroeber 1976). Native American communities were severely impacted by European contact (Milliken 1995). However, Yokuts people have endured and are now members of several federally recognized Tribes.

The earliest European contact in the region dates to the late 1500s and was characterized by the establishment of Spanish missions and pueblos. Trappers from the Hudson's Bay Company also settled in the area that would become Stockton in the early 1800s, founding what is still known as French Camp (Wood 1973). The new Mexican government took control of California in 1822 and

began to distribute lands to private owners. In 1842, German immigrant Charles Weber passed through what would become Stockton; he settled there and established a store in 1847 (Wood 1973).

The gold rush that began in 1848 spurred a boom in the Stockton area, and the City incorporated in 1850. Hundreds of vessels, from paddlewheelers to barks, plied the area serving miners. The Swamp Land Act of 1850 (also known as the Overflow Land Act) allowed for the transfer of wetlands from federal to state ownership, which began the process of reclaiming lands through drainage, dredging, levee construction, and fill placement (Garone 2011).

Prior to historic landmaking, the current Port vicinity would have been seasonally inundated (it is mapped as historically “tidal freshwater emergent wetlands” [SFEI-ASC 2018]). There is evidence of industrial and land development in the vicinity since at least the early 1900s, which intensified through the mid to late twentieth century. By 1913, levees had been constructed that channelized the San Joaquin River and allowed for landmaking through filling of adjacent uplands.

Dredging to create the Stockton DWSC began in 1930; the original navigational depth of 15 feet was deepened to 26 feet and the course was straightened. A rail line was constructed in 1932 through the area that would become the East Complex to Rough and Ready Island (now known as the Belt Line rail). The Port was founded immediately afterward, in 1933. The waterway and berths in the project area were constructed at that time. The original Port area was the northern and western parts of what is now the East Complex.

The Port became part of the Stockton Ordinance Depot during World War II. After the war, the military began transferring parcels back to the Port, a process that was complete on the East Complex by 1956 (CMM 2016). The transfer included lands on the south and east sides of the East Complex that were previously agricultural and not part of the Port before the war. Industrial development intensified through the mid to late twentieth century.

The U.S. Navy purchased nearly the entirety of Rough and Ready Island in 1944 to serve the expanding needs of the Pacific theater in World War II. The property became the Naval Supply Annex Stockton. Between 1943 and 1946, the island’s northern shoreline was straightened to its current configuration. This change resulted from construction of the Stockton DWSC, which was dredged to a depth of 30 feet.

Initial Naval development included expanding the Belt Line Railway and building a street grid out from the existing main road (County Road 403, now Fyffe Avenue). The majority of the base, including warehouses, housing, medical facilities, and utilities infrastructure, was constructed between August 1944 and June 1945. Prisoners of war were used as labor in constructing the base from spring 1945 onward and were said to have laid the drainage ditch system (Uribe & Associates 1996). Less than two months after the Naval Supply Annex Stockton was commissioned,

the war ended on August 25, 1945. Immediately post-war, the facility continued to operate, primarily processing returning equipment and supplies. Activity declined at the facility thereafter, with two exceptions: operations during the Korean War in the early 1950s, and the operation of the Naval Communications Station after 1960.

The Department of Defense property on Rough and Ready Island was approved for transfer to the Port in 1996 and became known as the West Complex as property was conveyed to the Port between approximately 2000 and 2010. The remaining buildings and infrastructure of the Naval Supply Annex Stockton and the Naval Communications Station form the Naval Supply Annex Stockton National Historic District, which has been determined eligible for listing in the National Register of Historic Places.

Findings from geotechnical studies at various locations around the Port are consistent with the area's environmental and cultural history. On the East Complex at Dock 2, geotechnical investigations revealed 5.5 to 10 feet of artificial fill (Kleinfelder 2019).

According to a search of the California Historical Resources Information System (CHRIS) conducted in April 2023, there are no cultural resources recorded in the project area. There is one resource within 1 mile, a historic debris scatter approximately 1 mile southeast of the project area (P-39-5238). Four cultural resources surveys have been conducted that include the project area; none located cultural resources in or near the project area (USACE 1980; Shapiro and Shapiro 1997; URS 2008a, 2008b).

Compliance with the NHPA Section 106 is required for the USACE to issue a permit for the proposed project; a Section 106 consultation with the SHPO is expected as part of the proposed project's USACE permitting process.

3.3.5.2 Impact Evaluation

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

No Impact. The project site does not contain any structures or historical resources. There are no structures in the upland area that would be modified or demolished. There are pilings and a wooden structure in-water that would be removed, but aerial photographs show that these are remnants of structures constructed in the 1980s and 1990s and are less than 45 years old. No changes to historical resources are expected. Accordingly, there would be no impact.

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

Less-than-Significant Impact After Mitigation. No archaeological resources have been identified on the project site, and there is a low potential to encounter archaeological resources, as the soils are

previously disturbed and heavily filled. However, because the proposed project includes ground disturbance and excavation of on-site soils during site preparation, archaeological materials could be disturbed during construction. The disturbance, or damage, of previously unidentified historical or archaeological resources would be a potentially significant impact.

The following mitigation measures would be implemented:

MM-CUL-1: Inadvertent Discovery Provisions. *In the event that any artifact, or an unusual amount of bone, shell, or non-native stone, is encountered during construction, work would be immediately stopped and relocated to another area. The contractor would stop construction within 10 meters (30 feet) of the exposure of these finds until a qualified archaeologist can be retained by the Port to evaluate the find (see 36 CFR 800.11.1 and 14 CCR 15064.5[ff]). Examples of such cultural materials might include concentrations of ground stone tools such as mortars, bowls, pestles, and manos; chipped-stone tools such as projectile points or choppers; flakes of stone not consistent with the immediate geology, such as obsidian or fused shale; a historic trash pit containing bottles and/or ceramics; or structural remains.*

The Port would also follow "Mitigation Measures for Inadvertent Discoveries" provided by the Wilton Rancheria Tribe. Native American Tribes and the Office of Historic Preservation would be notified of the find. If the resources are found to be significant, they would be avoided or if avoidance is not possible, mitigated. Mitigation would be developed in coordination with Native American Tribes and could include data recovery and interpretation of results for the public.

MM-CUL-2: Pre-Construction Training and Tribal Monitoring. *The Wilton Rancheria Tribe will conduct a preconstruction training for the construction team to assist in identifying inadvertent discoveries and provide Tribal monitoring during upland grading. The training and monitoring will be described in a Monitoring Plan developed by the Port and shared with Tribes and the State Historic Preservation Officer.*

Implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring) would require worker awareness training, conducting Tribal monitoring during upland grading, halting work if an artifact is encountered, and evaluating the find in consultation with Native American Tribes and the SHPO. If the resource is determined to be a significant historical or unique archaeological resource, additional measures would be taken to minimize or avoid significant effects, which may include (but are not limited to): avoidance; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. With implementation of MM-CUL-1 and MM-CUL-2, impacts would be considered less than significant.

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

Less-than-Significant Impact After Mitigation. No indication of human remains or other associated archaeological materials have been identified on the project site. Although the potential is low, native sediments may contain a previously unrecorded archaeological site or human remains that could be Tribal cultural resources. The disturbance, or damage, of previously unidentified historical or archaeological resources would be a potentially significant impact.

Implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring) would require worker awareness training, conducting Tribal monitoring during upland grading, halting work if human remains are encountered, and evaluating the find in consultation with Native American Tribes and the SHPO. If human remains are encountered during construction, the proposed project would comply with state and federal requirements regarding disposition of human remains and consultation with Native American Tribes and agencies. With implementation of MM-CUL-1 and MM-CUL-2, impacts would be considered less than significant.

3.3.6 Energy

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐
b.	Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☒	☐	☐

3.3.6.1 Affected Environment

This section analyzes the energy implications of the proposed project, focusing on the following energy resources: electricity, and transportation-related energy (fuels and electricity) used during construction and operations. Use of natural gas is not proposed as part of the proposed project.

Due to the size of its population, California's energy consumption ranks as the second highest in the United States, with an estimated total consumption of 7,802 trillion British thermal units (Btu) in 2020. The state's energy consumption per capita, however, ranks as the fourth lowest in the country because of its mild climate and policies related to energy efficiency (USEIA 2022). California ranks as 11th in the country as a producer of energy, producing 2,190 trillion Btu in 2020. In 2021, California was the highest producer of electricity from solar, geothermal, and biomass energy in the country and the fourth highest producer of hydroelectric power generation—down from second in 2019, due in part to drought and increased water demand (USEIA 2022). California was the seventh-largest producer of crude oil among the 50 states, and, as of January 2021, it ranked third in crude oil refining capacity (USEIA 2022).

Electricity. Electricity demand, usage, and production in the state is projected to increase in the near future due to population growth and other factors, including climate change (CEC 2022a). The latest data from the California Energy Commission (CEC) shows more than 37% of the state's electricity came from Renewables Portfolio Standard (RPS)-eligible sources such as solar and wind in 2021, an increase of 2.7% compared to 2020. In total, 59% of the state's retail electricity sales came from non-fossil fuel sources, including RPS sources, hydroelectric generation, and nuclear (CEC 2023a). PG&E is the main utility provider for San Joaquin County. Utility-provided energy demand in San Joaquin County has steadily increased and is experiencing the fastest growing customer demand in PG&E's Stockton Division due to new residential development and growth in the agriculture and industrial sectors (PG&E 2022). In 2021, total electricity consumption in the County was estimated at 5,608,060 gigawatt hours (CEC 2023b). PG&E has a variety of renewable and non-renewable sources.

Transportation. Transportation accounts for the largest share of the state's energy consumption and accounts for two-fifths of the state's total end-use sector energy consumption. The industrial sector is the second-largest energy consumer in California and accounts for almost one-fourth of state end-use energy consumption. The commercial and the residential sectors each account for slightly less than one-fifth of the state's total end-use sector energy consumption (USEIA 2022).

Transportation dominates California's energy consumption profile. In 2020, California consumed 12.5 billion gallons of gasoline and 3 billion gallons of diesel fuel (California Department of Tax and Fee Administration, 2022a and 2022b). Petroleum-based fuels currently account for approximately 89% of California's transportation fuel use (CEC 2020a). According to fuel sales data from the CEC, San Joaquin County's on-road transportation sources consumed approximately 321 million gallons of gasoline and 97 million gallons of diesel fuel in 2021 (CEC 2022b).

3.3.6.2 Regulatory Setting

Energy in California is regulated by a series of bills, regulations, and executive orders aimed at decreasing total energy demand and increasing the availability and production of renewable energy for all energy needs.

California's RPS program was established in 2002 by Senate Bill (SB) 1078 with the initial requirement that 20% of electricity retail sales must be served by renewable resources by 2017. The Clean Energy and Pollution Reduction Act (SB 350), enacted in 2015, increased California's renewable electricity procurement goal from 33% by 2020 to 50% by 2030. In addition, SB 350 requires California to double statewide energy efficiency savings in electricity and natural gas end use by 2030 and authorizes utilities to undertake transportation electrification. SB 100, enacted in 2018, further accelerates the state's RPS to 60% by 2030 and will require that the next 40% come from zero-carbon sources of electricity by 2045. SB 10 requires that 100% of all electricity in California must be obtained from renewable and zero-carbon (such as solar and wind energy) resources by December 31, 2045. SB 100 also requires the CEC, California Public Utilities Commission (CPUC), and CARB to use programs under existing laws to achieve 100% clean electricity and issue a joint policy report on SB 100 by 2021 and every 4 years thereafter.

The California Green Building Standards Code (Part 11, Title 24, CCR), also known as CalGREEN is the first-in-the-nation mandatory green building standards code. CalGREEN was developed in response to AB 32, which established a comprehensive program of cost-effective reductions of GHGs to 1990 levels by 2020. CalGREEN includes regulations for energy efficiency, water efficiency and conservation, material conservation and resource efficiency, environmental quality, and mandatory provisions for commercial, residential, and public school buildings. The following CalGREEN mandatory measure is applicable to the proposed project:

- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste per CalGREEN 5.408.1

California's LCFS Program requires a statewide reduction in the carbon intensity of transportation fuels that are sold, supplied, or offered for sale through 2030 (US DOE 2023). The fuels regulated by the LCFS Program include natural gas, electricity, hydrogen, gasoline mixed with 10% corn-derived ethanol or higher, biomass-based diesel, and propane. Credit values are calculated accounting for the carbon intensity of the mode of production compared to the fuel it would replace; therefore, assigned LCFS credits represent a net reduction in CO₂ from fuel generated or dispensed in the state. Biodiesel and renewable diesel are eligible for LCFS credits (CARB 2023).

The 2016 San Joaquin County General Plan includes the following energy conservation and efficiency measures (San Joaquin County 2016):

- Goal NCR-5 of the plan is to "increase energy independence through the use of renewable energy sources and improved energy conservation and efficiency."
- Policy NCR-5.2 of the plan specifies that for alternative energy, the "County shall encourage residents, businesses, and energy providers to develop and use alternative, renewable energy sources, including but not limited to, biomass, solar, wind, and geothermal."

Local policies pertaining to energy include Policy LU-5.4 of the 2040 General Plan (City 2018a):

- **Policy LU-5.4:** Require water and energy conservation and efficiency in both new construction and retrofits.
 - Action LU-5.4B: Require all new development, including major rehabilitation, renovation, and redevelopment, to incorporate feasible and appropriate energy conservation and green building practices, such as building orientation and shading, landscaping, and the use of active and passive solar heating and water systems.

The Port has developed and implemented a *Renewable Portfolio Standard Procurement Plan* (Port 2016). In the plan's most recent iteration, the Port determined the most efficient and cost-effective approach to meeting these standards is through continued purchase of sufficient State-approved renewable energy products from the active California market. For the compliance period from 2021 through 2030, the Port would determine and implement the most cost-effective options for complying with newly codified laws (Port 2016). Other steps that the Port is undertaking to improve energy efficiencies includes purchasing zero-emission electric vehicles, replacing diesel-powered equipment with cleaner electric models, and completing an energy audit to identify areas where energy consumption can be reduced (Port 2022a). The Port also offers its tenants financial incentives to install high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction beyond baseline energy performance, which include State-mandated codes, federal-mandated codes, industry-accepted performance standards, or other baseline energy performance standards (Port 2020).

3.3.6.3 Impact Evaluation

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

Less-than-Significant Impact. Constructing the proposed project would use equipment that consumes fossil fuels (i.e., diesel [primary fuel]) and gasoline) and electricity. Table 2 in Section 2.4.5 summarizes the construction equipment that would be used during construction. Fuel consumption during construction would be temporary (approximately 8 months) and construction would not require any unusual or excessive equipment or practices compared to projects of similar type and size. The Port would also offer BWC financial incentives to install high-efficiency equipment during proposed project construction as required by the *Renewable Portfolio Standard Procurement Plan*.

During operations, the dock would require energy (electricity) to power lights and equipment, including computers, machineries, and heating and cooling units. The proposed project would obtain energy from local providers by connecting to existing Port power infrastructure, including electricity from PG&E. As noted in Section 2.4.4, the proposed project would generate a daily demand of up to 350 kWh, or up to 127,000 kWhs per year. In contrast, in 2021, the annual San Joaquin County non-residential use was 3,483 million kWh of electricity (CEC 2023a); the proposed project would represent a fraction of total use of electricity. In addition, to comply with the *Renewable Portfolio Standard Procurement Plan*, the Port has committed to purchasing State-approved renewable energy credits (RECs) from the active California market. As the terminal would connect to the existing power grid at the Port, a portion of electricity would be generated by RECs. Therefore, the impact from the consumption of energy resources would be less than significant.

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

Less-than-Significant Impact After Mitigation. To comply with the *Renewable Portfolio Standard Procurement Plan* (Port 2016), the Port has committed to purchasing State-approved renewable energy from the active California market. Electricity use associated with construction and operation of the dock and berthing system would comply with this plan, as the terminal would connect to the existing power grid at the Port. The Port would also offer BWC financial incentives to install high-efficiency equipment during proposed project construction as required by the *Renewable Portfolio Standard Procurement Plan*.

As a berthing structure, the facility does not meet the square footage thresholds for new buildings under CalGREEN. However, the proposed project would comply with all applicable required measures including recycling and/or salvaging for reuse a minimum of 65% of the nonhazardous construction and demolition waste.

The proposed project complies with San Joaquin County General Plan provisions by providing a MOTEMS-compliant terminal and berthing system to facilitate the delivery of renewable diesel and biodiesel which will increase the availability of renewable energy sources to promote improved energy conservation and efficiency.

Although the proposed project would comply with all required CalGREEN measures, it does not include any specific energy or water conservation and efficiency measures required as part of new construction consistent with Stockton's General Plan. There would be limited potable water use and no irrigation needs at the project site. As noted in checklist question A, the main direct energy use on site would be through use of electricity. MM-AES-1 (Lighting Plan) requires BWC to develop a lighting plan that minimizes lighting needs, which would also reduce electricity use. The mitigation measures described below would also be implemented to further increase energy efficiency on-site (MM-EN-1; Energy Efficiency Measures) or reduce fuel use during construction (MM-EN-2; Construction Truck Idling Reductions):

MM-EN-1: Energy Efficiency Measures. *BWC will incorporate the following measures at a minimum during project design:*

- Install solar panels, where feasible, outside of active renewable diesel and biodiesel handling areas.
- Ensure use of energy-efficient lighting.
- Use ENERGY STAR qualified equipment where available.

MM-EN-2: Construction Truck Idling Reductions. *BWC will require construction contractors to minimize heavy-duty construction idling time to 2 minutes where feasible. Exceptions include vehicles that need to idle to perform work (such as a crane providing hydraulic power to a boom), vehicles being serviced, or vehicles in a queue waiting for work. This requirement will be included as a specification in construction contracts.*

Implementation of MM-AES-1 (Lighting Plan), MM-EN-1 (Energy Efficiency Measures), and MM-EN-2 (Construction Truck Idling Restrictions) would ensure that the proposed project incorporates energy conservation and efficiency measures. With implementation of mitigation, impacts would be considered less than significant.

3.3.7 Geology and Soils

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
	i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
	ii. Strong seismic ground shaking?	☐	☐	☒	☐
	iii. Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
	iv. Landslides?	☐	☒	☐	☐
b.	Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c.	Be located on 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?	☐	☒	☐	☐
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?	☐	☐	☒	☐
e.	Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒
f.	Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

3.3.7.1 Affected Environment

3.3.7.1.1 Soils

U.S. Department of Agriculture Natural Resources Conservation Service (NRCS) soil survey data for the project site indicate that the entire upland area is underlain by Yellowlark gravelly loam with 2% to 5% slopes (NRCS 2022). Yellowlark gravelly loam is typically characterized by gravelly loam layers close to the surface, giving way to gravelly clay, clay loam, and cemented earth (NRCS 2022).

3.3.7.1.2 *Fault Rupture*

Surface fault rupture is defined as slip on a fault plane that has spread to the Earth's surface and caused a rupture or disturbance. Fault rupture almost always follows pre-existing faults, which are zones of weakness. There is one active known fault (defined by the State as faults that show evidence of movement during the past 10,000 years) within 25 miles of the project area: Great Valley 7 (18.4 miles) (USGS 2008). There are numerous other active and potentially active faults farther east and west of the project site (USGS 2008). However, the project site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (CGS 2016, 2021; County 2019a).

3.3.7.1.3 *Ground Shaking*

Ground shaking is the most widespread effect of earthquakes. The estimated likelihood of a magnitude 6.7 or greater earthquake in the greater San Francisco Bay Area before 2044 is 72% (Field and 2014 Working Group on California Earthquake Probabilities 2015). For individual faults in proximity to the project site, forecasted probabilities include 0.17% for the Great Valley 7 fault (18.4 miles from the project site; the closest earthquake fault to the project site) and 4.03% for the Greenville Connected Fault (25.8 miles from the project site; Field and 2014 Working Group on California Earthquake Probabilities 2015). The project site's setback from active earthquake faults would help mitigate impacts related to ground shaking. For other similar industrial sites at the Port in proximity to the project site, the estimated Maximum Considered Earthquake peak ground acceleration adjusted for site class effects was determined to be 0.393g (based on both probabilistic and deterministic seismic ground motion; SEG 2018). Nonetheless, regional seismic activity could cause accelerations severe enough to cause major damage to structures and foundations not designed to resist the forces generated by earthquakes. Underground utility lines are also susceptible where they lack sufficient flexibility to accommodate the seismic ground motion (City 2018a).

3.3.7.1.4 *Liquefaction*

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. Primary factors that trigger liquefaction are moderate to strong ground shaking (seismic source); relatively clean, loose granular soils (primarily poorly graded sands and silty sands); and saturated soil conditions (shallow groundwater). Because of the increasing overburden pressure with depth, liquefaction of granular soils is generally limited to the upper 50 feet of a soil profile. However, liquefaction has occurred in soils other than clean sand. The project site is not within a mapped liquefaction zone per California Geological Survey (CGS) maps (CGS 2021). The Yellowlark gravelly loam that underlies the upland portions of the project site is moderate density (bulk density of approximately 1.49 grams per cubic centimeter [g/cm³], where

1.6 g/cm³ or greater is considered high density). However, the water table of the gravelly loam is only 3.5 feet below ground surface, indicating some potential for liquefaction (NRCS 2022).

3.3.7.1.5 Lateral Spreading

Lateral spreading is a form of liquefaction that results in lateral ground movement during which cohesive soil layers may fracture, subside, rotate, or disintegrate as a result of seismic activity. During an earthquake, lateral spreading usually takes place along weak shear zones that have formed within a liquefiable soil layer. Lateral spreading has generally been observed to take place in the direction of a free face (i.e., retaining wall, slope, and channel) but has also been observed to a lesser extent on ground surfaces with very gentle slopes. As noted, because the uplands of the project site are underlain by soils with moderate density and a relatively high water table, the upland portions of the project site may have some susceptibility to liquefaction and therefore may also be susceptible to lateral spreading. The risk of lateral spreading would be highest in areas with steep slopes and reduced in areas with flat topography, which occurs throughout the project site, except for the shoreline, which has dense vegetation and riprap armoring to provide stability.

3.3.7.1.6 Slope Failure and Slope Stability

Earthquakes can cause significant slope stress, potentially resulting in earthquake-induced landslides. Landslides most commonly occur in areas with steep slopes or within slide-prone geologic units that contain excessive amounts of water. Other factors that affect slope stability include site geology, climate, and human activity. The project site has entirely flat or near-flat topography, except for the shoreline, which has dense vegetation and riprap armoring to provide stability. As such, this area is not likely to be susceptible to seismic-induced slope failure. CGS has not mapped landslide hazard zones in the project area or in its immediate vicinity (City 2018a).

3.3.7.1.7 Expansive Soils

Expansive soils are high in clay content and increase and decrease in volume upon wetting and drying, respectively. The change in volume exerts stress on buildings and other loads placed on these soils. Expansive soils are common throughout California and can cause damage to foundations and slabs unless properly treated during construction. Site preparations and backfill operations associated with subsurface structures can often eliminate the potential for expansion. The project site is mapped as containing Yellowstone gravelly loam, which has low-moderate expansivity (linear extensibility of 3.9% through the soil column; NRCS 2022).

3.3.7.1.8 Subsidence and Settlement

Subsidence involves a sudden sinking or gradual settling and compaction of soil and other surface material with little or no horizontal motion. Land surface subsidence can result from natural and artificial phenomena, including tectonic deformation, consolidation, hydrocompaction, collapse of underground cavities, oxidation of organic-rich soils, rapid sedimentation, and the withdrawal of

groundwater. Expansive soils and materials, including estuarine sediments, organic detritus, or thick organic deposits, are more susceptible to subsidence. Settlement occurs when ground shaking reduces the amount of pressure existing between soil particles, resulting in a reduction of the volume of the soil. Areas are susceptible to differential settlement if they are underlain by compressible sediments such as poorly engineered artificial fill. Differential settlement can damage structures, pipelines, and other subsurface entities. Earthquakes and seismic activity can accelerate and accentuate settlement. The project site is mapped as containing soils with low-moderate susceptibility to expansion or subsidence (NRCS 2022). However, the flat nature of the site reduces the risk of settlement; therefore, the likelihood of earthquake-related settlement is low.

3.3.7.1.9 Erosion

Erosion is the detachment and movement of soil materials through natural processes or human activities. The project site resides within a Mediterranean climate, which is exemplified by moist winters and dry summers. Therefore, during the winter, the area is more prone to water erosion, whereas the area is more prone to wind erosion during the summer. The project site is entirely flat or near-flat and would not be particularly susceptible to erosion. The site does not exhibit evidence of current erosion.

3.3.7.1.10 Paleontology

The proposed project is located in an already disturbed area adjacent to the San Joaquin River. Prior to historic land modifications, the region was characterized by extensive wetlands, with dry land available only on small hills and natural levees (Wagner et al. 1981). The area was a slightly elevated stream terrace with the low-lying Delta to the west and the higher ground of the Central Valley to the east.

The Bureau of Land Management developed a classification system based on the potential for the occurrence of significant paleontological resources in a geologic unit and the associated risk for impacts to the resource (BLM 2007, 2008). The system is summarized as follows.

Any rock material that contains fossils has the potential to yield fossils that are unique or significant to science. However, paleontologists consider that geological formations having the potential to contain vertebrate fossils are more sensitive than those likely to contain only invertebrate fossils. Invertebrate fossils found in marine sediments are usually not considered by paleontologists to be unique resources because the geological contexts in which they are encountered are widespread and fairly predictable. Invertebrate fossil species are usually abundant and well preserved. In contrast, vertebrate fossils are much rarer than invertebrate fossils and are often poorly preserved. Therefore, when found in a complete state, vertebrate fossils are more likely to be a significant resource than are invertebrate fossils. Thus, geologic formations having the potential to contain vertebrate fossils are considered the most sensitive. Vertebrate fossil sites are usually found in non-marine upland

deposits (BLM 2007). The project site is situated on fill materials, atop Holocene alluvium. Alluvial deposits typically contain only invertebrate fossils (if any), and those are out of original depositional context (BLM 2007). Vertebrate fossils are considerably more likely to be significant or unique, as are fossils in their original context (BLM 2008).

3.3.7.2 Impact Evaluation

A: Would the project 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 (refer to Division of Mines and Geology Special Publication 42); 2) strong seismic ground shaking; 3) seismic-related ground failure, including liquefaction; or 4) landslides?

Less-than-Significant Impact After Mitigation. The project area is not located within a currently designated Alquist-Priolo Earthquake Fault Zone (CGS 2016, 2021; County 2019a), and no surface expression of active faults is known to cross the project site; therefore, fault rupture through the project site is not anticipated, and there would be no impact related to this hazard.

In the event of a major earthquake, San Joaquin County could experience strong ground shaking, which has the potential to damage buildings and structures. The proposed project would include overwater and upland facilities, including the loading platform, SIV, and pipelines, for transfer of renewable diesel and biodiesel products. Damage to these structures is possible in the event of a large earthquake. Proposed improvements would be constructed or installed in adherence with applicable seismic standards and would not increase the potential for human injury or loss of life. Products on site would be stored in appropriate containers or facilities to minimize the risk of release during an earthquake. The alignment of pipelines and containers on site would be designed and constructed to allow for expansion and contraction and seismic restraint. BWC has developed a facility-wide *Crisis Management Plan* (CMP; Contanda 2017) and *United States Environmental Protection Agency, United States Coast Guard & Oil Spill Prevention & Response Integrated Facility Response/Contingency Plan* (ICP; BWC 2022), which include earthquake emergency procedures. Emergency response plans have been developed for the area in consideration of potential natural disasters, which would address and minimize potential hazards during emergencies such as a large seismic event. Therefore, the proposed project would result in less-than-significant impacts related to seismic ground shaking.

The soils mapped as occurring at the project site may have some limited susceptibility to liquefaction, and geotechnical investigations conducted for the Endicott Biofuel Production Facility have identified liquefiable soils in nearby parcels (Stockton Port District 2013). Soil excavation and grading/recompaction would be performed before construction in line with the requirements of the

2022 California Building Standards Code, and the proposed improvements would be constructed or installed in adherence with applicable seismic standards. Therefore, the proposed project would result in less-than-significant impacts related to liquefaction.

The project site and surrounding parcels are flat and do not contain any steep slopes or other features suggesting susceptibility to slope failure or landslides, except for the shoreline, which is sloped and could potentially be subject to failure were protective elements not present. The existing shoreline has dense vegetation and riprap armoring to provide stability. During construction, existing vegetation would be cleared, the shoreline would be regraded, and approximately 7,000 cy of riprap would be removed and replaced. This process would be expected to result in a stronger slope than existing conditions, and the period of regrading would not be anticipated to cause or contribute to slope failure. However, to ensure that regrading and reconstruction of the slope do not introduce new hazards or increase the chance of slope failure, posing a potentially significant impact, the following mitigation measure would be implemented:

MM-GEO-1: Geotechnical Investigation and Reinforcement Measures. *BWC will perform a geotechnical investigation in the shoreline portion of the proposed project footprint. The geotechnical investigation will identify design measures to minimize or avoid potential soil or geologic hazards including but not limited to slope failure, landslides, and erosion, which will be implemented by BWC.*

With implementation of MM-GEO-1 (Geotechnical Investigation and Reinforcement Measures), potential risks associated with slope failure and impacts related to potential substantial adverse geologic effects would be reduced to a less-than-significant level.

B: Would the project result in substantial soil erosion or the loss of topsoil?

Less-than-Significant Impact After Mitigation. The risk of substantial soil erosion or the loss of topsoil would be minimal on the farther upland portions of the project site, which are generally flat. The shoreline portion of the project site could potentially exhibit erosion if regrading and placement of riprap is not designed in a manner sufficient to prevent erosion or loss of topsoil, potentially resulting in a significant impact given that construction of the proposed project would involve excavating, grading or regrading, and recompaction along the entire shoreline. With implementation of MM-GEO-1 (Geotechnical Investigation and Reinforcement Measures), existing soils would be graded in place and riprap placed per site requirements determined through geotechnical investigation. With implementation of this mitigation measure, there would be no loss of topsoil, and erosion impacts would be unlikely to occur. Therefore, impacts related to soil erosion or the loss of topsoil would be less than significant.

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 an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

Less-than-Significant Impact After Mitigation. As previously discussed, the proposed project would have no effect on the potential for slope failures or landslides, and risk from lateral spreading is minimal due to the project site's flat topography, except for the shoreline, which has dense vegetation and riprap armoring to provide stability. As described in the prior checklist questions, vegetation and riprap would be removed during slope construction and riprap would be replaced. The Yellowstone gravelly loam mapped as occurring on site has a low-moderate susceptibility to subsidence and a relatively high water table, indicating that some potential for liquefaction exists. The bulk density of the soils and the flat site topography would limit this potential.

Proposed improvements would be constructed or installed in adherence with applicable seismic standards. Exposure to unstable geologic hazards would be typical to the region; however, a soils investigation of the project site has not been conducted, and geotechnical investigations conducted for the Endicott Biofuel Production Facility have identified liquefiable soils in nearby parcels (Stockton Port District 2013). Fill soils potentially susceptible to subsidence are also common in the area. These circumstances in combination with the nature of the shoreline portion of the project site could lead to potentially significant impacts. Implementation of MM-GEO-1 includes conducting a geotechnical investigation and integrating measures recommended by a professional engineer into the proposed project design. Implementation of this mitigation measure would reduce impacts related to unstable geological units or soils to less than significant.

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

Less-than-Significant Impact. Soil types identified as occurring within the project site do not exhibit significant levels of expansivity (Yellowstone gravelly loam has low-moderate levels of expansivity), and the excavating and grading/regrading planned during site preparation would further reduce the risk of soil expansion. Further, the alignment of pipelines and containers on site would be designed and constructed to allow for expansion and contraction and seismic restraint. Therefore, there would be a less-than-significant impact.

E: Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would be served by the municipal sewage system, and the proposed project would not require the use of septic tanks or alternative wastewater disposal systems or affect any such systems. Therefore, there would be no impact.

F: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less-than-Significant Impact. There are no known unique geological or paleontological resources in the project area. Construction of the proposed project includes excavation, fill, and compaction of soils. However, because of its geomorphological history, the project area is not likely to contain any fossils other than invertebrate fossils that are in a redeposited context. Therefore, there would be a less-than-significant impact.

3.3.8 Greenhouse Gas Emissions

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

3.3.8.1 Affected Environment

3.3.8.1.1 Environmental Setting

Global climate change results from GHG emissions caused by several activities, including fossil fuel combustion, deforestation, and land use change. GHGs trap infrared radiation emitted from the Earth's surface, which otherwise escapes to space. The most prominent GHGs contributing to this process include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). Certain refrigerants, including chlorofluorocarbons (CFCs), hydrochlorofluorocarbons (HCFCs), and hydrofluorocarbons (HFCs), also contribute to climate change. The greenhouse effect keeps the Earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life.

Fossil fuel combustion removes carbon stored underground and releases it into the atmosphere. Emissions of GHGs are responsible for the enhancement of the greenhouse effect and contribute to what is termed "global warming," a trend of unnatural warming of the Earth's natural climate. Increased concentrations of GHGs in the Earth's atmosphere increase the absorption of radiation and further warm the lower atmosphere. This process increases evaporation rates and temperatures near the surface. Climate change is a global problem, and GHGs are global pollutants, unlike criteria pollutants (such as O₃, CO, and PM) and TACs, which are pollutants of regional and local concern (see Section 3.3.3).

Global warming potential (GWP) is a measure of how much a given mass of GHG contributes to global warming. A relative scale is used to compare the gas in question to CO₂ (whose GWP is defined as 1). In this analysis, CH₄ is assumed to have a GWP of 21, and N₂O is assumed to have a GWP of 310. Refrigerants have a GWP ranging from 76 to 12,240. Consequently, using each pollutant's GWP, emissions of CO₂, CH₄, N₂O, CFCs, HCFCs, and HFCs can be converted into CO₂ equivalence (CO₂e).

Recent environmental changes linked to global warming include rising temperatures, shrinking glaciers, thawing permafrost, a lengthened growing season, and shifts in plant and animal ranges (IPCC 2021; CCCC 2018; USGCRP 2014). In California, an assessment of climate change impacts predicts that temperatures will increase between 5.6°F to 8.8°F by 2100, based on low and high global GHG emission scenarios (CCCC 2018). Predictions of long-term negative environmental impacts in California include worsening of air quality problems, a reduction in municipal water supply from the Sierra snowpack, sea level rise, an increase in wildfires, damage to marine and terrestrial ecosystems, and an increase in the incidence of infectious diseases, asthma, and other human health problems (CCCC 2018).

3.3.8.1.2 Regulatory Setting

Executive Order (EO) S-3-05, signed by then-Governor Schwarzenegger on June 1, 2005, established the following GHG reduction targets for California: 1) by 2010, reduce GHG emissions to 2000 levels; 2) by 2020, reduce GHG emissions to 1990 levels; and 3) by 2050, reduce GHG emissions to 80% below 1990 levels. EO S-3-05 also called for the California Environmental Protection Agency to prepare biennial reports on progress made towards achieving these goals, impacts to California from global warming, and mitigation and adaptation plans to combat these impacts.

The California Global Warming Solutions Act of 2006 (AB 32) required CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. AB 32 set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. AB 32 also required CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

On December 11, 2008, CARB adopted the AB 32 Scoping Plan (CARB 2008), which set forth the framework for meeting the State's GHG reduction goal set by EO S-3-05. On October 20, 2011, CARB adopted the final cap-and-trade regulation. CARB also approved an adaptive management plan that monitors the progress of reductions and recommends corrective actions if progress is not as planned or there are unintended consequences in other environmental areas (e.g., concentration of local criteria pollutants).

In 2014, CARB adopted an update to the 2008 AB 32 Scoping Plan that builds upon that initial plan with new strategies and recommendations (CARB 2014). The 2008 AB 32 Scoping Plan and 2014 Scoping Plan Update require that reductions in GHG emissions come from virtually all sectors of the economy and be accomplished from a combination of policies, regulations, market approaches, incentives, and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources.

In 2017, CARB prepared an update to the Scoping Plan. The update established a set goal to reduce GHG emissions to 40% below 1990 inventory levels by 2030 (CARB 2017).

In August 2008, SJVAPCD adopted the Climate Change Action Plan (SJVAPCD 2008) to assist lead agencies in assessing and reducing the impacts of project-specific GHG emissions on global climate change. The Climate Change Action Plan relies on the use of performance-based standards, otherwise known as Best Performance Standards (BPSs), to assess the significance of project-specific GHG emissions on global climate change. Projects implementing BPS are determined to have a less-than-significant impact. Otherwise, demonstration of a 29% reduction in GHG emissions from business as usual is required to classify a project's impact as less than significant.

In 2009, SJVAPCD adopted the *Guidance for Valley Land-Use Agencies in Addressing GHG Emission Impacts for New Projects Under CEQA* (SJVAPCD 2009a) and the *District Policy: Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency* (SJVAPCD 2009b). SJVAPCD was not able to determine a specific quantitative level of GHG emissions increase above which a project would have a significant impact on the environment, and below which it would have an insignificant impact. SJVAPCD staff concluded that impacts of project-specific emissions on global climate change are cumulative in nature, and the significance thereof should be examined in that context. SJVAPCD requires all projects to reduce their GHG emissions, whether through project design elements or mitigation. Projects achieving performance-based standards that have been demonstrated to be BPS would be considered to have a less-than-cumulative significant impact on global climate change (SJVAPCD 2009a).

The City updated and adopted its 2040 General Plan on December 4, 2018; it has new GHG measures to comply with a 2008 Settlement Agreement with the State and the Sierra Club that requires the City to address GHG reductions, including through specific provisions in the 2040 General Plan. The 2040 General Plan represents a substantial change in the policy framework for future development in the City compared to the 2035 General Plan (City 2007). The fundamental shift is from emphasizing growth in "outfill" areas at the periphery of the City to focusing new construction and redevelopment in existing "infill" neighborhoods. This change is reflected in the land use map, an associated map depicting the transportation network required to serve future development, and in the goals, policies, and actions throughout the document. In addition, the City's 2040 General Plan includes the following policies regarding GHG and climate change that are applicable to the proposed project:

- **Policy TR-3.2:** Require new development and transportation projects to reduce travel demand and GHG emissions, support electric vehicle charging, and accommodate multi-passenger autonomous vehicle travel as much as feasible.
- **Policy CH-5.1:** Accommodate a changing climate through adaptation, mitigation, and resiliency planning and projects.

- Action CH-5.1B: Maintain and implement the City’s Climate Action Plan and update the CAP to include the following:
 - Updated communitywide GHG emissions inventory
 - 2030 GHG emissions reduction target, consistent with SB 32
 - Estimated 2030 GHG emissions reduction benefits of State programs
 - Summary of the City’s progress toward the 2020 local GHG emissions reduction target
 - New and/or revised GHG reduction strategies that, when quantified, achieve the 2030 reduction target and continue emission reductions beyond 2030
 - New or updated implementation plan for the CAP
- **Policy CH-5.2**: Expand opportunities for recycling, reuse of materials, and waste reduction.
 - Action CH-5.2A: Use recycled materials and products for City projects and operations where economically feasible, and work with recycling contractors to encourage businesses to use recycled products in their manufacturing processes and encourage consumers to purchase recycled products.
 - Action CH-5.2B: Continue to require recycling in private and public operations, including construction/demolition debris (City 2018a).

The Port has developed and implemented a *Renewable Portfolio Standard Procurement Plan* (Port 2016). In the plan’s most recent iteration, the Port determined the most efficient and cost-effective approach to meeting these standards is through continued purchase of sufficient State-approved renewable energy products from the active California market. For the compliance period from 2021 through 2030, the Port would determine and implement the most cost-effective options for complying with newly codified laws (Port 2016). Other steps that the Port is undertaking to improve energy efficiencies include purchasing zero-emission electric vehicles, replacing diesel-powered equipment with cleaner electric models, and completing an energy audit to identify areas where energy consumption can be reduced (Port 2022a). The Port also offers its tenants financial incentives to install high-efficiency equipment or systems. Incentives are paid on the energy savings and permanent peak demand reduction beyond baseline energy performance, which include State-mandated codes, federally mandated codes, industry-accepted performance standards, or other baseline energy performance standards (Port 2020).

3.3.8.1.3 *Methodology for Determining Impacts*

In determining the significance of a project’s impacts, the lead agency may consider a project’s consistency with the State’s long-term climate goals or strategies, provided that substantial evidence supports the agency’s analysis of how those goals or strategies address the project’s incremental contribution to climate change and its conclusion that the project’s incremental contribution is consistent with those plans, goals, or strategies (CEQA Guidelines Section 15064.4[b][3]).

In December 2018, the California Natural Resources Agency clarified several points regarding the method for determining GHG impacts in CEQA documents (CNRA 2018). CEQA Guidelines Section 15064.4 includes the following provisions as summarized by the Governor’s Office of Planning and Research (OPR; OPR 2023):

- “Lead agencies must analyze the greenhouse gas emissions of proposed projects” (CEQA Guidelines Section 15064.4[a]).
- “The focus of the lead agency’s analysis should be on the project’s effect on climate change, rather than simply focusing on the quantity of emissions and how that quantity of emissions compares to statewide or global emissions” (CEQA Guidelines Section 15064.4[b]).
- “Lead agencies may rely on plans prepared pursuant to Section 15183.5 (Plans for the Reduction of Greenhouse Gases) in evaluating a project’s greenhouse gas emissions” (CEQA Guidelines Section 15064.4[b][3]).

The Port generally adopts SJVAPCD thresholds related to emission sources as most GHG sources at the Port also result in CAP emissions. SJVAPCD has established GHG thresholds for projects subject to CEQA based on achieving performance-based standards that have been demonstrated to be BPSs. For projects implementing SJVAPCD’s BPSs, quantification of project-specific GHGs is not required (SJVAPCD 2009a). SJVAPCD’s BPSs generally apply to projects with stationary industrial emission sources and land use and development projects. For development projects, BPSs include project design elements, land use decisions, and technologies that reduce GHG emissions. Project proponents can reduce GHG emissions from energy consumption through building designs that increase energy efficiency, conserve water, and use energy-efficient appliances. For other projects, including commercial facilities such as port terminals and projects not implementing BPSs, SJVAPCD requires that project-specific GHG emissions be quantified and compared to a 29% reduction in GHG emissions as compared to the business as usual standard to determine significance (SJVAPCD 2009a). The City’s CAP also relies on a 29% reduction from 2020 levels as compared with the business as usual goal. However, the business as usual approach has been effectively rendered unusable after the California Supreme Court’s 2015 ruling in *Center for Biological Diversity v. California Department of Fish and Wildlife*. In addition, the City’s CAP is not consistent with larger state goals, namely the latest adopted CARB 2022 *Scoping Plan for Achieving Carbon Neutrality* (CARB 2022), which is currently being updated with adoption expected in 2022.

The South Coast Air Quality Management District (SCAQMD) has established thresholds specific to residential, commercial, and industrial development as recommended by a 2008 work group effort to identify potential GHG emissions thresholds that achieve broader CARB goals to reduce GHG emissions. The work group’s findings are detailed in the *Interim Greenhouse Gas Emissions Significance Thresholds* guidance document, which outlines an approach to developing a quantitative

threshold and includes substantial evidence supporting the approaches (SCAQMD 2008). The interim guidance has not been updated.

The current interim thresholds comprise the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether the proposed project is consistent with a GHG reduction plan. If a project is consistent with a qualifying local GHG reduction plan, it does not have significant GHG emissions.
- Tier 3 consists of screening values, which the lead agency can choose but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to the project's operational emissions. If a project's emissions are below one of the following screening thresholds, then the proposed project is less than significant:
 - All land use types: 3,000 metric tons (MT) of CO₂e per year
 - Based on land use type (per year):
 - Residential: 3,500 MT of CO₂e
 - Commercial: 1,400 MT of CO₂e
 - Mixed use: 3,000 MT of CO₂e
 - Industrial (stationary) projects: 10,000 MT of CO₂e per year
- Tier 4 has the following options:
 - Option 1: Reduce business as usual emissions by a certain percentage (this percentage is currently undefined)
 - Option 2: Early implementation of applicable AB 32 Scoping Plan measures
 - Option 3: 2020 target: 3.0 MT of CO₂e per service population per year for projects and 4.1 MT of CO₂e per service population per year for plans
- Tier 5 involves mitigation offsets to achieve the target significance threshold.

