

DRAFT ENVIRONMENTAL IMPACT REPORT

Pier 92 Modernization and Plant Replacement Project

PLANNING DEPARTMENT
CASE NO. 2024-005922ENV

STATE CLEARINGHOUSE NO. 2025070553

Administrative Draft Number		
01	Draft EIR Publication Date:	**May 20, 2026**
	Draft EIR Public Hearing Date:	**June 25, 2026**
	Draft EIR Public Comment Period:	**May 20, 2026 - July 6, 2026**

SAN FRANCISCO PLANNING DEPARTMENT

Written comments should be sent to:
Jennifer McKellar, Senior Planner | CPC.Pier92EIR@sfgov.org | 49 South Van Ness Avenue, Suite 1400 | San Francisco, CA 94103
Environmental Planning | San Francisco Planning Department

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Definition
AB	Assembly Bill
AERMOD	atmospheric dispersion modeling system
Air District	Bay Area Air Quality Management District
air resources board	California Air Resources Board
APEZ	Air Pollutant Exposure Zone
AQI	Air Quality Index
BART	Bay Area Rapid Transit
Basin Plan	Water Quality Control Plan for the San Francisco Bay Basin
BMPs	best management practices
cal BP	calibrated years before present
CAL FIRE	California Department of Forestry and Fire Protection
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
California register	California Register of Historical Resources
Caltrans	California Department of Transportation
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CBC	California Building Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CGP	Construction General Permit
CGS	California Geological Survey
City	City and County of San Francisco
Clean Air Plan	Clean Air Plan: Spare the Air, Cool the Climate
CO	carbon monoxide
CRR	cultural resource review
dB	decibel
dBA	A-weighted decibel
DBI	San Francisco Department of Building Inspection
DPM	diesel particulate matter
DTSC	Department of Toxic Substances Control
EIR	environmental impact report

Acronym/Abbreviation	Definition
FAR	floor area ratio
FEMA	Federal Emergency Management Agency
fire department	San Francisco Fire Department
FTA	Federal Transit Administration
GHG	greenhouse gas
GHG Reduction Strategy	San Francisco's Strategies to Address Greenhouse Gas Emissions
HARP	Hot Spots Analysis and Reporting Program
HCP	proposed habitat conservation plan
HRE	historic resource evaluation
in/sec	inches per second
IRP	integrated resource plan
L_{dn}	day-night level
LEED	Leadership in Energy and Environmental Design
L_{eq}	equivalent sound level
LID	low-impact development
L_{max}	maximum sound levels
LUST	leaking underground storage tank
MEISR	maximally exposed individual sensitive receptor
mgd	million gallons per day
MME	Muni Metro East
MS4	municipal separate storm sewer system
Muni	San Francisco Municipal Railway
national register	National Register of Historic Places
NCCP	natural community conservation plan
NO_2	nitrogen dioxide
NO_X	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
OEHHA	Office of Environmental Health Hazard Assessment
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
planning department	San Francisco Planning Department
PAH	polycyclic aromatic hydrocarbons
PM	particulate matter

Acronym/Abbreviation	Definition
$PM_{2.5}$	particulate matter of 2.5 microns in diameter or less
PM_{10}	particulate matter of 10 microns in diameter or less
police department	San Francisco Police Department
Port	Port of San Francisco
ppm	part per million
PPV	peak particle velocity
PRC	public resources code
RCRA	Resource Conservation and Recovery Act
ROGs	reactive organic gases
RPS	renewables portfolio standard
SDS	safety data sheet
SFPUC	San Francisco Public Utilities Commission
SO_2	sulfur dioxide
State	State of California
state water board	State Water Resources Control Board
SWPPP	stormwater pollution prevention plan
TACs	toxic air contaminants
TPH	total petroleum hydrocarbons
tpy	tons per year
U.S. EPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VMT	vehicle miles traveled
VOC	volatile organic compound
WDR	waste discharge requirement
$\mu g/m^3$	microgram per cubic meter

SUMMARY

S.1 Introduction

This document is a draft environmental impact report (EIR) for the proposed Pier 92 Modernization and Plant Replacement project (proposed project). This chapter of the EIR provides a summary of the proposed project, a summary of anticipated environmental impacts of the proposed project and identified mitigation measures, a summary of alternatives including identification of the environmentally superior alternative, and areas of controversy to be resolved.