The SCAQMD's draft thresholds use the EO S-3-05 Year 2050 goal as the basis for the Tier 3 screening level. Achieving the EO objective would contribute to worldwide efforts to cap CO₂ concentrations at 450 parts per million, thus stabilizing the global climate (SCAQMD 2008).

For the purposes of CEQA, and until statewide guidance is adopted, the Port will use the Tier 3 quantitative thresholds recommended in the SCAQMD's Interim Thresholds document as follows:

- Industrial Projects: 10,000 MT of CO₂e per year
 - Consistent with SCAQMD, projects are considered "Industrial Projects" if the facility includes stationary sources of GHG emissions requiring a permit from an air district.

- Residential and Commercial (may also include industrial) building structures that attract or generate mobile source emissions and Mixed-Use Projects (including industrial parks and warehouses):
 - Residential: 3,500 MT of CO₂e per year
 - Commercial: 1,400 MT of CO₂e per year
 - Mixed use: 3,000 MT of CO₂e per year
- Construction GHG emissions amortized over the life of a project are required to be included in a project's annual GHG emissions totals for both categories (SCAQMD 2008).

Based on the above guidance, the analysis herein analyzes the GHG emissions that would be generated as a result of the proposed project and addresses how potential emissions as well as the proposed project design would compare to state, regional, and local plans to address climate change.

3.3.8.2 Impact Evaluation

Construction: During construction, GHG emissions would be generated by construction equipment, including diesel-powered off-road equipment, trucks used to transport material on-site and limited off-site movements, and worker vehicles associated with construction. Construction is anticipated to occur over a period of up to 37 weeks beginning in 2024. Proposed project construction would consist of the following improvements over six phases that would generally occur sequentially: Mobilization; Mobilization/Site Preparation; Pile-Driving (Land-Based) Abutments, Mooring Dolphins; Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins; Fire Pump Platform; and Demobilization.

Based on the construction schedule (Table 2), maximum daily and annual construction emissions were calculated by individual activity and total activity. Construction-related GHG emissions would result from diesel-fueled construction equipment and on-road vehicles as shown in Table 7. Land- and marine-based construction emissions for the proposed project were calculated using CalEEMod software, version 2022.1 (CAPCOA 2022). Commercial harbor draft emission factors for marine-based construction equipment were obtained from the EMFAC2021 OFFROAD2021 model (CARB 2023a). Details regarding the development of GHG emissions estimates for the proposed project are included in Appendix B.

Table 7
Annual Construction Greenhouse Gas Emissions

Year	Construction Phase	CO ₂ e (MT)
2024	Phase 1: Mobilization/Site Preparation	11.1
	Phase 2: Pile-Driving (Land-Based) Abutments, Mooring Dolphins	11.1
	Phase 3: Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins, Fire Pump Platform	36.6
	Phase 4: Deck Construction	278.9
	Phase 6: Demobilization	5.1
	Total GHG Emissions from Construction	342.8
Amortized Construction Emissions Over 20-Year Project Life (MT of CO₂e per year)		17.2

Note:

Emissions may not precisely sum due to rounding.

Operations: As discussed in Section 2.5, the proposed project involves constructing a MOTEMS-compliant dock to support previously assessed vessel operations. Because the width of the slip limits the number of vessels that can dock within it at the same time, the new Berth 8 would not be growth-inducing or add vessel capacity to the Port or BWC's operations. Aside from MOTEMS-regulated products being handled at the new Berth 8 instead of the existing Berth 7/8, there would be no other anticipated operational changes at Terminals 1, 2, or 3, and there would be no increase in product throughput beyond what was previously assessed in the 2018 IS/MND and 2019 EIR. Therefore, there would be no increased truck, vessel, or rail trips associated with the proposed project and no new operational GHG emissions associated with these sources. As noted in Section 2.4.4, the proposed project would generate a daily demand of up to 350 kWh, or up to 127,000 kWhs per year, resulting in indirect GHG emissions.

A: Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less-than-Significant Impact.

Construction: The proposed project would generate GHG emissions from construction. Construction would be conducted over a 37-week period and would include the use of heavy off-road diesel equipment as well as marine vessels and on-road vehicular travel. For construction emissions, GHGs are quantified and amortized over the life of the proposed project. To amortize the emissions over the life of the proposed project, SCAQMD recommends calculating the total GHG emissions for the construction activities, dividing it by a 20-year project lifespan (the anticipated duration of the marine terminal service agreement with the Port), and then adding that number to the annual

operational phase GHG emissions. As such, construction emissions were amortized over a 20-year period and added to the annual operational GHG emissions. The amortized construction emissions are presented in Table 7. Operations: GHG emissions are classified as either direct or indirect. Direct emissions are associated with the production of GHGs at a project site. Indirect emissions include the emissions from off-site vehicles (both gasoline- and diesel-fueled) delivering materials and equipment to and from the project site, workers' vehicle trips, the conveyance and consumption of water and electricity, and the collection and disposal of solid waste.

Because there would be no projected changes in operations due to the proposed project, there are no resulting direct operational GHG emissions. However, the project would result in new indirect emissions from the consumption of electricity. The new dock and berthing structure is expected to use up to 127,000 kWhs per year, which equates to approximately 80 tons of indirect CO₂e emissions per year. As discussed above, the Port purchases RECs and electricity would come in part from renewable sources.

Based on the amortized construction emissions in Table 7, total annual GHG emissions from the proposed project would be 17.2 MT CO₂e, far below any of the SCAQMD Interim Thresholds; therefore, impacts would be considered less than significant.

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

Less-than-Significant Impact After Mitigation. As discussed in checklist question A, there are numerous statewide regulations and initiatives related to overall GHG reductions. The proposed project is subject to future state and local requirements imposed by CARB's 2022 Scoping Plan (CARB 2022). The Scoping Plan describes how California will reduce its GHG emissions by 40% below 1990 levels by 2030 and achieve carbon neutrality by 2045. The proposed project would comply with all required provisions of CalGREEN, which requires green building practices. In addition to CalGREEN, the City's 2040 General Plan (City 2018a) requires that new developments incorporate energy conservation and green building practices.

The City's 2040 General Plan (City 2018a) includes several policies that are applicable to the proposed project, specifically Policy TR-3.2, which requires new development and transportation projects to reduce GHG emissions, and Policy CH-5.2, which expands opportunities for recycling, reuse of materials, and waste reduction.

As noted above, the proposed project would comply with the *Renewable Portfolio Standard Procurement Plan* (Port 2016) and the Port has committed to purchasing State-approved renewable energy from the active California market. Energy use associated with construction and operation of the dock and berthing system would comply with this plan, as the terminal would connect to the existing power grid at the Port. The Port would also offer BWC financial incentives to install high-

efficiency equipment during project construction as required by the *Renewable Portfolio Standard Procurement Plan*.

As a berthing structure, the facility does not meet the square footage thresholds for new buildings under CalGREEN. However, the proposed project would comply with all required measures including recycling and/or salvaging for reuse a minimum of 65% of the nonhazardous construction and demolition waste.

The proposed project complies with San Joaquin County General Plan provisions by providing a MOTEMS-compliant terminal and berthing system to facilitate the delivery of renewable diesel and biodiesel which will increase the availability of renewable energy sources to promote improved energy conservation and efficiency.

Although the proposed project would comply with all required CalGREEN measures, it does not include any specific energy or water conservation and efficiency measures required as part of new construction consistent with Stockton's General Plan. There would be limited potable water use and no irrigation needs at the project site. As noted in Section 3.3.6, the main direct energy use on site would be through use of electricity. As noted in the same section, MM-EN-1 (Energy Efficiency Measures) would be implemented to increase energy efficiency on-site and MM-EN-2 (Construction Truck Idling Restrictions) would be implemented to address energy consumption during construction.

California's demand for energy is increasing and projected to increase in future years due to population growth and other factors, including climate change. Renewable diesel can play an important role in increasing energy security and reducing GHG emissions in California. With its renewable diesel operation, BWC would transport renewable diesel for customers consumption and contribute to energy security in the region. Alternative diesel fuels, such as renewable diesel, have also been supported by the federal Renewable Fuel Standard and the California LCFS goals for lower-emitting fuels. Implementation of MM-EN-1 (Energy Efficiency Measures) and MM-EN-2 (Construction Truck Idling Restrictions) would ensure that the proposed project incorporates energy conservation and efficiency measures. With implementation of mitigation and in light of the low amortized GHG emissions, lack of ongoing operational emissions, and alignment with GHG reduction programs (such as the LCFS), the proposed project would have a less-than-significant impact on plans, policies, and regulations adopted to help reduce the emissions of GHGs.

3.3.9 Hazards and Hazardous Materials

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

3.3.9.1 Affected Environment

3.3.9.1.1 Port Hazardous Materials Regulations

The Port maintains contractual requirements for the use, handling, and storage of hazardous materials by all of its tenants, in part through the standard tenant terms and conditions listed in the Port's General Tariff No. 1 (Port 2022b). Per General Tariff No. 1, tenants are required to notify the Port immediately of the presence of any hazardous materials on or below property leased from the Port, must "comply with all affirmative legal requirements concerning Hazardous Materials," and must provide the Port with an up-to-date list of all hazardous materials on leased property at least once per year and before any new hazardous materials are brought onto Port property (Port 2022b).

3.3.9.1.2 *Listed Hazardous Material Sites*

The location of the proposed project does not appear on the USEPA databases of Resource Conservation and Recovery Act; Comprehensive Environmental Response, Compensation, and Liability Act; or National Priorities List sites (USEPA 2022a, 2022b). Surrounding sites potentially containing hazardous materials were identified through a search of the California Department of Toxic Substances Control EnviroStor (DTSC 2023) and State Water Resources Control Board GeoTracker (SWRCB 2023) databases. Within a 2-mile radius of the proposed project, the EnviroStor database lists 10 cleanup sites and the GeoTracker database identifies 42 cleanup sites with active, open, or unidentified statuses (with some sites occurring in both databases). None of these sites occur within 1,000 feet of the project site.

3.3.9.1.3 *Potentially Hazardous Materials On Site*

Under baseline conditions, the project site is vacant and not known to contain any potentially hazardous materials. The site is not known to have been used for storage or handling of potentially hazardous materials. Under proposed project conditions, as discussed in Sections 2.4 and 2.5, the new dock and berthing system would accept renewable diesel and biodiesel products and transfer it through pipelines to the existing BWC facilities at the Port. Storage and transfer of renewable diesel and biodiesel products would comply with Port requirements for handling of hazardous and combustible materials, as well as the BWC CMP (Contanda 2017) and ICP (BWC 2022) for the facilities. BWC would also develop a CMP for the MOTEMS dock and berthing system itself.

The proposed project may also require use, storage, and management of common industrial materials such as lubricants and fuels. There would not be a substantial increase in use of common industrial materials compared to baseline conditions. The risk of hazards associated with these materials is low because the quantities of these industrial materials would be limited, and any use of such materials would be per manufacturer procedures compliant with relevant regulations. These materials would also be covered by the CMP for the new dock and berthing system.

3.3.9.1.4 *Sensitive Receptors*

There are three schools within 1 mile of the project site: Victory Elementary School, 0.75 mile (3,960 feet) northeast across the River; Success School, 0.85 mile (4,488 feet) northeast across the River; and Washington Elementary School, 0.75 mile (3,960 feet) to the southeast. Neighborhoods are located 0.25 mile (1,320 feet) to the north-northeast across the San Joaquin River, 0.35 mile (1,848 feet) to the northwest, and 0.4 mile (2,112 feet) to the southeast. There are no airstrips, airports, or other non-school or residential sites potentially sensitive to hazards or hazardous materials within 1 mile of the proposed project. The nearest airport is the Stockton Municipal Airport, located approximately 4.8 miles southeast of the proposed project.

3.3.9.1.5 *Emergency and Spill Response Plans*

BWC maintains a CMP for its facilities at the Port (Contanda 2017), and would also develop a CMP for the MOTEMS dock and berthing system, detailing plans and actions for a variety of potential emergencies such as the following:

- Natural disaster
- Technological crisis
- Confrontation
- Terrorist acts
- Workplace violence
- Social unrest or riots

The CMP communicates policies and procedures to follow in an emergency. These procedures apply to all employees involved with crisis management planning, crisis plan implementation, communications, and actions, and post crisis analysis and actions.

The proposed project would incorporate safety measures required under MOTEMS, in addition to those required by the Port and within BWC's CMP. The proposed project would incorporate an operators' shelter, which would allow for CCTV and line-of-sight monitoring of transfer operations. The shelter would include a central control system for standard operational and emergency use and would be raised from the ground per MOTEMS requirements to provide a better sightline and isolate the shelter from potentially hazardous areas in case of emergency.

Regional emergency response plans are detailed in the 2019 San Joaquin County *SF-10 Hazardous Material Area Plan Annex* (County 2019b). The plan discusses topics such as natural hazards, emergency management, mitigation programs, emergency preparedness, and state roles and responsibilities. Under the plan, considerations have been made for the area, including for hazardous materials. Other hazard plans for the region and throughout California would also apply to the proposed project. To prevent spills into navigable waters and adjoining shorelines, a Spill Prevention, Control, and Countermeasures Plan (SPCCP) certified by a Professional Engineer licensed in California currently covers the facilities and would be developed for the new dock and berthing system.

3.3.9.1.6 *Wildfire Hazards*

The project site is not within any fire hazard severity zones (CAL FIRE 2023a, 2023b). There are no wildlands within the project area, and wildland fires do not pose a risk to the project site. Per state law, the Port has implemented the *Port of Stockton 2020-21 Utility Wildfire Mitigation Plan* (Port 2021b) and *Port of Stockton 2022 Utility Wildfire Mitigation Plan Update* (Port 2022c), which describe the Port's measures to prevent wildfire and responsibilities with regard to wildfire risk as a public agency and local publicly owned utility.

3.3.9.2 Impact Evaluation

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

Less-than-Significant Impact After Mitigation. The purpose of the proposed project would be receipt and transfer of renewable diesel and biodiesel products, which are potentially hazardous. New pipelines from the new Berth 8 to Terminal 1 would be constructed from the dock and in upland areas to the south and southeast of the project site as part of the proposed project. Once construction is complete, operations would involve regular use of the dock, product transfer infrastructure (including the pipelines). All handling of these products would occur within a system designed for handling combustible fuel products in accordance with MOTEMS and industrial standards. As discussed in Section 2.4 and Section 3.3.9.1.5, the new dock and berthing system would be designed with a central control system enabling standard and emergency management of product transfer.

Project-related construction work would involve surface preparation (excavation and grading of the project site, followed by constructing slabs on grade). Because the site has not been used for storage or handling of hazardous materials, these surface preparation activities would not expose workers, the public, or the environment to hazardous materials. Site construction and operations would require the use of small quantities of common industrial materials, some of which may be hazardous if improperly managed. The City Fire Department is equipped to respond in the unlikely event of a site accident, and response plans have been developed for the region.

If improperly managed, construction of the proposed project may result in spills, erosion, or other inputs of pollutants to downstream waterbodies. During operation of the proposed project, similar impacts could also occur. Although the risk for these hazards is low given the relatively small scale of construction and operations, impacts could be potentially significant without mitigation.

Mitigation measures MM-BIO-5 (Stormwater Management Controls) and MM-BIO-6 (SMP Implementation) would be implemented to reduce potential construction and operational impacts to the public or the environment from the proposed project. An emergency oil spill boom reel slab foundation, a buried vault for an oil-water separator, and a SIV containment curb would be installed as part of the proposed project, all of which are intended to manage hazardous materials and/or stormwater. With implementation of MM-BIO-5 (Stormwater Management Controls) and MM-BIO-6 (SMP Implementation) as well as the new dock and berthing system's CMP and SPCCP, the proposed project would have less-than-significant impacts from the transport, use, or disposal of hazardous materials. The proposed project would remove 30 existing creosote-treated wood piles and 400 sf of wooden decking from the project site, which would reduce the potential for hazardous materials to

continue to leach into San Joaquin River waters and the environment in general, constituting a beneficial effect.

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?

Less-than-Significant Impact After Mitigation. As described in checklist question A, the purpose of the proposed project would be receipt and transfer of renewable diesel and biodiesel products. These processes would use appropriate technologies for safe handling of fuels, and the safety and emergency response measures in the CMP would reduce any hazards from combustible fuel products to the public or the environment to less-than-significant.

Small quantities of potentially hazardous common industrial materials would be required for site construction and operations. Without mitigation, the proposed project could potentially result in impacts associated with the accidental upset of hazardous common industrial materials. Mitigation measures MM-BIO-5 (Stormwater Management Controls) and MM-BIO-6 (SMP Implementation) would be implemented to reduce the potential for accidental spills of hazardous materials during construction and operation. With implementation of MM-BIO-5 (Stormwater Management Controls) and MM-BIO-6 (SMP Implementation) as well as the new dock and berthing system's CMP and SPCCP, the proposed project would result in a less-than-significant impact related to reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

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?

No Impact. The nearest schools are Victory Elementary School, 0.75 mile northeast across the River; Success School, 0.85 mile northeast across the River; and Washington Elementary School, 0.75 mile to the southeast. No school is proposed within a 0.25-mile radius of the project site. Because of the area's zoning ("Port"), it is unlikely that a school would be constructed within this radius. Therefore, the proposed project would result in no impact related to hazardous material emissions or handling in the vicinity of a school.

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

No Impact. The proposed project would not be located on or adjacent to a site that appears on the Cortese list or any other list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Therefore, the proposed project would have no impact related to the location of the

project site being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.

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?

No Impact. The project site is not located within an airport land use plan area, and the nearest airport or airstrip is located approximately 4.9 miles to the southeast. The proposed project entails construction of a new dock and berthing system for transport of renewable diesel and biodiesel products per applicable regulations. Therefore, the proposed project would result in no impact related to aviation.

F: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. BWC would implement safety measures required under MOTEMS, in addition to those required by the Port and within BWC's CMP. Regional emergency response plans, including but not limited to the 2019 San Joaquin County *SF-10 Hazardous Material Area Plan Annex* (County 2019b), were developed in consideration of activities occurring within industrial areas of the City. The proposed project would not interfere with implementation of these response plans. Therefore, there would be no impact related to impairment of or interference with emergency plans.

G: Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

No Impact. The project site is not within any fire hazard severity zones, and there are no wildlands or other areas susceptible to wildfire in the project area. Therefore, there would be no impact related to wildland fires.

3.3.10 Hydrology and Water Quality

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b.	Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
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 a substantial erosion or siltation on- or off-site?	☐	☒	☐	☐
	ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	☐	☒	☐	☐
	iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
	iv. Impede or redirect flood flows?	☐	☒	☐	☐
d.	In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e.	Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.3.10.1 Affected Environment

3.3.10.1.1 Surface and Stormwater

Surfaces surrounding the project site are largely paved with impermeable asphalt or concrete. The existing surface of the upland project site has entirely flat or near-flat topography and comprises low-permeability compacted soils, and shoreline, which has dense vegetation and riprap armoring to provide stability.

As outlined in Section 3.3.10.1.4, the stormwater drainage system at the project site is part of the Port's Municipal Separate Storm Sewer System (MS4) and is regulated accordingly. Any modifications to the drainage system are required to occur under Port oversight and in compliance with MS4 permit terms. The East Complex docks north of A Street generally drain directly to the San Joaquin

River through a series of stormwater collection basins, drains, piping, and outfalls (Stockton Port District 2012). Outfall D10 is just north of the project site and Outfall D11 is located at Berth 9. The project site is currently unused, and stormwater drains into the waters in the slip to the east either directly or through Outfall D10.

3.3.10.1.2 Flood Hazards

San Joaquin County maintains Flood Insurance Rate Maps, as required by the Federal Emergency Management Agency (FEMA). These Flood Insurance Rate Maps indicate the potential of flooding for various locations. The project site is located in a "Zone X Area," which indicates an area that is outside the 0.2% annual chance of flood (FEMA 2009).

Upstream dam failures could cause flooding in the project area, which is within the dam inundation zone of three major dams, the New Malones, Camanche, and New Hogan dams (City 2018a). Failure of any of these dams would give residents approximately 7 hours to evacuate. Other major regional dams could also affect the City but would have longer evacuation lead times (City 2018a). California SB 92 (2017) requires emergency action plans for all dams, except those classified as "low hazard."

The project area is protected by a levee system along the San Joaquin River. Levee failure has a relatively small probability of occurrence. The Port is responsible for the levee system and has established an annual levee monitoring and inspection program intended to determine whether reinforcement of the structural integrity of the perimeter levee is required (Stockton Port District 2012). Levee monitoring occurs in collaboration with Reclamation District 404. FEMA has certified and accepted most of the levees within the City as meeting minimum standards (City 2018a). Tsunamis and seiches are not considered to be significant threats in the Stockton area (City 2018a).

3.3.10.1.3 Groundwater

The project area occurs within the San Joaquin Valley Groundwater Basin, which is a subsection of the Greater Central Valley Basin. Groundwater in the area is recharged by local precipitation and through percolation from the surrounding surface waters. Groundwater overdraft conditions have existed in the San Joaquin County Basin since the 1920s, although elevations have recovered and stayed relatively constant since 1999 (Stockton Port District 2012).

3.3.10.1.4 Port of Stockton's Stormwater Development Standards Plan

The Port's *Storm Water Development Standards Plan* (Port 2009) covers new and substantial redevelopments of properties within three subareas to ensure compatibility with the California State Water Resources Control Board-issued MS4 Permit. The Port Stormwater Development Standards Plan review includes assessment of technical stormwater submittals from project proponents.

3.3.10.2 Impact Evaluation

A: Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

Less-than-Significant Impact After Mitigation. Construction activities associated with the proposed project would include excavation and grading of soils. These activities could pose the potential for water quality impacts during construction through runoff. Because the proposed project is expected to include less than 1 acre of ground disturbance, a NPDES Construction Stormwater General Permit is not anticipated to be required. As discussed in Section 3.3.4, potential water quality impacts would be avoided through implementation of mitigation measures MM-BIO-5 (Stormwater Management Controls), which includes construction measures including but not limited to use of storm drain inlet filters, erosion control (e.g., straw wattles), and maintenance of spill control kit to control runoff during construction.

The proposed project would also involve in-water pile driving in the slip area (which is a part of the San Joaquin River) that underlies the project site. Waters in the immediate project vicinity may experience temporary increases in turbidity levels during pile removal and installation activities, but effects are expected to subside within a short period (several hours or less) following construction. All in-water work, including pile driving, and overwater work would also be conducted in line with relevant regulatory requirements for work in jurisdictional waters. Implementation of the following mitigation measure would ensure that any temporary turbidity would not exceed water quality criteria typically included in Water Quality Certifications issued by the RWQCB, which will be required for the proposed project:

MM-HYD-1: Water Quality Monitoring During Pile Removal and Installation. BWC will conduct water quality monitoring for dissolved oxygen (DO), settleable matter, and turbidity during removal and installation of in-water piles. Monitoring will occur at least once daily 1) upcurrent in San Joaquin River (Stockton DWSC) waters undisturbed by construction activities and 2) within 300 feet of construction activities. DO concentrations shall not fall below 6.0 milligrams per liter. Settleable matter shall not exceed 0.1 mL/L. Turbidity levels shall not exceed the following criteria.

- *Where natural turbidity is less than 1 nephelometric turbidity unit (NTU), controllable factors shall not cause downstream turbidity to exceed 2 NTU.*
- *Where natural turbidity is between 1 and 5 NTU, increases shall not exceed 1 NTU.*
- *Where natural turbidity is between 5 and 50 NTU, increases shall not exceed 20%.*
- *Where natural turbidity is between 50 and 100 NTU, increases shall not exceed 10 NTU.*
- *Where natural turbidity is greater than 100 NTU, increases shall not exceed 10%.*

Proposed project operations would involve receipt, transfer via pipeline, and storage of renewable diesel. Because the proposed project does not include an increase in product throughput, the

amount of renewable diesel handled by BWC within the Port would not increase beyond what has been previously assessed. Although throughput levels would not increase beyond existing levels, the dock would operate in a new location with new supporting infrastructure, which has the potential to result in a new source of inputs to surface waters. As described in Sections 2.4 and 2.5, the proposed dock and berthing system would operate with active and passive spill control measures, including secondary containment and regular system inspections. BWC would put in place an SPCCP for the new dock and berthing system certified by a Professional Engineer licensed in California, as they have for their other facilities at the Port. Spill responses would also be addressed in the dock and berthing system's CMP, which would incorporate its Emergency Action Plan (required by the Cal/OSHA regulations, Section 3220). Implementation of MM-BIO-6 (SMP Implementation) would ensure potential leaks are prevented and control and manage infrastructure installed as part of the proposed project to protect the underlying or adjacent San Joaquin River water quality.

The proposed project may also require use, storage, and management of common industrial materials such as lubricants and fuels. There would not be a substantial increase in use of common industrial materials compared to baseline conditions. The risk of hazards associated with these materials is low because the quantities of these industrial materials would be limited, and any use of such materials would be per manufacturer procedures compliant with relevant regulations. These materials would also be covered by the SPCCP and CMP for the new dock and berthing system.

With implementation of project controls, MM-BIO-5 (Stormwater Management Controls), MM-BIO-6 (SMP Implementation), and MM-HYD-1 (Water Quality Monitoring During Pile Removal and Installation), the proposed project would have less-than-significant impacts on water quality. The proposed project would remove 30 existing creosote-treated wood piles and 400 sf of wooden decking from the project site, which would reduce the potential for ongoing impacts to San Joaquin River water quality, constituting a beneficial effect.

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?

Less-than-Significant Impact. The proposed project footprint occurs within the developed East Complex and overwater in the berth area directly adjacent to the East Complex. The proposed project's upland portion would be on shoreline areas with mid-to-high permeability, and areas adjacent to the shoreline surfaced with compacted soil or other low to moderately permeable surfaces. The proposed project would entail construction of approximately 1,000 sf of new upland/shoreline concrete impermeable surfaces.

In consideration of the proposed project's minor effects on impermeable surfaces, there would be a less-than-significant impact pertaining to groundwater recharge.

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

Less-than-Significant Impact After Mitigation. Construction activities associated with the proposed project would directly disturb soils within the new dock and berthing system area through excavation, including excavation or ground disturbance required for grading and construction of the improvements described in Section 2.4. Within the project area, regrading would occur in the upland areas just west of the new dock and berthing system and two mooring dolphins. In total, an approximately 7,000-sf area would be regraded using on-site soil. No import or export of soil would be required as part of regrading. The entrance to the staging area would be overlain by crushed gravel to minimize trackout; this would not be expected to affect permeability.

In-water work, including pile driving, and overwater construction of the loading platform, dolphins, and associated structures would adhere to the requirements of state and federal permits for work in waters of the State of California and waters of the United States to limit or avoid impacts. The proposed project would not alter the course of the San Joaquin River.

The upland project elements discussed in Section 2.4.3.2 would generally require concrete pads; the pads would be relatively small, but soil permeability would be lost in these areas. In total, it is anticipated that an area of 1,000 sf of impermeable surfaces would be created as part of the proposed project. An emergency oil spill boom reel slab foundation, a buried vault for an oil-water separator, and a SIV containment curb would be installed as part of the proposed project, which are intended to control potential releases to water quality from operations. The proposed concrete and asphalt surfaces would be unlikely to significantly affect drainage, because of the limited area of construction of new impermeable. The portions of the proposed project footprint with the highest permeability (shoreline areas characterized by vegetation, soil, and riprap) would continue to be permeable following construction, with the exception of the concrete platforms in these areas. Most of the new impermeable surfaces would occur slightly farther upland, in areas with lower existing permeability. Nominal increases in stormwater runoff from new impermeable surfaces are unlikely to result in substantial siltation or erosion, and the Port regularly maintains the drainage system throughout the East Complex. Stormwater runoff from the project site would continue to be conveyed through the Port's existing stormwater system, including outfalls to the San Joaquin River.

As previously noted, site construction and operations would involve receipt, handling, and management of biodiesel, and would require use of small quantities of common industrial materials,

which could contribute to polluted runoff if improperly managed. Although the risk for these hazards is low given the relatively small scale of construction and operations and commodity material handled, and given the implementation of a site SPCCP and BWC's CMP, impacts could be potentially significant without mitigation. MM-BIO-5 (Stormwater Management Controls) and MM-BIO-6 (SMP Implementation) would be implemented as part of the proposed project to control spills and runoff during construction and operation. MM-HYD-1 (Water Quality Monitoring During Pile Removal and Installation) would be implemented during construction to ensure construction activities do not adversely affect San Joaquin River water quality. With implementation of these mitigation measures, the proposed project would have less-than-significant impacts.

D: Would the project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

No Impact. The project area is within the dam inundation zone for several dams, and levee systems protect the project site from inundation. There is a low probability for failure of existing dams and levees, and existing inspection and response plans are in place to address these hazards. The project site is not within a FEMA-designated flood hazard area. Therefore, the proposed project would not exacerbate risks related to flood hazards or the risk of stormwater contamination during flooding, and there would be no impact.

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

Less-than-Significant Impact. As previously described, the proposed project would result in only less-than-significant water quality or groundwater impacts. In addition, the proposed project would be subject to Port review for compliance with its *Storm Water Development Standards Plan* (Port 2009). Therefore, there would be a less-than-significant impact.

3.3.11 Land Use and Planning

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Physically divide an established community?	☐	☐	☐	☒
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?	☐	☐	☐	☒

3.3.11.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project site as “Industrial,” and the zoning classification of the project site and surrounding parcels is “Port” (City 2021b). There is no housing within the project site. As previously stated, the nearest residential receptor is located approximately 0.25 mile (1,320 feet) north-northeast of the project site.

3.3.11.2 Impact Evaluation

A: Would the project physically divide an established community?

No Impact. The project area is zoned as “Port” and does not include any residences, hospitals, schools, convalescent facilities, or other features that would constitute an established community. The proposed project land use is consistent with the project site’s current zoning and existing use. The nearest established community (approximately 0.25 mile north-northeast of the project site) would not be impacted by proposed project activities; therefore, there would be 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?

No Impact. Development of the project site for the purpose of constructing and operating a MOTEMS-compliant dock and berthing system is consistent with its existing zoning and use. Accordingly, the proposed project would be consistent with applicable land use plans and policies, and there would be no impact.

3.3.12 Mineral Resources

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

3.3.12.1 Affected Environment

Although resources, such as sand, gravel, natural gas, and peat soil, have been extracted from the southwestern portion of San Joaquin County near the San Joaquin River (Stockton Port District 2013), the project site and surrounding area are categorized as Mineral Resource Zone-1 (MRZ-1) by the CGS (California State Mining and Geology Board 2000; CGS 2012). The CGS defines MRZ-1 as an “area where adequate geologic information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence” (CGS 2012). The project site does not contain any known mineral resources, including any rock, sand, or gravel.

3.3.12.2 Impact Evaluation

A: Would the project result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No Impact. Due to the proposed project’s location in MRZ-1, continued development of the area would not limit access to any known mineral resources. As a result, the proposed project would neither interfere with any existing extraction operations nor reduce the availability of any known mineral resources. Therefore, there would be no impact.

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?

No Impact. The project area does not include a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. Therefore, there would be no impact.

3.3.13 Noise

Would the project result in:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
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?	☐	☐	☒	☐
b.	Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
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?	☐	☐	☐	☒

3.3.13.1 Affected Environment

3.3.13.1.1 Fundamentals of Sound and Noise

Sound is what we hear and is defined as the energy of a vibrating object transmitted by pressure waves through a medium, such as air or water, to the human ear. Noise is most simply defined as unwanted sound. The difference between sound and noise depends upon the listener and the circumstances. A given noise may be more or less tolerable depending on the duration exposure, as well as the time of day when the noise occurs. For example, the sound of a distant train horn during the day may be considered background noise but could disrupt sleep at night.

Sound is measured in decibels (dB) and accounts for variations such as frequency and amplitude, using a relative scale adjusted to the human range for hearing (referred to as the A-weighted decibel [dBA]). More specifically, the dBA measures sound reflective of how the average human ear responds to sound; the range of human hearing typically ranges from 0 dBA (the threshold of hearing) to approximately 140 dBA (the threshold for pain). Acceptable noise levels during the day are higher than during the night, and industrial land use in urban areas will have a higher limit than residential land use in rural areas.

Noise can be generated by both mobile (i.e., cars) and stationary (i.e., operational machinery) sources. Mobile sources typically attenuate at a rate of 3.0 to 4.5 dBA per doubling of distance, depending on the ground surface and obstructions between the noise source and the receiver. Hard

and flat surfaces, such as concrete or asphalt, typically have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, typically have an attenuation rate of 4.5 dBA per doubling of distance. Noise generated by stationary sources typically attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance.

The community noise equivalent level (CNEL) measures the cumulative 24-hour noise exposure, considering not only the variation of the A-weighted noise level but also the duration and the time of day of the noise. Various state and local agencies have adopted CNEL as the measure of community noise, including the State Department of Aeronautics and the California Commission on Housing and Community Development.

Noise is measured through the use of several measurements, including the following:

- **Equivalent Sound Level (L_{eq})** is the constant noise level that would result in the same total sound energy being produced over a given period. It is useful for representing a varying sound source over time as a single number.
- **Maximum Sound Level (L_{max})** is the maximum sound level.
- **Statistical Sound Levels (L_n ; e.g., L_{min} , L_{90} , L_{50} , L_{10}):** The percentile-exceeded noise level, designated as L_n , describes the noise level that is met or exceeded by a fluctuating sound level n -percent of a stated time period. For example, the L_{50} is the sound level that is equaled or exceeded for 50% of the time period (equivalent to 30 minutes in an hour), and the L_{10} is the sound level that is equaled or exceeded for 10% of the time period (equivalent to 6 minutes in an hour). L_{min} is the minimum sound level.
- **Day/Night Average Sound Level (L_{dn})** is the average noise level over a 24-hour period. The noise level measurements between the hours of 10:00 p.m. and 7:00 a.m. are artificially increased by 10 dB before averaging.

3.3.13.1.2 Fundamentals of Groundborne Vibration

Groundborne vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Each of these measures can be further described in terms of frequency and amplitude. Displacement is the easiest descriptor to understand; it is simply the distance that a vibrating point moves from its static position (i.e., its resting position when the vibration is not present). The velocity describes the instantaneous speed of the movement, and acceleration is the instantaneous rate of change of the speed. Vibrating objects can radiate their energy through the ground upon contact; if the object is large or close enough to an observer, ground vibrations can be perceived. As such, environmental impact analyses typically study vibration as it relates to building damage and human annoyance. However, because ground vibration generated by human activities typically attenuates rapidly from the source of vibration, human vibration issues are usually confined to short distances, such as 500 feet or less from the source (FHWA 2006a).

Although displacement is fundamentally easier to understand than velocity or acceleration, it is rarely used for describing groundborne vibration because: 1) human response to groundborne vibration correlates more accurately with velocity or acceleration; 2) the effect on buildings and sensitive equipment is more accurately described using velocity or acceleration; and 3) most transducers used in the measurement of groundborne vibration actually measure either velocity or acceleration. For this study, velocity was the fundamental measure used to evaluate the effects of groundborne vibration.

Vibration consists of rapidly fluctuating motions with an average motion of zero. The peak particle velocity (PPV) is defined as the maximum instantaneous positive or negative peak amplitude of the vibration velocity. The accepted unit for measuring PPV in the United States is inches per second (in/sec).

3.3.13.1.3 Environmental Setting

Existing noise in the project area can be attributed to various stationary and mobile sources, including tractor-trailer truck traffic, rail activity, and adjacent industrial equipment (Port 2004). Other sources that contribute to the existing noise environment in the general site vicinity include landscaping activities (e.g., leaf blowing and lawn mowing) and local and regional roadway traffic on nearby local roads and highways (i.e., I-5 and State Routes 4 [SR-4] and 99 [SR-99]). Noise monitoring previously conducted for the rail bridge replacement project concluded that the L_{eq} on nearly Rough and Ready Island (the West Complex) generally ranges between 60 and 84 dBA, with higher levels from short-term increases in noise levels 85 dBA or higher.

Noise-sensitive land uses are generally considered to be uses in which noise exposure could result in health-related risks to individuals or places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Other land uses, such as parks, historic sites, cemeteries, and other recreation areas, are also considered sensitive to increases in exterior noise levels. Schools, places of worship, hotels, libraries, nursing homes, retirement residences, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

3.3.13.1.4 Regulatory Setting

The Occupational Safety and Health Administration (OSHA) has established acceptable occupational noise exposure levels (29 CFR 1910.95). These regulations state that employees will not be exposed to occupational noise levels greater than 90 dB without adequate hearing protection. If occupational noise levels exceed 85 dB, the employer must establish a hearing conservation program as described under 29 CFR 1910.95(c-o). For occupational noise exposure levels greater than 90 dB, the daily period of noise exposure must be decreased from 8 hours, as described under 29 CFR 1910.95(b).

The USEPA Office of Noise Abatement and Control was established to coordinate federal noise control activities and issued the Noise Control Act of 1972 (42 *United States Code* 4901 et seq.), establishing programs and guidelines to identify and address the effects of noise on public health and welfare and the environment. USEPA determined in 1981 that subjective issues such as noise would be better addressed at lower levels of government, and responsibilities for regulating noise control policies were transferred to state and local governments in 1982.

The *State of California General Plan Guidelines*, published by the OPR, provide guidance for the acceptability of projects within areas that are exposed to specific noise levels (OPR 2017). For areas zoned for industrial, manufacturing, utilities, and agricultural land uses, the normally acceptable level of community noise exposure is less than 75 CNEL with 70 to 80 CNEL considered conditionally acceptable (OPR 2017). The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

For the protection of fragile, historic, and residential structures from groundborne vibration, Caltrans recommends a threshold of 0.2 in/sec PPV for normal residential buildings and 0.08 in/sec PPV for old or historically significant structures (Caltrans 2020).

The City has developed community noise control regulations and standards that are consistent with or exceed the guidelines of the State Office of Noise Control and the standards adopted by the Federal Highway Administration (FHWA), Caltrans, and other government and regulatory agencies (City Municipal Code Title 16, Division 3, Chapter 16.60). Regarding construction, the City prohibits "operating or causing the operation of tools or equipment on private property used in alteration, construction, demolition, drilling, or repair work between the hours of 10:00 p.m. and 7:00 a.m., so that the sound creates a noise disturbance across a residential property line, except for emergency work of public service utilities." State law requires general plans to use the CNEL or the L_{dn} to describe the community noise environment (in dBA) and its effects on the population.

The 2040 General Plan (City 2018a) establishes goals, policies, and criteria for determining land use compatibility with major noise sources within the community. The 2040 General Plan includes Policy SAF-2.5, which protects the community from health hazards and annoyance associated with excessive noise levels.

Policy SAF-2.5 includes the following standards:

- **Action SAF-2.5A:** Prohibit new commercial, industrial, or other noise-generating land uses adjacent to existing sensitive noise receptors, such as residential uses, schools, health care facilities, libraries, and churches, if noise levels are expected to exceed 70 dBA CNEL when measured at the property line of the noise-sensitive land use.

- **Action SAF-2.5B:** Require projects that would locate noise-sensitive land uses where the projected ambient noise level is greater than the “normally acceptable” noise levels listed in Table 5-1 of the 2040 General Plan (included below as Table 8) to conduct an acoustical analysis. (As noted in Table 51 of the 2040 General Plan, if existing noise standards are exceeded, a proposed project will not incrementally increase noise levels by more than 3 dBA.)
- **Action SAF-2.5C:** Require noise produced by commercial uses to not exceed 75 dBA Ldn/CNEL at the nearest property line.
- **Action SAF-2.5D:** Grant exceptions to the noise standards for commercial and industrial uses only if a recorded noise easement is conveyed by the affected property owners.
- **Action SAF-2.5E:** Require all new habitable structures to be set back from railroad tracks to protect residents from noise, vibration, and safety impacts.

Table 8
Maximum Allowable Noise Exposure by Land Use Per City of Stockton 2040 General Plan (L_{dn})

Land Use	Noise Level, L _{dn} (dBA)						
	0–55	56–60	61–65	66–70	71–75	75–80	>81
Residential							
Urban residential infill							
Hotels, motels							
Schools, libraries, churches, hospitals, extended care facilities							
Auditoriums, concert halls, amphitheaters							
Sports arenas, outdoor spectator sports							
Playgrounds, neighborhood parks							
Golf courses, riding stables, water recreation, cemeteries							
Office buildings, business commercial and professional							
Mining, industrial, manufacturing, utilities, agriculture							

Notes:

Source: City 2018a

- Normally Acceptable
- Conditionally Acceptable
- Unacceptable

3.3.13.2 Impact Evaluation

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?

Less-than-Significant Impact. Operations of the proposed project are subject to the City's noise regulations and standards. Specifically, the 2040 General Plan regulates industrial uses with L_{dn} of 70 dBA and below as "normally acceptable" and between 71 and 80 dBA as "conditionally acceptable" following the incorporation of noise reduction features (City 2018a). Noise levels above 80 dBA are considered unacceptable. The City's noise ordinance also requires that the maximum sound level generated by industrial land uses, or other permitted noise-generating activities within any industrial zoning district, remain below 80 dBA. Previous noise monitoring conducted determined that the existing average day-night noise level nearby the project site ranges between 60 and 84 dBA (Port 2004).

Noise attenuates with distance from the source. Noise- and vibration-sensitive land uses are locations where people reside or where the presence of unwanted sound could adversely affect the use of the land. Residences, schools, hospitals, and senior care facilities would each be considered noise- and vibration-sensitive and may warrant unique measures for protection from intruding noise. The closest non-mobile sensitive receptor is a neighborhood, located approximately 0.25 mile (1,320 feet) north-northeast of the project site. Other sensitive receptors in the vicinity of the project site include the Boggs track neighborhood, located approximately 0.4 mile (2,112 feet) southeast of the project site, and a mobile home park 0.35 mile (1,848 feet) to the northwest of the project site.

Construction: Construction activities typically require the use of numerous pieces of noise-generating equipment. These activities would temporarily increase ambient noise levels on an intermittent basis. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between the noise source and receptor, and presence or absence of noise attenuation barriers. Table 9 presents the typical noise level of proposed construction equipment for the proposed project and the reference noise levels that each equipment type would generate.

Table 9
Roadway Construction Noise Model Default Noise Emission Reference Level at 50 Feet by Phase

Major Equipment	Reference Sound Level at 50 feet (dBA)
Phase 1: Mobilization/Site Preparation	
Forklift/backhoe	80
Air compressor	80

Major Equipment	Reference Sound Level at 50 feet (dBA)
Diesel generator	82
Crane	85
Welder	73
Dump truck	84
Excavators	85
Graders	85
Phase 2: Pile-Driving (Land-Based) Abutments, Mooring Dolphins	
Crane	85
Diesel hammer	95
Man lift	85
Work skiff	85
Phase 3: Pile-Driving (Marine-Based) Loading Platform, Breasting Dolphins, Fire Pump Platform	
Crane	85
Barge (2) ¹	85
Deck winch (2) ¹	85
Tender tug ¹	85
Work skiff ¹	85
Diesel impact hammer	95
Vibratory hammer	95
Man lift	85
Welder	73
Air compressor	80
Generator	82
Phase 4: Deck Construction	
Cranes (2)	85
Barge ¹	85
Deck winch ¹	85
Tender tug ¹	85
Work skiff ¹	85
Man lift	85
Welder	73
Air compressor	80
Generators	82
Concrete truck (3)	85
Concrete pumper	82
Phase 6: Demobilization	
Tractor/loader	84
Grader	85

Major Equipment	Reference Sound Level at 50 feet (dBA)
Air compressor	80
Paving equipment	85

Notes:

Source: FHWA Roadway Construction Noise Model User's Guide (FHWA 2006b)

1. The actual measurement for marine equipment was not sampled; therefore, the specification data were used.

To calculate proposed project construction noise impacts to sensitive receptors to the north-northeast of the project area, major construction equipment types/numbers characteristic of the loudest anticipated construction phase were input into the FHWA Roadway Construction Noise Model (FHWA 2006b). This model estimates construction noise levels at selected locations around the construction site based on a database of measured equipment noise generation for each equipment type and the application of source-receptor distance acoustical propagation formulas. As a conservative approach, no shielding was assumed. Table 10 shows that the model indicates the L_{max} of combined noise equipment would be 72.8 dBA at 1,320 feet from the project site (the closest distance to a non-mobile sensitive receptor), and the L_{eq} would be 67.3 dBA, which is within the existing range for ambient noise levels in the area (60 to 84 dBA) and below the City's maximum noise level for industrial uses (80 dBA).

Table 10
Construction Daytime Noise Limits and Exceedances

Equipment	Calculated (dBA)		Noise Limits (dBA)		Noise Limit Exceedance (dBA)	
	L_{max}	L_{eq}	L_{max}	L_{eq}	L_{max}	L_{eq}
Crane	52.1	44.2	80	60	None	None
Barge (up to 2)	56.6	53.6	80	60	None	None
Deck winch (up to 2)	56.6	53.6	80	60	None	None
Tender tug	56.6	53.6	80	60	None	None
Work skiff	56.6	53.6	80	60	None	None
Diesel impact hammer	72.8	65.8	80	60	None	5.8
Vibratory hammer ¹	--	--	80	60	None	None
Man Lift	46.3	39.3	80	60	None	None
Welder	45.6	41.6	80	60	None	None
Air compressor	49.2	45.3	80	60	None	None
Generator	52.2	49.2	80	60	None	None
Total	72.8	67.3	80	60	None	7.3

Notes:

The L_{max} noise limit is representative of the maximum volume permitted by the City for industrial uses. To analyze noise increases conservatively, a baseline of 60 dBA was used as the hourly L_{eq} limit. Evening and night noise has not been analyzed because construction would not occur during evening hours (7:00 p.m. to 10:00 p.m.) or nighttime hours (10:00 p.m. to 7:00 a.m.).

--: not applicable

Based on this analysis, the proposed project would result in a less-than-significant impact related to construction noise.

Operations: The City's noise regulations and standards also apply to operation of the proposed project. The 2040 General Plan further defines noise standards for industrial uses located adjacent to noise-sensitive land uses such as residential and zoning districts (City 2018a). In this case, the project site does not occur adjacent to noise-sensitive land uses. Vessel movements and fuel loading and unloading operations currently occur at Berth 7/8 and operations at the new Berth 8 would be slightly farther from the closest sensitive receptors than Berth 7/8. Although the proposed project would result in MOTEMS-regulated BWC products being handled at the new Berth 8 instead of the existing Berth 7/8, there would be no other anticipated operational changes at the Port and no increase in truck, vessel, or rail trips. As such, there would be no anticipated noise impacts resulting from operation of the proposed project.

B: Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less-than-Significant Impact.

Construction: Unless heavy construction activities are conducted extremely close (within a few feet) to neighboring structures, vibrations from construction activities rarely reach levels that damage structures. Typical vibration levels associated with construction equipment are provided in Table 11. Impact pile drivers typically generate vibrations levels of 0.644 in/sec PPV at a distance of 25 feet.

Table 11
Vibration Velocities for Construction Equipment

Equipment	PPV at 25 feet (in/sec)
Pile driver (impact)	1.518 (upper) 0.644 (typical)
Loaded trucks	0.076
Jackhammer	0.035
Small bulldozer/backhoe	0.003
Heavy equipment (e.g., a large bulldozer)	0.089

Source: FTA 2018

The construction vibration damage criterion for buildings that are extremely susceptible to vibration damage is 0.12 in/sec PPV. This is the strictest PPV vibration threshold established by the Federal

Transit Administration (FTA). The nearest building to the construction area would be approximately 90 feet to the southwest, and the nearest residential sensitive receptor is approximately 0.25 mile (1,320 feet) north-northeast of the project site. The typical vibration level from pile driving at 90 feet would be approximately 0.094 in/sec PPV, which would not exceed the FTA damage criteria. Because the construction-related vibration would not exceed FTA thresholds, the proposed project would result in a less-than-significant impact related to construction vibration.

Operations: As described in checklist question A, BWC currently operates at Berth 7/8, which is slightly closer to the closest non-mobile sensitive receptor than the new Berth 8 would be. Although the proposed project would result in MOTEMS-regulated BWC products being handled at the new Berth 8 instead of the existing Berth 7/8, there would be no other anticipated operational changes at the Port and no increase in truck, vessel, or rail trips. As such, there would be no anticipated vibration impacts resulting from operation of the proposed project.

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?

No Impact. There are no public airports located within 2 miles of the project area. The nearest public airport is the Stockton Metropolitan Airport, located nearly 4.9 miles southeast from the project site. The project site is not located in the vicinity of a private airstrip. Because of the distance of the project site from the nearest public airport or private airstrip, the proposed project would not expose people residing or working in the project area to excessive noise levels. There would be no impact.

3.3.14 Population and Housing

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	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.	Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.3.14.1 Affected Environment

The 2040 General Plan (City 2018a) designates the project site as “Industrial,” and the zoning classification of the project site and surrounding parcels is “Port” (City 2021b). There is no housing within the project site. As previously stated, the nearest residential receptor is located approximately 0.25 mile (1,320 feet) north-northeast of the project site.

Although construction at the Port is expected to increase direct employment opportunities, a minor increase in employment is not expected to result in a significant need for additional housing in the area. This is because of the large number of workers who already reside within the area and the relatively high rate of unemployment for the City (6.3% for January 2023; BLS 2023a) compared to the state of California (4.2% for January 2023; BLS 2023b) and the United States (3.4% for January 2023; BLS 2023c).

3.3.14.2 Impact Evaluation

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)?

No Impact. No new homes, businesses, or roads would be built as part of the proposed project, and the proposed project would not affect population growth in the area. Therefore, there would be no impact.

B: Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. The proposed project would not impact neighborhood or homes near the Port. The proposed project would have no effect on existing residential areas, and the project site’s zoning

precludes the potential for future housing developments. Therefore, the proposed project would have no impact on housing.

3.3.15 Public Services

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

3.3.15.1 Affected Environment

3.3.15.1.1 Fire Protection

The City's Fire Department provides fire protection to the City and contiguous areas, including the project site. The department has 12 fire stations, each with one fire engine (City 2023b). The department's goal for response time, per the 2040 General Plan (City 2018a), is to arrive at fire suppression incidents within 4 minutes of notification. Nearby fire stations include Station 6 at 1501 Picardy Drive (1 mile northeast of the proposed project) and Station 2 at 110 West Sonora Street (1.9 miles east of the proposed project; City 2018b).

3.3.15.1.2 Police Protection

The Port maintains the Port Police Department, an independent certified police agency (Port 2022c). The Port Police Department patrols on a 24-hour basis and is currently served by 13 staff. At least three Port police officers are on duty simultaneously (two on patrol and one in charge of communications). The Port Police Department has mutual aid agreements with the City Police Department, the San Joaquin Sheriff's Department, and the California Highway Patrol in case additional police response is needed (Port 2021a). The Stockton Police Department, maintained by the City, also provides police service throughout the City and has an officer to citizen ratio of approximately 1 to 605 (City 2022a). The department responds to emergencies within approximately 3 to 5 minutes, depending on time of day, location, and the number of requests for services (Stockton Port District 2012).

3.3.15.1.3 Schools

The Stockton Unified School District is divided into seven trustee areas and includes 37 Head Start classes, 53 State preschool classes, three First 5 Preschool classes, 41 elementary schools, eight high schools, a special education school, an adult education school, and five charter schools (SUSD 2019). There are also colleges, universities, and vocational training schools that are located in Stockton, including California State University, Stanislaus's Stockton Center, San Joaquin Delta College, University of the Pacific, Humphreys University, Christian Life College, Teachers College of San Joaquin, and UEI College (Stockton Port District 2012). The nearest schools are Victory Elementary School, 0.75 mile (3,960 feet) northeast across the River; Success School, 0.85 mile (4,488 feet) northeast across the River; and Washington Elementary School, 0.75 mile (3,960 feet) to the southeast.

3.3.15.1.4 Parks

The 2040 General Plan (City 2018a) designates the project area as Industrial. Nearby parks include Louis Park, approximately 0.75 mile (3,960 feet) northwest of the proposed project across the San Joaquin River, Victory Park, approximately 0.85 mile (4,488 feet) northeast of the proposed project across the San Joaquin River, and Boggs Tract Park, approximately 0.75 mile (3,960 feet) southeast of the proposed project.

3.3.15.2 Impact Evaluation

A: Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: 1) fire protection; 2) police protection; 3) schools; 4) parks; or 5) other public facilities?

No Impact. The proposed project would not result in increased demand on any existing facilities or services, including fire protection, police, schools, or parks. The project area is adequately served by the City Fire Department, City Police Department, and Port Police Department. There would be no impact to fire protection, police, schools, parks, or other public facilities.

3.3.16 Recreation

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	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.	Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.3.16.1 Affected Environment

The City operates and maintains 66 parks ranging in size from 1 to 60 acres (City 2018a). Recreational facilities can also be found on the waterways in the region, which include natural rivers and creeks; manufactured canals, channels, sloughs, and ditches; and the Delta (City 2015). Several parks and recreational facilities exist in the vicinity of the project area, including Louis Park, approximately 0.75 mile (3,960 feet) northwest of the proposed project across the San Joaquin River, Victory Park, approximately 0.85 mile (4,488 feet) northeast of the proposed project across the San Joaquin River, and Boggs Tract Park, approximately 0.75 mile (3,960 feet) southeast of the proposed project. Recreational use of the surrounding San Joaquin River west of the project area include recreational boating and fishing (Stockton Port District 2013). There is no public access at the Port's dock areas, and the portion of the river directly adjacent to the proposed project is not a popular recreational area due to the Port's operating industrial berths. Recreational boat traffic is common in the San Joaquin River north of the slip containing the existing Berth 7/8.

3.3.16.2 Impact Evaluation

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?

No Impact. Neither construction nor operation of the proposed project would increase the use of existing neighborhood and regional parks or other recreation facilities. Therefore, there would be no impact to recreational facilities.

B: Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The proposed project does not include the construction or expansion of any recreational facilities and would not result in increased demand or other effects to recreational facilities.

Therefore, the proposed project would result in no impact related to the need for new recreational facilities that could adversely affect the environment.

3.3.17 Transportation

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	☐	☐	☒	☐
b.	Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	☐	☐	☒	☐
c.	Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d.	Result in inadequate emergency access?	☐	☐	☐	☒

3.3.17.1 Affected Environment

This section discusses the transportation-related context in which the proposed project would be constructed and operate, including the street and rail network that serves the area; existing transit service, bicycle, and pedestrian facilities near the proposed project; and a summary of current conditions.

3.3.17.1.1 Regional Highway and Roadways

The Port is served by regional freeways and highways, namely I-5, SR-4, and SR-99, with local roads serving the terminals and wharves. I-5, Fresno Avenue, and Center Street serve the major north-south movements of traffic in the proposed project vicinity, and Washington Street, Navy Drive, and Charter Way serve the east-west flow of traffic in the area. Existing roadways are as follows:

- **SR-4** is a major east-west roadway that traverses Northern California. SR-4 branches off from I-80 in the City of Hercules, and continues east, terminating at SR-89 near the border of Nevada. Within the study area, SR-4 is discontinuous. The western segment (Charter Way) is a two-lane highway that continues east of I-5 as Doctor Martin Luther King Junior Boulevard. The eastern segment is a six-lane freeway that begins north of Navy Drive and continues east to SR-99. Caltrans opened the Crosstown Freeway Extension project in 2016, which extended the Crosstown Freeway (Ort J. Lofthus Freeway) west from Fresno Avenue to Navy Drive. The extension is elevated and crosses over Fresno Avenue, creating a grade separation that now prohibits highway traffic from entering the Boggs Tract neighborhood at Fresno Avenue.
- **I-5** is a major north-south freeway that traverses through California, Oregon, and Washington. Within the study area, I-5 is a six- to eight-lane freeway. North of Charter Way, I-5 has three

general-purpose lanes and one high occupancy lane in each direction. South of Charter Way, I-5 has three general-purpose lanes in each direction.

- **McCloy Avenue** is a two-lane east-west collector located in the Port of Stockton. McCloy Avenue begins at Humphreys Street and continues east as Navy Drive in the City of Stockton. There are no sidewalks or bicycle facilities on McCloy Avenue.
- **Port of Stockton Expressway** is a two-lane north-south arterial located between McCloy Avenue and SR-4/Charter Way in the Port of Stockton. There are no sidewalks or bicycle facilities on Port of Stockton Expressway.
- **Navy Drive** is an east-west arterial that extends from McCloy Avenue and continues east before terminating at Charter Way. Navy Drive is four lanes between McCloy Avenue and Tille Lewis Drive and two lanes between Tille Lewis Drive and Charter Way. Navy Drive is classified as a truck route by the City. There are no sidewalks or bicycle facilities on Navy Drive.
- **Fresno Avenue** is a two-lane north-south collector located between Harbor Street in the north to Houston Avenue in the south. Fresno Avenue is classified as a truck route north of SR-4/Charter Way. Between Hazelton Avenue and Charter Way, Fresno Avenue is surrounded by mainly industrial land uses. There are very few sidewalks and no bicycle facilities on Fresno Avenue north of Charter Way.
- **Washington Street** is a two-lane east-west arterial that is located between Navy Drive and Weber Avenue. Washington Street is classified as a truck route and used to serve as a primary truck route before the SR-4/Navy Drive connector was constructed. There are very few sidewalks and no bicycle facilities on Washington Street.

3.3.17.1.2 Rail Network

California's freight railroad system consists of Class I railroads (BNSF and Union Pacific Railroad [UP]), which transport freight to and from the state over state lines, and Class III railroads, referred to as shortline railroads, which provide local rail movements. Both UP and BNSF lines serve the Port. In Northern California, the Martinez Subdivision, Feather River Canyon, and Donner Pass routes serve the ports of Oakland and Stockton; these routes are owned and dispatched by UP but serve BNSF through trackage right agreements. BNSF operates the Stockton Intermodal Facility on the southeast edge of the City, and UP operates a major intermodal facility and other terminal operations in Lathrop, California. Several shortline railroads also operate in Stockton. Central California Traction Company (CCT), jointly owned by BNSF and UP, operates 52 miles of freight service between Stockton and Lodi and is the shortline operator for the Port. CCT connections are made with BNSF, UP, and the Stockton Terminal and Eastern Railroads, which run from Stockton to Linden (City 2018a). The Port provides its own internal railway system. CCT provides all switching and local movements within the Port.

3.3.17.1.3 *Public Transit*

Transit in the study area is provided by San Joaquin Regional Transit District, which is the regional transit provider for San Joaquin County and the Stockton Metropolitan Area. Access to the project site is very limited via transit, with the closest transit stops being located approximately 2 miles away. The closest transit routes serving the Boggs Tract community are as follows:

- **Route 515** operates weekdays between 5:30 a.m. and 7:00 p.m. and provides service between Boggs Tract and Downtown Stockton. The route operates with headways of approximately 60 minutes.
- **Route 715** operates weekends between 9:00 a.m. and 6:00 p.m. and provides service between Boggs Tract and Downtown Stockton. The route operates with headways of approximately 60 minutes.

3.3.17.1.4 *Bicycle and Pedestrian Facilities*

Bicycle and pedestrian facilities are extremely limited within the Port. There are no bicycle lanes, and most roads are private and do not include sidewalks.

3.3.17.2 **Regulatory Setting**

Traffic analyses in California are guided by policies and standards set at the State level by Caltrans and local jurisdictions. Caltrans policies are applicable to the proposed project and are summarized in Caltrans's *Guide for the Preparation of Traffic Impact Studies*, which provides a summary of goals and policies (Caltrans 2002). Per the Caltrans guidebook, the appropriate level of traffic analysis is determined by the nature of a project, highway conditions, and forecasted traffic. If a project meets the following criteria, this provides a starting point for determining whether a traffic impact study is needed:

- The project would generate more than 100 peak-hour trips assigned to a state highway facility.
- The project would generate 50 to 100 peak-hour trips assigned to a state highway facility, and affected state highway facilities are experiencing noticeable delay, approaching unstable traffic flow conditions (Level of Service [LOS] C or D).
- The project would generate 1 to 49 peak-hour trips assigned to a state highway facility and:
1) affected state highway facilities are experiencing significant delay with unstable or forced traffic flow conditions (LOS E or F); 2) the potential risk for a traffic incident is significantly increased (e.g., congestion-related collisions, non-standard sight distance considerations, and increase in traffic conflict points); or 3) the project would cause changes in local circulation networks that impact a state highway facility (e.g., direct access to state highway facility or a non-standard highway geometric design).

SB 743, signed by Governor Brown in 2013, is intended to better align congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. SB 743 has set the stage for moving away from LOS, which measures delay to motorists, to vehicle miles traveled (VMT) as the metric to evaluate transportation network performance and land use and transportation planning decisions through CEQA. Specifically, SB 743 required OPR to amend the CEQA Guidelines to provide an alternative to LOS for evaluating transportation impacts.

In December 2018, the California Natural Resources Agency certified and adopted the CEQA Guidelines update package, including the CEQA Guidelines Section implementing SB 743. Under the updated CEQA Guidelines, the CEQA analysis must consider the amount and distance of automobile travel attributable to a project. OPR issued a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR Technical Advisory; OPR 2018), which provides general guidance on VMT analyses in the absence of regional guidance and defines automobiles as on-road passenger vehicles, specifically cars and light trucks. Other relevant considerations may include the effects of the project on transit and non-motorized travel. SB 743 also amended congestion management law to allow cities and counties to opt out of LOS standards within certain infill areas. Transportation impacts related to air quality, noise, and safety must still be analyzed under CEQA where appropriate (PRC 21099[b][3]). Under PRC 21099, automobile delay, as described solely by LOS or similar measures of vehicular capacity or traffic congestion, will not be considered a significant impact on the environment (*Citizens for Positive Growth & Preservation v. City of Sacramento*).

The CPUC has legal regulatory authority over rail safety within California, including operations and grade crossings throughout the state. However, rail operations under the proposed project are not subject to approval or modification by the commission because no grade crossings would be added or modified.

SJCOG has developed a Regional Transportation Plan (RTP), which guides the region's transportation development over a 20-year period and covers all modes of transportation. The RTP is updated every 3 years to reflect changes in available funding, economic activity, and population and to incorporate findings from corridor studies and major infrastructure investments. The projects included in the RTP are also assessed as to their effect on air quality because the RTP is used in the SIP to ensure states are meeting federal conformity standards. If a project is included in the RTP, its effect on regional conformity goals has been accounted for. The current 2018 RTP was adopted by the SJCOG Board in June 2018. The City is responsible for coordination with regional transportation plans.

SJCOG has formed a SB 743 Technical Working Group to address shifting from LOS to VMT in local agency and SJCOG CEQA analysis, and adapting related SJCOG programs such as the RTP, if necessary. No draft guidance is available at this time.

The 2040 General Plan (City 2018a) guides the maintenance, design, and operation of transportation, including streets and highways, within the project area. The following goals and policies applicable to the Port and proposed project are provided for transportation:

- **Policy TR-1.1:** Ensure that roadways safely and efficiently accommodate all modes and users, including private, commercial, and transit vehicles, as well as bicycles and pedestrians and vehicles for disabled travelers.
 - Action TR-1.1A: Direct truck traffic to designated truck routes that facilitate efficient goods movement and minimize risk to areas with concentrations of sensitive receptors, such as schools, for example, by disallowing any new truck routes to pass directly on streets where schools are located, and vulnerable road users, such as pedestrians and bicyclists.
 - Action TR-1.1B: Maintain and periodically update a schedule for synchronizing traffic signals along arterial streets and freeway interchanges to facilitate safe and efficient movement of people and goods and to provide signal priority for transit vehicles at intersections.
 - Action TR-1.1C: Require roadways in new development areas to be designed with multiple points of access and to address barriers, including waterways and railroads, in order to maximize connectivity for all modes of transportation.
 - Action TR-1.1D: Update existing Precise Road Plans to reflect the 2040 General Plan, including changes in land use and LOS requirements, and a shift in priority from vehicular travel to travel by all modes through complete streets.
- **Policy TR-1.2:** Enhance the use and convenience of rail service for both passenger and freight movement.
 - Action TR-1.2C: Provide grade separations at railroad crossings on arterial streets where feasible to ensure public safety and minimize traffic delay.
- **Policy TR-1.3:** Facilitate expanded port and airport operations, service, and development as travel and goods movement assets to the community and sources of employment growth.

As noted above, SB 743 requires moving from LOS to VMT as the metric to evaluate transportation network performance and land use and transportation planning decisions, with investments oriented toward reducing VMT. The 2040 General Plan (City 2018a) includes the following policies related to integrating SB 743 into future planning:

- **Policy TR-4.1:** Utilize LOS information to aid understanding of potential major increases to vehicle delay at key signalized intersections.
 - Action TR-4.1A: Strive for LOS D or better for both daily roadway segment and peak-hour intersection operations, except when doing so would conflict with other land use, environmental, or economic development priorities, and with the following additional exceptions:

- In the Greater Downtown, strive for LOS E or better, but LOS F may be acceptable after consideration of physical or environmental constraints and other City goals and policies.
- Roadway segments determined to be operating at deficient LOS by SJCOG in the Regional Congestion Management Program
- Accept worse than adopted-standard LOS at intersections where widening the intersection would reduce bicycle and pedestrian safety and/or increase pedestrian crossing times such that they would create longer traffic delays due to signal timing.
- Action TR-4.1B: Amend the City's Transportation Impact Analysis (TIA) Guidelines to reflect the updated LOS goals under Action TR-4.1.A and to refine the threshold at which a project needs to evaluate LOS impacts.
- **Policy TR-4.2:** Replace LOS with: 1) VMT per capita; and 2) impacts to non-automobile travel modes, as the metrics to analyze impacts related to land use proposals under CEQA, in accordance with SB 743.
 - Action TR-4.2A: To evaluate the effects of new development and determine mitigation measures and impact fees, require projects to evaluate per capita VMT and impacts to transit, bicycle, and pedestrian modes.
 - Action TR-4.2B: Amend the City's TIA Guidelines to include alternative travel metrics and screening criteria.
- **Policy TR-4.3:** Use the threshold recommended by OPR for determining whether VMT impacts associated with land uses are considered significant under State environmental analysis requirements.
 - Action TR-4.3A: Amend the City's TIA Guidelines to: 1) establish a threshold of 15% below baseline VMT per capita to determine a significant transportation impact under CEQA; and 2) identify screening criteria that will streamline certain types of development and/or development in certain areas by not requiring a VMT analysis.

Consistent with Policy TR-4.3, the City is updating its TIA Guidelines (expected to be finalized in 2023) based on guidance from the OPR, as documented in the OPR Technical Advisory on Evaluating Transportation Impacts in CEQA (OPR 2018). The Draft TIA Guidelines established the following VMT thresholds for the most common land uses:

- **Residential:** 15% below the City-wide average for home-based VMT per resident
- **Office:** 15% below the City-wide average for home-based work VMT per employee
- **Retail and Other Land Uses:** To be established on a case-by-case basis, reflecting the City's commitment to achieving VMT reductions while also being sensitive to the characteristics of the project being evaluated. For a retail project, the threshold is no net increase in total VMT.

Per the 2018 CEQA Guidelines Update, CEQA analyses must consider the amount and distance of automobile travel attributable to a project. Other relevant considerations may include a project's effects on transit and non-motorized travel. Consistent with the 2018 CEQA Guidelines and SB 743, the City is updating its traffic guidelines. Although LOS is no longer a CEQA threshold, the City is continuing to assess increases in traffic levels in addition to VMT to adequately plan and manage traffic congestion on the City's roadways and intersections. Accordingly, traffic impact analyses are conducted for projects generating 110 or more vehicle trips during the morning or evening peak hours.

The CPUC has legal regulatory authority over rail safety within California, including operations and grade crossings throughout the state. CPUC is the state agency with exclusive jurisdiction over rail crossings in California. CPUC engineers evaluate the safety of rail crossings and review proposed construction where roadways or pathways cross railroad or rail transit tracks.

3.3.17.3 Impact Evaluation

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

Less-than-Significant Impact. No transit services are provided to the Port or to the project site. The nearest transit service is the local 515 bus line stop at the Boggs Track Community Center, located approximately 0.75 mile (3,960 feet) from the project site. There are very few pedestrian and bicycle facilities within the Port. The project site does not propose any pedestrian or bicycle facilities on Port Road 5. Therefore, there would be no conflict with any roadway, bicycle, and pedestrian plans.

Construction: Except for the initial movement of construction equipment to the site at the start of construction and eventual movement from the site at the end of construction, construction of the proposed project would not affect roads or other transportation corridors. Up to 32 truck and employee trips per day are anticipated during the most intensive construction phase. Therefore, construction-related traffic would remain under the threshold of 110 trips new trips during peak hours, and a TIA would not be required.

Operations. As discussed in Section 2.5, it is expected that there would be no increases in operational traffic beyond past approvals issued for the existing BWC terminals.

Because construction and operation-related traffic would remain under the threshold of 110 trips, impacts would be less than significant.

B: Would the project conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

Less-than-Significant Impact. CEQA Guidelines Section 15064.3(b) describes specific considerations for evaluating a project's transportation impacts and notes that VMT is the most appropriate measure of transportation impacts consistent with SB 743.

- VMT impacts for a proposed project would be less-than-significant if the proposed project generates fewer than 110 vehicle trips per day. As discussed in TRA-1, proposed project operations would not generate additional traffic, and construction trips would not exceed 32 trips per day. Therefore, impacts would be less than significant.

C: Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. The proposed project would not result in an increase in traffic, and existing operational truck trips at BWC Terminals 1, 2, and 3 would not change as a result of the proposed project. Accordingly, there would be no impact on hazards resulting from geometric design features or incompatible uses.

D: Would the project result in inadequate emergency access?

No Impact. All vehicular access to and from the project site would be provided from Port Road 5. The Port has developed an emergency response plan to address emergency needs Port-wide and maintains its own Police Department, which is responsible for providing security protection of Port tenants on a 24-hour basis. Additionally, the closest fire stations to the project site are Station 6 at 1501 Picardy Drive (1.0 mile northeast of the proposed project) and Station 2 at 110 West Sonora Street (1.9 miles east of the proposed project; City 2018b). Because the proposed project is not expected to increase the need for emergency services or block any emergency access routes, the proposed project would have no impact on emergency access.

3.3.18 Tribal Cultural Resources

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
	i. 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)?	☐	☒	☐	☐
	ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

3.3.18.1 Affected Environment

The project site is in the traditional territory of the Yokuts Tribe and may also have been used or settled by Plains Miwok and Wintun peoples. Yokuts communities were organized into a number of Tribes united by a common language (Golla 2007). They lived throughout the San Joaquin Valley and relied on the region's rich fishing and hunting resources (Kroeber 1976). Native American communities were severely impacted by European contact (Milliken 1995). However, Yokuts people who have endured are now members of several federally recognized Tribes.

Two Native American Tribes, the Buena Vista Rancheria of Me-Wuk Indians of California and the Wilton Rancheria Tribe, have requested consultation on CEQA documentation for projects at the Port under the CEQA Guidelines (commonly known as AB 52). The Port regularly consults with five other Tribes: the North Valley Yokuts Tribe, the Tule River Indian Tribe, Muwekma Ohlone Indian Tribe of the San Francisco Bay Area, the Confederated Villages of Lisjan, and the Wuksache Indian Tribe/Eshom Valley Band. The Port notified these seven Tribes of the proposed project by email and letter on April 18 and April 21, 2023, and will provide the Draft IS/MND to the Tribes. The Wilton Rancheria Tribe responded on May 11, 2023, and requested more information. The Port held a meeting with the Wilton Rancheria Tribe on June 14, 2023.

The Port requested a search of the Sacred Lands File from the NAHC on April 26, 2023. The NAHC responded on May 30, 2023, that the search was negative. No Tribal cultural resources have been identified in the project site. Consultation will be ongoing.

Compliance with the NHPA Section 106 is required for the USACE to issue a permit for the proposed project; a Section 106 consultation with the SHPO is expected as part of the proposed project's USACE permitting process.

3.3.18.2 Impact Analysis

Ai: Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is 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)?

Less-than-Significant Impact After Mitigation. There are no known sites, features, places, or cultural landscapes that are listed or eligible for listing in the California Register of Historical Resources or in a local register of historical resources in the project area. Previously unrecorded archaeological resources or human remains could potentially constitute Tribal cultural resources. However, the potential to encounter archaeological resources is low, as described in Section 3.3.5. Although the potential is low, native sediments may contain a previously unrecorded archaeological site or human remains that could be Tribal cultural resources. The disturbance, or damage, of previously unidentified historical or archaeological resources would be a potentially significant impact.

Implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring) would require worker awareness training, conducting Tribal monitoring during upland grading, halting work if an artifact is encountered, and evaluating the find in consultation with Native American Tribes and the SHPO. If the resource is determined to be a significant historical or unique archaeological resource, additional measures would be taken to minimize or avoid significant effects, which may include (but are not limited to): avoidance; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. With implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring), impacts would be considered less than significant.

Aii: Would the proposed project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in Public Resources Code Section 5024.1(c)? In applying the criteria set forth in Public Resources Code Section 5024.1(c), the lead agency shall consider the significance of the resource to a California Native American tribe.

Less-than-Significant Impact After Mitigation. There are no known sites, features, places, or cultural landscapes that have been determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in PRC 5024.1(c) in the project area. Previously unrecorded archaeological resources or human remains could potentially constitute Tribal cultural resources. However, potential to encounter archaeological resources is low, as described in Section 3.3.5. Although the potential is low, native sediments may contain a previously unrecorded archaeological site or human remains that could be Tribal cultural resources. Therefore, because the proposed project includes disturbance of soil, if archaeological materials or remains are present in previously undisturbed native sediments, they could potentially be disturbed during construction. The disturbance, or damage, of previously unidentified archaeological materials or remains would be a potentially significant impact.

Implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring) would require worker awareness training, conducting Tribal monitoring during upland ground-disturbing work, halting work if an artifact is encountered, and implementing data recovery or preservation procedures. These measures would reduce potential impacts to a less-than-significant level by ensuring that construction would halt in the area of an unanticipated find so that a qualified Native American Tribal representative could make additional recommendations if required. If the resource is determined to be a significant historical or unique archaeological resource, additional measures would be taken to minimize or avoid significant effects, which may include (but are not limited to): avoidance; capping the site; deeding the site into a permanent conservation easement; or data recovery excavation. With implementation of MM-CUL-1 (Inadvertent Discovery Provisions) and MM-CUL-2 (Pre-Construction Training and Tribal Monitoring), impacts would be considered less than significant.

3.3.19 Utilities and Service Systems

Would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☒	☐
b.	Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	☐	☐	☒	☐
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?	☐	☐	☒	☐
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?	☐	☐	☐	☒
e.	Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.3.19.1 Affected Environment

3.3.19.1.1 Stormwater

As outlined in Section 3.3.10.1.4, the stormwater drainage system at the project site is part of the Port's MS4 and is regulated accordingly. Any modifications to the drainage system are required to occur under Port oversight and in compliance with MS4 permit terms. The East Complex docks north of A Street generally drain directly to the San Joaquin River (Stockton DWSC) through a series of stormwater collection basins, drains, piping, and outfalls (Stockton Port District 2012). Outfall D10 is just north of the project site and Outfall D11 is located at Berth 9. Stormwater falling on overwater parts of the proposed project would drain directly to the San Joaquin River, except for contact water at the loading platform, which would be collected, pumped to the oil-water separator, and then disposed as wastewater. Stormwater from the upland portions of the proposed project would be conveyed to the Port's existing stormwater drainage system along the East Complex docks.

3.3.19.1.2 Water Supply

Water service providers in the Stockton metropolitan area include the Stockton Municipal Utilities Department and the California Water Service (City 2018a). Approximately 16% of the City's water supply originates from groundwater wells, with the remaining water supply from treated surface water supplied by the Stockton East Water District (Cal Water 2020). The Delta Water Treatment Plant was completed in 2012 to provide the City with a reliable water supply to meet both current and future water needs (City 2023c). California Water Service provides domestic water in the area. Non-potable water obtained directly from the San Joaquin River is used for most non-domestic Port development needs.

3.3.19.1.3 Wastewater Infrastructure

The Stockton Regional Wastewater Control Facility (located just off SR 4 on both sides of the San Joaquin River) provides secondary and tertiary treatment of municipal wastewater throughout the City. The Stockton Regional Wastewater Control Facility is a tertiary treatment facility that handles 55 million gallons per day (gpd). The facility serves the City and outlying San Joaquin County areas and currently processes an average of 33 million gpd (City 2022b).

3.3.19.1.4 Solid Waste

Solid waste within the City and Port is transported and disposed of primarily in the privately owned Forward Landfill and the San Joaquin County-owned Foothill Sanitary Landfill and North County Landfill & Recycling Center (CalRecycle SWIS 2023a, 2023b, 2023c; City 2018a). The City's *Envision Stockton 2040 General Plan Update and Utility Master Plan Supplements Draft EIR* indicates that all three landfills have sufficient capacity to serve the region's needs (City 2018b). The most recently reported remaining capacity and acceptable waste types for these facilities are listed in Table 12.

Table 12
Project Vicinity Landfills

Landfill	Remaining Capacity	Waste Type
Forward Landfill	Unit 1: 24,720,669 cy (reported January 31, 2020)	Agricultural, asbestos (including friable), ash, construction/demolition, contaminated soil, green materials, industrial, mixed municipal, sludge (biosolids), tires, shreds
Foothill Sanitary Landfill	125,000,000 cy (reported June 10, 2010)	Agricultural, construction/demolition, dead animals, industrial, mixed municipal, tires, wood waste
North County Landfill & Recycling Center	35,400,000 cy (reported December 31, 2009)	Construction/demolition, industrial, mixed municipal, tires, other designated, agricultural, metals, wood waste

Sources: CalRecycle SWIS 2023a, 2023b, 2023c

3.3.19.1.5 Utilities

PG&E services the area of the proposed project with overhead electrical distribution lines and underground gas transmission lines.

3.3.19.2 Impact Evaluation

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

Less-than-Significant Impact. The proposed project would be adequately served by existing utility facilities available to Port tenants. New water service would be extended to the project site for non-potable fire system water and potable water to supply eyewash stations and vessels. Connections for electricity would be similarly provided from existing Port service to the project site. The proposed project would not require a sanitary sewer connection. The proposed project would have limited utility needs, and the proposed project would not require new generation or handling facilities for any of these utilities. Therefore, the impact would be less than significant.

B: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

Less-than-Significant Impact. The proposed project would require non-potable water for the fire suppression system and potable water to supply eyewash stations and vessels. This water use would be moderate, can be accommodated by existing water resources, and would not require new or expanded entitlements. Therefore, the proposed project would have a less-than-significant impact pertaining to water supply entitlements.

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?

Less-than-Significant Impact. The proposed project would produce wastewater from domestic services use and from contact water from the transfer platform processed in the oil-water separator. This wastewater would be within the capacity of the existing Port system. The proposed project would not require additional wastewater service or impact the Port or the Stockton Regional Wastewater Control Facility's ability to handle existing wastewater needs in combination with the proposed project and foreseeable future needs. Therefore, the proposed project would have a less-than-significant impact pertaining to wastewater treatment capacity.

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?

No Impact. The proposed project would generate minimal solid waste; soils excavated during site preparation would be recompact for use on the site. The amount of solid waste generated by operation of the proposed project would be negligible and limited to nonhazardous waste generated by personnel on site and through facility maintenance. The landfills in the area have adequate capacity to meet the region's need and are authorized to accept waste materials that may be generated during construction of the proposed project. Therefore, there would be no impact related to landfill capacities.

E: Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The proposed project would be constructed within the parameters of applicable federal, state, and local solid waste regulations. As described, area landfills are authorized to accept the types of waste potentially generated by proposed project construction and operation. Therefore, there would be no impact.

3.3.20 Wildfire

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
a.	Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
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?	☐	☐	☐	☒
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?	☐	☐	☐	☒
d.	Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.3.20.1 Affected Environment

According to the Fire Hazard Severity Zone Maps maintained by the California Department of Forestry and Fire Protection, the project area and other nearby communities within San Joaquin County are outside of zones that present moderate to very high fire hazard severity risk. Therefore, the project area and nearby communities are generally considered to have lower wildfire risk (CAL FIRE 2023a). The project and nearby communities are located in a local responsibility area (CAL FIRE 2023b). Existing fire response services are described in Section 3.3.15.

As noted throughout this IS/MND, there are a suite of emergency response plans that cover the project area, including the following:

- BWC CMP, which would implement safety measures required under MOTEMS, in addition to those required by the Port (Port 2021b, 2022c), and within the CMP (Contanda 2017)
- Regional plans such as the *San Joaquin County SF-10 Hazardous Material Area Plan Annex* (County 2019b) and *San Joaquin County Emergency Operations Plan* (County 2022), which were developed according to local, regional, state, and federal guidelines to meet current standards
- Port emergency plans (e.g., *Port of Stockton 2020-21 Utility Wildfire Mitigation Plan* [Port 2021b] and *Port of Stockton 2022 Utility Wildfire Mitigation Plan Update* [Port 2022c]) to prevent wildfire and responsibilities regarding wildfire risk as a public agency and local publicly owned utility

The proposed project would not interfere with implementation of these response plans.

3.3.20.2 Impact Evaluation

A: 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?

No Impact. The project site is not in or near a state responsibility area and is not in or near lands classified as very high fire hazard severity zones (CAL FIRE 2023a). The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Further, there would be no impact on traffic that could affect emergency response (Section 3.3.17). Therefore, there would be no impact.

B: 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?

No Impact. The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels, and fuel moisture contents), and topography. For instance, steep slopes can contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult (Estes et al. 2017). Fuels, such as grass, are highly flammable (Estes et al. 2017).

The project site is located in an area that is industrialized, generally flat, and contains some vegetation, but is not considered to pose a significant risk of wildfire. The project site is not in or near a state responsibility area and is not in or near lands classified as very high fire hazard severity zones (CAL FIRE 2023a). Although the proposed project entails distribution and usage of common industrial materials that may be flammable, the CMP (Contanda 2017) will include monitoring measures that address operational fire hazards, and adequate fire response services are in place to respond during an emergency (Section 3.3.9). Therefore, there would be no impact.

C: 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?

No Impact. The proposed project would be in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2023b).

New fire safety and life safety appurtenances associated with the proposed project would be compliant with MOTEMS requirements, and any existing features would be upgraded to meet or exceed MOTEMS. Moreover, the proposed project would likely tie into the Port's or BWC's existing water system as a potential backup for the fire water system and to the Port's electrical connections through PG&E.

There would be minor electrical and water demands during construction and operation. However, because the proposed project is not in or near state responsibility areas or very high fire severity zones, and because these utility lines already exist, the proposed project would have no impact.

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 downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

No Impact. The project site is not within any state fire hazard severity zones (CAL FIRE 2023a, 2023b). The proposed project would not result in downstream flooding or landslides due to changes in runoff, post-fire slope instability, or drainage that would increase the potential for slope failure or landslides (Section 3.3.7). Therefore, neither people nor structures would be exposed to significant risks. Additionally, the proposed project would be located in a local responsibility area, not a state responsibility area, and would not be in or near lands classified as very high fire hazard severity zones (CAL FIRE 2023a). Further, site preparation measures described previously would reduce the potential for slope failure or landslides. Therefore, there would be no impact.

3.3.21 Mandatory Findings of Significance

		Potentially Significant Impact	Less-Than-Significant Impact After Mitigation	Less-Than-Significant Impact	No Impact
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?	☐	☒	☐	☐
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.)	☐	☐	☒	☐
c.	Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒	☐	☐

3.3.21.1 Impact Evaluation

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?

Less-than-Significant Impact After Mitigation. The upland portions of the project area are heavily urban or industrial and provide only marginal habitats or habitat features suitable for terrestrial special-status species. Undeveloped areas may provide habitat for special-status bird species. Elderberry bushes in the project area, including those observed along the shoreline, may provide habitat to VELB. Terrestrial habitat within the project area is generally lower quality due to Port and urban developments and activities. Waters at the project site may provide habitat to special-status fish species.

Construction of the proposed project has the potential to adversely affect species that could be present in the project area. For terrestrial species, this includes potential direct or indirect impacts

during construction such as trampling, removal of host species, or nest disturbance. For aquatic species, temporary construction impacts include potential input of pollutants to the waterway that could affect water quality, construction noise, and pile driving or other bottom-disturbing activities that could also affect water quality or result in injury or mortality of special-status fish. These construction impacts could constitute potentially significant impacts. Permanent adverse impacts would be minimal and likely limited to loss of marginal terrestrial and aquatic habitat within the immediate footprint of proposed dock construction. Mitigation measures MM-BIO-1 through MM-BIO-7 would be implemented to reduce potential impacts (see Section 3.3.4.2). With implementation of these mitigation measures, there would be less-than-significant impacts to biological resources.

With regard to potential cultural and historical resources impacts, although the proposed project includes regrading of an existing shoreline, native materials are not anticipated to be found. The proposed project does not include demolition of any structures. Mitigation measures MM-CUL-1 and MM-CUL-2 would be implemented to reduce potential impacts (see Section 3.3.5.2). Therefore, impacts to historic or cultural resources would be less than significant.

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.)

Less-than-Significant Impact. The proposed project would result in minimal less-than-significant impacts, some of which require mitigation. The proposed project's operations were specifically designed to avoid significant air quality, GHG, noise, and transportation impacts. Therefore, the proposed project would result in less-than-significant impacts as related to cumulative impacts.

C: Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?

Less-than-Significant Impact After Mitigation. As noted throughout, the proposed project would result in minimal less-than-significant construction and operational impacts. A purpose of the proposed project is to distribute renewable diesel and biodiesel throughout the region for use as a renewable fuel, which constitutes an overall long-term benefit to communities living in the region as compared to without project conditions. With regard to potential energy and GHG impacts, the proposed project would incorporate energy conservation and efficiency measures through implementation of MM-EN-1 and MM-EN-2. Therefore, with implementation of mitigation, the proposed project would result in less-than-significant impacts associated with environmental effects that could adversely affect human beings.

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Appendix A

Site Plans

BWC TERMINALS LLC

MARINE OIL TERMINAL

PORT OF STOCKTON BERTH 8
STOCKTON, CALIFORNIA

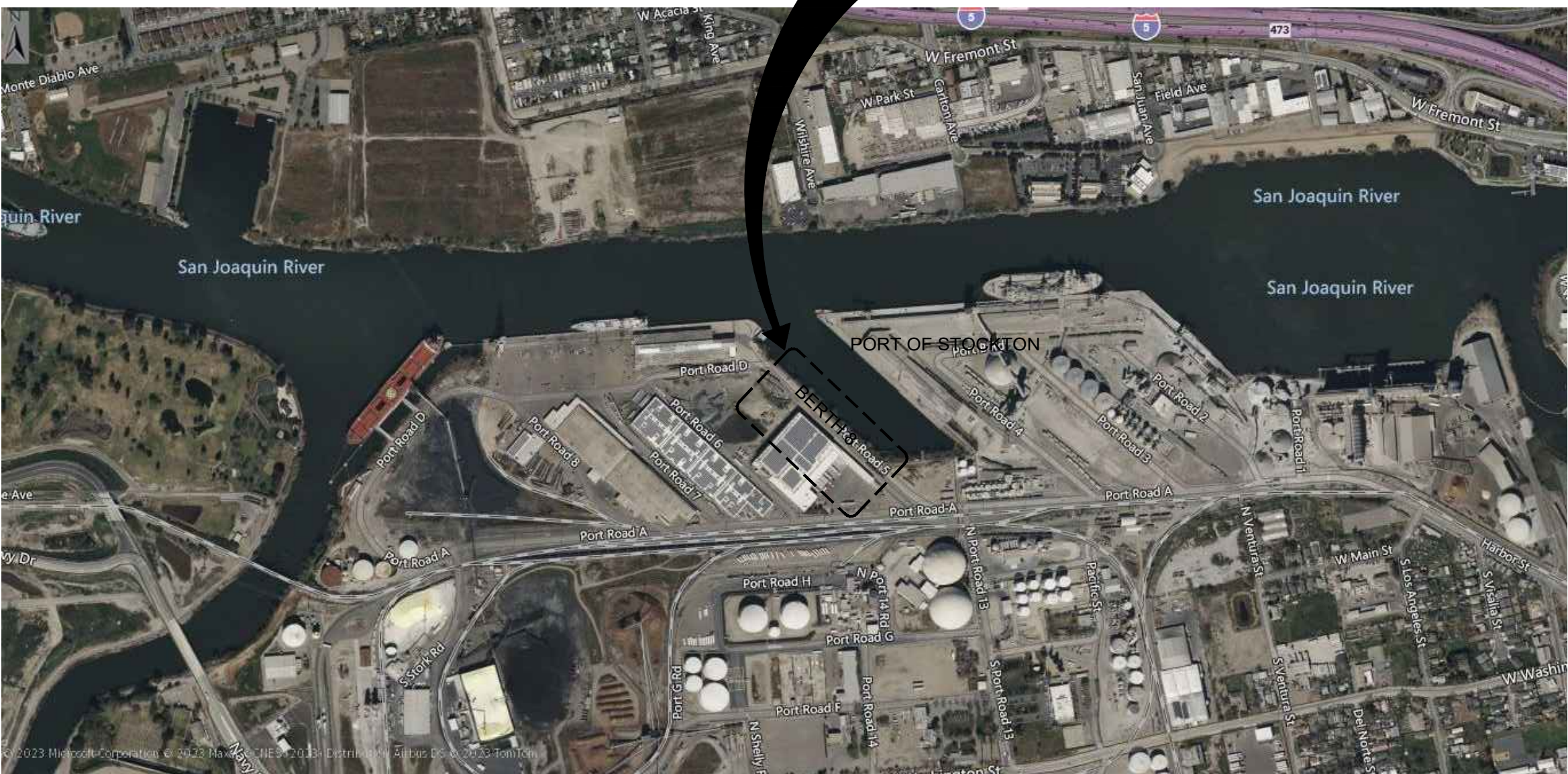
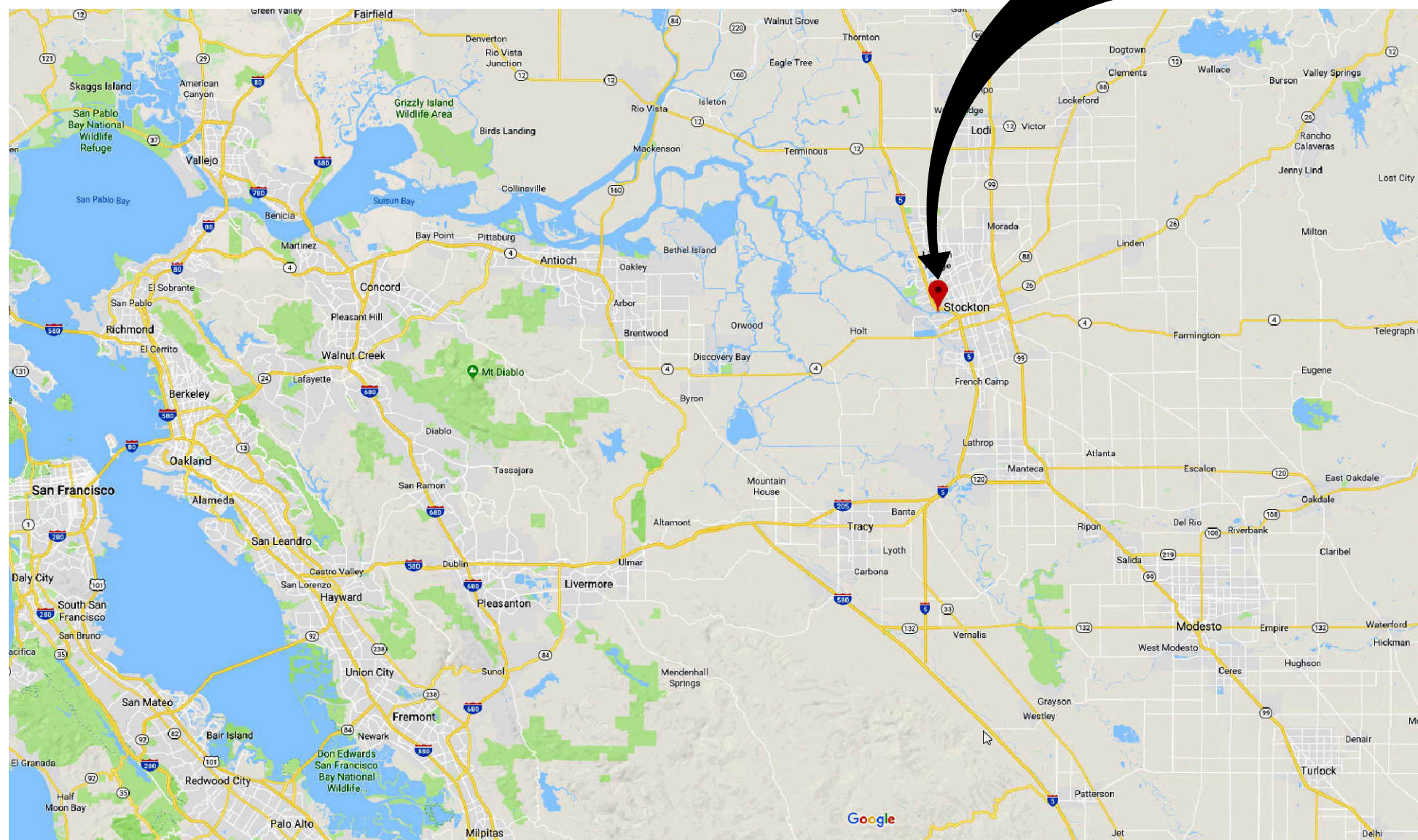


SIMPSON GUMPERTZ & HEGER
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Oakland, CA 94612
415.495.3700
sgh.com



PROJECT
LOCATION

PORT OF STOCKTON
BWC TERMINAL



Vicinity Map

Site Plan

Drawing Index

DRAWING NO.	SHEET TITLE
G-000	Cover Sheet
C-100	Shoreline Protection Plan
C-200	Shoreline Protection Section and Notes
C-201	Shoreline Protection Section and Notes
D-100	Site Demolition Plan
ST-100	Bathymetric Survey Plan
ST-101	Terminal Site Plan
ST-102	Enlarged Plan - Marine Structures
ST-103	Plans Loading Platform
ST-104	Plans Breasting Dolphins
ST-105	Plans Mooring Dolphins

DRAWING NO.	SHEET TITLE
ST-106	Plans Fire Pump Platform
ST-107	Hose Tower Deck Level Plan Phase 1
ST-108	Hose Tower Level 1 Plan Phase 1
ST-201	Section Loading Platform
ST-202	Sections Breasting Dolphins
ST-203	Sections Mooring Dolphins
ST-204	Sections Onshore Structures
ST-205	Hose Tower Section Phase 1
ST-501	3D Rendering SW Perspective Phase 1
ST-502	3D Rendering NE Perspective Phase 1
ST-503	3D Rendering NW Perspective Phase 1
ST-504	3D Rendering Hose Tower SE Perspective Phase 1
ST-505	3D Rendering Breasting Dolphin and Fire Pump Platform
ST-506	3D Rendering Shore Isolation Valves
ST-507	3D Rendering Terminal Site Plan
ST-508	3D Rendering Enlarged Plan Marine Structures Phase 1

**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

STOCKTON, CA

Project

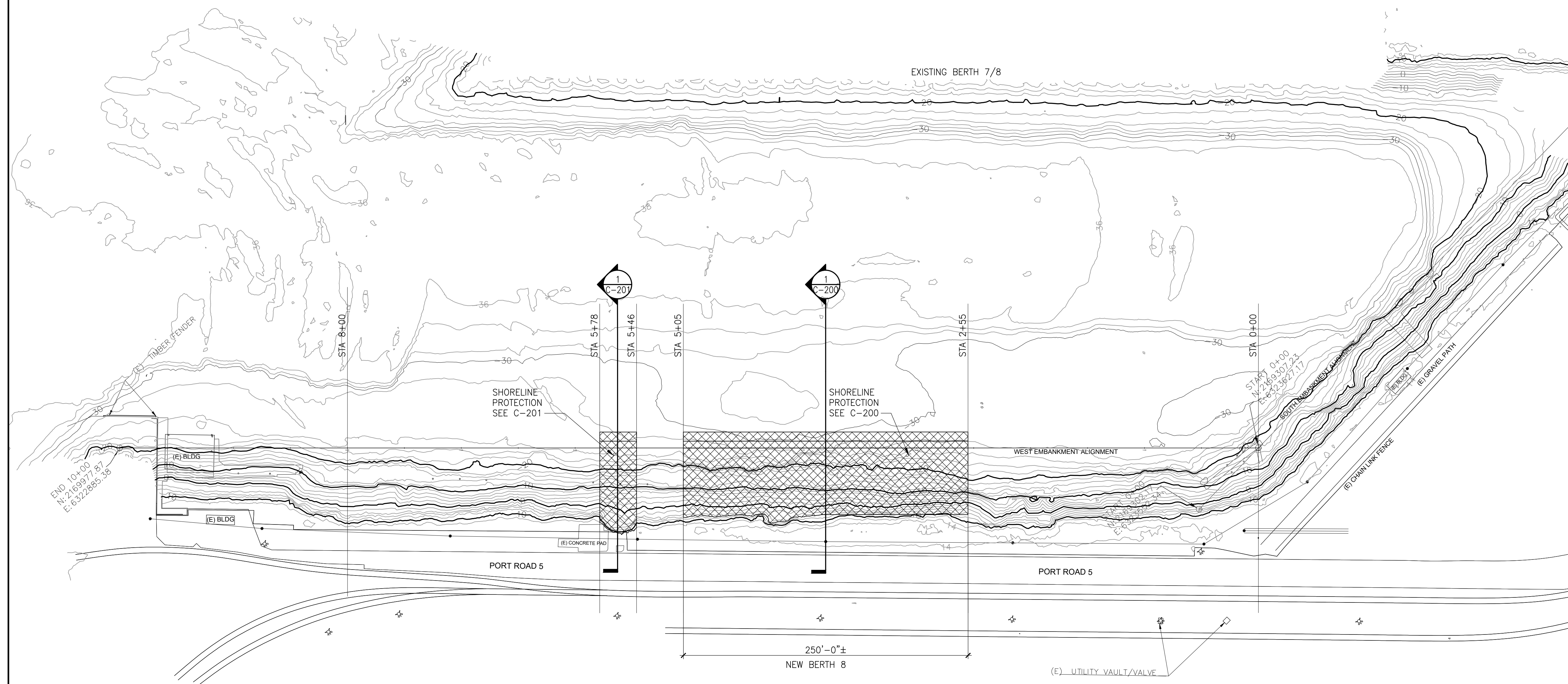
COVER SHEET

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Drawing No. STK-100453- G-000	
Seal	

ENVIRONMENTAL PERMIT
NOT FOR CONSTRUCTION



TK-100453-C-102

SHORELINE PROTECTION PLAN

SCALE: 1"=50'-0"

ENVIRONMENTAL PERMIT NOT FOR CONSTRUCTION

-	8/30/23	Environmental Permit	RFM
No.	Date	Description	By

**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

STOCKTON, CA

Project

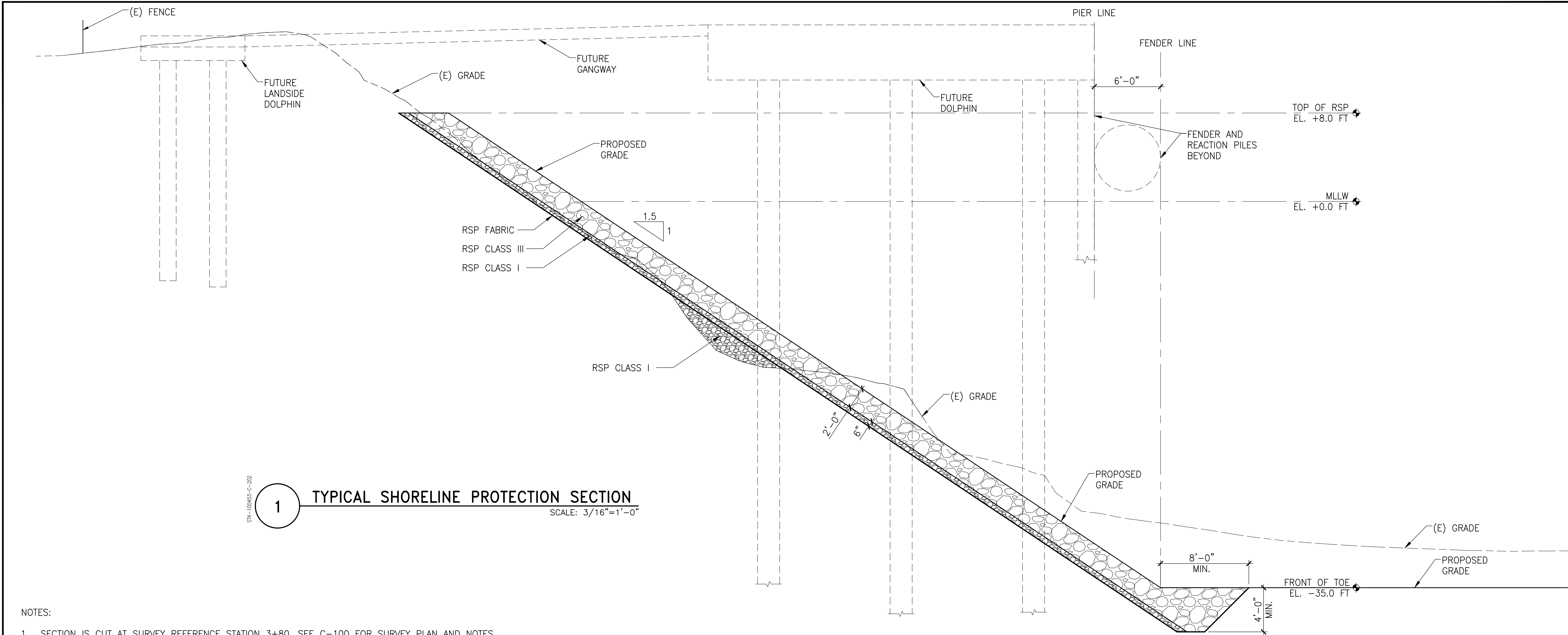
SHORELINE PROTECTION PLAN

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

STK-100453-
C-100

Sea



1 TYPICAL SHORELINE PROTECTION SECTION
SCALE: 3/16"=1'-0"

- NOTES:
1. SECTION IS CUT AT SURVEY REFERENCE STATION 3+80. SEE C-100 FOR SURVEY PLAN AND NOTES.

GENERAL NOTES

PROJECT SCOPE

1. THE WORK SHOWN ON THE FOLLOWING DRAWINGS HAS BEEN DEVELOPED FOR THE CONSTRUCTION OF THE SHORELINE PROTECTION FOR BWC STOCKTON BERTH 8 IN STOCKTON, CALIFORNIA.
2. THE WORK SHOWN ON THESE DRAWINGS IS INTENDED TO PROTECT THE SHORELINE ALONG THE NEW BERTH.
3. THE WORK SHOWN ON THESE DRAWINGS REPRESENTS THE FINAL CONDITION.
4. ALL WORK SHALL COMPLY WITH RELEVANT LOCAL AND STATE CODES, STANDARDS, AND REGULATIONS
5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO INSTALL THE WORK SHOWN ON THESE DRAWINGS IN A MANNER THAT PROTECTS BOTH LIFE AND PROPERTY DURING ALL PHASES OF CONSTRUCTION. THE CONTRACTOR SHALL EXERCISE ALL NECESSARY CARE AND PRECAUTIONS TO PREVENT ANY DAMAGE TO EXISTING STRUCTURES BY OR AS A RESULT OF HIS OPERATIONS. ANY DAMAGE RESULTING FROM THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED AS DIRECTED BY THE OWNER AT THE CONTRACTOR'S EXPENSE

SITE CONDITIONS

6. PROPOSED ROCK SLOPE PROTECTION (RSP) EXTENT IS BASED UPON PAST SURVEYS. RSP EXTENT MAY NOT ACCURATELY REPRESENT THE CURRENT CONDITION AND ARE FOR THE CONTRACTOR'S USE IN PREPARING BID PRICE ONLY PRIOR TO START OF CONSTRUCTION. THE CONTRACTOR SHALL PERFORM A BATHYMETRIC SURVEY OF THE CURRENT CONDITION WITHIN PROPOSED RSP REGION AND SUBMIT THE SURVEY TO OWNER AND ENGINEER SO THAT THE FINAL DESIGN WILL BE DEVELOPED.
7. THE CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, ELEVATIONS, AND DIMENSIONS IN THE FIELD PRIOR TO ORDERING ANY MATERIAL OR PERFORMING ANY WORK. THE CONTRACTOR SHALL NOTIFY THE OWNER IF ANY CONDITIONS OR DIMENSIONS VARY FROM THOSE SHOWN ON THESE DRAWINGS.
8. ALL OMISSIONS AND CONFLICTS BETWEEN THE VARIOUS ELEMENTS OF THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER BEFORE PROCEEDING WITH ANY WORK SO INVOLVED.

SUBMITTALS

9. PRIOR TO PROCEEDING WITH THE WORK, THE CONTRACTOR SHALL SUBMIT THE FOLLOWING TO THE OWNER AND ENGINEER FOR REVIEW:
- A. CONSTRUCTION PLAN AND PROCEDURE FOR PLACING RSP FABRIC, BEDDING STONE, AND RSP MATERIALS.
- B. LIST OF ALL EQUIPMENT TO BE USED IN THE EXECUTION OF THE WORK.
- C. MATERIAL AND GRADING DATA FOR BEDDING STONE AND RSP MATERIALS.
- D. CONFIRM BY ENGINEERING CALCULATION THAT THE SHORELINE SLOPE IS STABLE DURING INSTALLATION OF THE SHORELINE PROTECTION
10. CONTRACTOR WILL ALLOW A MINIMUM OF 10 WORKING DAYS FOR REVIEW OF ALL SUBMITTALS, FOLLOWING RECEIPT BY THE OWNER AND ENGINEER.
11. REVIEW OF SUBMITTALS BY THE ENGINEER IS ONLY FOR GENERAL COMPLIANCE WITH DESIGN INTENT AND DOES NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLETING THE WORK IN ACCORDANCE WITH THESE DRAWINGS.

BEDDING STONE AND RSP MATERIALS

12. MATERIAL. BEDDING STONE AND RSP SHALL BE ANGULAR QUARRY ROCK, SPECIALLY CAST OR CAREFULLY SELECTED CONCRETE PIECES FREE OF REINFORCING STEEL, OTHER EXTRANEIOUS MATERIALS, AND NOT ROUNDED, WORN, OR OTHERWISE EXCESSIVELY WEATHERED IS ONLY PERMITTED WITH WRITTEN APPROVAL OF THE ENGINEER. THE USE OF DIRT, SMALL CONCRETE RUBBLE, CONCRETE PIECES WITH EXPOSED REBAR, LARGE AND ODD SHAPED PIECES OF CONCRETE, AND ASPHALT CONCRETE IS PROHIBITED.
13. SIZE. RSP SHALL BE AS STATED IN THE DRAWINGS. THE GREATEST DIMENSION OF THE MATERIAL SHALL BE MORE THAN THREE TIMES THE LEAST DIMENSION. THE MATERIAL SHALL BE WELL GRADED AND CONFORM TO THE FOLLOWING GRADING REQUIREMENTS:

RSP (CLASS IV)		
MAX. DIAMETER OF PIECES	PERCENT BY TOTAL WEIGHT	
=====		
13.0 IN.	15%	
17.5 IN.	50%	
30.0 IN.	100%	

RSP (CLASS III)		
MAX. DIAMETER OF PIECES	PERCENT BY TOTAL WEIGHT	
=====		
10.5 IN.	15%	
14.0 IN.	50%	
24.0 IN.	100%	

BACKING (CLASS I)		
MAX. DIAMETER OF PIECES	PERCENT BY TOTAL WEIGHT	
=====		
5.2 IN.	15%	
6.9 IN.	50%	
12.0 IN.	100%	

14. CONTRACTOR MAY SUBSTITUTE RSP CLASS I WITH RSP FABRIC WHEN APPROVED BY THE ENGINEER. RSP FABRIC SHALL BE MIRAFI 1160N OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE PRODUCT SUBMITTALS AND DIAGRAMS OF RSP FABRIC DEMONSTRATING ADEQUATE PLACEMENT AND TIE DOWN FOR THE TOE AND TOP OF SLOPE.

15. RSP PLACEMENT. RSP MATERIAL SHALL BE PLACED SO THAT THE BEDDING STONE IS PROTECTED FROM WIND AND WAVE GENERATION FORCES. THE OVERALL THICKNESS OF THE SLOPE PROTECTION SHALL COMPLY WITH THICKNESS

- SPECIFIED ON THE DRAWINGS. RSP SHALL BE CAREFULLY PLACED, STARTING FROM THE BOTTOM OF THE BEDDING STONE SLOPE UPWARD. EACH RSP ROCK SHALL HAVE 3-POINT BEARING ON THE UNDERLYING BEDDING STONE.
16. CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL SUBMIT A CONSTRUCTION PLAN FOR PLACEMENT OF BEDDING STONE AND RSP MATERIALS. RSP MATERIAL SHALL BE PLACED IN SUCH A WAY AS TO MINIMIZE DISTURBANCE TO THE ENVIRONMENT, OCCUPANTS, NEIGHBORING RESIDENCES, AND EXISTING STRUCTURES. RSP MATERIAL SHALL NOT BE DROPPED FROM A HEIGHT MORE THAN THREE (3) FEET. ALL WORK MUST BE PERFORMED IN A MANNER SO AS TO MINIMIZE MUDDYING OF WATERS.

17. PROTECTION OF (E) STRUCTURES. THE CONTRACTOR SHALL EXERCISE CARE IN THE PLACEMENT OF RSP MATERIAL AROUND (E) STRUCTURES. ANY DAMAGED TO THE (E) STRUCTURE SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
18. SITE PROTECTION. ALL CONSTRUCTION OPERATIONS SHALL BE PERFORMED TO PREVENT CONSTRUCTION MATERIALS FROM FALLING, WASHING, OR BLOWING INTO THE BAY WATERS. IN THE EVENT THAT SUCH MATERIAL ESCAPES OR IS PLACED IN AN AREA SUBJECT TO TIDAL ACTION, THE CONTRACTOR SHALL IMMEDIATELY RETRIEVE AND REMOVE SUCH MATERIAL AT ITS OWN EXPENSE.
19. DEBRIS. ALL CONSTRUCTION DEBRIS SHALL BE REMOVED TO AN AUTHORIZED LOCATION BY THE CONTRACTOR. IN THE EVENT THAT ANY SUCH MATERIAL IS PLACED IN ANY AREA WITHIN THE JURISDICTION OF THE BAY CONSERVATION AND DEVELOPMENT COMMISSION (BCDC) THE CONTRACTOR SHALL AT ITS OWN EXPENSE, REMOVE THE MATERIAL WITHIN TEN DAYS OF NOTIFICATION FOR REMOVAL.

ENVIRONMENTAL PERMIT
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BULK LIQUID STORAGE

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No.	Date	Description	By

**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

STOCKTON, CA

Project

SHORELINE
PROTECTION
SECTION AND NOTES

Drawing Title	
Project No. 227016.00	Checked RFM
Drawn GPN	Approved WMB
Date 8/30/2023	
Scale AS SHOWN	
Drawing No. STK-100453- C-200	
Seal	



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PORT OF STOCKTON
BERTH 8

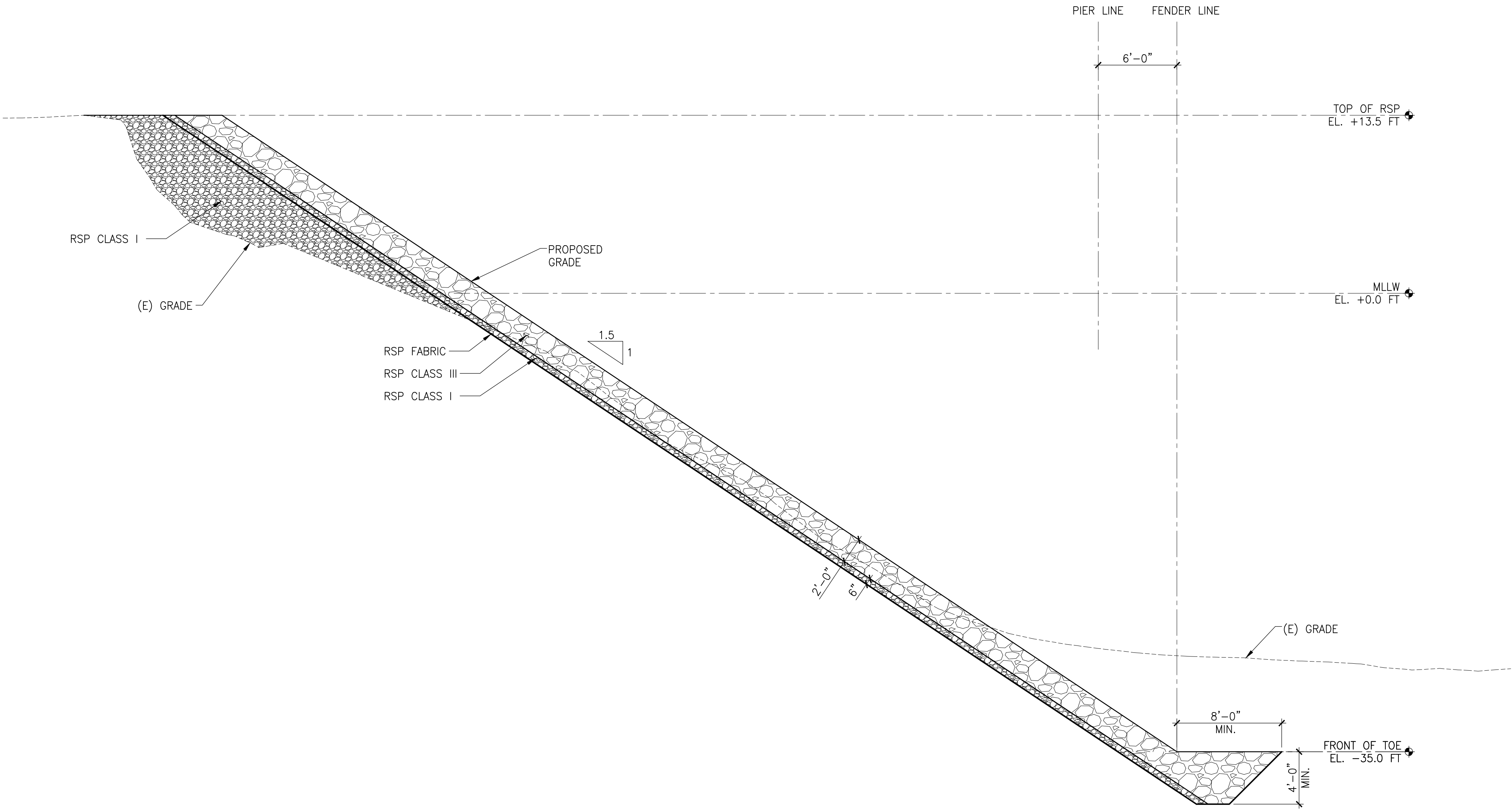
Project STOCKTON, CA

SHORELINE
PROTECTION
SECTION AND NOTES

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Drawing No.	
STK-100453- C-201	
Seal	



STK-100453-C-201

1 SLOPE REPAIR SECTION
SCALE: 3/16"=1'-0"

- NOTES:
- SECTION IS CUT AT SURVEY REFERENCE STATION 5+65. SEE C-100 FOR SURVEY PLAN AND NOTES.

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- DEMOLITION NOTES
- 1 ABANDON (E) TIMBER PILES IN PLACE
CUTOFF 3 FT BELOW MUDLINE
 - 2 REMOVE (E) TIMBER PIER STRUCTURE
ABANDON (E) TIMBER PILES IN PLACE
CUTOFF 3 FT BELOW MUDLINE
 - 3 SITE/VEGETATION REMOVAL ADJACENT TO ROADWAY
 - 4 TREE REMOVAL
 - 5 REMOVE EXISTING FENCE



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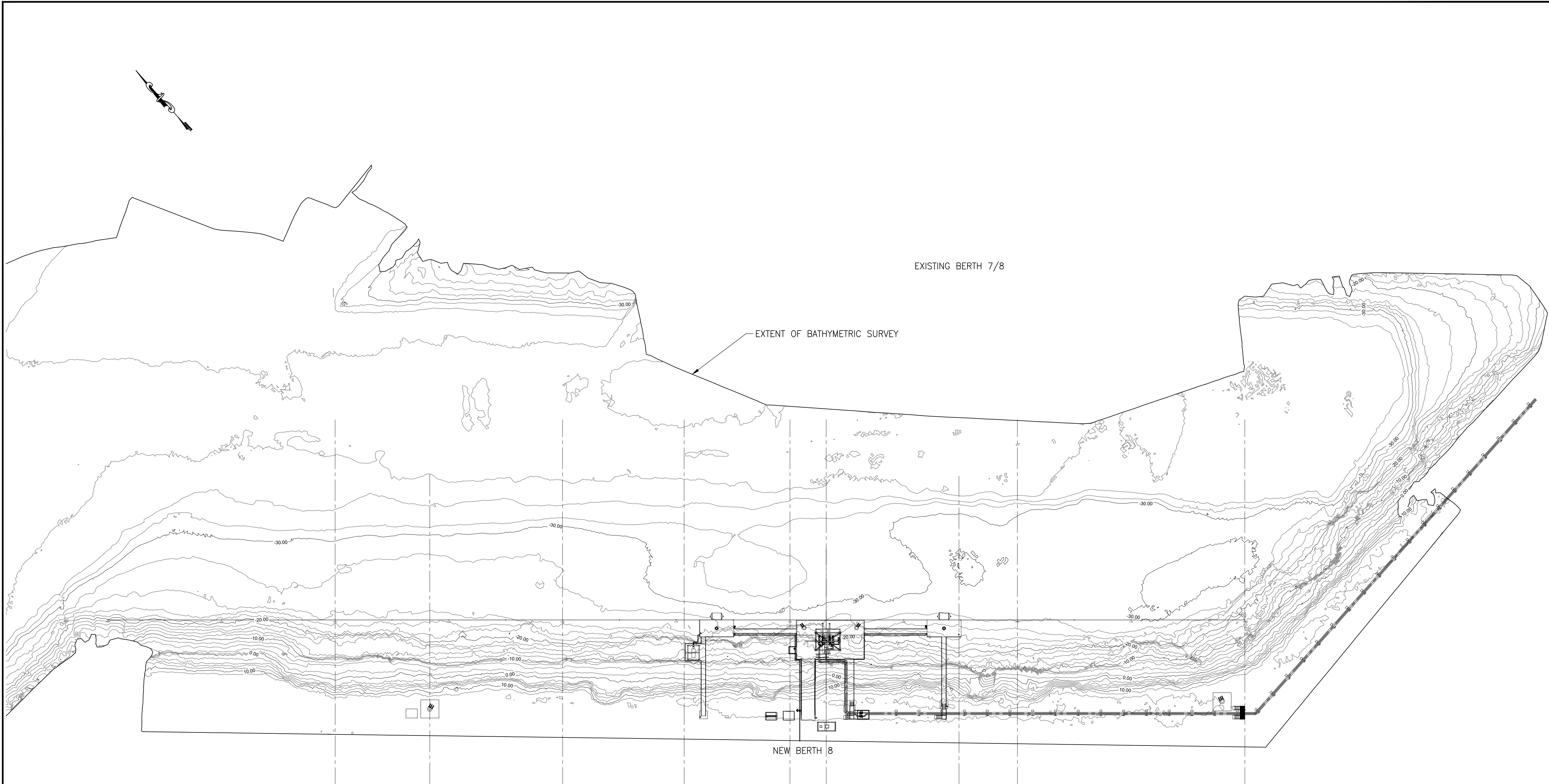
STOCKTON, CA

Project

**SITE
DEMOLITION
PLAN**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN
Seal		Drawing No. STK-100453- D-100



- NOTES:
1. BATHYMETRY IS BASED ON SURVEY PERFORMED BY ETRAC, INC. ON 4 MAY 2022
 2. HORIZONTAL DATUM: NAD83 (2011) SPCS CALIFORNIA ZONE 03
 3. ELEVATIONS SHOWN ON THIS SHEET AND IN THESE DRAWINGS ARE BASED ON MEAN LOWER LOW WATER (MLLW) DATUM.
 4. CONTOURS ARE SHOWN AT 2 FT INTERVALS.

BATHY PLAN AND SECTIONS

1

EXISTING BATHYMETRIC SURVEY PLAN

SCALE: 1"=50'-0"



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BATHYMETRIC
SURVEY PLAN

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
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Seal		Drawing No. STK-100453- ST-100

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BERTH 8**

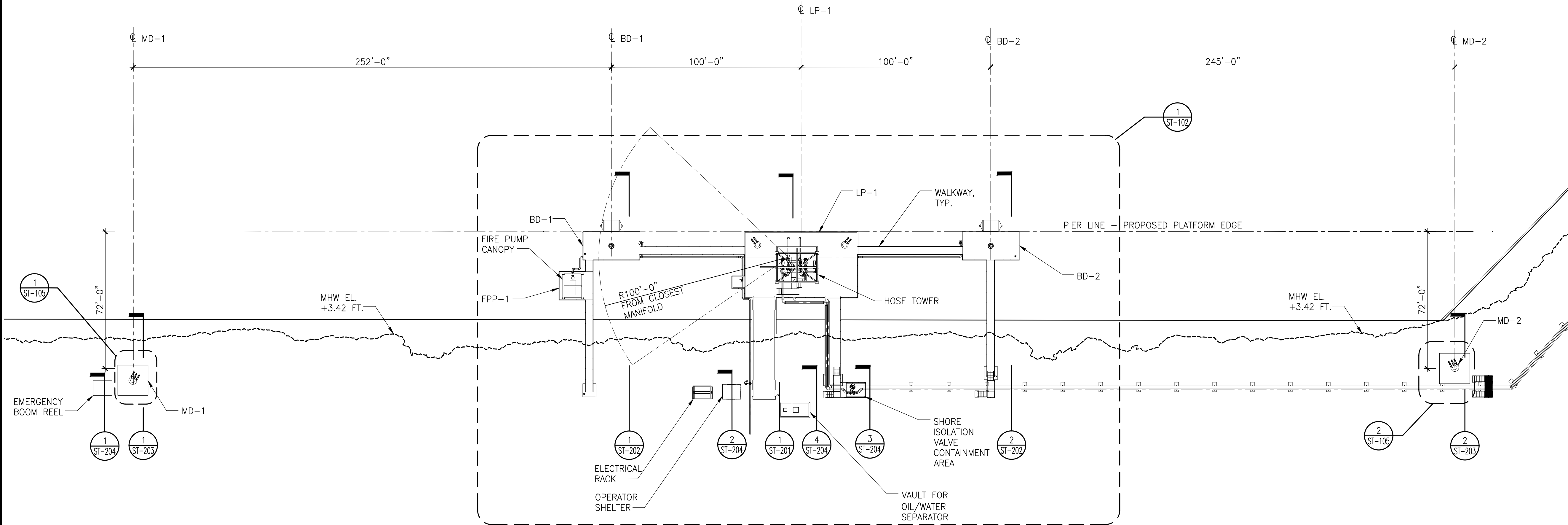
Project **STOCKTON, CA**

**TERMINAL
SITE PLAN**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No. STK-100453- ST-101
------	--

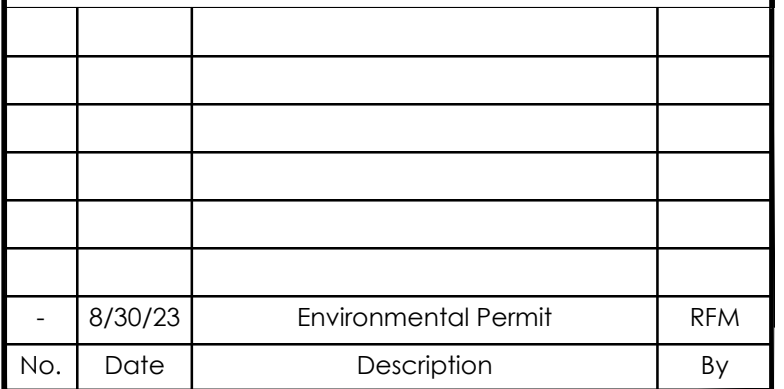
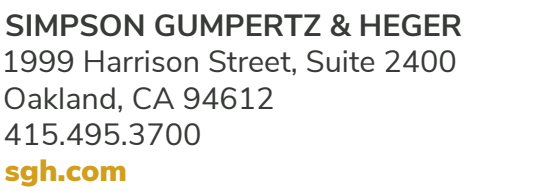


STK-100453-ST-101

1 TERMINAL SITE PLAN

SCALE: 1"=30'-0"

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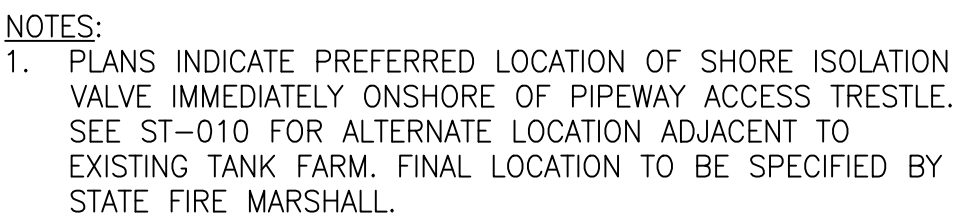
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Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

STK-100453-
ST-102

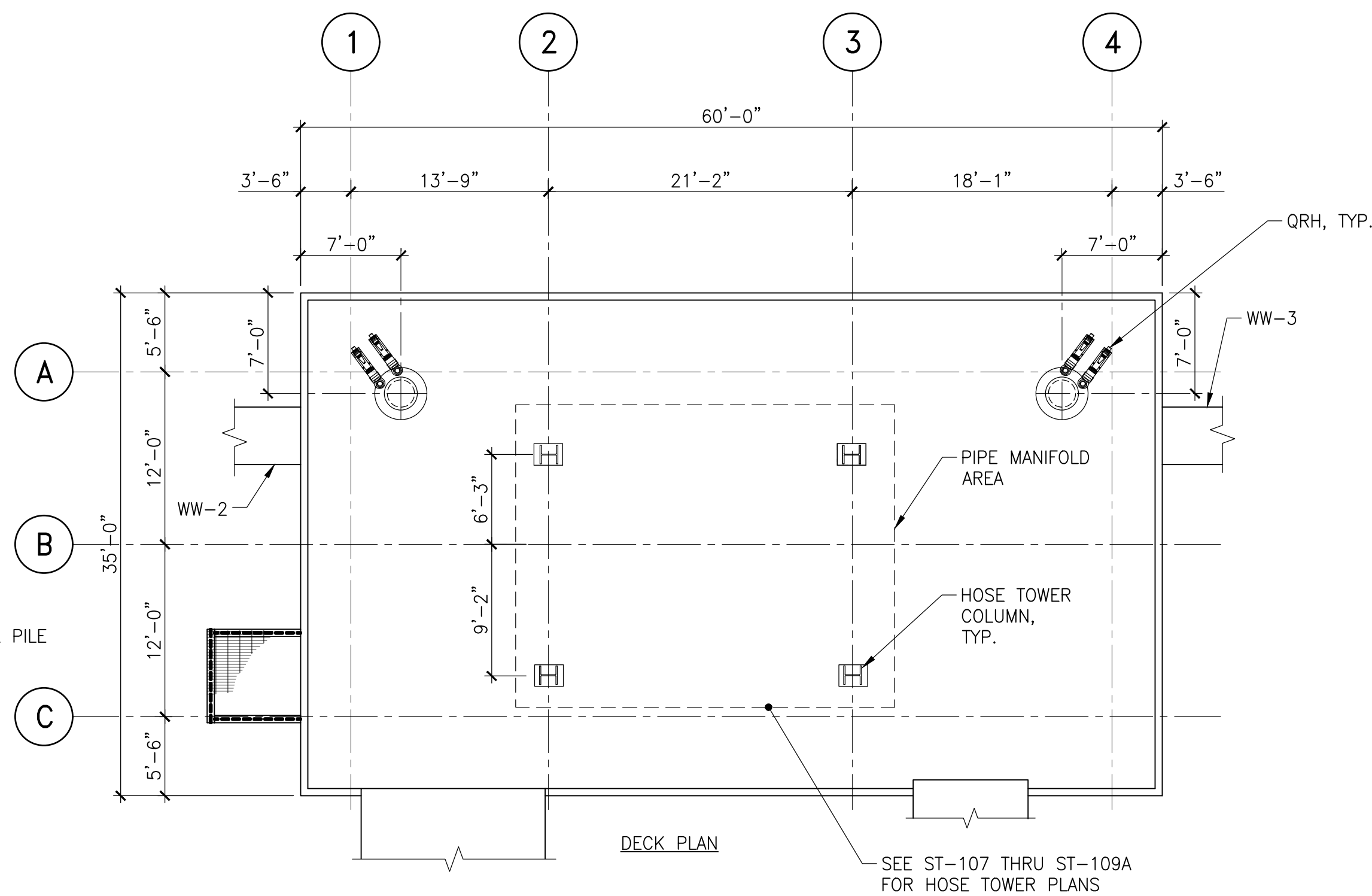
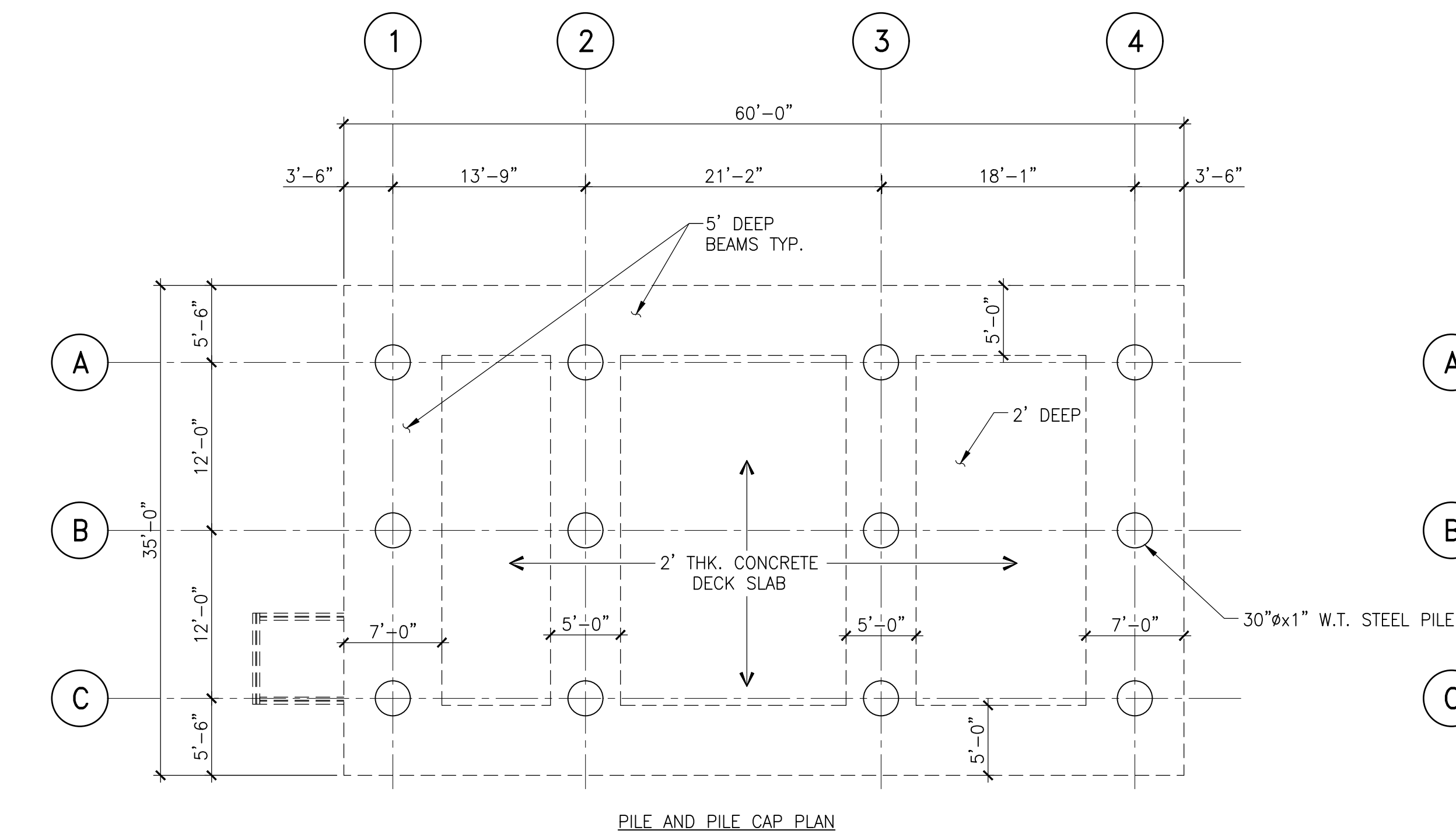
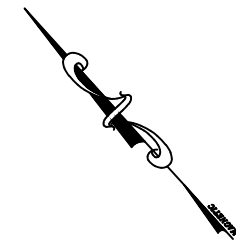
Seal

ENVIRONMENTAL PERMIT
NOT FOR CONSTRUCTION

STK-100453-ST-102

1) ENLARGED PLAN - MARINE STRUCTURES
SCALE: 1"=10'-0"

SCALE: 1"=10'-0"



SCALE: 1/8"=1'-0"

LOADING PLATFORM STRUCTURE

1 LOADING PLATFORM LP-1

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BERTH 8

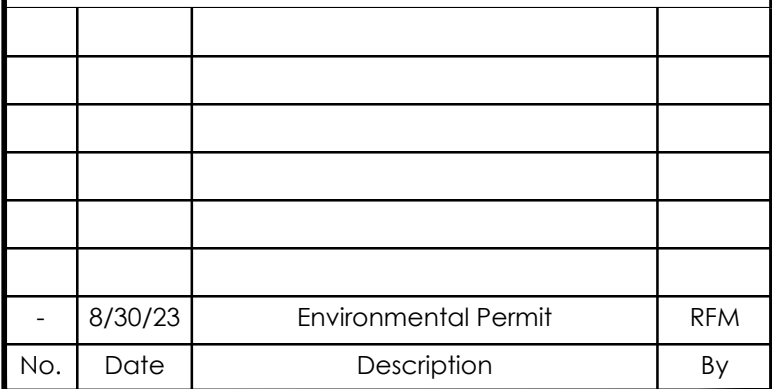
Project STOCKTON, CA

PLANS
LOADING PLATFORM

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No.
	STK-100453- ST-103

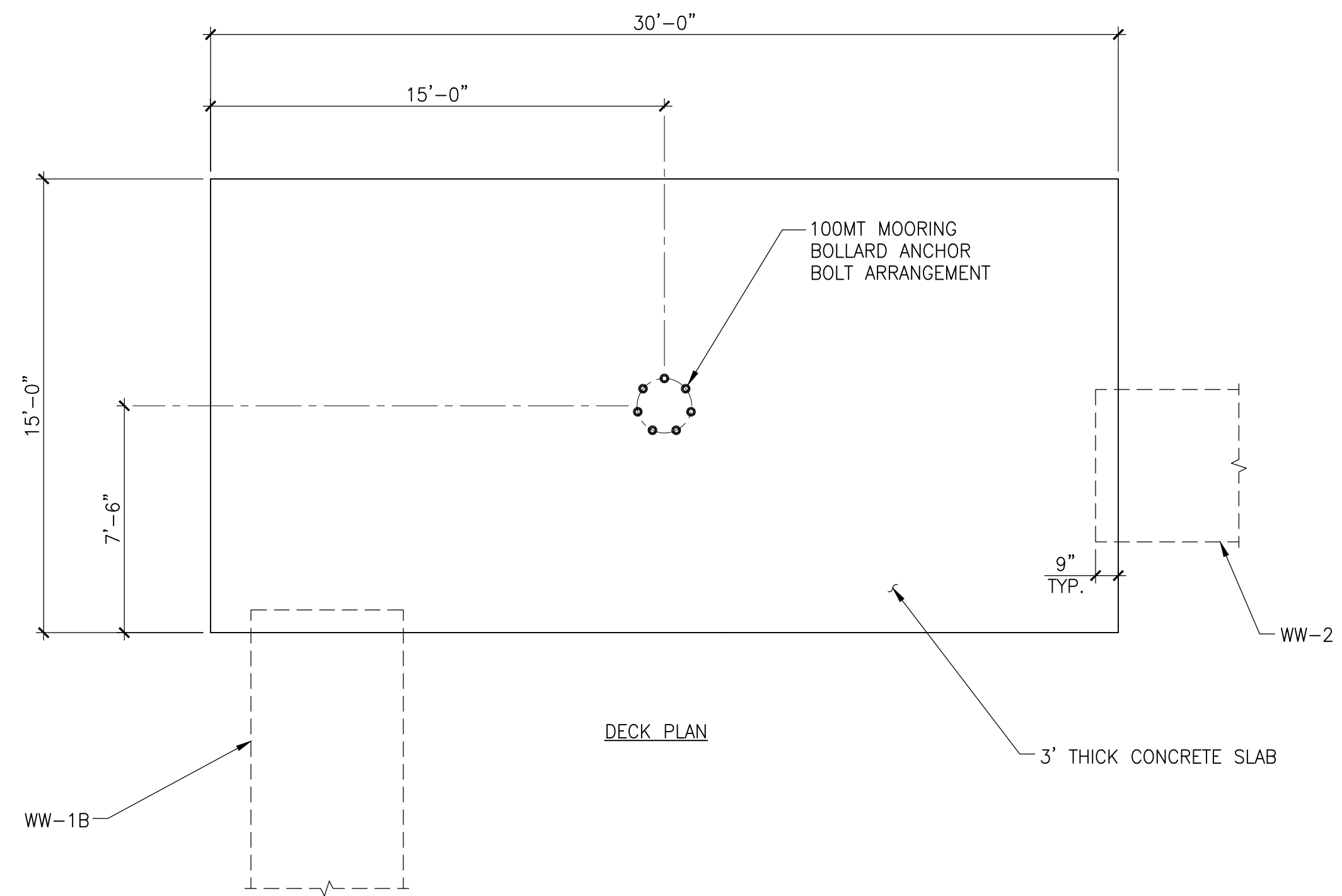


STOCKTON, CA

Drawing Title

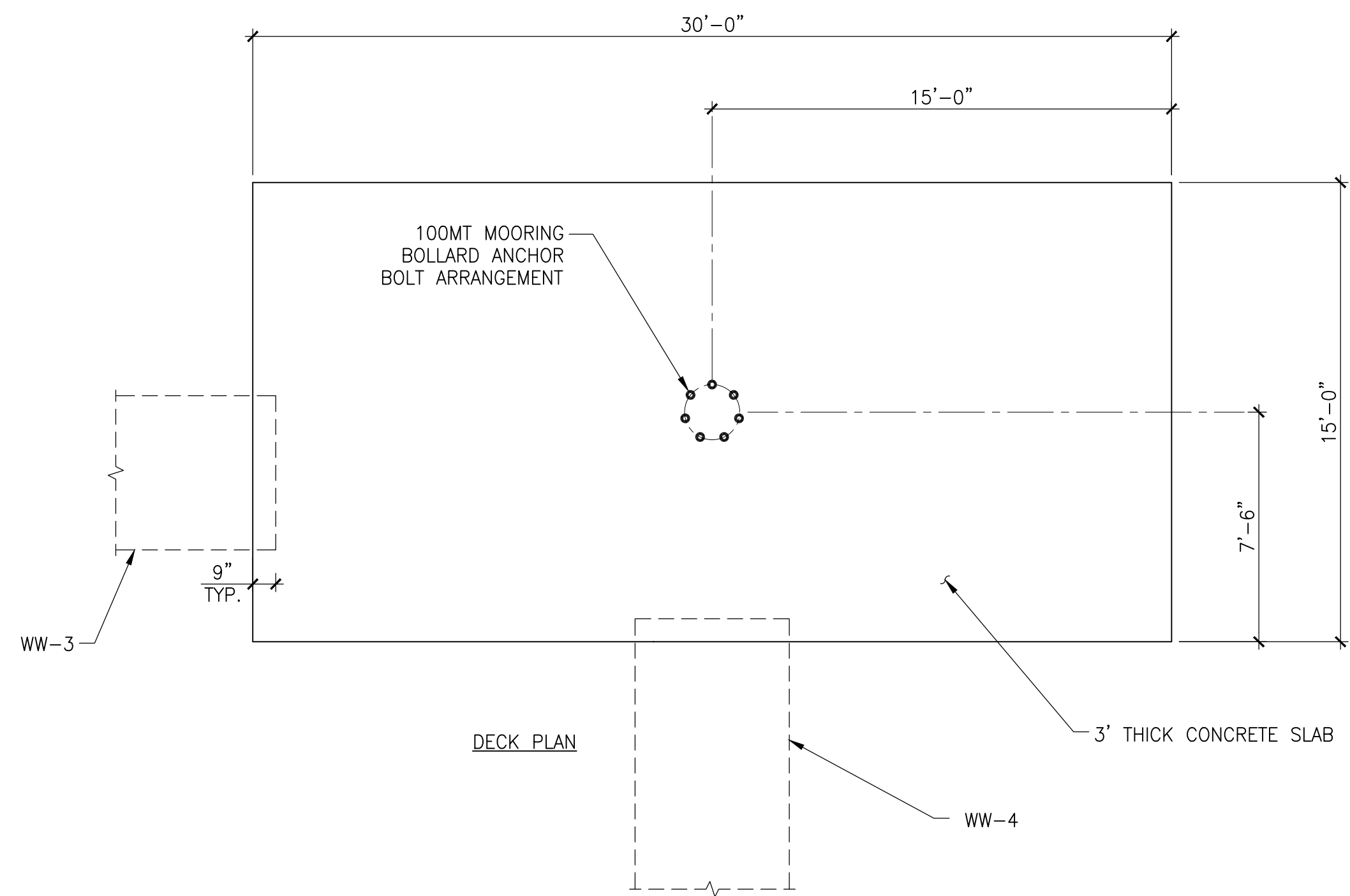
STK-100453-
ST-104

Seal



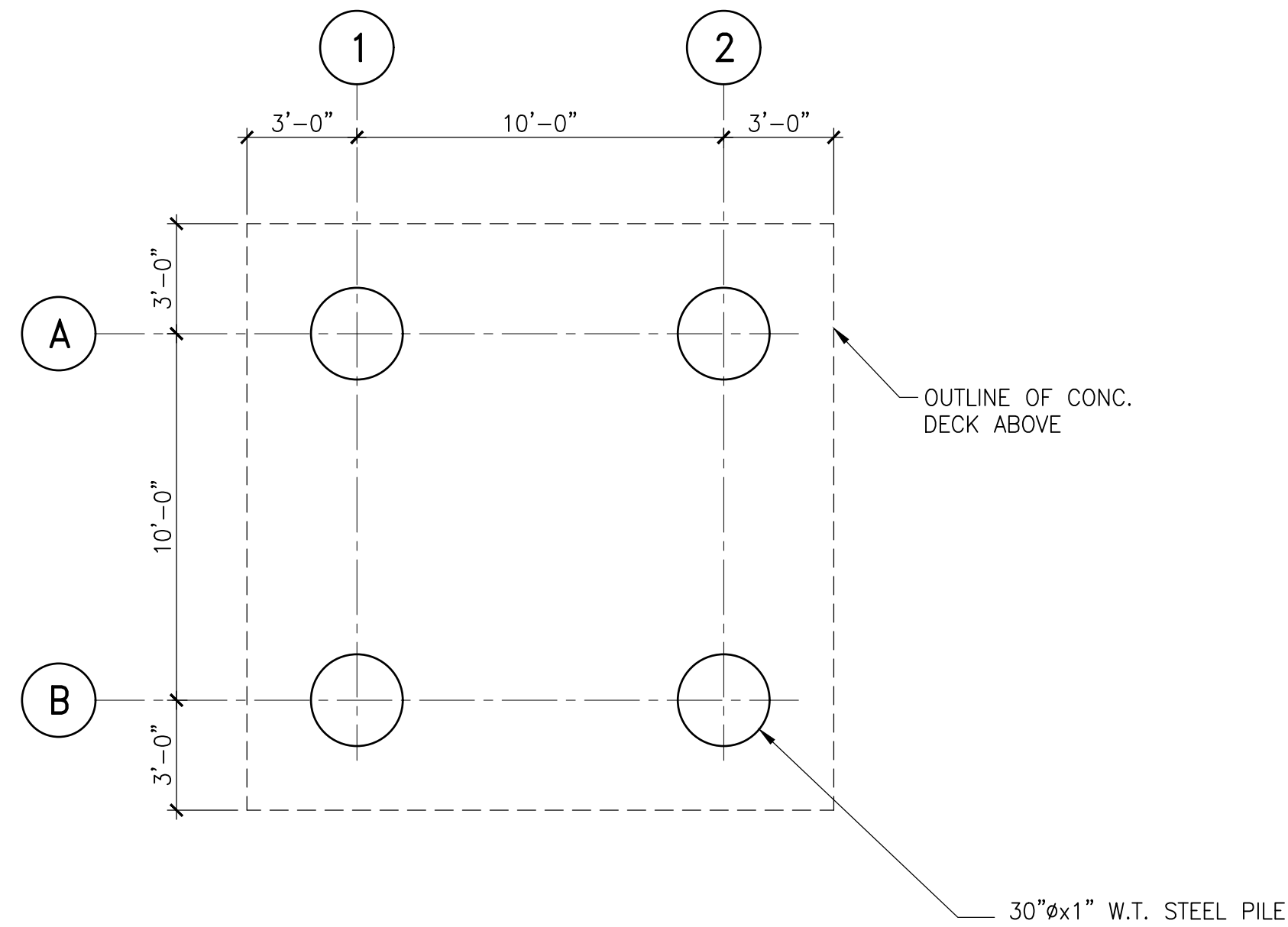
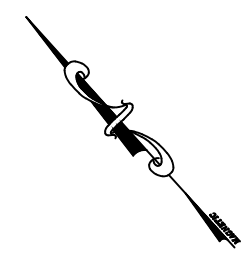
1) BREASTING DOLPHIN BD-1

SCALE: 1/4"=1'-0"

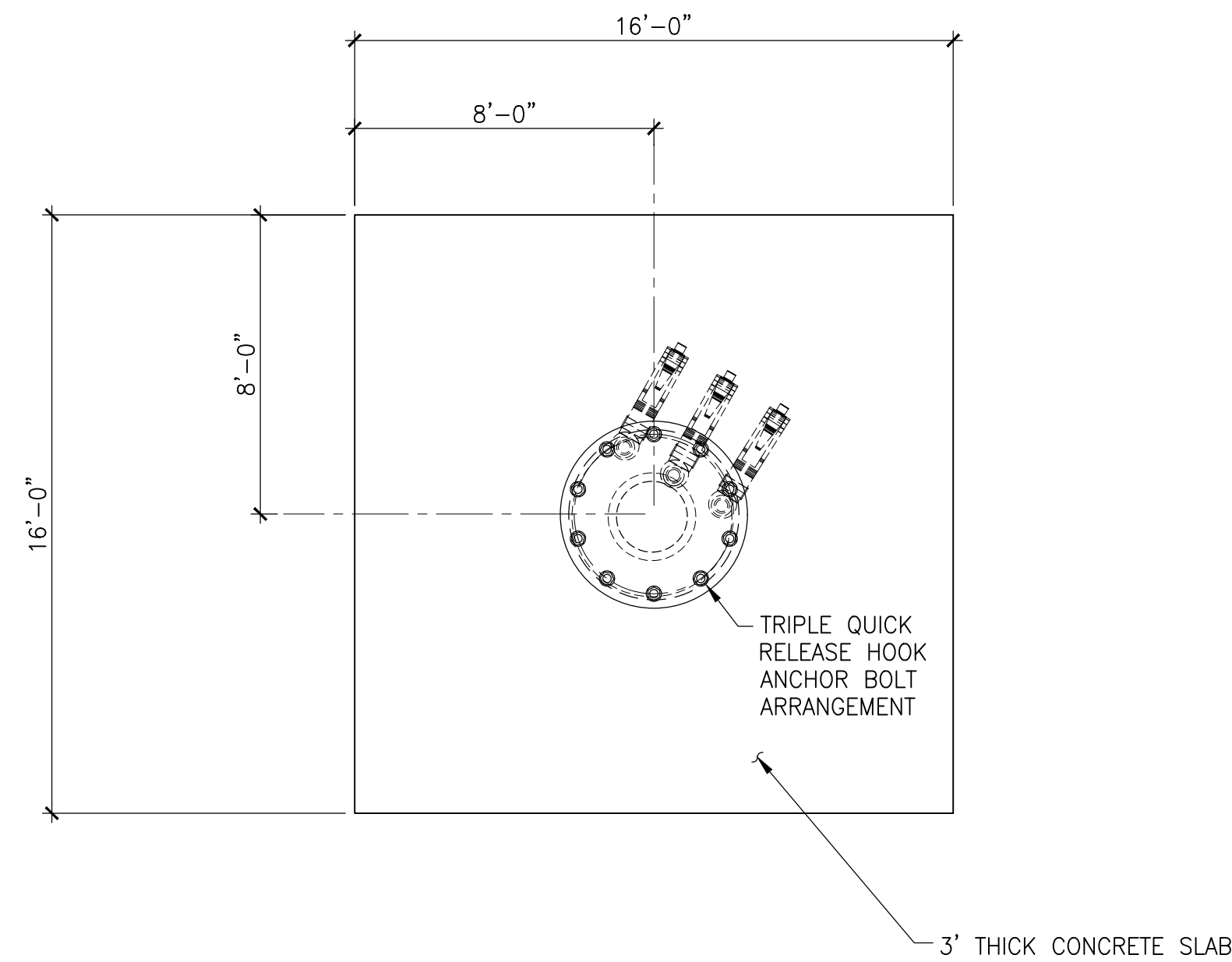


2 BREASTING DOLPHIN BD-2

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PILE PLAN



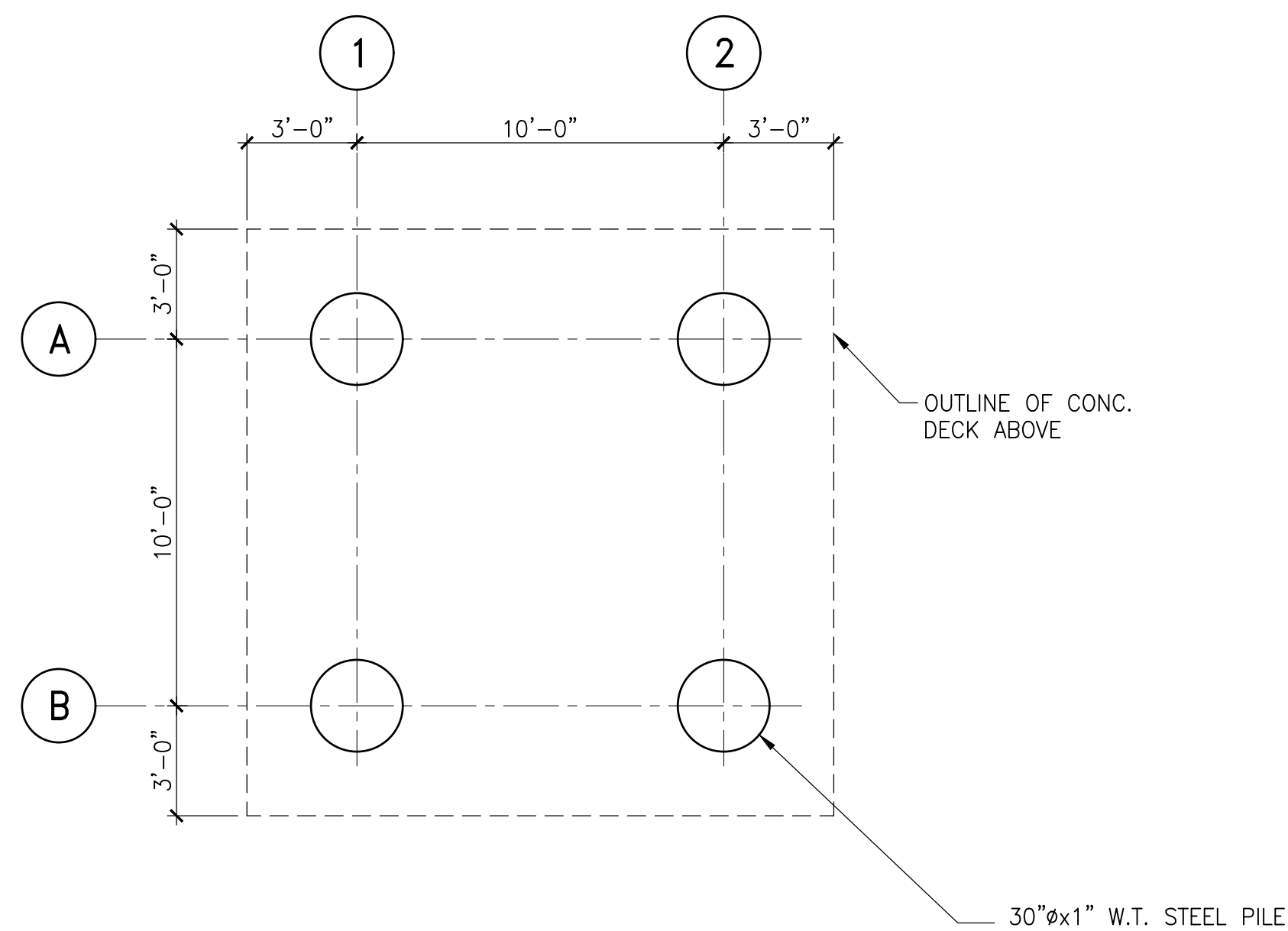
DECK PLAN

MOORING DOLPHIN STRUCTURE

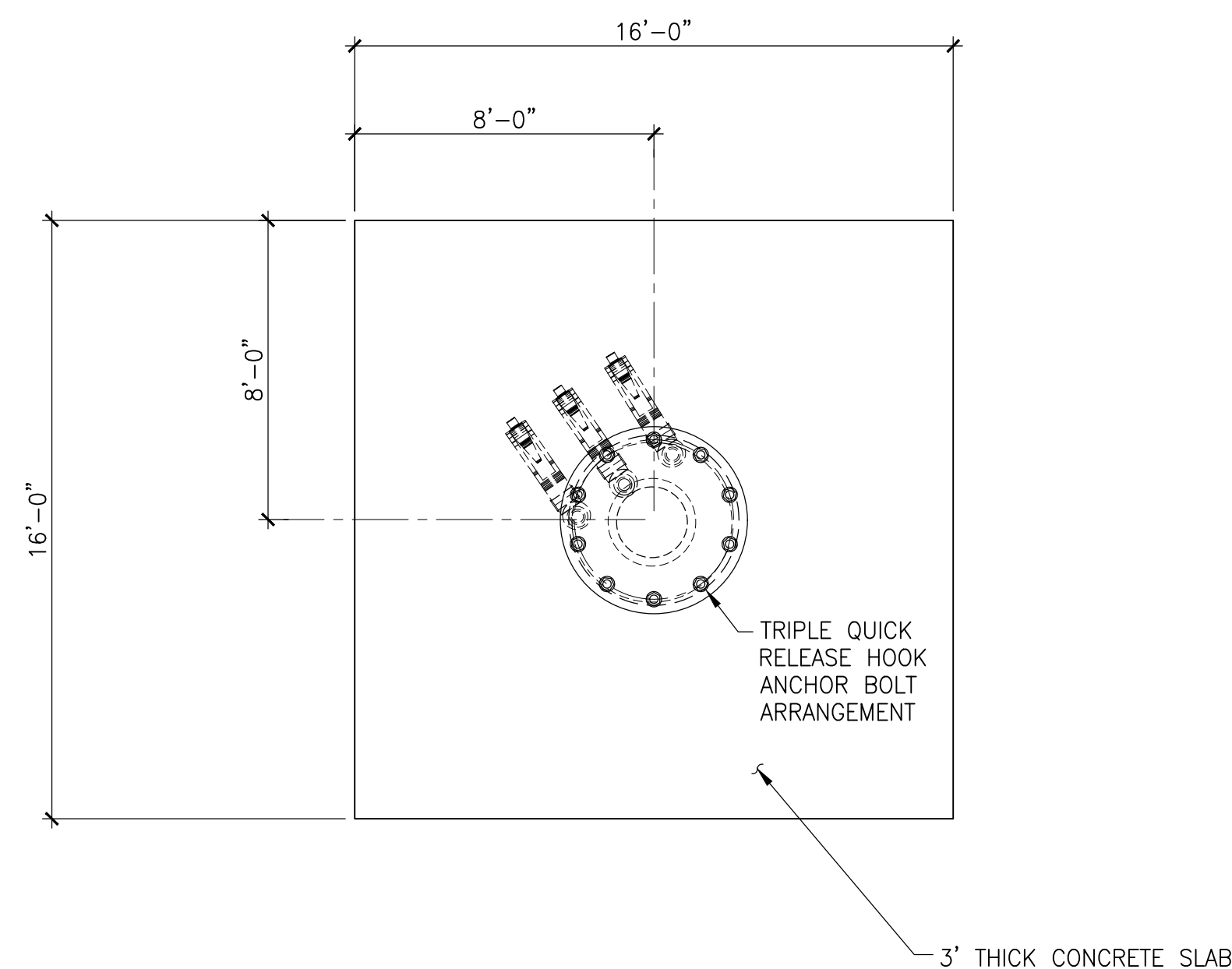
1

MOORING DOLPHIN MD-1

SCALE: 1/4"=1'-0"



PILE PLAN



DECK PLAN

MOORING DOLPHIN STRUCTURE

2

MOORING DOLPHIN MD-2

SCALE: 1/4"=1'-0"

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PORT OF STOCKTON
BERTH 8**

STOCKTON, CA

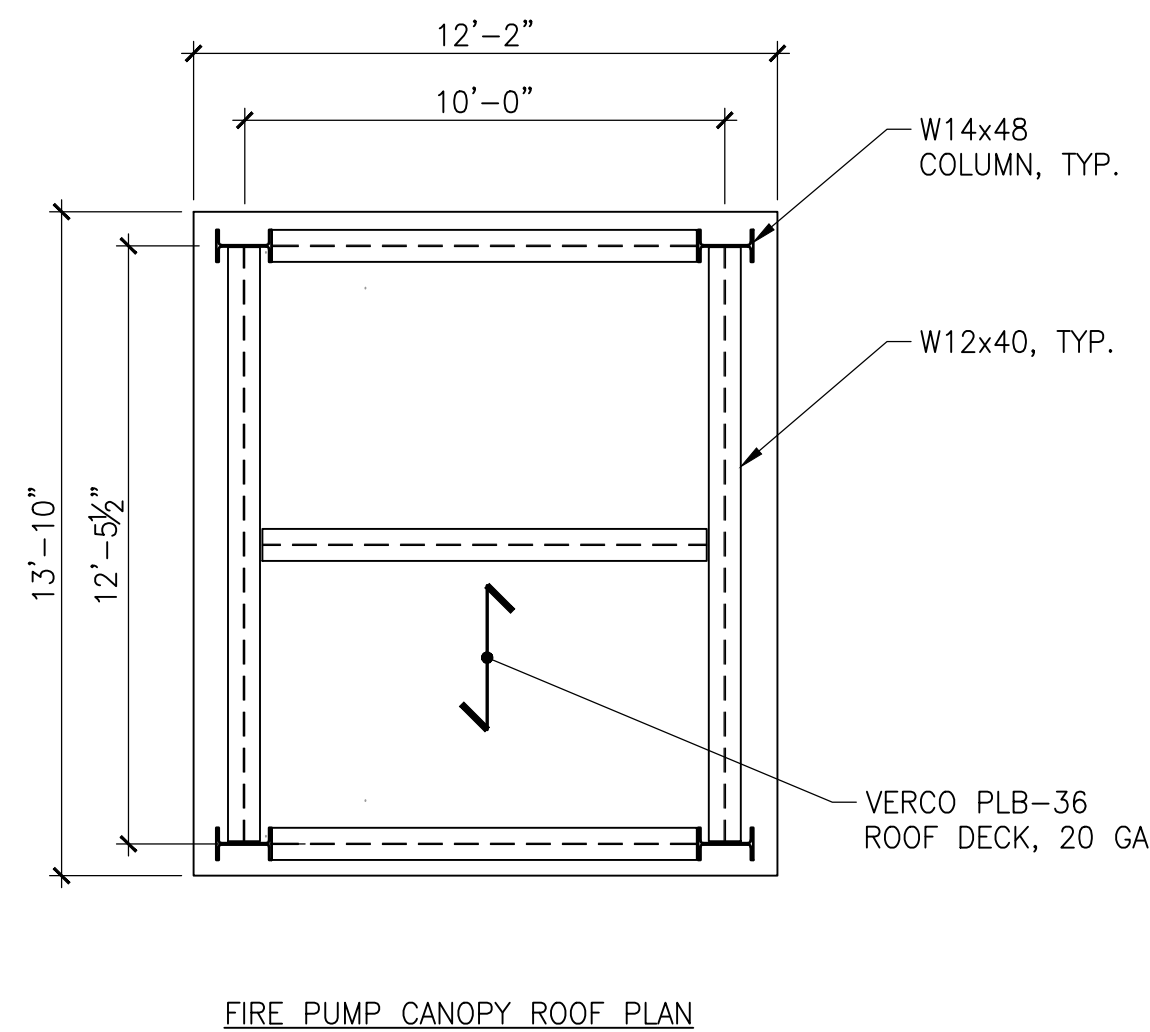
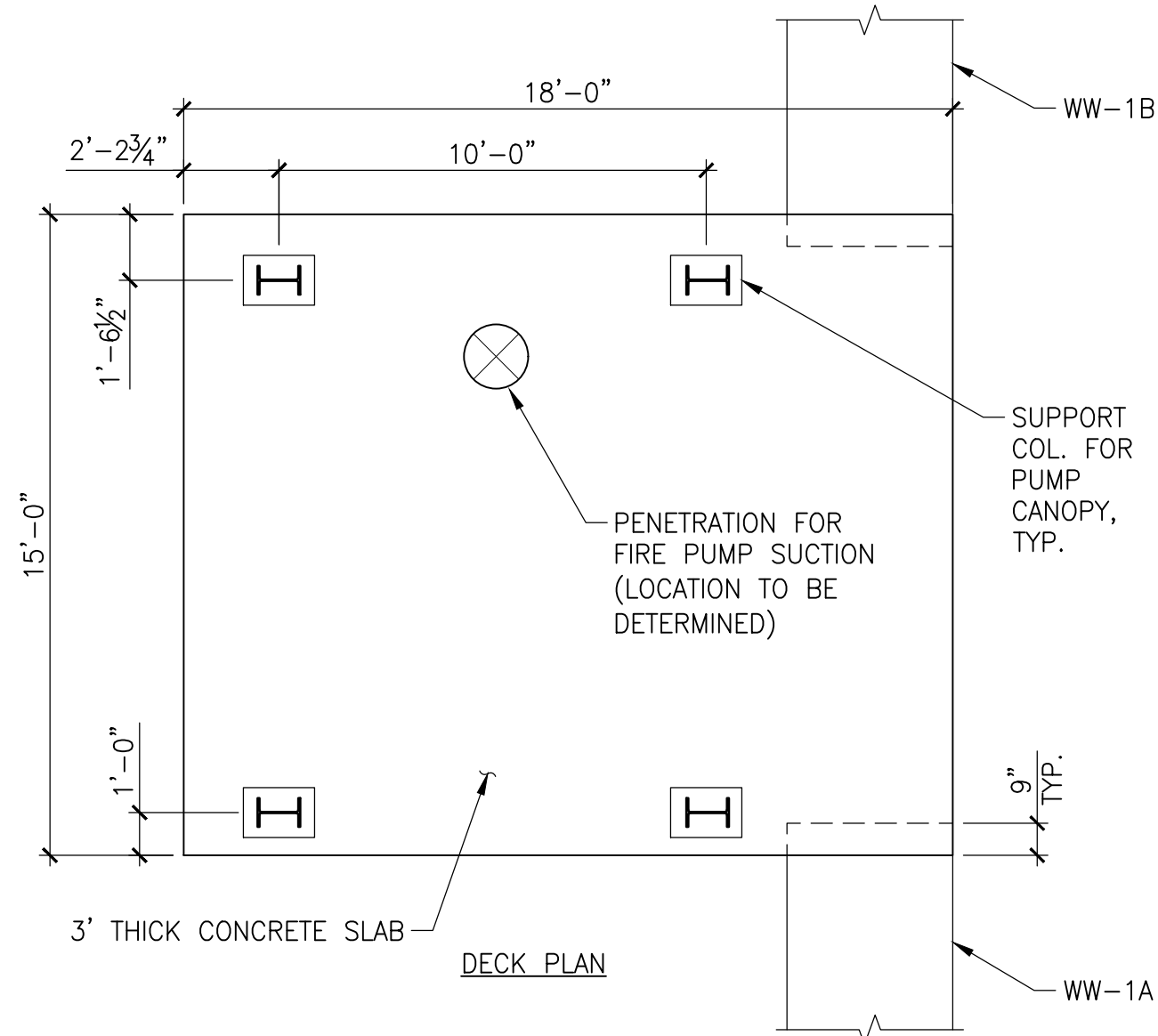
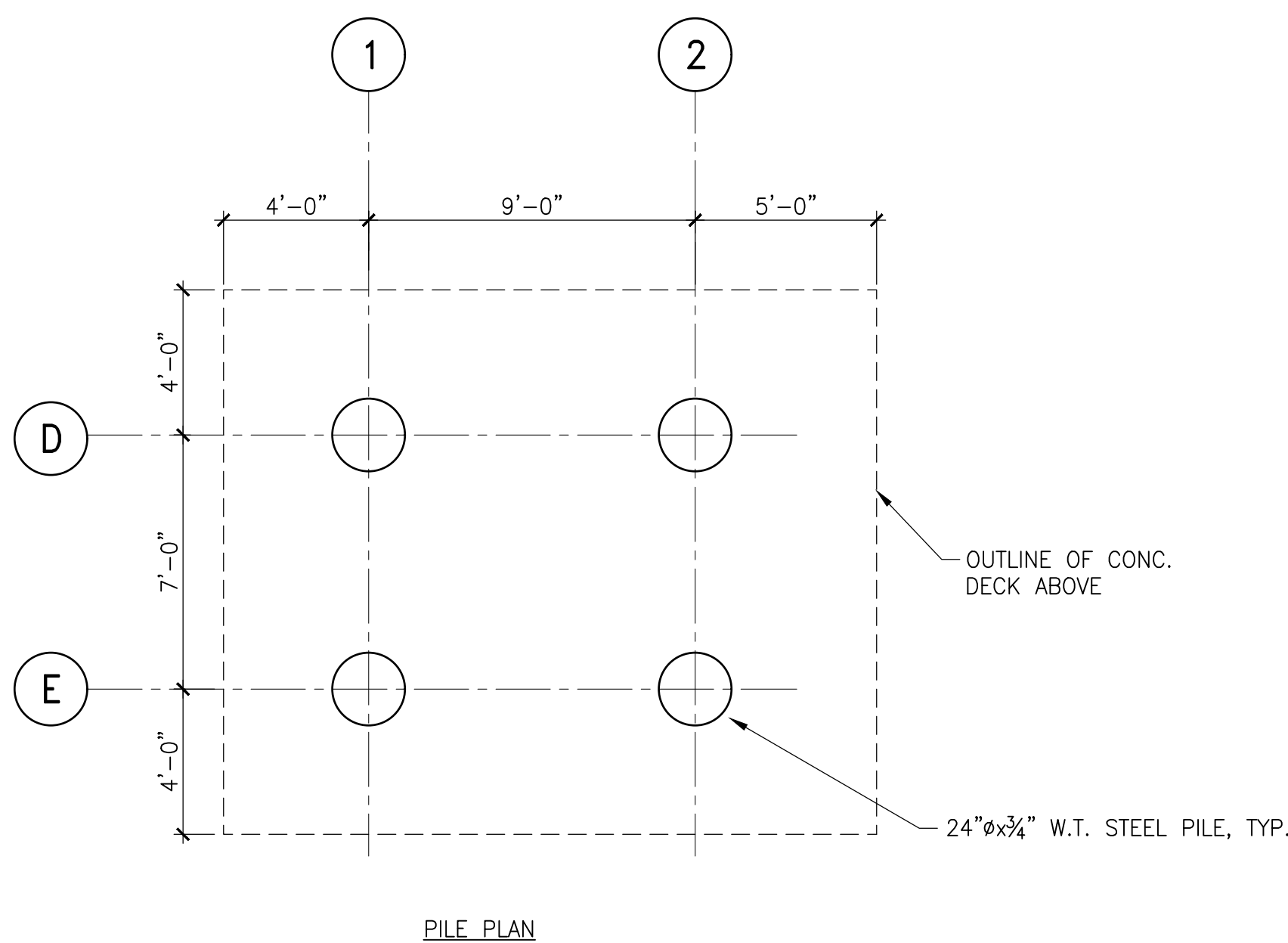
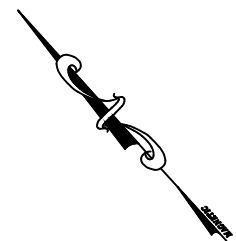
Project

**PLANS
MOORING DOLPHINS**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No.	
	STK-100453- ST-105	



FIRE PUMP STRUCTURE

1

FIRE PUMP PLATFORM FPP-1

SCALE: 1/4"=1'-0"



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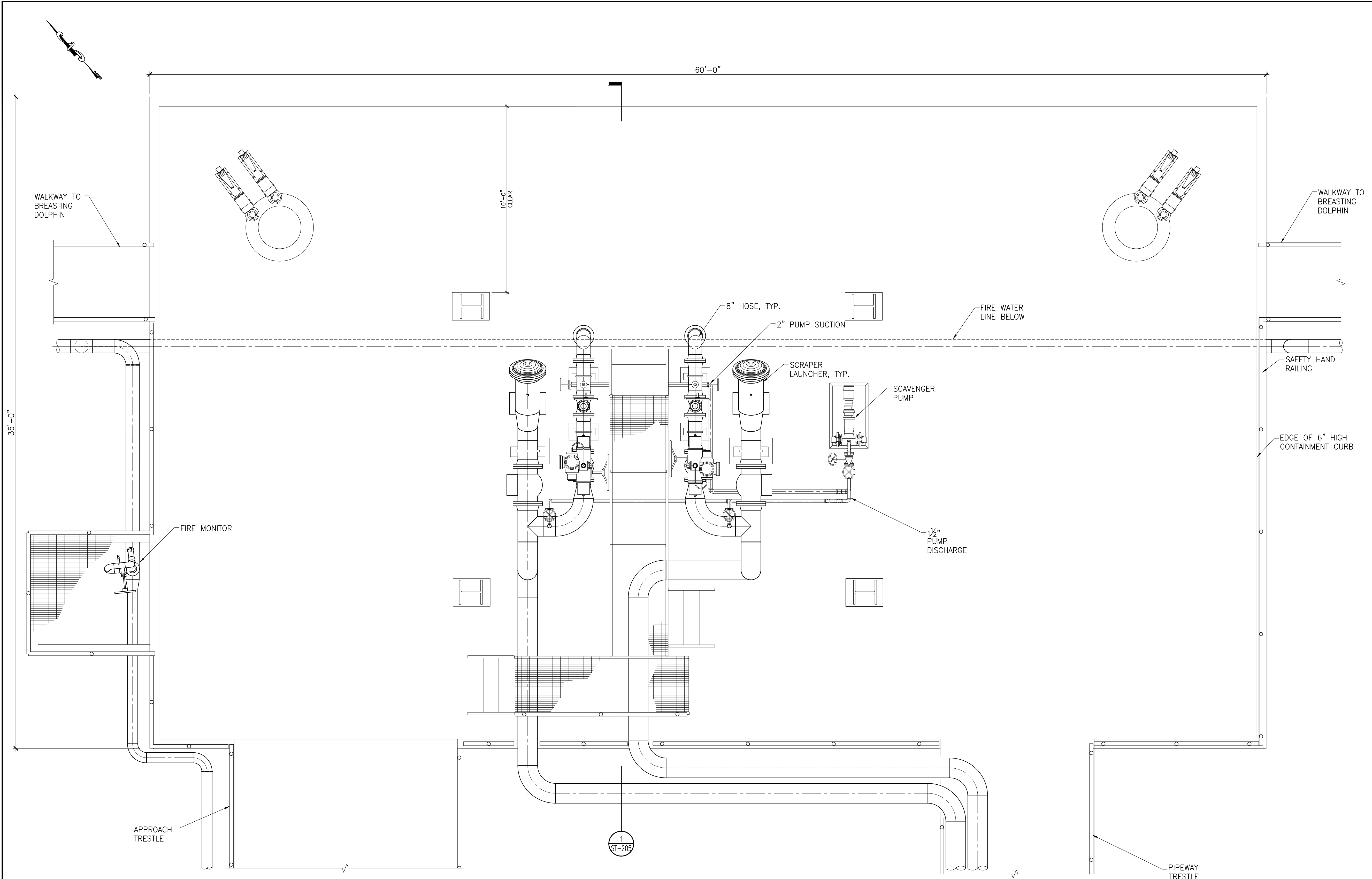
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**PLANS
FIRE PUMP PLATFORM**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN
Seal		Drawing No. STK-100453- ST-106

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1 HOSE TOWER DECK LEVEL PLAN – PHASE 1
SCALE: 3/8"=1'-0"

- NOTES:
1. REPRESENTATIVE HOSE TOWER FRAME SHOWN FOR CONCEPT ONLY. HOSE TOWER MEMBER SIZES, CONNECTIONS, AND DETAILS (INCLUDING BUT NOT LIMITED TO HOSE SADDLES, ATTACHMENT POINTS, AND CONTAINMENT) WILL BE INCLUDED IN A LATER SUBMITTAL.

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PORT OF STOCKTON
BERTH 8

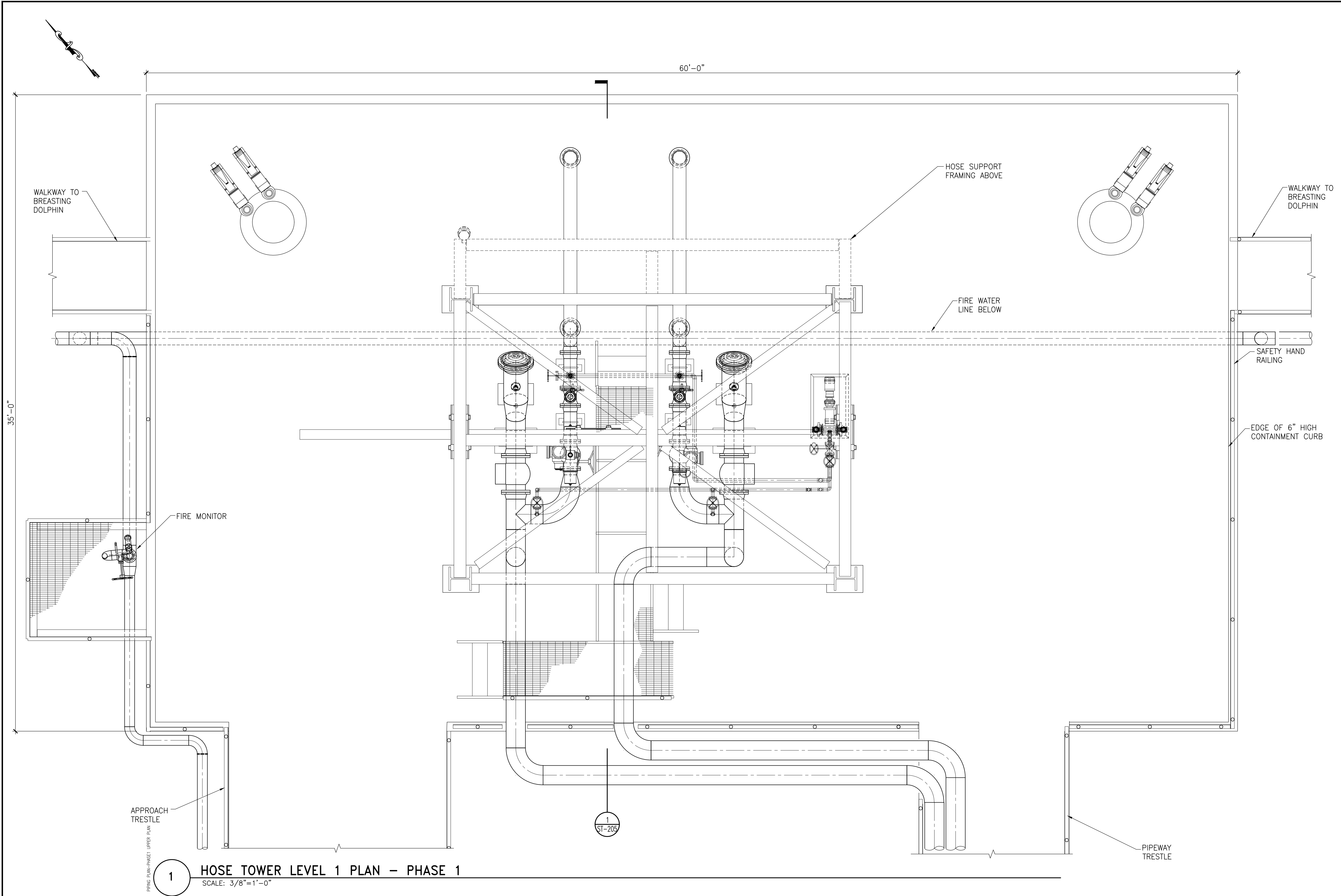
Project STOCKTON, CA

HOSE TOWER DECK
LEVEL PLAN
PHASE 1

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Drawing No.	
STK-100453- ST-107	
Seal	



1 HOSE TOWER LEVEL 1 PLAN - PHASE 1
SCALE: 3/8"=1'-0"

- NOTES:
1. REPRESENTATIVE HOSE TOWER FRAME SHOWN FOR CONCEPT ONLY. HOSE TOWER MEMBER SIZES, CONNECTIONS, AND DETAILS (INCLUDING BUT NOT LIMITED TO HOSE SADDLES, ATTACHMENT POINTS, AND CONTAINMENT) WILL BE INCLUDED IN A LATER SUBMITTAL.

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BERTH 8

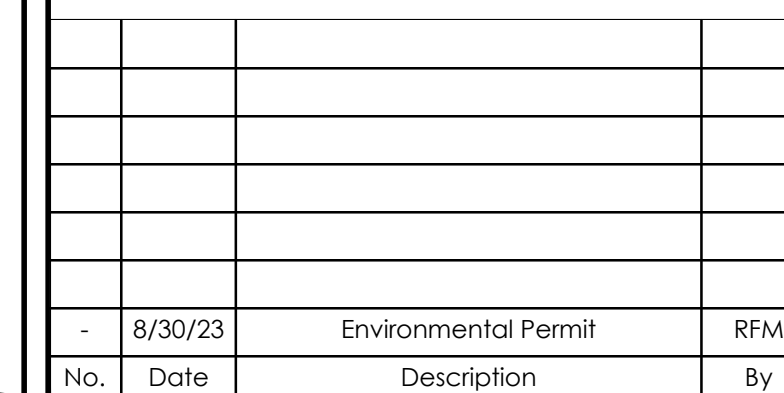
Project STOCKTON, CA

HOSE TOWER
LEVEL 1 PLAN
PHASE 1

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Drawing No. STK-100453- ST-108	
Seal	



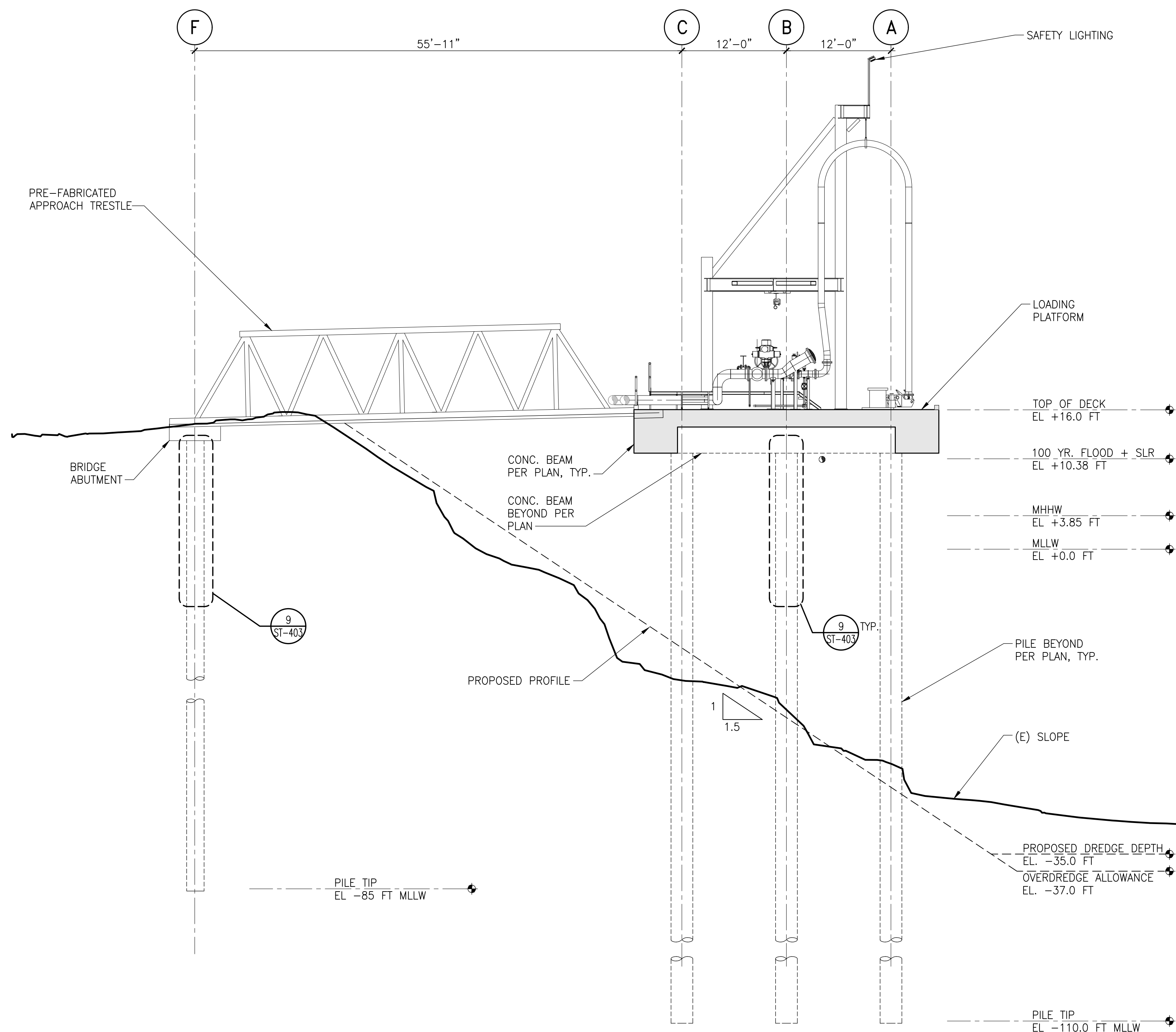
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Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

STK-100453-
ST-201

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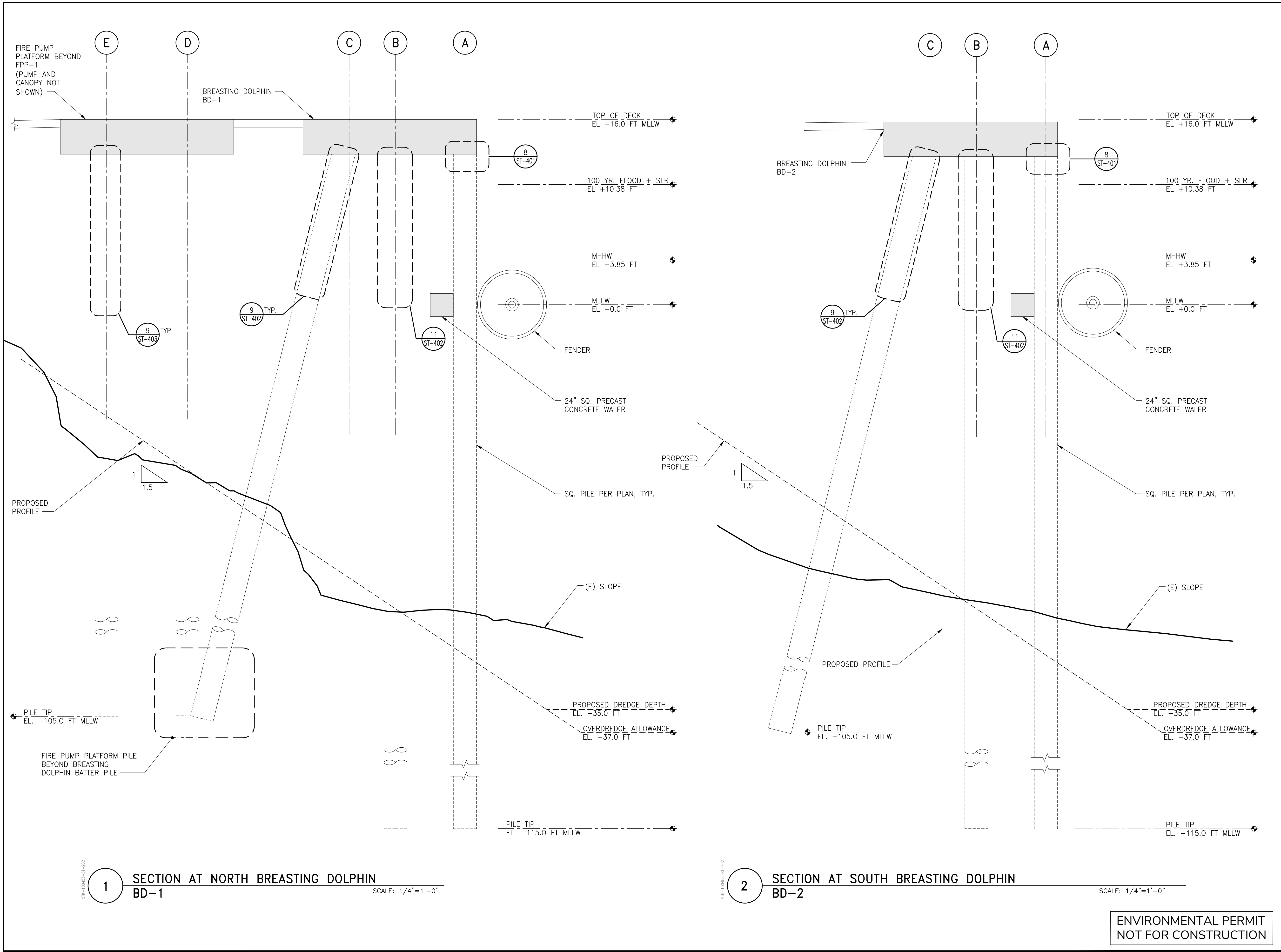


1 SECTION AT LOADING PLATFORM AND APPROACH TRETTLE

SCALE: 1/8"=1'-0"

Sea

\\p\projects\2023\2023-08-09\BWC\Drawings\Working Set_BWC\STK-100453-ST-202.dwg, 4/15/2023 3:09:08 PM, GPN\ell



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PORT OF STOCKTON
BERTH 8**

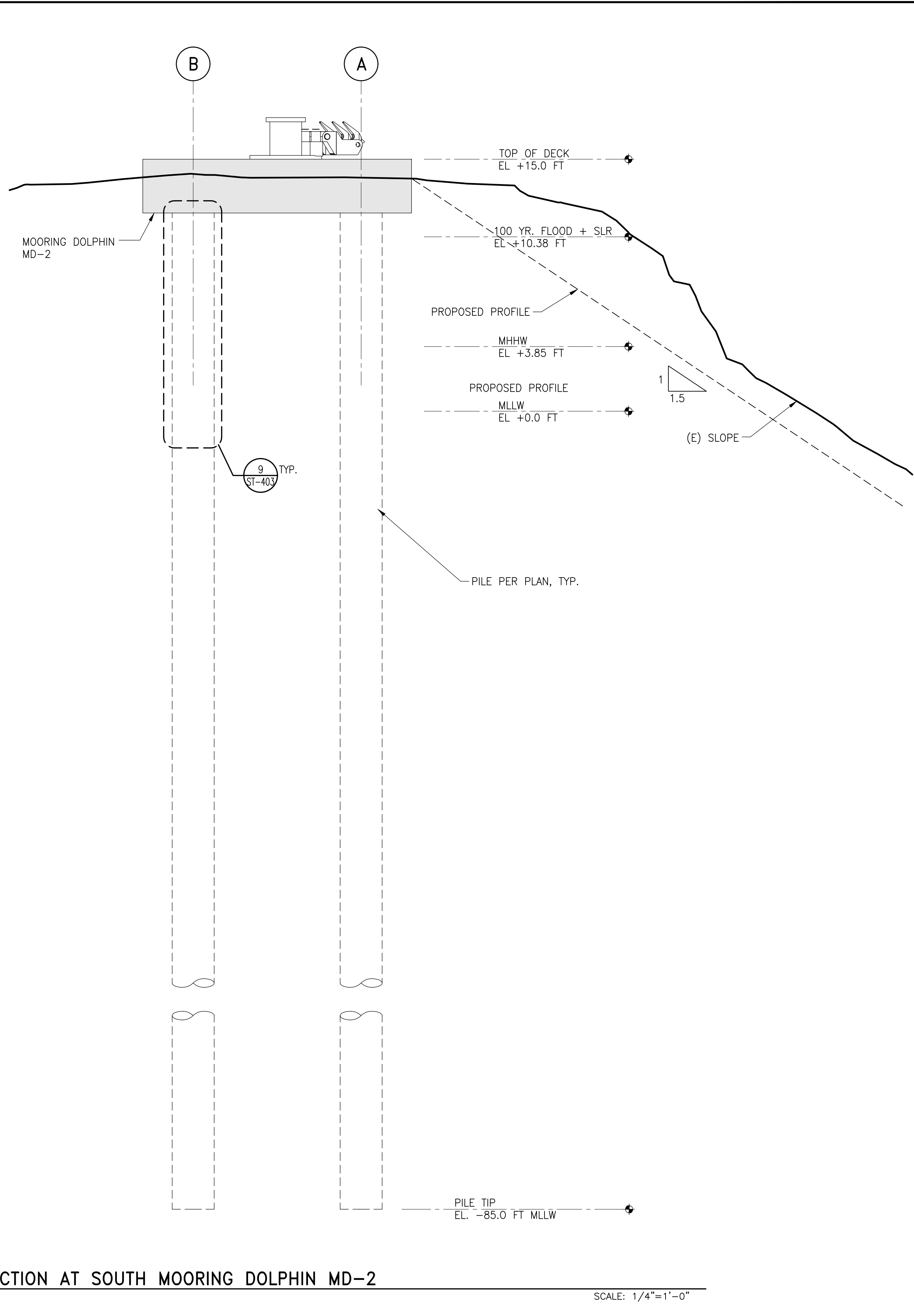
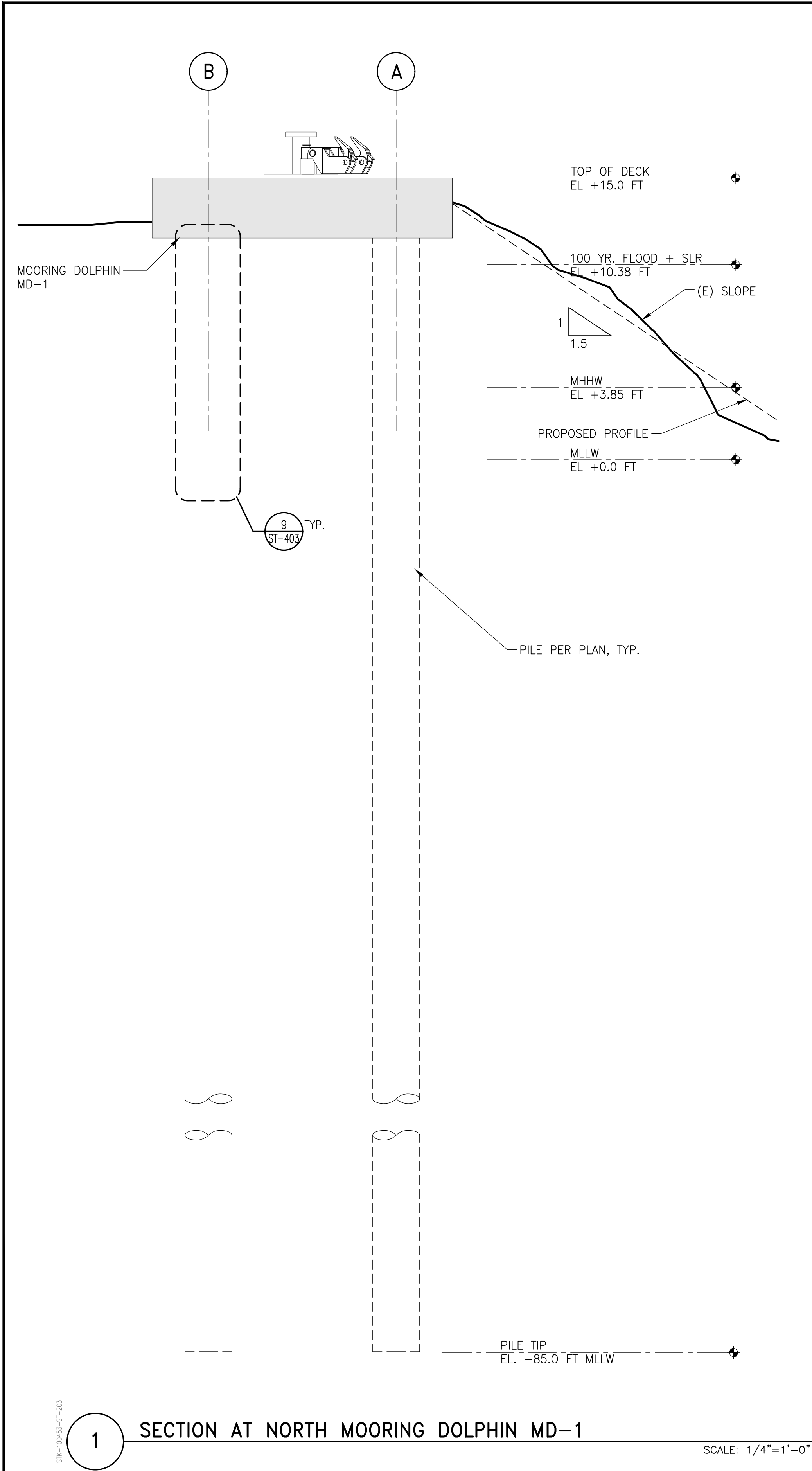
Project **STOCKTON, CA**

**SECTIONS
BREASTING DOLPHINS**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No. STK-100453- ST-202
------	--



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BWC TERMINALS PORT OF STOCKTON BERTH 8

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SECTIONS MOORING DOLPHINS

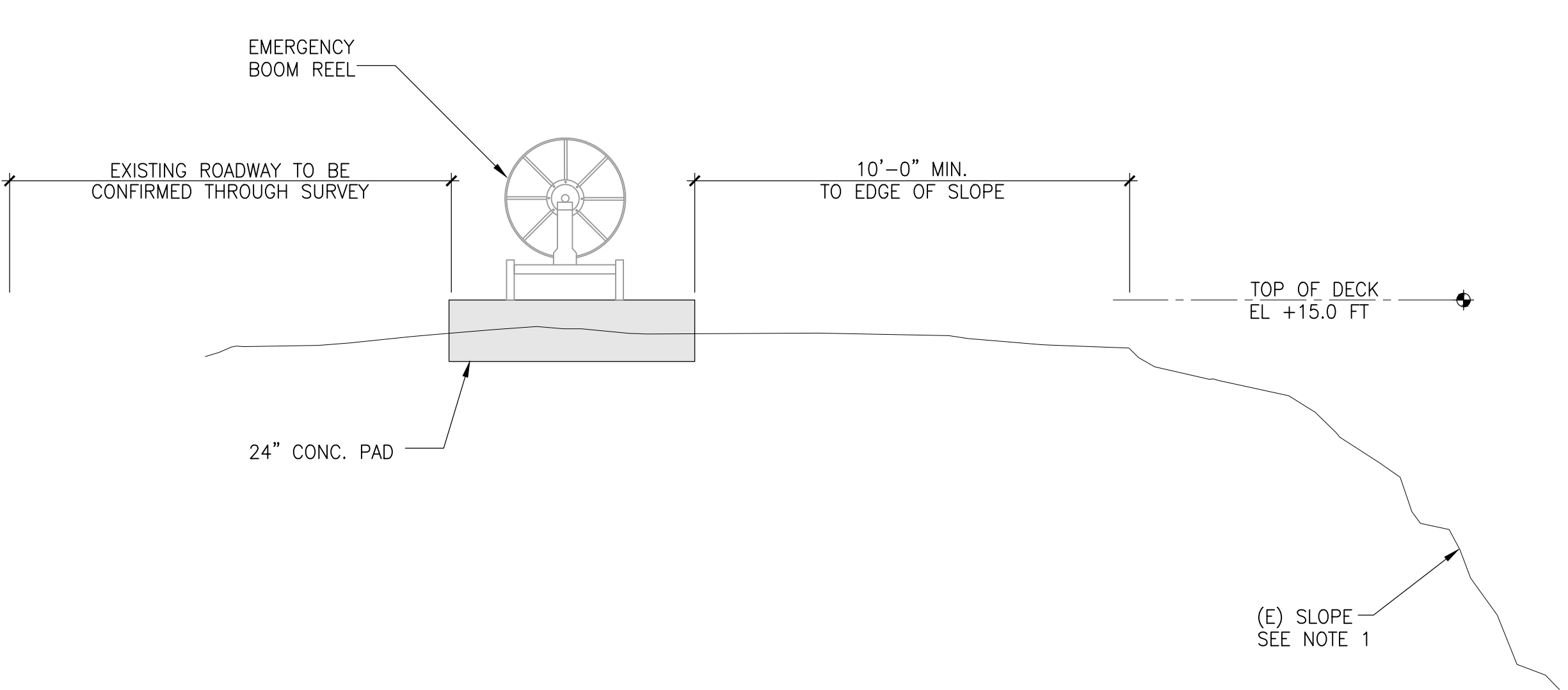
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Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

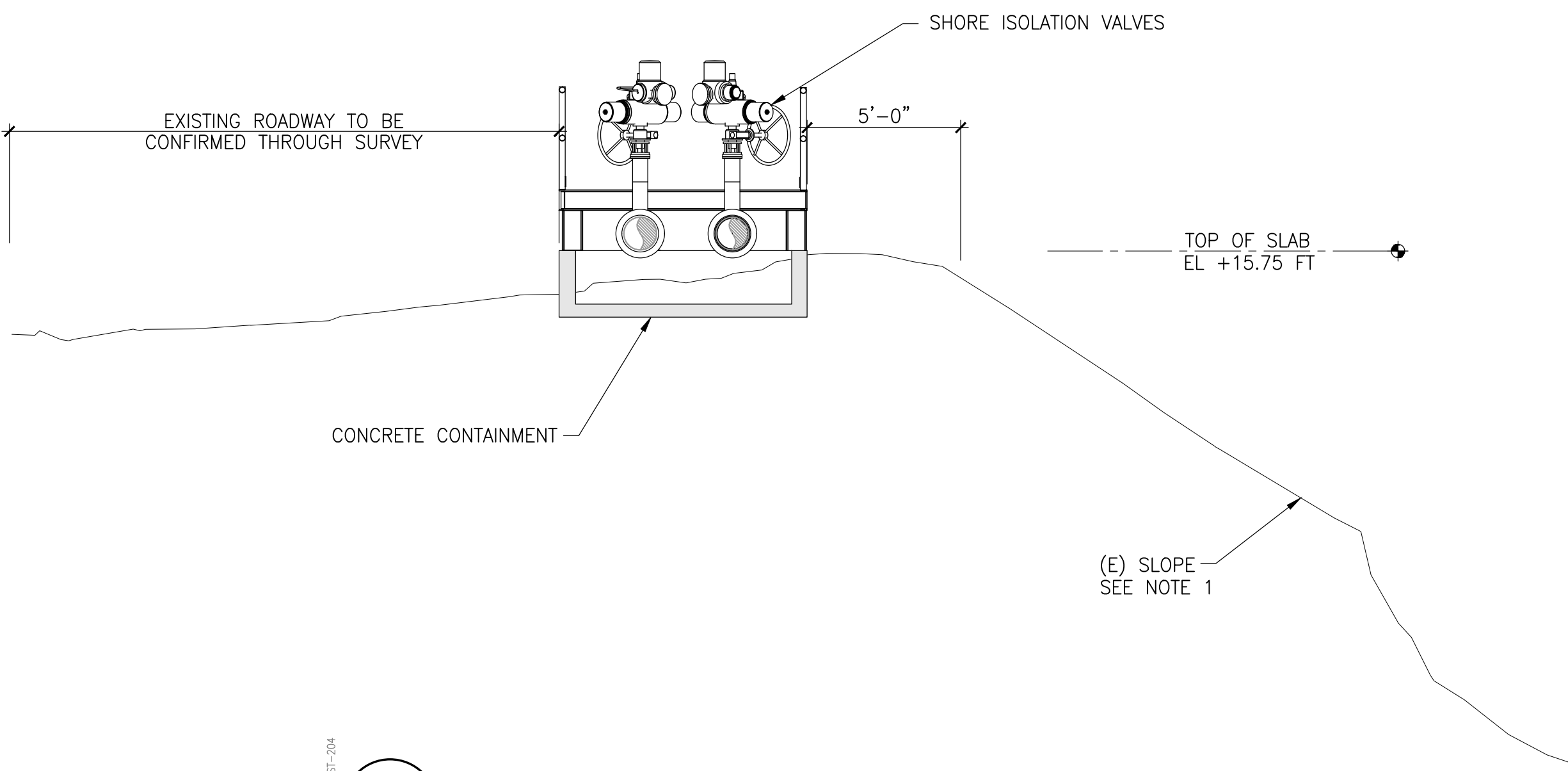
Seal	Drawing No. STK-100453- ST-203
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ENVIRONMENTAL PERMIT
NOT FOR CONSTRUCTION

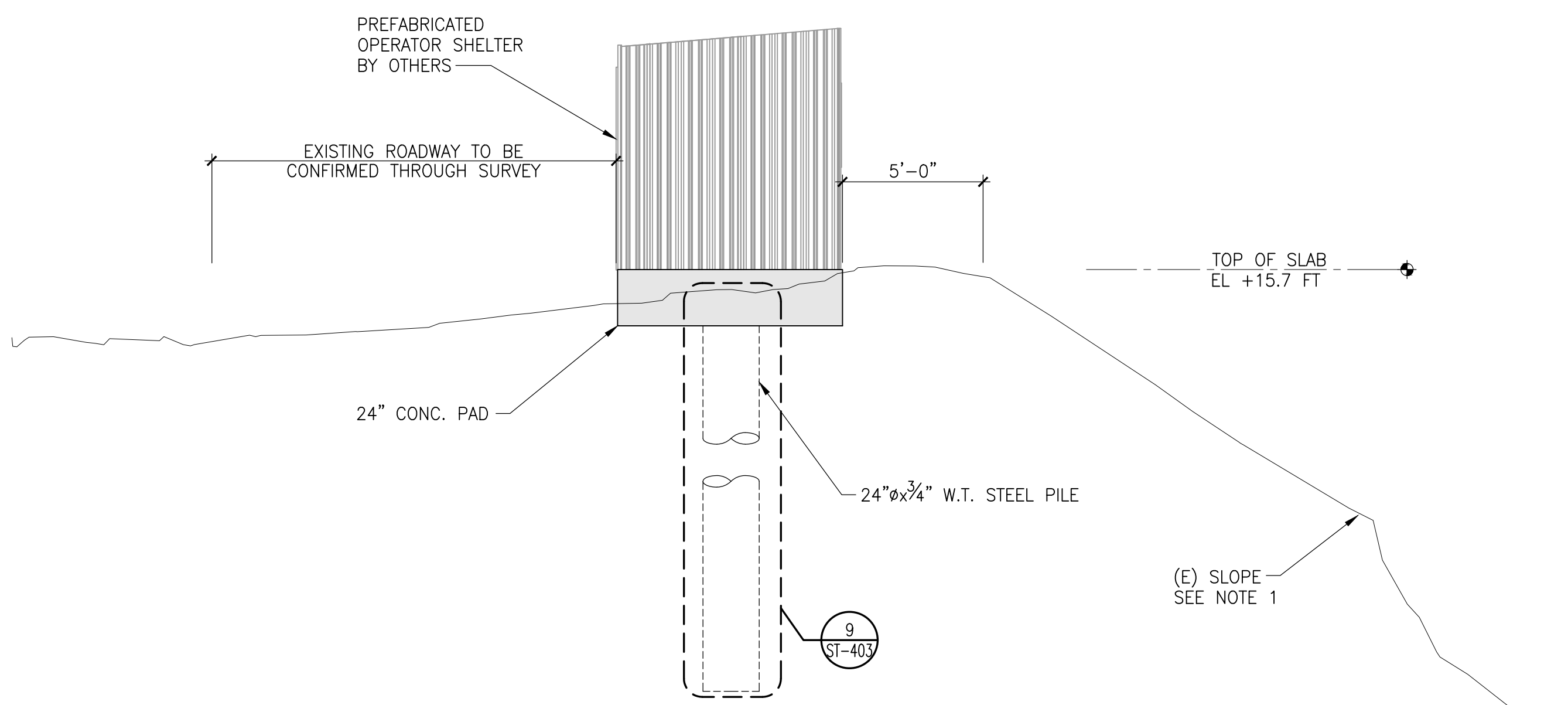
NOTE:
1. EMBANKMENT SLOPE WILL BE RE-GRADED TO ACHIEVE A MINIMUM 1.5H : 1V SLOPE PER GEOTECHNICAL RECOMMENDATIONS. EXTENT OF PROPOSED CUT AND FILL WILL BE DOCUMENTED FOLLOWING A TERRESTRIAL SURVEY IN APRIL 2023.



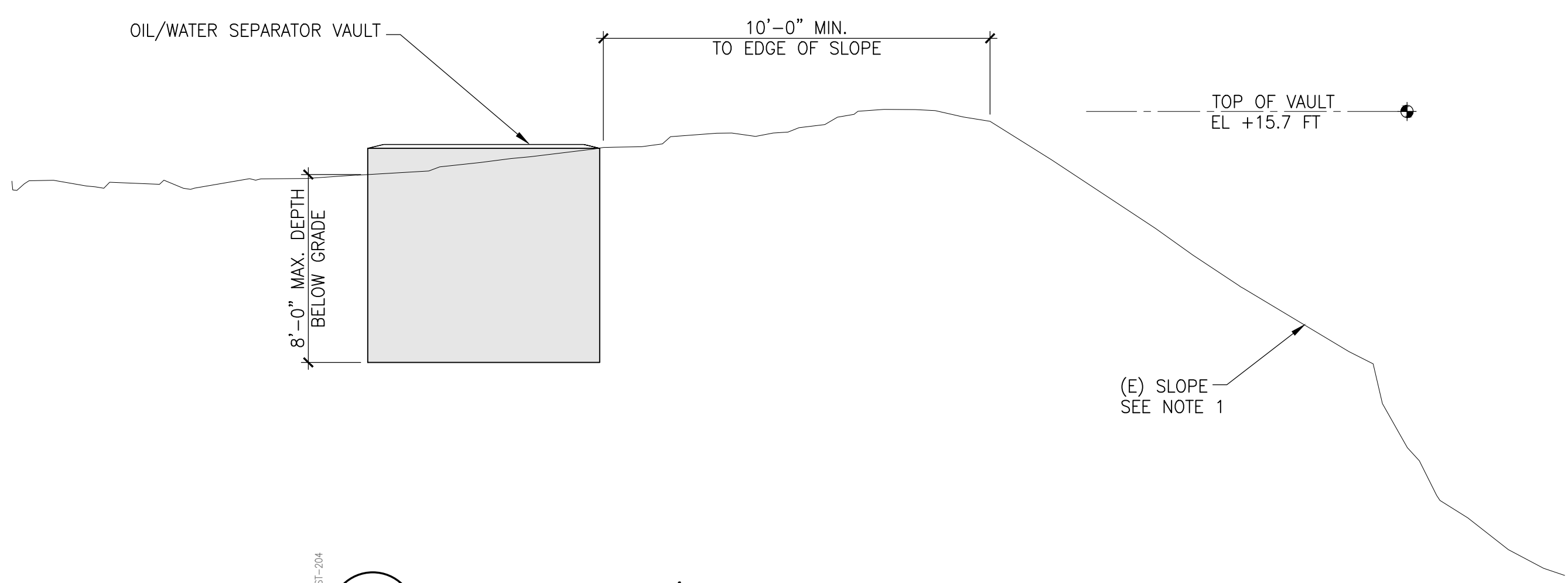
1 EMERGENCY BOOM REEL CONCRETE PAD
SCALE: 1/4"=1'-0"



3 SHORE ISOLATION VALVE CONTAINMENT
SCALE: 1/4"=1'-0"



2 OPERATOR SHELTER CONCRETE PAD
SCALE: 1/4"=1'-0"



4 VAULT FOR OIL/WATER SEPARATOR
SCALE: 1/4"=1'-0"

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**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

Project **STOCKTON, CA**

**SECTIONS
ONSHORE
STRUCTURES**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN
Seal		Drawing No. STK-100453- ST-204



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BERTH 8

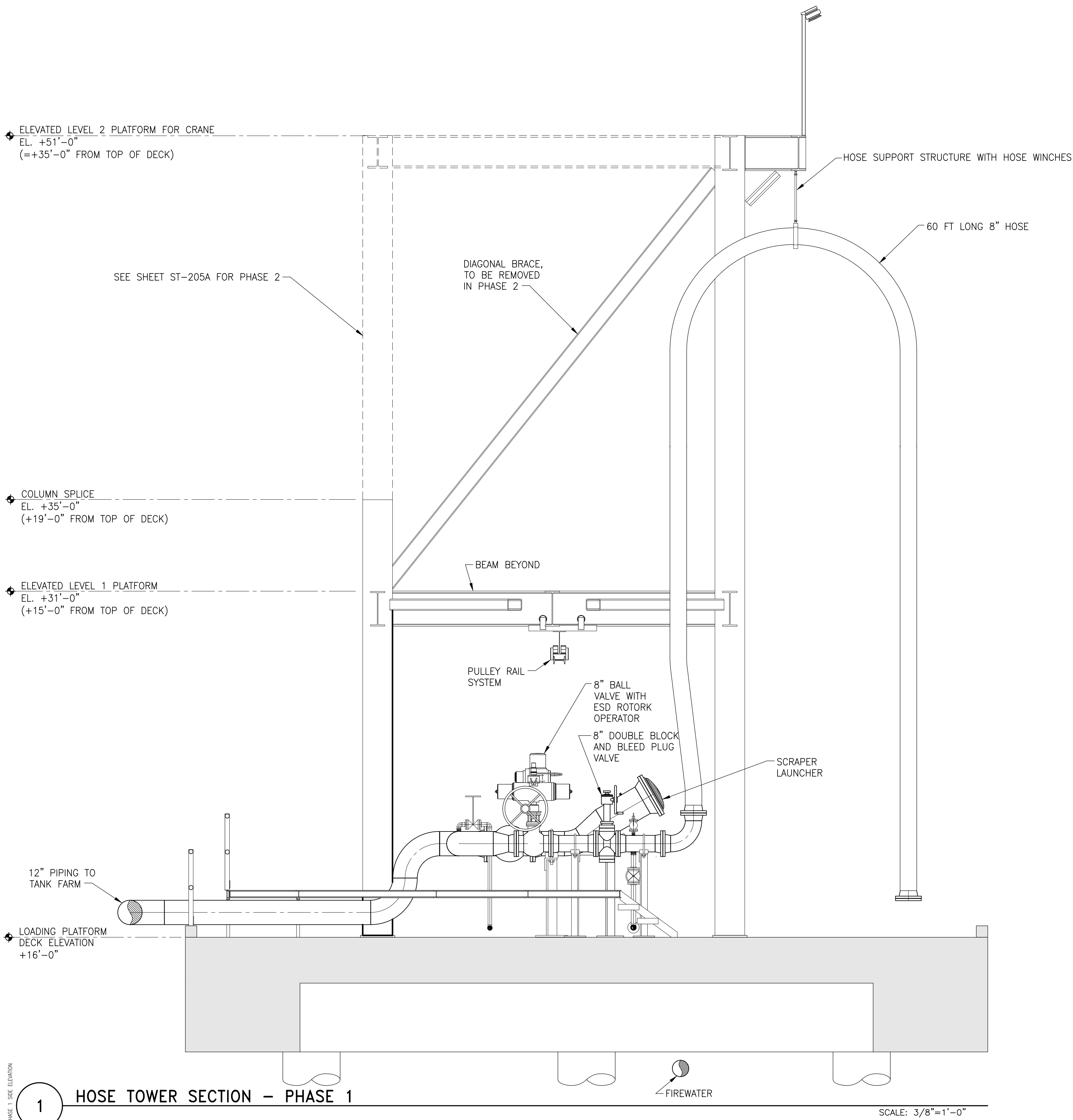
Project STOCKTON, CA

HOSE TOWER SECTION
PHASE 1

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Drawing No. STK-100453- ST-205	
Seal	



- NOTES:
1. REPRESENTATIVE HOSE TOWER FRAME SHOWN FOR CONCEPT ONLY. HOSE TOWER MEMBER SIZES, CONNECTIONS, AND DETAILS (INCLUDING BUT NOT LIMITED TO HOSE SADDLES, ATTACHMENT POINTS, AND CONTAINMENT) WILL BE INCLUDED IN A LATER SUBMITTAL.

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SW PERSPECTIVE – PHASE 1



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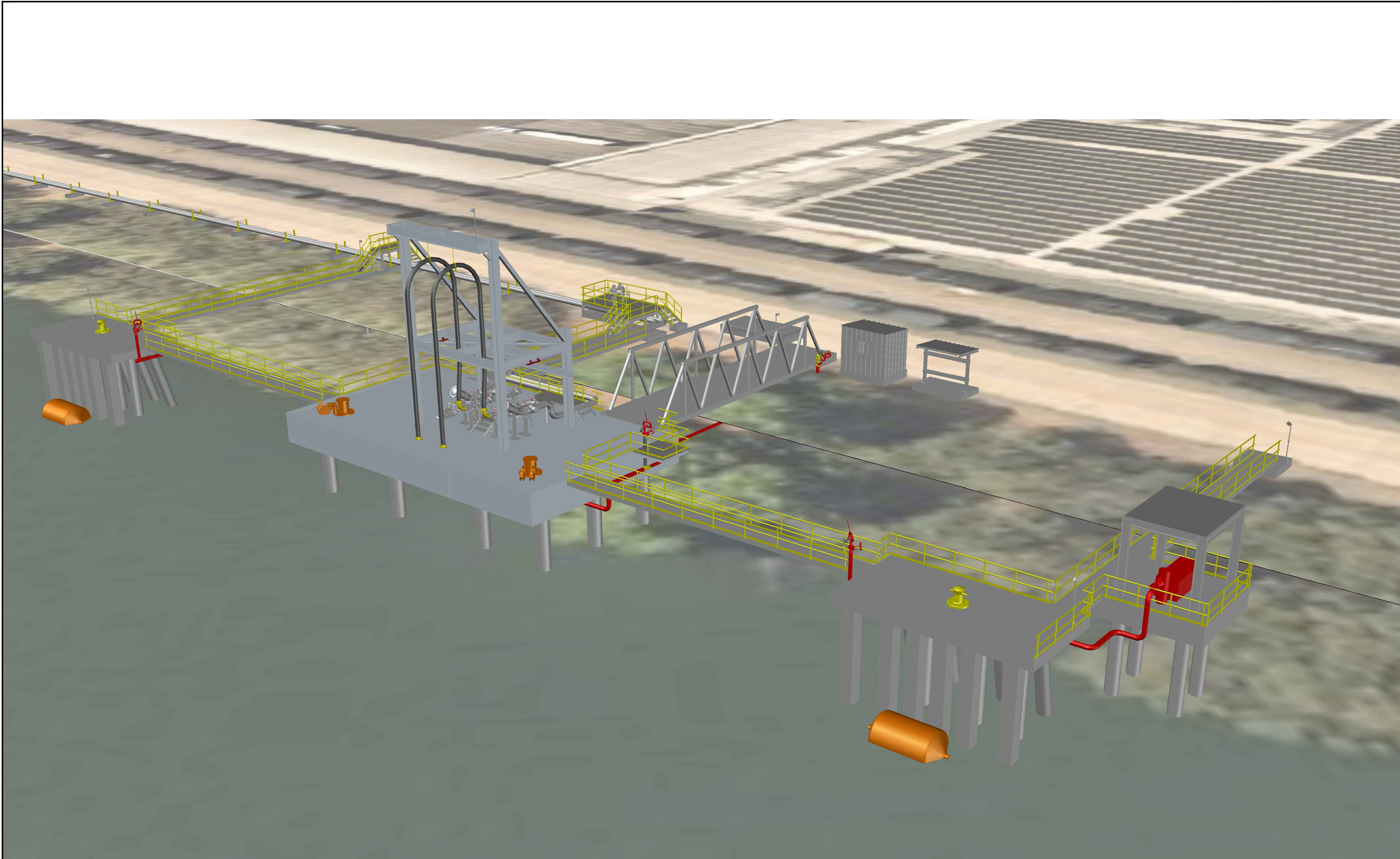
3D RENDERING
SW PERSPECTIVE
PHASE 1

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No.
	STK-100453- ST-501

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NE PERSPECTIVE – PHASE 1

ENVIRONMENTAL PERMIT
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No.	Date	Description	By

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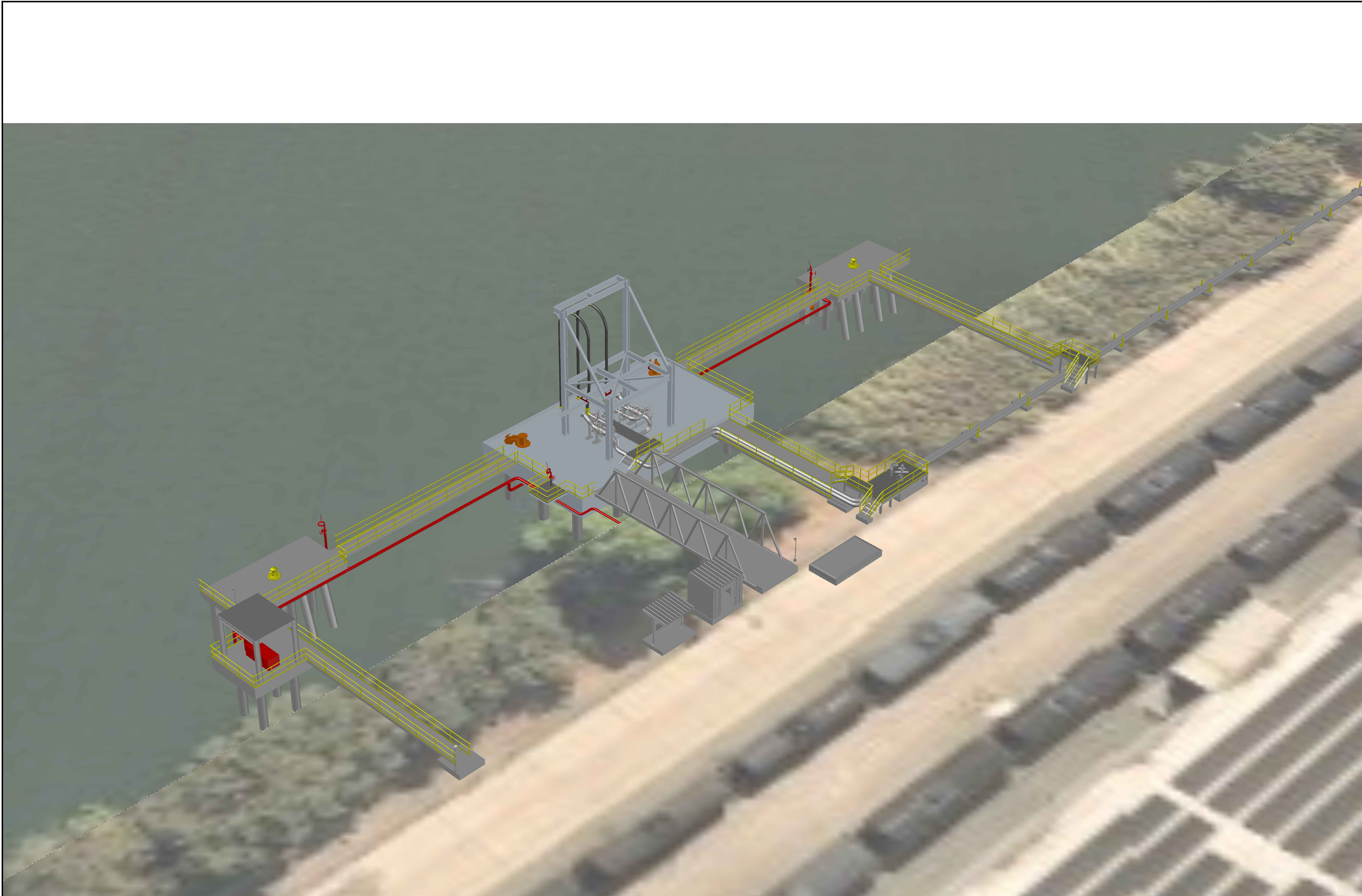
STOCKTON, CA

Project

**3D RENDERING
NE PERSPECTIVE
PHASE 1**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN
Seal		Drawing No. STK-100453- ST-502



NW PERSPECTIVE – PHASE 1

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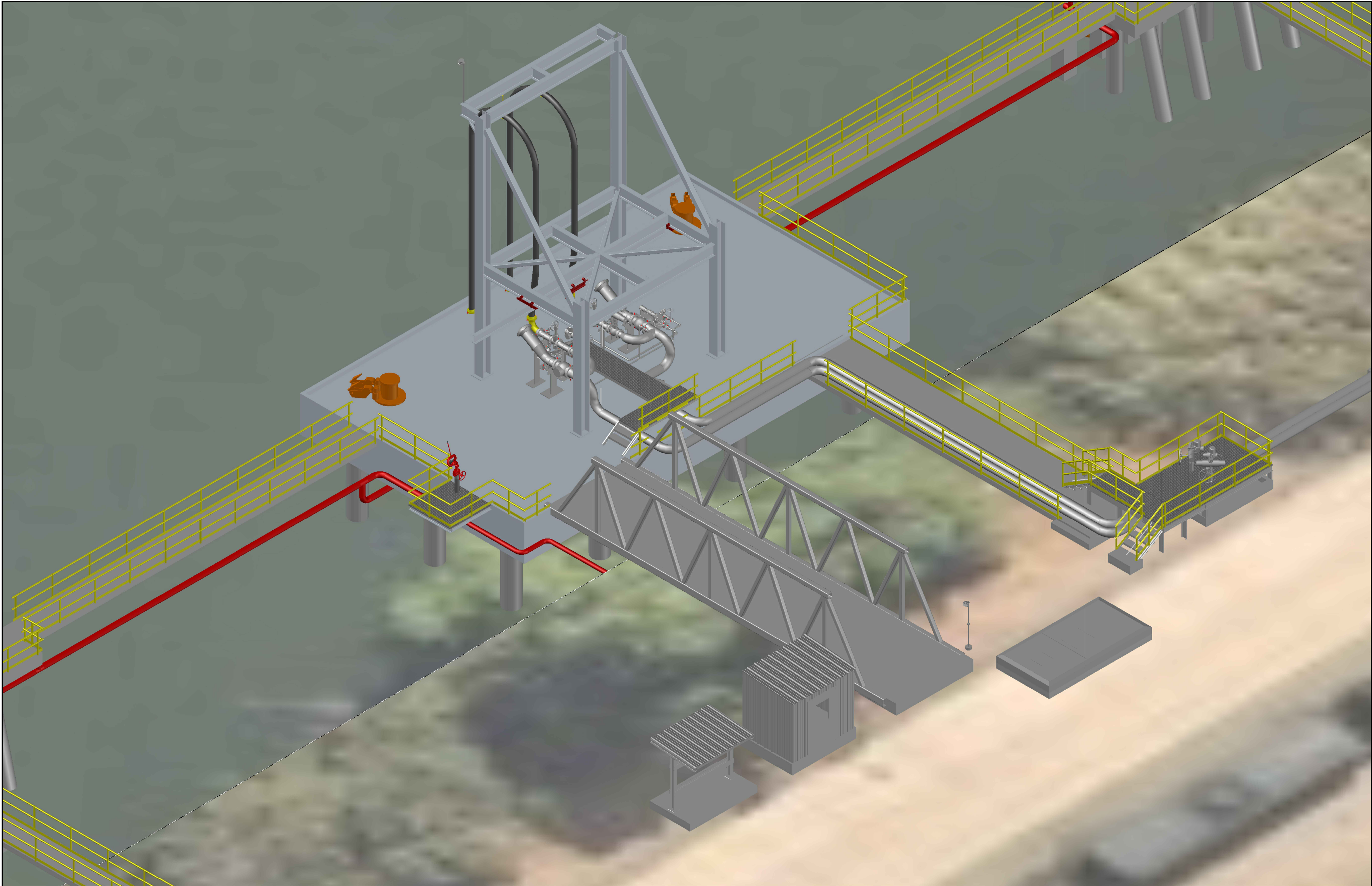
**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

Project **STOCKTON, CA**

**3D RENDERING
NW PERSPECTIVE
PHASE 1**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
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BULK LIQUID STORAGE

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BERTH 8**

Project **STOCKTON, CA**

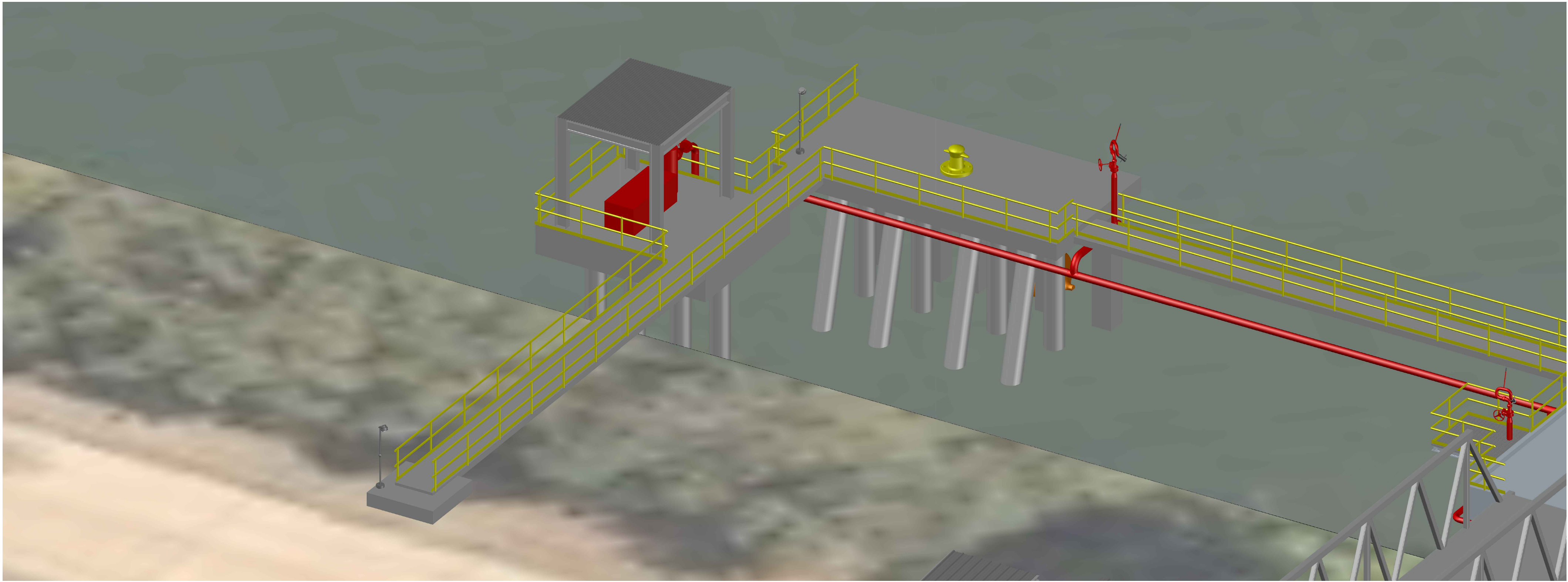
**3D RENDERING
HOSE TOWER SE
PERSPECTIVE
PHASE 1**

Drawing Title

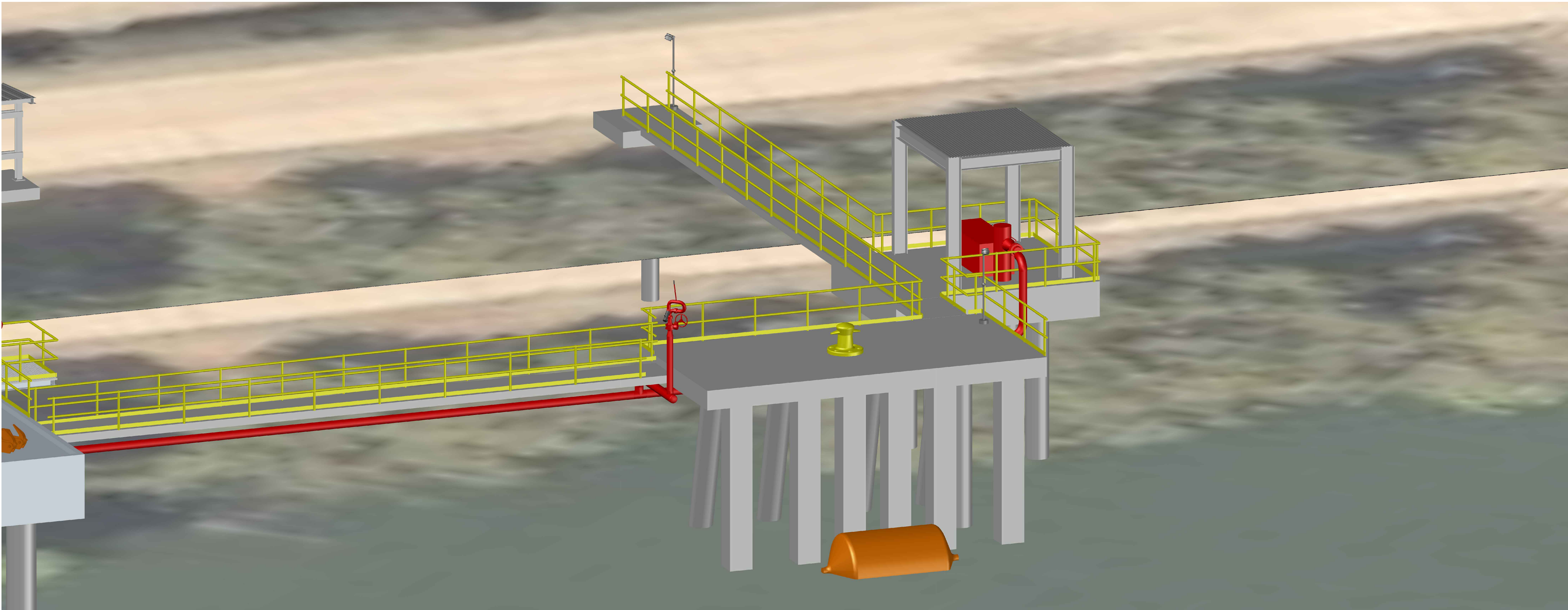
Project No. 227016.00	Checked RFM	Date 8/30/2023
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Seal		Drawing No. STK-100453- ST-504

HOSE TOWER CLOSE PERSPECTIVE – PHASE 1

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SW PERSPECTIVE – BREASTING DOLPHIN AND FIRE PUMP PLATFORM



SE PERSPECTIVE – BREASTING DOLPHIN AND FIRE PUMP PLATFORM

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BWC TERMINALS
PORT OF STOCKTON
BERTH 8

Project STOCKTON, CA

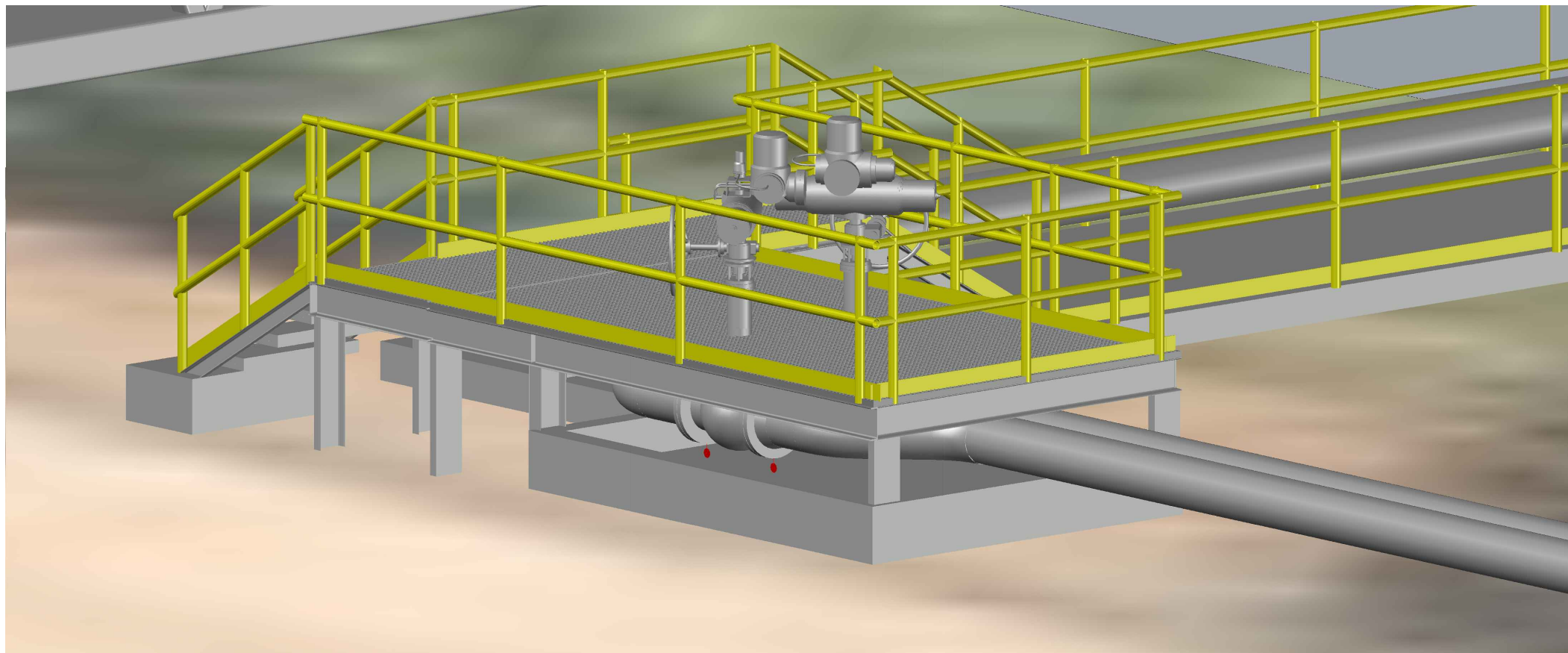
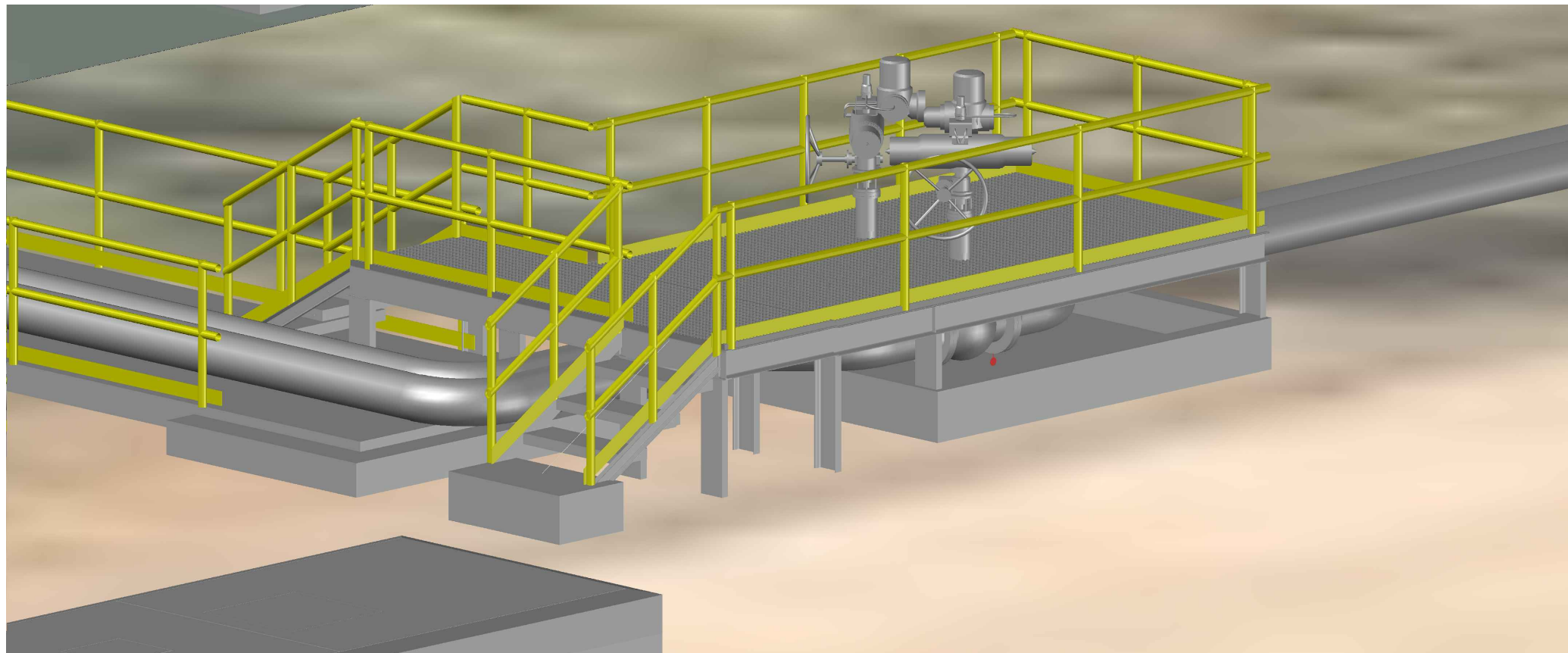
3D RENDERING
BREASTING DOLPHIN &
FIRE PUMP PLATFORM

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal

Drawing No.
STK-100453-
ST-505



SHORE ISOLATION VALVES – PHASE 1



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**BWC TERMINALS
PORT OF STOCKTON
BERTH 8**

Project **STOCKTON, CA**

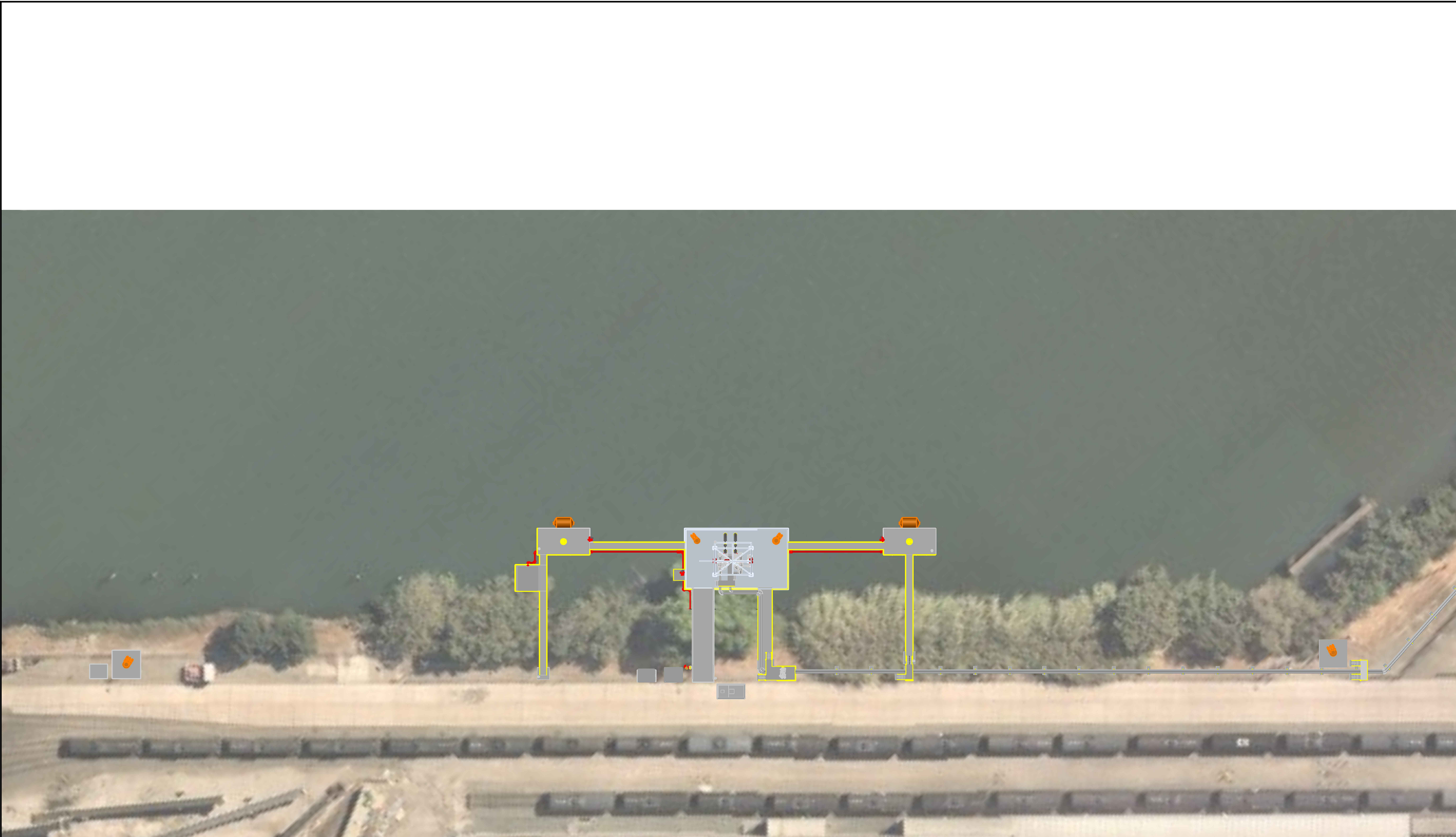
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SHORE ISOLATION
VALVES**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No. STK-100453- ST-506
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TERMINAL SITE PLAN – PHASE 1

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BWC TERMINALS
PORT OF STOCKTON
BERTH 8

Project STOCKTON, CA

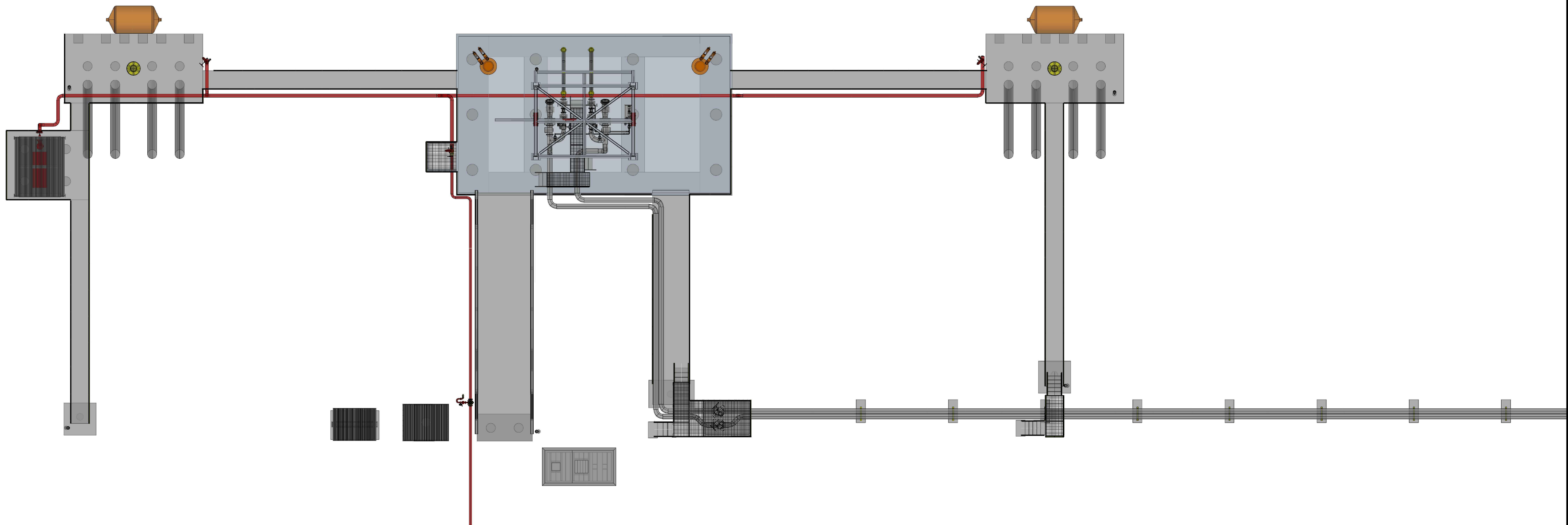
3D RENDERING
TERMINAL SITE PLAN

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN
Seal		Drawing No. STK-100453- ST-507



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PORT OF STOCKTON
BERTH 8**

Project **STOCKTON, CA**

**3D RENDERING
ENLARGED PLAN
MARINE STRUCTURES
PHASE 1**

Drawing Title

Project No. 227016.00	Checked RFM	Date 8/30/2023
Drawn GPN	Approved WMB	Scale AS SHOWN

Seal	Drawing No. STK-100453- ST-508
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ENVIRONMENTAL PERMIT
NOT FOR CONSTRUCTION

Appendix B

Air Quality Results and Assumptions

BWC MOTEMS Dock Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

1.2. Land Use Types

1.3. User-Selected Emission Reduction Measures by Emissions Sector

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

2.2. Construction Emissions by Year, Unmitigated

2.3. Construction Emissions by Year, Mitigated

2.4. Operations Emissions Compared Against Thresholds

2.5. Operations Emissions by Sector, Unmitigated

2.6. Operations Emissions by Sector, Mitigated

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

3.2. Site Preparation (2024) - Mitigated

3.3. Site Preparation (2024) - Unmitigated

3.4. Site Preparation (2024) - Mitigated

3.5. Building Construction (2024) - Unmitigated

3.6. Building Construction (2024) - Mitigated

3.7. Trenching (2024) - Unmitigated

3.8. Trenching (2024) - Mitigated

3.9. Trenching (2024) - Unmitigated

3.10. Trenching (2024) - Mitigated

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

4.1.2. Mitigated

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.2. Electricity Emissions By Land Use - Mitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.2.4. Natural Gas Emissions By Land Use - Mitigated

4.3. Area Emissions by Source

4.3.2. Unmitigated

4.3.1. Mitigated

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

4.4.1. Mitigated

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

4.5.1. Mitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.6.2. Mitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.7.2. Mitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.8.2. Mitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.9.2. Mitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

5. Activity Data

5.1. Construction Schedule

5.2. Off-Road Equipment

5.2.1. Unmitigated

5.2.2. Mitigated

5.3. Construction Vehicles

5.3.1. Unmitigated

5.3.2. Mitigated

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

5.5. Architectural Coatings

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

5.6.2. Construction Earthmoving Control Strategies

5.7. Construction Paving

5.8. Construction Electricity Consumption and Emissions Factors

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.9.2. Mitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.10.4. Landscape Equipment - Mitigated

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.11.2. Mitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.12.2. Mitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.13.2. Mitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.14.2. Mitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.15.2. Mitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.1.2. Mitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

5.18.2.2. Mitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

6.4.1. Drought

6.4.2. Air Quality Degradation

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	BWC MOTEMS Dock
Construction Start Date	4/1/2024
Operational Year	2025
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.40
Precipitation (days)	0.40
Location	37.95044197623726, -121.32700421545522
County	San Joaquin
City	Stockton
Air District	San Joaquin Valley APCD
Air Basin	San Joaquin Valley
TAZ	2023
EDFZ	4
Electric Utility	Western Area Power Administration
Gas Utility	Pacific Gas & Electric
App Version	2022.1.1.8

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
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User Defined Industrial	1.63	User Defined Unit	1.63	0.00	0.00	—	—	—
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1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-2*	Limit Heavy-Duty Diesel Vehicle Idling

* Qualitative or supporting measure. Emission reductions not included in the mitigated emissions results.

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.06	2.58	20.3	18.6	0.05	0.81	0.29	1.10	0.75	0.07	0.82	—	6,136	6,136	0.26	0.08	1.48	6,168
Mit.	3.06	2.58	20.3	18.6	0.05	0.81	0.29	1.10	0.75	0.07	0.82	—	6,136	6,136	0.26	0.08	1.48	6,168
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.61	3.05	23.9	23.1	0.06	0.98	0.46	1.44	0.90	0.11	1.01	—	7,227	7,227	0.31	0.10	0.06	7,264
Mit.	3.61	3.05	23.9	23.1	0.06	0.98	0.46	1.44	0.90	0.11	1.01	—	7,227	7,227	0.31	0.10	0.06	7,264
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	1.04	0.87	7.09	6.43	0.02	0.29	0.13	0.41	0.26	0.03	0.29	—	2,058	2,058	0.09	0.03	0.28	2,070
Mit.	1.04	0.87	7.09	6.43	0.02	0.29	0.13	0.41	0.26	0.03	0.29	—	2,058	2,058	0.09	0.03	0.28	2,070
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.19	0.16	1.29	1.17	< 0.005	0.05	0.02	0.08	0.05	0.01	0.05	—	341	341	0.01	< 0.005	0.05	343
Mit.	0.19	0.16	1.29	1.17	< 0.005	0.05	0.02	0.08	0.05	0.01	0.05	—	341	341	0.01	< 0.005	0.05	343
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.06	2.58	20.3	18.6	0.05	0.81	0.29	1.10	0.75	0.07	0.82	—	6,136	6,136	0.26	0.08	1.48	6,168
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.61	3.05	23.9	23.1	0.06	0.98	0.46	1.44	0.90	0.11	1.01	—	7,227	7,227	0.31	0.10	0.06	7,264
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.87	7.09	6.43	0.02	0.29	0.13	0.41	0.26	0.03	0.29	—	2,058	2,058	0.09	0.03	0.28	2,070
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.19	0.16	1.29	1.17	< 0.005	0.05	0.02	0.08	0.05	0.01	0.05	—	341	341	0.01	< 0.005	0.05	343

2.3. Construction Emissions by Year, Mitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.06	2.58	20.3	18.6	0.05	0.81	0.29	1.10	0.75	0.07	0.82	—	6,136	6,136	0.26	0.08	1.48	6,168
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.61	3.05	23.9	23.1	0.06	0.98	0.46	1.44	0.90	0.11	1.01	—	7,227	7,227	0.31	0.10	0.06	7,264
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.04	0.87	7.09	6.43	0.02	0.29	0.13	0.41	0.26	0.03	0.29	—	2,058	2,058	0.09	0.03	0.28	2,070
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.19	0.16	1.29	1.17	< 0.005	0.05	0.02	0.08	0.05	0.01	0.05	—	341	341	0.01	< 0.005	0.05	343

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	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	0.00	0.00
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	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	0.00	0.00

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	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	0.00	0.00

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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

Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00

2.6. Operations Emissions by Sector, Mitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	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	0.00
Area	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
Energy	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
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	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	0.00	0.00

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.79	6.51	0.01	0.34	—	0.34	0.31	—	0.31	—	1,443	1,443	0.06	0.01	—	1,448
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.3	59.3	< 0.005	< 0.005	—	59.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.82	9.82	< 0.005	< 0.005	—	9.85
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.19	7.19	< 0.005	< 0.005	0.01	7.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.2. Site Preparation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.95	0.80	6.79	6.51	0.01	0.34	—	0.34	0.31	—	0.31	—	1,443	1,443	0.06	0.01	—	1,448
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.28	0.27	< 0.005	0.01	—	0.01	0.01	—	0.01	—	59.3	59.3	< 0.005	< 0.005	—	59.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.05	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	9.82	9.82	< 0.005	< 0.005	—	9.85

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.09	0.06	1.14	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	189	189	0.01	0.01	0.76	192
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	7.19	7.19	< 0.005	< 0.005	0.01	7.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.19	1.19	< 0.005	< 0.005	< 0.005	1.21
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.41	3.51	3.98	0.01	0.17	—	0.17	0.15	—	0.15	—	948	948	0.04	0.01	—	951
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.30	4.30	< 0.005	< 0.005	—	4.31
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.4. Site Preparation (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.48	0.41	3.51	3.98	0.01	0.17	—	0.17	0.15	—	0.15	—	948	948	0.04	0.01	—	951
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.11	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.0	26.0	< 0.005	< 0.005	—	26.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.30	4.30	< 0.005	< 0.005	—	4.31
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.08	0.90	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	171	171	0.01	0.01	0.02	173
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	4.80	4.80	< 0.005	< 0.005	0.01	4.87
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.79	0.79	< 0.005	< 0.005	< 0.005	0.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Building Construction (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.90	2.43	20.0	16.8	0.05	0.81	—	0.81	0.75	—	0.75	—	5,709	5,709	0.24	0.05	—	5,730
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.90	2.43	20.0	16.8	0.05	0.81	—	0.81	0.75	—	0.75	—	5,709	5,709	0.24	0.05	—	5,730
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.48	4.61	0.01	0.22	—	0.22	0.20	—	0.20	—	1,564	1,564	0.07	0.01	—	1,570
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.00	0.84	< 0.005	0.04	—	0.04	0.04	—	0.04	—	259	259	0.01	< 0.005	—	260
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	1.35	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	256	256	0.02	0.01	0.03	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	71.9	71.9	< 0.005	< 0.005	0.13	73.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.1	39.1	< 0.005	0.01	0.04	41.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.02	12.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.48	6.48	< 0.005	< 0.005	0.01	6.79

3.6. Building Construction (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.90	2.43	20.0	16.8	0.05	0.81	—	0.81	0.75	—	0.75	—	5,709	5,709	0.24	0.05	—	5,730
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.90	2.43	20.0	16.8	0.05	0.81	—	0.81	0.75	—	0.75	—	5,709	5,709	0.24	0.05	—	5,730
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.48	4.61	0.01	0.22	—	0.22	0.20	—	0.20	—	1,564	1,564	0.07	0.01	—	1,570

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.12	1.00	0.84	< 0.005	0.04	—	0.04	0.04	—	0.04	—	259	259	0.01	< 0.005	—	260
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.12	1.35	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	256	256	0.02	0.01	0.03	260
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.18	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.01	150
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.38	0.00	0.00	0.07	0.07	0.00	0.02	0.02	—	71.9	71.9	< 0.005	< 0.005	0.13	73.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	39.1	39.1	< 0.005	0.01	0.04	41.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.9	11.9	< 0.005	< 0.005	0.02	12.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.48	6.48	< 0.005	< 0.005	0.01	6.79

3.7. Trenching (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15	0.97	10.0	7.24	0.02	0.41	—	0.41	0.38	—	0.38	—	2,259	2,259	0.10	0.02	—	2,268
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.83	0.60	< 0.005	0.03	—	0.03	0.03	—	0.03	—	186	186	0.01	< 0.005	—	186
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.15	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.7	30.7	< 0.005	< 0.005	—	30.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.6	21.6	< 0.005	< 0.005	0.04	21.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.57	3.57	< 0.005	< 0.005	0.01	3.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

3.8. Trenching (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15	0.97	10.0	7.24	0.02	0.41	—	0.41	0.38	—	0.38	—	2,259	2,259	0.10	0.02	—	2,268
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.83	0.60	< 0.005	0.03	—	0.03	0.03	—	0.03	—	186	186	0.01	< 0.005	—	186

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.15	0.11	< 0.005	0.01	—	0.01	0.01	—	0.01	—	30.7	30.7	< 0.005	< 0.005	—	30.9
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	21.6	21.6	< 0.005	< 0.005	0.04	21.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	0.01	12.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.57	3.57	< 0.005	< 0.005	0.01	3.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.94	1.94	< 0.005	< 0.005	< 0.005	2.04

3.9. Trenching (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.64	6.76	5.17	0.01	0.28	—	0.28	0.26	—	0.26	—	1,215	1,215	0.05	0.01	—	1,219
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.9	49.9	< 0.005	< 0.005	—	50.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.26	8.26	< 0.005	< 0.005	—	8.29
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.02	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.87	5.87	< 0.005	< 0.005	0.01	6.16
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	1.02

3.10. Trenching (2024) - Mitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	0.64	6.76	5.17	0.01	0.28	—	0.28	0.26	—	0.26	—	1,215	1,215	0.05	0.01	—	1,219
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.28	0.21	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.9	49.9	< 0.005	< 0.005	—	50.1
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.26	8.26	< 0.005	< 0.005	—	8.29
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.15	0.14	0.09	1.71	0.00	0.00	0.25	0.25	0.00	0.06	0.06	—	284	284	0.01	0.01	1.14	288
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.17	0.04	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	—	143	143	< 0.005	0.02	0.34	150
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	< 0.005	0.06	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.8	10.8	< 0.005	< 0.005	0.02	11.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.87	5.87	< 0.005	< 0.005	0.01	6.16
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.79	1.79	< 0.005	< 0.005	< 0.005	1.81
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.97	0.97	< 0.005	< 0.005	< 0.005	1.02

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00

4.1.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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	0.00
Total	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	0.00

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3. Area Emissions by Source

4.3.2. Unmitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.3.1. Mitigated

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

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect ural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consum er Products	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architect ural Coatings	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landsca pe Equipme nt	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
Total	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.4.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.5.1. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.6.2. Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
----------------	-----	-----	-----	----	-----	-------	-------	-------	--------	--------	--------	------	-------	------	-----	-----	---	------

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequest ered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
1-Mobilization	Site Preparation	4/1/2024	4/21/2024	5.00	15.0	Mobilization/Site Preparation
6-Demobilization	Site Preparation	11/14/2024	11/27/2024	5.00	10.0	Demobilization
4-Deck Construction	Building Construction	7/7/2024	11/22/2024	5.00	100	Deck Construction
3-Pile Driving (Marine)	Trenching	5/24/2024	7/04/2024	5.00	30.0	Pile Driving (Marine-Based) Loading Platform, Breasting Dolphins, Fire Pump Platform
2-Pile Driving (Upland)	Trenching	4/23/2024	5/13/2024	5.00	15.0	Pile Driving (Land-Based) Abutments, Mooring Dolphins

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
1-Mobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	100	0.40
1-Mobilization	Air Compressors	Diesel	Average	1.00	5.00	75.0	0.37
6-Demobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	300	0.37
1-Mobilization	Cranes	Diesel	Average	1.00	2.00	180	0.29
1-Mobilization	Welders	Diesel	Average	1.00	4.00	50.0	0.45
1-Mobilization	Off-Highway Trucks	Diesel	Average	1.00	4.00	350	0.38
1-Mobilization	Excavators	Diesel	Average	1.00	4.00	36.0	0.38
1-Mobilization	Graders	Diesel	Average	1.00	4.00	148	0.41
6-Demobilization	Graders	Diesel	Average	1.00	4.00	148	0.41
6-Demobilization	Air Compressors	Diesel	Average	1.00	4.00	75.0	0.48
6-Demobilization	Paving Equipment	Diesel	Average	1.00	4.00	89.0	0.36

4-Deck Construction	Cranes	Diesel	Average	1.00	8.00	250	0.29
4-Deck Construction	Cranes	Diesel	Average	1.00	8.00	152	0.29
4-Deck Construction	Aerial Lifts	Diesel	Average	1.00	8.00	67.0	0.31
4-Deck Construction	Welders	Diesel	Average	1.00	85.0	2.00	0.45
4-Deck Construction	Air Compressors	Diesel	Average	1.00	2.00	75.0	0.48
4-Deck Construction	Generator Sets	Diesel	Average	1.00	4.00	10.0	0.74
4-Deck Construction	Off-Highway Trucks	Diesel	Average	3.00	8.00	385	0.38
4-Deck Construction	Pumps	Diesel	Average	1.00	8.00	300	0.56
2-Pile Driving (Upland)	Cranes	Diesel	Average	1.00	8.00	297	0.29
2-Pile Driving (Upland)	Other Construction Equipment	Diesel	Average	1.00	6.00	83.0	0.50
2-Pile Driving (Upland)	Aerial Lifts	Diesel	Average	1.00	4.00	67.0	0.31
3-Pile Driving (Marine)	Cranes	Diesel	Average	1.00	8.00	250	0.29
3-Pile Driving (Marine)	Other Construction Equipment	Diesel	Average	1.00	4.00	595	0.42
3-Pile Driving (Marine)	Aerial Lifts	Diesel	Average	1.00	4.00	67.0	0.31
3-Pile Driving (Marine)	Welders	Diesel	Average	1.00	2.00	85.0	0.45
3-Pile Driving (Marine)	Air Compressors	Diesel	Average	1.00	2.00	75.0	0.48
3-Pile Driving (Marine)	Generator Sets	Diesel	Average	1.00	2.00	10.0	0.74
1-Mobilization	Generator Sets	Diesel	Average	1.00	5.00	300	0.74
2-Pile Driving (Upland)	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	2.00	1.00	160	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	1.00	2.00	430	0.34
4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	2.00	430	0.34

4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	1.00	160	0.50

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
1-Mobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	100	0.40
1-Mobilization	Air Compressors	Diesel	Average	1.00	5.00	75.0	0.37
6-Demobilization	Tractors/Loaders/Backhoes	Diesel	Average	1.00	4.00	300	0.37
1-Mobilization	Cranes	Diesel	Average	1.00	2.00	180	0.29
1-Mobilization	Welders	Diesel	Average	1.00	4.00	50.0	0.45
1-Mobilization	Off-Highway Trucks	Diesel	Average	1.00	4.00	350	0.38
1-Mobilization	Excavators	Diesel	Average	1.00	4.00	36.0	0.38
1-Mobilization	Graders	Diesel	Average	1.00	4.00	148	0.41
6-Demobilization	Graders	Diesel	Average	1.00	4.00	148	0.41
6-Demobilization	Air Compressors	Diesel	Average	1.00	4.00	75.0	0.48
6-Demobilization	Paving Equipment	Diesel	Average	1.00	4.00	89.0	0.36
4-Deck Construction	Cranes	Diesel	Average	1.00	8.00	250	0.29
4-Deck Construction	Cranes	Diesel	Average	1.00	8.00	152	0.29
4-Deck Construction	Aerial Lifts	Diesel	Average	1.00	8.00	67.0	0.31
4-Deck Construction	Welders	Diesel	Average	1.00	85.0	2.00	0.45
4-Deck Construction	Air Compressors	Diesel	Average	1.00	2.00	75.0	0.48
4-Deck Construction	Generator Sets	Diesel	Average	1.00	4.00	10.0	0.74
4-Deck Construction	Off-Highway Trucks	Diesel	Average	3.00	8.00	385	0.38
4-Deck Construction	Pumps	Diesel	Average	1.00	8.00	300	0.56
2-Pile Driving (Upland)	Cranes	Diesel	Average	1.00	8.00	297	0.29

2-Pile Driving (Upland)	Other Construction Equipment	Diesel	Average	1.00	6.00	83.0	0.50
2-Pile Driving (Upland)	Aerial Lifts	Diesel	Average	1.00	4.00	67.0	0.31
3-Pile Driving (Marine)	Cranes	Diesel	Average	1.00	8.00	250	0.29
3-Pile Driving (Marine)	Other Construction Equipment	Diesel	Average	1.00	4.00	595	0.42
3-Pile Driving (Marine)	Aerial Lifts	Diesel	Average	1.00	4.00	67.0	0.31
3-Pile Driving (Marine)	Welders	Diesel	Average	1.00	2.00	85.0	0.45
3-Pile Driving (Marine)	Air Compressors	Diesel	Average	1.00	2.00	75.0	0.48
3-Pile Driving (Marine)	Generator Sets	Diesel	Average	1.00	2.00	10.0	0.74
1-Mobilization	Generator Sets	Diesel	Average	1.00	5.00	300	0.74
2-Pile Driving (Upland)	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	2.00	1.00	160	0.50
3-Pile Driving (Marine)	Other General Industrial Equipment	Diesel	Average	1.00	2.00	430	0.34
4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	2.00	430	0.34
4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	4.00	40.0	0.50
4-Deck Construction	Other General Industrial Equipment	Diesel	Average	1.00	1.00	160	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
1-Mobilization	—	—	—	—

1-Mobilization	Worker	20.0	11.9	LDA,LDT1,LDT2
1-Mobilization	Vendor	—	9.10	HHDT,MHDT
1-Mobilization	Hauling	0.00	20.0	HHDT
1-Mobilization	Onsite truck	—	—	HHDT
2-Pile Driving (Upland)	—	—	—	—
2-Pile Driving (Upland)	Worker	30.0	11.9	LDA,LDT1,LDT2
2-Pile Driving (Upland)	Vendor	—	9.10	HHDT,MHDT
2-Pile Driving (Upland)	Hauling	2.00	20.0	HHDT
2-Pile Driving (Upland)	Onsite truck	—	—	HHDT
3-Pile Driving (Marine)	—	—	—	—
3-Pile Driving (Marine)	Worker	30.0	11.9	LDA,LDT1,LDT2
3-Pile Driving (Marine)	Vendor	—	9.10	HHDT,MHDT
3-Pile Driving (Marine)	Hauling	2.00	20.0	HHDT
3-Pile Driving (Marine)	Onsite truck	—	—	HHDT
4-Deck Construction	—	—	—	—
4-Deck Construction	Worker	30.0	11.9	LDA,LDT1,LDT2
4-Deck Construction	Vendor	0.00	9.10	HHDT,MHDT
4-Deck Construction	Hauling	2.00	20.0	HHDT
4-Deck Construction	Onsite truck	—	—	HHDT
6-Demobilization	—	—	—	—
6-Demobilization	Worker	20.0	11.9	LDA,LDT1,LDT2
6-Demobilization	Vendor	—	9.10	HHDT,MHDT
6-Demobilization	Hauling	0.00	20.0	HHDT
6-Demobilization	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
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1-Mobilization	—	—	—	—
1-Mobilization	Worker	20.0	11.9	LDA,LDT1,LDT2
1-Mobilization	Vendor	—	9.10	HHDT,MHDT
1-Mobilization	Hauling	0.00	20.0	HHDT
1-Mobilization	Onsite truck	—	—	HHDT
2-Pile Driving (Upland)	—	—	—	—
2-Pile Driving (Upland)	Worker	30.0	11.9	LDA,LDT1,LDT2
2-Pile Driving (Upland)	Vendor	—	9.10	HHDT,MHDT
2-Pile Driving (Upland)	Hauling	2.00	20.0	HHDT
2-Pile Driving (Upland)	Onsite truck	—	—	HHDT
3-Pile Driving (Marine)	—	—	—	—
3-Pile Driving (Marine)	Worker	30.0	11.9	LDA,LDT1,LDT2
3-Pile Driving (Marine)	Vendor	—	9.10	HHDT,MHDT
3-Pile Driving (Marine)	Hauling	2.00	20.0	HHDT
3-Pile Driving (Marine)	Onsite truck	—	—	HHDT
4-Deck Construction	—	—	—	—
4-Deck Construction	Worker	30.0	11.9	LDA,LDT1,LDT2
4-Deck Construction	Vendor	0.00	9.10	HHDT,MHDT
4-Deck Construction	Hauling	2.00	20.0	HHDT
4-Deck Construction	Onsite truck	—	—	HHDT
6-Demobilization	—	—	—	—
6-Demobilization	Worker	20.0	11.9	LDA,LDT1,LDT2
6-Demobilization	Vendor	—	9.10	HHDT,MHDT
6-Demobilization	Hauling	0.00	20.0	HHDT
6-Demobilization	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
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5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
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5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

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

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.1.2. Mitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	0.00	0.00	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	453	0.0330	0.0040	0.00

5.11.2. Mitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	0.00	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
User Defined Industrial	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	0.00

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
User Defined Industrial	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
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5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.15.2. Mitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
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5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)
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5.17. User Defined

Equipment Type	Fuel Type
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5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	23.2	annual days of extreme heat
Extreme Precipitation	2.40	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	4.10	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	4	1	3	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	5	1	5	1

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	4	1	4	2
Snowpack Reduction	N/A	N/A	N/A	N/A

Air Quality Degradation	5	1	5	1
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The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

6.4.1. Drought

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
MH-18: Maintain Soil Health	Enhanced Food Security, Improved Ecosystem Health	—	1.00	1.00

6.4.2. Air Quality Degradation

User Selected Measures	Co-Benefits Achieved	Exposure Reduction	Sensitivity Reduction	Adaptive Capacity Increase
WF-2: Install Fire Suppression Systems and Improve Structural Strength	Improved Air Quality, Improved Public Health	—	1.00	—

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	47.0
AQ-PM	58.3
AQ-DPM	91.2
Drinking Water	41.6

Lead Risk Housing	52.2
Pesticides	69.9
Toxic Releases	83.2
Traffic	62.9
Effect Indicators	—
CleanUp Sites	89.8
Groundwater	96.6
Haz Waste Facilities/Generators	77.1
Impaired Water Bodies	98.7
Solid Waste	84.7
Sensitive Population	—
Asthma	95.6
Cardio-vascular	88.5
Low Birth Weights	81.9
Socioeconomic Factor Indicators	—
Education	87.0
Housing	58.8
Linguistic	71.4
Poverty	84.1
Unemployment	52.5

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	14.26921596
Employed	8.417810856

Median HI	24.08571795
Education	—
Bachelor's or higher	5.671756705
High school enrollment	24.5989991
Preschool enrollment	42.2302066
Transportation	—
Auto Access	48.80020531
Active commuting	7.86603362
Social	—
2-parent households	40.11292185
Voting	24.1498781
Neighborhood	—
Alcohol availability	76.45322726
Park access	33.78673168
Retail density	31.23315796
Supermarket access	7.096111895
Tree canopy	64.82740921
Housing	—
Homeownership	41.92223791
Housing habitability	25.72821763
Low-inc homeowner severe housing cost burden	57.60297703
Low-inc renter severe housing cost burden	11.04837675
Uncrowded housing	14.25638393
Health Outcomes	—
Insured adults	19.59450789
Arthritis	36.0
Asthma ER Admissions	1.7

High Blood Pressure	8.6
Cancer (excluding skin)	82.6
Asthma	14.8
Coronary Heart Disease	37.1
Chronic Obstructive Pulmonary Disease	17.9
Diagnosed Diabetes	13.1
Life Expectancy at Birth	7.6
Cognitively Disabled	68.5
Physically Disabled	36.0
Heart Attack ER Admissions	2.8
Mental Health Not Good	13.3
Chronic Kidney Disease	20.1
Obesity	13.0
Pedestrian Injuries	81.6
Physical Health Not Good	13.4
Stroke	17.3
Health Risk Behaviors	—
Binge Drinking	90.4
Current Smoker	10.2
No Leisure Time for Physical Activity	4.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	8.5
Elderly	90.4
English Speaking	23.9
Foreign-born	75.6

Outdoor Workers	5.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	47.8
Traffic Density	78.2
Traffic Access	0.0
Other Indices	—
Hardship	91.5
Other Decision Support	—
2016 Voting	6.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	99.0
Healthy Places Index Score for Project Location (b)	15.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	Southwest Stockton

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Port of Stockton is in an urban area
Land Use	Project area is roughly 71,000 sq ft.
Construction: Construction Phases	Schedule provided by contractor, based on number of days worked per phase. Phase 5 (Clean-up Dredging) omitted as it will be performed as part of the Port Maintenance Dredging Program instead of a project-specific activity.
Construction: Off-Road Equipment	Construction Equipment by phase provided by contractor. Marine equipment modeled using Other General Industrial Equipment with hp, usage, and load factors reflecting expected use.
Construction: Off-Road Equipment EF	Contractor supplied equipment list, hrs/day, and hp. Other General Industrial Equipment used to model marine equipment, using supplied hp ratings and usage rates, approximate LFs, and emission factors from OFFROAD2021 model for commercial harbor craft.
Construction: Architectural Coatings	No surface coating planned
Construction: Dust From Material Movement	No material import or export for this project.
Construction: Trips and VMT	Assumed 15 workers for all phases except mobilization/demobilization which assume 10 workers. Materials and equipment deliveries expected to average once daily during phases 2,3, and 4.

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd
San Joaquin	2024	Commercial Harbor Craft - AE - Tugboat-Push/Tow	Aggregate	75	Diesel	8.39E-05	0.000102	0.000121	0.000287	0.000734	0.036817768	4.41E-05
San Joaquin	2024	Commercial Harbor Craft - AE - Work Boat	Aggregate	300	Diesel	9.61E-05	0.000116	0.000138	0.000522	0.002993	0.274480281	9.35E-05
San Joaquin	2024	Construction and Mining - Bore/Drill Rigs	Aggregate	300	Diesel	0.000155	0.000187	0.000223	0.001711	0.001809	0.847038135	5.87E-05
San Joaquin	2024	Construction and Mining - Bore/Drill Rigs	Aggregate	50	Diesel	6.76E-05	8.18E-05	9.73E-05	0.000582	0.000559	0.079393542	2.94E-05
San Joaquin	2024	Construction and Mining - Bore/Drill Rigs	Aggregate	75	Diesel	3.47E-05	4.20E-05	5.00E-05	0.000622	0.000624	0.09763377	3.02E-05
San Joaquin	2024	Construction and Mining - Cranes	Aggregate	300	Diesel	0.001349	0.001632	0.001943	0.009355	0.017498	2.922731625	0.000729767
San Joaquin	2024	Construction and Mining - Cranes	Aggregate	50	Diesel	7.04E-05	8.52E-05	0.000101	0.000317	0.000252	0.024850981	2.54E-05
San Joaquin	2024	Construction and Mining - Cranes	Aggregate	75	Diesel	1.98E-05	2.40E-05	2.85E-05	8.25E-05	0.000179	0.009536469	1.69E-05
San Joaquin	2024	Construction and Mining - Crawler Tractors	Aggregate	300	Diesel	0.001953	0.002363	0.002812	0.013985	0.026051	4.042404165	0.001079211
San Joaquin	2024	Construction and Mining - Crawler Tractors	Aggregate	50	Diesel	0.000203	0.000245	0.000292	0.000934	0.000695	0.080380589	6.51E-05
San Joaquin	2024	Construction and Mining - Crawler Tractors	Aggregate	75	Diesel	6.04E-05	7.31E-05	8.70E-05	0.000237	0.000579	0.019730704	4.24E-05
San Joaquin	2024	Construction and Mining - Excavators	Aggregate	300	Diesel	0.00249	0.003013	0.003585	0.023662	0.024265	11.2384829	0.000792929
San Joaquin	2024	Construction and Mining - Excavators	Aggregate	50	Diesel	0.001887	0.002283	0.002717	0.023081	0.019256	3.22189772	0.000655337
San Joaquin	2024	Construction and Mining - Excavators	Aggregate	75	Diesel	6.70E-05	8.10E-05	9.64E-05	0.000471	0.000734	0.060447577	6.42E-05
San Joaquin	2024	Construction and Mining - Graders	Aggregate	300	Diesel	0.004607	0.005575	0.006634	0.026418	0.060874	11.01813103	0.002033426
San Joaquin	2024	Construction and Mining - Graders	Aggregate	50	Diesel	5.74E-05	6.95E-05	8.27E-05	0.000265	0.000188	0.020702267	1.94E-05
San Joaquin	2024	Construction and Mining - Graders	Aggregate	75	Diesel	1.78E-05	2.16E-05	2.57E-05	7.27E-05	0.000168	0.007696394	1.42E-05
San Joaquin	2024	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	50	Diesel	1.16E-05	1.38E-05	1.68E-05	0.000129	0.000111	0.017393365	3.46E-06
San Joaquin	2024	Construction and Mining - Misc - Signal Boards	Aggregate	50	Diesel	5.12E-06	6.10E-06	7.38E-06	5.61E-05	4.84E-05	0.007518422	1.51E-06
San Joaquin	2024	Construction and Mining - Off-Highway Tractors	Aggregate	300	Diesel	0.000355	0.00043	0.000512	0.002772	0.003567	1.261279459	0.00013242
San Joaquin	2024	Construction and Mining - Off-Highway Tractors	Aggregate	50	Diesel	0.00112	0.001355	0.001612	0.010828	0.008786	1.331835095	0.000397461
San Joaquin	2024	Construction and Mining - Off-Highway Tractors	Aggregate	75	Diesel	0.000355	0.00043	0.000512	0.004854	0.003958	0.681762617	0.000211386
San Joaquin	2024	Construction and Mining - Off-Highway Trucks	Aggregate	300	Diesel	0.001996	0.002415	0.002874	0.01517	0.016295	6.215673807	0.000654258
San Joaquin	2024	Construction and Mining - Off-Highway Trucks	Aggregate	50	Diesel	0.000104	0.000126	0.00015	0.001123	0.000846	0.124217179	3.77E-05
San Joaquin	2024	Construction and Mining - Off-Highway Trucks	Aggregate	75	Diesel	1.58E-05	1.91E-05	2.27E-05	0.000322	0.000133	0.04313314	2.08E-06
San Joaquin	2024	Construction and Mining - Other	Aggregate	300	Diesel	0.000529	0.00064	0.000762	0.004073	0.006832	1.607181316	0.00026473
San Joaquin	2024	Construction and Mining - Other	Aggregate	50	Diesel	0.000836	0.001011	0.001204	0.006149	0.005512	0.721584006	0.000372554
San Joaquin	2024	Construction and Mining - Other	Aggregate	75	Diesel	0.00022	0.000266	0.000317	0.001355	0.002436	0.164289465	0.000183374
San Joaquin	2024	Construction and Mining - Pavers	Aggregate	300	Diesel	0.000186	0.000225	0.000268	0.001743	0.002556	0.910306729	8.28E-05
San Joaquin	2024	Construction and Mining - Pavers	Aggregate	50	Diesel	0.000118	0.000143	0.00017	0.000744	0.000631	0.088271616	4.19E-05
San Joaquin	2024	Construction and Mining - Pavers	Aggregate	75	Diesel	0.000151	0.000182	0.000217	0.000792	0.001368	0.102216119	0.000131925
San Joaquin	2024	Construction and Mining - Paving Equipment	Aggregate	300	Diesel	8.10E-05	9.80E-05	0.000117	0.000693	0.000947	0.334028557	3.71E-05
San Joaquin	2024	Construction and Mining - Paving Equipment	Aggregate	50	Diesel	8.18E-05	9.89E-05	0.000118	0.000809	0.000708	0.109995059	3.10E-05
San Joaquin	2024	Construction and Mining - Paving Equipment	Aggregate	75	Diesel	1.18E-05	1.43E-05	1.71E-05	9.89E-05	0.000127	0.013544165	1.04E-05
San Joaquin	2024	Construction and Mining - Rollers	Aggregate	300	Diesel	0.000166	0.000201	0.00024	0.00143	0.002214	0.494886408	8.51E-05
San Joaquin	2024	Construction and Mining - Rollers	Aggregate	50	Diesel	0.001582	0.001914	0.002278	0.012986	0.011807	1.811927134	0.000593907
San Joaquin	2024	Construction and Mining - Rollers	Aggregate	75	Diesel	5.56E-05	6.73E-05	8.01E-05	0.000221	0.000542	0.018950255	3.86E-05
San Joaquin	2024	Construction and Mining - Rough Terrain Forklifts	Aggregate	300	Diesel	2.15E-05	2.60E-05	3.09E-05	0.000226	0.000319	0.120150781	7.54E-06
San Joaquin	2024	Construction and Mining - Rough Terrain Forklifts	Aggregate	50	Diesel	6.16E-05	7.45E-05	8.87E-05	0.000567	0.000528	0.087347635	2.10E-05
San Joaquin	2024	Construction and Mining - Rough Terrain Forklifts	Aggregate	75	Diesel	1.91E-05	2.31E-05	2.75E-05	7.18E-05	0.000109	0.00641144	9.43E-06
San Joaquin	2024	Construction and Mining - Rubber Tired Dozers	Aggregate	300	Diesel	0.000349	0.000422	0.000502	0.003038	0.004637	0.423373889	0.000206614
San Joaquin	2024	Construction and Mining - Rubber Tired Dozers	Aggregate	50	Diesel	4.86E-05	5.89E-05	7.00E-05	0.000644	0.000473	0.077388983	1.50E-05
San Joaquin	2024	Construction and Mining - Rubber Tired Dozers	Aggregate	75	Diesel	0.00012	0.000146	0.000174	0.00085	0.001122	0.102698785	8.11E-05
San Joaquin	2024	Construction and Mining - Rubber Tired Loaders	Aggregate	300	Diesel	0.006637	0.008031	0.009557	0.048643	0.074259	21.87065516	0.00246242
San Joaquin	2024	Construction and Mining - Rubber Tired Loaders	Aggregate	50	Diesel	0.000359	0.000434	0.000516	0.002575	0.001922	0.251608676	0.000123122
San Joaquin	2024	Construction and Mining - Rubber Tired Loaders	Aggregate	75	Diesel	2.75E-05	3.33E-05	3.96E-05	0.000114	0.000258	0.013073535	2.31E-05

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd
San Joaquin	2024	Construction and Mining - Scrapers	Aggregate	300	Diesel	0.00167	0.00202	0.002405	0.01071	0.020232	3.312838225	0.000915859
San Joaquin	2024	Construction and Mining - Scrapers	Aggregate	50	Diesel	2.51E-05	3.04E-05	3.62E-05	8.56E-05	6.01E-05	0.005123323	8.45E-06
San Joaquin	2024	Construction and Mining - Scrapers	Aggregate	75	Diesel	5.02E-05	6.07E-05	7.22E-05	0.000328	0.000468	0.04266692	3.98E-05
San Joaquin	2024	Construction and Mining - Skid Steer Loaders	Aggregate	300	Diesel	7.54E-06	9.13E-06	1.09E-05	8.59E-05	0.000103	0.045723579	3.16E-06
San Joaquin	2024	Construction and Mining - Skid Steer Loaders	Aggregate	50	Diesel	0.000673	0.000814	0.000969	0.008549	0.007791	1.371435767	0.000206551
San Joaquin	2024	Construction and Mining - Skid Steer Loaders	Aggregate	75	Diesel	0.001618	0.001958	0.00233	0.044825	0.026414	7.254011825	0.00081531
San Joaquin	2024	Construction and Mining - Surfacing Equipment	Aggregate	300	Diesel	3.88E-05	4.69E-05	5.58E-05	0.000321	0.000616	0.128375283	2.05E-05
San Joaquin	2024	Construction and Mining - Surfacing Equipment	Aggregate	50	Diesel	5.85E-06	7.08E-06	8.42E-06	7.78E-05	7.90E-05	0.012703081	2.47E-06
San Joaquin	2024	Construction and Mining - Surfacing Equipment	Aggregate	75	Diesel	6.30E-06	7.62E-06	9.07E-06	4.45E-05	7.33E-05	0.006077931	4.81E-06
San Joaquin	2024	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	300	Diesel	0.001297	0.001569	0.001867	0.010955	0.014718	4.689309016	0.000536082
San Joaquin	2024	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	50	Diesel	0.002297	0.002779	0.003307	0.021727	0.017763	2.702574973	0.000781994
San Joaquin	2024	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	75	Diesel	0.000862	0.001043	0.001241	0.003465	0.008183	0.336961574	0.000655824
San Joaquin	2024	Construction and Mining - Trenchers	Aggregate	300	Diesel	0.000149	0.000181	0.000215	0.000942	0.002009	0.322188467	8.45E-05
San Joaquin	2024	Construction and Mining - Trenchers	Aggregate	50	Diesel	0.00081	0.00098	0.001166	0.006907	0.006256	0.959345999	0.000320662
San Joaquin	2024	Construction and Mining - Trenchers	Aggregate	75	Diesel	0.000133	0.00016	0.000191	0.000838	0.001399	0.10467257	0.000104692
San Joaquin	2024	Light Commercial - Misc - Air Compressors	Aggregate	50	Diesel	0.000293	0.000349	0.000422	0.002862	0.002262	0.340124451	8.21E-05
San Joaquin	2024	Light Commercial - Misc - Generator Sets	Aggregate	50	Diesel	0.000552	0.000657	0.000795	0.006144	0.005803	0.937334061	0.000180886
San Joaquin	2024	Light Commercial - Misc - Pressure Washers	Aggregate	50	Diesel	1.86E-06	2.21E-06	2.67E-06	2.51E-05	2.68E-05	0.004039749	7.04E-07
San Joaquin	2024	Light Commercial - Misc - Pumps	Aggregate	50	Diesel	0.000356	0.000423	0.000512	0.003776	0.003442	0.549069264	0.000112618
San Joaquin	2024	Light Commercial - Misc - Welders	Aggregate	50	Diesel	0.001242	0.001478	0.001789	0.012292	0.010179	1.561250903	0.000364381
San Joaquin	2024	Portable Equipment - Non-Rental Compressor	Aggregate	300	Diesel	5.78E-05	7.00E-05	8.33E-05	0.00063	0.000703	0.324298797	2.46E-05
San Joaquin	2024	Portable Equipment - Non-Rental Compressor	Aggregate	50	Diesel	2.62E-06	3.17E-06	3.77E-06	4.76E-05	4.45E-05	0.006494119	1.36E-06
San Joaquin	2024	Portable Equipment - Non-Rental Compressor	Aggregate	75	Diesel	4.53E-05	5.48E-05	6.53E-05	0.000898	0.000738	0.138123776	1.73E-05
San Joaquin	2024	Portable Equipment - Non-Rental Generator	Aggregate	300	Diesel	0.000611	0.000739	0.00088	0.003922	0.005375	1.701029626	0.000223169
San Joaquin	2024	Portable Equipment - Non-Rental Generator	Aggregate	50	Diesel	8.10E-05	9.80E-05	0.000117	0.00117	0.000627	0.113572105	9.24E-06
San Joaquin	2024	Portable Equipment - Non-Rental Generator	Aggregate	75	Diesel	0.00038	0.00046	0.000548	0.005375	0.004125	0.722187114	0.000105977
San Joaquin	2024	Portable Equipment - Non-Rental Other	Aggregate	300	Diesel	0.000132	0.000159	0.000189	0.001224	0.001471	0.594367953	5.80E-05
San Joaquin	2024	Portable Equipment - Non-Rental Other	Aggregate	50	Diesel	2.08E-06	2.51E-06	2.99E-06	5.54E-05	5.12E-05	0.010239733	7.38E-07
San Joaquin	2024	Portable Equipment - Non-Rental Other	Aggregate	75	Diesel	3.91E-05	4.73E-05	5.63E-05	0.001032	0.000825	0.16560984	1.62E-05
San Joaquin	2024	Portable Equipment - Non-Rental Pump	Aggregate	300	Diesel	0.000153	0.000185	0.00022	0.001926	0.001658	1.010088604	6.21E-05
San Joaquin	2024	Portable Equipment - Non-Rental Pump	Aggregate	50	Diesel	1.80E-06	2.18E-06	2.59E-06	3.14E-05	3.09E-05	0.004987721	1.33E-06
San Joaquin	2024	Portable Equipment - Non-Rental Pump	Aggregate	75	Diesel	4.67E-05	5.65E-05	6.73E-05	0.001141	0.000955	0.183615699	1.84E-05
San Joaquin	2024	Portable Equipment - Rental Compressor	Aggregate	300	Diesel	3.07E-05	3.72E-05	4.43E-05	0.000379	0.00021	0.19550146	8.85E-06
San Joaquin	2024	Portable Equipment - Rental Compressor	Aggregate	75	Diesel	1.55E-05	1.87E-05	2.23E-05	0.000301	0.000222	0.044754834	2.77E-06
San Joaquin	2024	Portable Equipment - Rental Generator	Aggregate	300	Diesel	0.001682	0.002035	0.002422	0.014128	0.005387	6.27950842	0.000264724
San Joaquin	2024	Portable Equipment - Rental Generator	Aggregate	75	Diesel	0.000624	0.000755	0.000898	0.010089	0.007411	1.407098726	0.00017232
San Joaquin	2024	Portable Equipment - Rental Other	Aggregate	300	Diesel	0.000175	0.000212	0.000252	0.00133	0.000654	0.580453237	3.37E-05
San Joaquin	2024	Portable Equipment - Rental Other	Aggregate	50	Diesel	1.20E-05	1.45E-05	1.73E-05	0.000145	9.63E-05	0.013757326	4.35E-06
San Joaquin	2024	Portable Equipment - Rental Other	Aggregate	75	Diesel	0.000313	0.000378	0.00045	0.005962	0.004402	0.880070183	5.38E-05
San Joaquin	2024	Portable Equipment - Rental Pump	Aggregate	300	Diesel	0.003288	0.003979	0.004735	0.028942	0.026909	13.957186	0.001071687
San Joaquin	2024	Portable Equipment - Rental Pump	Aggregate	50	Diesel	6.44E-05	7.79E-05	9.27E-05	0.00101	0.000711	0.113258654	1.68E-05
San Joaquin	2024	Portable Equipment - Rental Pump	Aggregate	75	Diesel	0.000397	0.000481	0.000572	0.009079	0.007151	1.408791146	0.00016118

PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
4.22E-05	0	0	1197.563094	943.762299	6.166665962	21126.11919
8.94E-05	0	0	8927.957129	2200.807641	3.068023	172565.7969
5.40E-05	7.85E-06	6.93E-06	27551.41514	5084.040672	15.40667036	1066028.515
2.71E-05	7.34E-07	6.50E-07	2582.415544	2258.488766	6.201837646	87613.54309
2.78E-05	9.04E-07	7.99E-07	3175.711258	1712.631375	3.459972581	124401.4277
0.000671385	2.71E-05	2.39E-05	95067.02117	29069.17786	60.26223053	6383591.536
2.33E-05	2.28E-07	2.03E-07	808.3221638	1172.316556	2.623661737	48326.14503
1.55E-05	8.78E-08	7.80E-08	310.1905401	308.2875441	0.819894293	20688.60419
0.000992874	3.74E-05	3.31E-05	131486.3531	28938.50187	62.94418256	5933070.734
5.99E-05	7.39E-07	6.58E-07	2614.520997	2540.235705	7.276784111	106644.3569
3.90E-05	1.81E-07	1.61E-07	641.7760709	406.2540567	1.819196028	28975.63554
0.000729495	0.0001041	9.20E-05	365551.5554	84557.09966	141.5248116	18486304.55
0.00060291	2.98E-05	2.64E-05	104797.9281	133182.7929	177.9814865	4768549.214
5.91E-05	5.58E-07	4.95E-07	1966.164466	1362.880162	2.333227188	99575.62852
0.001870752	0.00010199	9.02E-05	358384.2207	79041.72344	102.2128111	16953085.17
1.78E-05	1.90E-07	1.69E-07	673.3779025	766.0712702	2.124854138	28661.03665
1.31E-05	7.08E-08	6.30E-08	250.3388468	163.0084598	0.439624994	11402.23058
3.18E-06	2.19E-07	1.42E-07	565.75	408.8	0.7	13490.4
1.39E-06	9.70E-08	6.15E-08	244.55	146	0.28	5402
0.000121827	1.17E-05	1.03E-05	41025.34767	8486.902296	12.87777452	1821707.298
0.000365664	1.23E-05	1.09E-05	43320.29466	45996.30365	68.12990207	1733743.099
0.000194475	6.31E-06	5.58E-06	22175.53627	13986.24013	23.23754844	984779.6823
0.000601918	5.76E-05	5.09E-05	202175.7962	48811.25718	37.56548938	10272050.01
3.47E-05	1.15E-06	1.02E-06	4040.383684	6396.220918	3.849215231	185538.0108
1.91E-06	3.99E-07	3.53E-07	1402.981762	980.8177294	0.641535872	70723.26608
0.000243551	1.49E-05	1.32E-05	52276.41803	11085.61187	26.60259712	2429225.453
0.00034275	6.66E-06	5.90E-06	23470.79745	25644.50214	52.70861243	977233.915
0.000168704	1.52E-06	1.34E-06	5343.805756	3428.517534	10.07351678	252725.8388
7.61E-05	8.43E-06	7.45E-06	29609.33818	6246.988557	13.59058502	1376540.468
3.86E-05	8.15E-07	7.22E-07	2871.190591	3098.593456	8.538587448	120039.0094
0.000121371	9.43E-07	8.36E-07	3324.760269	2180.796543	6.119321005	155853.431
3.41E-05	3.09E-06	2.73E-06	10864.87025	2559.539504	5.328035043	590730.3191
2.86E-05	1.02E-06	9.00E-07	3577.78404	5066.618201	10.51398915	176111.547
9.58E-06	1.25E-07	1.11E-07	440.5479359	361.9961659	0.994566541	24091.97513
7.83E-05	4.58E-06	4.05E-06	16097.05668	3817.663015	12.07661646	829111.0747
0.000546395	1.67E-05	1.48E-05	58936.1383	76437.41309	215.8420725	2732033.268
3.55E-05	1.74E-07	1.55E-07	616.390599	448.1306944	1.902981988	31767.67705
6.94E-06	1.11E-06	9.83E-07	3908.116888	887.6477996	3.463056518	187860.6049
1.93E-05	8.08E-07	7.15E-07	2841.136481	2578.955376	9.122197658	122892.1307
8.68E-06	5.89E-08	5.25E-08	208.5434433	168.962979	0.760183138	9417.366785
0.000190084	3.91E-06	3.46E-06	13770.98537	2973.981977	4.24772927	672413.269
1.38E-05	7.16E-07	6.33E-07	2517.21369	2701.326958	2.715761337	110735.6099
7.46E-05	9.48E-07	8.40E-07	3340.459837	2271.392872	2.924666055	163097.6807
0.002265427	0.00020252	0.000178961	711381.784	180865.6534	165.2661875	38101553.05
0.000113272	2.32E-06	2.06E-06	8184.017681	9442.780009	10.74193928	391423.6288
2.13E-05	1.20E-07	1.07E-07	425.2398642	309.3768993	0.580645367	23009.90688

PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activity_hpy	Total_Population	Horsepower_Hours_hhpy
0.000842591	3.07E-05	2.71E-05	107755.9291	19497.49563	47.14872405	4323244.625
7.77E-06	4.67E-08	4.19E-08	166.6451656	157.7267829	0.430581955	6108.747399
3.66E-05	3.94E-07	3.49E-07	1387.817118	833.327362	1.865855137	55197.05087
2.91E-06	4.24E-07	3.74E-07	1487.240354	379.9781458	1.259591974	77975.77502
0.000190027	1.27E-05	1.12E-05	44608.37663	48126.58268	149.4468831	2097693.339
0.000750086	6.72E-05	5.94E-05	235949.5788	175179.3619	479.2376994	12372675.25
1.89E-05	1.19E-06	1.05E-06	4175.633399	1181.65715	4.7052777	267128.8946
2.27E-06	1.18E-07	1.04E-07	413.1902062	653.9366852	2.621511862	23628.84415
4.43E-06	5.61E-08	4.97E-08	197.6954766	196.825046	0.806619034	12637.80162
0.000493196	4.34E-05	3.84E-05	152528.0788	38626.89369	67.55650354	8029030.348
0.000719434	2.50E-05	2.21E-05	87906.03626	110600.0084	209.155518	4190853.225
0.000603359	3.10E-06	2.76E-06	10960.27183	8062.533178	34.10619596	574683.9278
7.78E-05	2.98E-06	2.64E-06	10479.75038	1784.241351	5.611423974	402029.7073
0.000295009	8.87E-06	7.85E-06	31204.42725	27027.80054	68.58407079	1078027.198
9.63E-05	9.66E-07	8.57E-07	3404.66067	1817.298035	6.001106194	131099.2933
7.55E-05	4.27E-06	2.78E-06	11063.15	10829.55	13.3	400693.35
0.000166415	1.18E-05	7.67E-06	30488.45	21816.05	64.61	719929.65
6.48E-07	5.68E-08	3.31E-08	131.4	233.6	1.54	8876.8
0.000103609	6.92E-06	4.49E-06	17859.45	11380.7	28.3	421085.9
0.000335231	1.96E-05	1.28E-05	50782.45	42730.55	66.53	1965605.3
2.26E-05	3.00E-06	2.65E-06	10548.39259	2388.506124	5.808819152	666867.605
1.25E-06	6.01E-08	5.31E-08	211.2327278	286.6207349	0.697058298	12012.14164
1.59E-05	1.28E-06	1.13E-06	4492.720377	4299.311023	10.45587447	284029.0264
0.000205315	1.57E-05	1.39E-05	55329.00049	14662.36158	10.68822724	3497890.103
8.50E-06	1.05E-06	9.29E-07	3694.133804	4143.710881	3.020585959	210073.7842
9.75E-05	6.68E-06	5.91E-06	23490.4146	22949.78334	16.72939916	1485060.059
5.34E-05	5.51E-06	4.86E-06	19332.87007	4837.444927	15.1029298	1222220.793
6.79E-07	9.49E-08	8.38E-08	333.0654393	520.9556075	1.626469363	18940.3852
1.49E-05	1.53E-06	1.36E-06	5386.753264	5283.978304	16.49704639	340549.6351
5.71E-05	9.36E-06	8.27E-06	32854.92034	8427.69018	26.25586257	2077082.537
1.22E-06	4.62E-08	4.08E-08	162.2344648	223.7439871	0.697058298	9225.764353
1.69E-05	1.70E-06	1.50E-06	5972.42572	5295.274361	16.49704639	377575.7493
8.14E-06	1.81E-06	1.60E-06	6359.031141	1627.523124	3.020585959	402016.879
2.55E-06	4.14E-07	3.66E-07	1455.730211	1502.329038	2.788233193	92031.01903
0.000243546	5.82E-05	5.14E-05	204252.13	55646.73956	37.87350087	12912785.3
0.000158535	1.30E-05	1.15E-05	45768.37752	43356.66211	29.50880129	2893469.127
3.10E-05	5.38E-06	4.75E-06	18880.2693	5314.658715	4.182349789	1193607.449
4.00E-06	1.27E-07	1.13E-07	447.4813849	590.517635	0.464705532	25446.86059
4.95E-05	8.15E-06	7.20E-06	28625.84097	26868.55239	21.14410171	1809720.85
0.000985952	0.00012927	0.000114208	453982.1876	121849.1214	122.9146133	28700677.53
1.54E-05	1.05E-06	9.27E-07	3683.938275	4146.094869	4.182349789	209493.9965
0.000148286	1.30E-05	1.15E-05	45823.42646	39157.56266	39.49997023	2896949.312

Appendix C

California Natural Diversity Database List

Appendix C

Listed Wildlife with Potential to Occur in the Action Area

Species	Federal	State	Habitat Association	Potential to Occur
Crustaceans				
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	E	--	Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water	No potential to occur; habitat not present.
Insects				
Crotch bumblebee <i>Bombus crotchii</i>	--	CE	From coastal California east to the Sierra-Cascade crest and south into Mexico in association with food plant genera, including <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i>	Low potential to occur; action area is highly disturbed.
Western bumblebee <i>Bombus occidentalis</i>	--	CE	Pollinator of flowering plants and agricultural crops along the West Coast from Alaska to California and east to Nebraska and the Dakotas. Populations have declined in the western, coastal portions of the range	Low potential to occur; action area is highly disturbed.
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	T	--	Occurs only in the Central Valley of California, in association with blue elderberry (<i>Sambucus mexicana</i> .)	Moderate potential to occur; host plant observed in the action area, but site is highly disturbed.
Fishes				
Green sturgeon – southern DPS <i>Acipenser medirostris</i>	T	--	Estuary and marine bay	Moderate potential to occur in waters within action area during work window.
Delta smelt <i>Hypomesus transpacificus</i>	T	E	Estuary	Low potential to occur in waters within action area.
Steelhead – Central Valley DPS <i>Oncorhynchus mykiss</i>	T	--	Aquatic	Low potential to occur in waters within action area during work window.
Longfin smelt <i>Spirinchus thaleichthys</i>	C	T	Aquatic	Low potential to occur in waters within action area.

Species	Federal	State	Habitat Association	Potential to Occur
Amphibians				
California tiger salamander – central California DPS <i>Ambystoma californiense</i>	T	T	Grassland, open woodland, vernal pools, and wetland	No potential to occur; habitat not present.
Western spadefoot <i>Spea hammondi</i>	--	SSC	Grassland habitats, with vernal pools necessary for breeding	No potential to occur; habitat not present.
Reptiles				
Western pond turtle <i>Emys marmorata</i>	--	SSC	Ponds, marshes, rivers, streams, and irrigation ditches	Low potential to occur along shoreline around and adjacent to the action area.
Giant garter snake <i>Thamnophis gigas</i>	T	T	Vicinity of freshwater marshes, ponds, and slow-moving streams in San Mateo County and extreme northern Santa Cruz County and has adapted to drainage canals and irrigation ditches	Low potential to occur along shoreline around and adjacent to the action area.
Birds				
Tricolored blackbird <i>Agelaius tricolor</i>	--	T, SSC	Wetland and freshwater marsh and swamp	Low potential for nesting in the action area; moderate potential for foraging in the surrounding areas.
Burrowing owl <i>Athene cunicularia</i>	--	SSC	Grassland, desert, and scrubland	Low potential for nesting and foraging in the action area.
Swainson's hawk <i>Buteo swainsoni</i>	--	T	Grassland and riparian forest	High potential for nesting and foraging in the action area; observed during 2023 site visits.
White-tailed kite <i>Elanus leucurus</i>	--	FP	Marshes near woodland foothills with scattered oaks and river bottomlands	Low potential for nesting in the action area; moderate potential for foraging in the surrounding areas.
Loggerhead shrike <i>Lanius ludovicianus</i>	--	SSC	Broken woodland, savannah, pinyon-juniper, Joshua trees, and riparian woodland, desert oases, scrub, and washes	No potential to occur; habitat not present.
California black rail <i>Laterallus jamaicensis coturniculus</i>	--	T, FP	Marsh, swamp, and wetland	Low potential to occur in the action area; habitat not present.
Song sparrow – Modesto population <i>Melospiza melodia</i>	--	SSC	Freshwater marsh, riparian thickets, sparsely vegetated irrigation canals, and Valley Oak restoration sites	Low potential for nesting in the action area; moderate potential for foraging in the surrounding areas.

Species	Federal	State	Habitat Association	Potential to Occur
Least Bell's vireo <i>Vireo bellii pusillus</i>	E	E	Riparian scrub and woodland	No potential to occur; habitat not present; species not documented in the area since the 1800s.
Yellow-headed blackbird <i>Xanthocephalus xanthocephalus</i>	--	SSC	Nests in freshwater emergent wetlands with dense vegetation and deep water, often along borders of lakes or ponds	Low potential for nesting in the action area; moderate potential for foraging in the surrounding areas.
Mammals				
Riparian brush rabbit <i>Sylvilagus bachmani riparius</i>	E	E	Occurs in riparian forest areas on the San Joaquin River in northern Stanislaus County	No potential to occur; Habitat not present.
American badger <i>Taxidea taxus</i>	--	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils	No potential to occur; habitat not present.

Notes:

CDFW (California Department of Fish and Wildlife), 2023. California Natural Diversity Database search of proposed project area quadrangles (Stockton West, Terminous, Lodi South, Waterloo, Stockton East, Manteca, Lathrop, Union Island, and Holt).

USFWS (U.S. Fish and Wildlife Service), 2023. Information for Planning and Consultation (IPaC) Resource List for the action area.

March 15, 2023.

--: not applicable

C: candidate

CE: state candidate endangered

DPS: distinct population segment

E: endangered

FP: California Department of Fish and Wildlife fully protected

PE: proposed endangered

SSC: state species of special concern

T: threatened

Appendix C

Listed Plants with Potential to Occur in the Action Area

Species	Federal	State	Habitat Association	Potential to Occur
Alkali milk-vetch <i>Astragalus tener</i> var. <i>tener</i>	--	1B.2	Alkali flats, annual grassland, and vernal pools	No potential to occur; habitat not present.
Heartscale <i>Atriplex cordulata</i> var. <i>cordulata</i>	--	1B.2	Chenopod scrub, valley and foothill grassland, meadows, and seeps	No potential to occur; habitat not present.
Big tarplant <i>Blepharizonia plumosa</i>	--	1B.1	Valley and foothill grassland	No potential to occur; habitat not present.
Watershield <i>Brasenia schreberi</i>	--	2B.3	Freshwater marshes and swamps	No potential to occur; habitat not present.
Bristly sedge <i>Carex comosa</i>	--	2B.1	Marshes, swamps, coastal prairies, and grassland	No potential to occur; habitat not present.
Palmate-bracted bird's-beak <i>Chloropyron palmatum</i>	E	E, 1B.1	Chenopod scrub and valley and foothill grassland	No potential to occur; habitat not present.
Slough thistle <i>Cirsium crassicaule</i>	--	1B.1	Chenopod scrub, marshes, and swamps, and riparian scrub	No potential to occur; habitat not present.
Recurved larkspur <i>Delphinium recurvatum</i>	--	1B.2	Chenopod scrub, valley and foothill grassland, and cismontane woodland	No potential to occur; habitat not present.
Delta button-celery <i>Eryngium racemosum</i>	--	E, 1B.1	Riparian scrub	No potential to occur; habitat not present.
San Joaquin spearscale <i>Extriplex joaquinana</i>	--	1B.2	Chenopod scrub, alkali meadows, playas, and grassland	No potential to occur; habitat not present.
Woolly rose-mallow <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i>	--	1B.2	Wetlands and freshwater marshes and swamps	No potential to occur; habitat not present.
Delta tule pea <i>Lathyrus jepsonii</i> var. <i>jepsonii</i>	--	1B.2	Marshes, swamps, and wetlands	No potential to occur; habitat not present.
Mason's lilaeopsis <i>Lilaeopsis masonii</i>	--	R, 1B.1	Freshwater marshes, riparian scrub, and wetlands	No potential to occur; habitat not present.
Delta mudwort <i>Limosella australis</i>	--	2B.1	Marshes, swamps, riparian scrub, and wetlands	No potential to occur; habitat not present.
Sanford's arrowhead <i>Sagittaria sanfordii</i>	--	1B.2	Marshes, swamps, and wetlands	No potential to occur; habitat not present.
Side-flowering skullcap <i>Scutellaria lateriflora</i>	--	2B.2	Meadows, seeps, marshes, and swamps	No potential to occur; habitat not present.
Suisun Marsh aster <i>Symphyotrichum lentum</i>	--	1B.2	Marshes, swamps, and wetlands	No potential to occur; habitat not present.
Wright's trichocoronis	--	2B.1	Marshes and swamps; riparian forests, meadows, and seeps; and vernal pools	No potential to occur; habitat not present.

Species	Federal	State	Habitat Association	Potential to Occur
<i>Trichocoronis wrightii</i> var. <i>wrightii</i>				
Saline clover <i>Trifolium hydrophilum</i>	--	1B.2	Marshes and swamps, valley and foothill grassland, and vernal pools	No potential to occur; habitat not present.
Caper-fruited tropidocarpum <i>Tropidocarpum capparideum</i>	--	1B.1	Grassland	No potential to occur; habitat not present.

Notes:

CDFW (California Department of Fish and Wildlife), 2023. California Natural Diversity Database search of proposed project area quadrangles (Stockton West, Terminous, Lodi South, Waterloo, Stockton East, Manteca, Lathrop, Union Island, and Holt).

USFWS (U.S. Fish and Wildlife Service), 2023. Information for Planning and Consultation (IPaC) Resource List for the action area. March 15, 2023.

1B.1: Rare, threatened, or endangered in California and elsewhere; seriously threatened in California (more than 80% of occurrences threatened/high degree and immediacy of threat)

1B.2: Rare, threatened, or endangered in California and elsewhere; fairly threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)

2B.1: Rare, threatened, or endangered in California but more common elsewhere; seriously threatened in California (more than 80% of occurrences threatened/high degree and immediacy of threat)

2B.2: Rare, threatened, or endangered in California but more common elsewhere; moderately threatened in California (20% to 80% of occurrences threatened/moderate degree and immediacy of threat)

2B.3: Rare, threatened, or endangered in California but more common elsewhere; not very threatened in California (less than 20% of occurrences threatened/low degree and no immediacy of threat or current threats known)

--: not applicable

E: endangered

R: rare