S.2 Project Summary

The Pier 92 facility is located in San Francisco's Bayview neighborhood and in the Port of San Francisco's (Port's) Maritime Eco-Industrial Center, as established by the Port's Piers 80-96 Maritime Eco-Industrial Center Strategic Plan (2016) (see Figure 2-1, p. 2-3). The Maritime Eco-Industrial Center spans Piers 80 through 96 in the Southern Waterfront area of San Francisco. It is generally bound by 25th Street on the north, Illinois Street on the west, and Cargo Way on the south. The proposed project consists of the reconstruction and modernization of the existing sand processing facility on Pier 92 at the Port of San Francisco. The proposed project would install and operate a new sand processing system with new equipment, enhanced environmental controls, and other site upgrades. A key element of the project modernization is the installation of enhanced dust control measures to reduce particulate emissions and fugitive dust from the transfer and storage of sand. This would be achieved by retrofitting two existing conveyors and replacing four existing conveyors with covers and covering the finished material stockpile and truck loading areas for washed sand. The portions of the site over which mobile equipment travel would also be paved. The essential nature of the existing operations at the facility would not change under the proposed project. To accommodate these changes, the facility is proposing an increase in the size of its footprint under a new lease with the Port of San Francisco. Martin Marietta, (project sponsor), has applied for an authority to construct and permit to operate from the Bay Area Air Quality Management District (Air District) to receive and process up to 800,000 tons of sand during any consecutive 12-month period. **Table S-1** presents a comparison of existing facility characteristics and proposed changes.

Table S-1: Existing vs. Proposed Project Summary [a]

Use/Feature	Existing	Proposed	Net Change
Industrial use (square feet[sf])	190,230	224,600	34,370
Number of building(s) [b]	0	1	1
Building stories	0	1	1
Building height (feet)	0	63 [c]	63
Building area (sf)	0	30,800	30,800
Annual sand processing throughput (US tons) [d]	349,080	800,000	450,920
Number of employees	5	6	1

Use/Feature	Existing	Proposed	Net Change
Site surface paving (sf)	4,400	63,330	67,730
Vehicle parking spaces (employee/visitor)	10	10	0

[a] Numbers are rounded.
[b] Refers to permanent buildings. Does not include temporary structures such as trailers or storage containers.
[c] Height noted is highest roof point and does not necessarily reflect the building height as measured per the San Francisco Planning Code. In addition, Section 260(b)(2)(M) of the San Francisco Planning Code (Code) exempts from the height requirement all structures and equipment necessary for the operation of industrial plants, where structures and equipment do not contain separate floors and where permitted as principal or conditional uses by the Code.
[d] Given the cyclical nature of the facility's operations, existing conditions are based on the facility's average activity over the most recent 5-year operating period (years 2020–2024), not maximum activity achieved over the facility's history. Proposed conditions are based on the maximum annual throughput requested by the project sponsor in its application to the Air District for a permit to operate. However, the facility's throughput would continue to be driven by market demand post-project, up to the limit set forth by the Air District.

S.3 Summary of Impacts and Mitigation Measures

This draft EIR analyzes the potential environmental effects of the proposed project. The initial study (Appendix B) of this draft EIR determined that the following topics would have either no significant impacts or impacts that can be reduced to less than significant with mitigation: land use and land use planning; aesthetics; population and housing; cultural resources; tribal cultural resources; transportation and circulation; noise; greenhouse gas emissions; wind; shadow; recreation; utilities and services systems; public services; biological resources; geology and soils; hydrology and water quality; hazards and hazardous materials; mineral resources; energy; agricultural and forestry resources; and wildfire. Discussion and analysis of impacts in these resource areas are presented in the initial study.

Chapter 3, Environmental Setting, Impacts, and Mitigation Measures, of this draft EIR presents detailed discussion and analysis for air quality. Analysis presented in the draft EIR determined that all impacts related to air quality would be less than significant.

Table S-2 summarizes the potential impacts of the proposed project, identify the significance of each impact, and presents the full text of mitigation measures that would avoid or reduce significant impacts and would be required to be implemented if the proposed project is approved. As indicated in Table S-2 and discussed in detail in Chapter 3, the analysis conducted for this EIR determined that the proposed project would not result in significant and unavoidable impacts.

Table S-2: Summary of Impacts of the Proposed Project Identified in the EIR and IS

Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
SUMMARY OF IMPACTS FOR TOPICS IN THE EIR			
Section 3.C, Air Quality			
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the 2017 Air District Clean Air Plan.	LTS	No mitigation required.	N/A
Impact AQ-2: The proposed project's construction activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	No mitigation required.	N/A
Impact AQ-3: The proposed project's operational activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	No mitigation required.	N/A
Impact AQ-4: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations.	LTS	No mitigation required.	N/A
Impact AQ-5: Construction of the proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.	LTS	No mitigation required.	N/A
Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts on sensitive receptors.	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
SUMMARY OF IMPACTS FOR TOPICS IN THE INITIAL STUDY			
Section E.1, Land Use and Planning			
Impact LU-1: The proposed project would not physically divide an established community.	LTS	No mitigation required.	N/A
Impact LU-2: The proposed project would not cause a significant physical environmental impact due to a conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.	LTS	No mitigation required.	N/A
Impact C-LU-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to land use and planning.	LTS	No mitigation required.	N/A
Section E.2, Aesthetics			
Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic vista.	LTS	No mitigation required.	N/A
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	NI	No mitigation required.	N/A
Impact AES-3: The proposed project would not conflict with applicable zoning and other regulations governing scenic quality.	LTS	No mitigation required.	N/A
Impact AES-4: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-AES-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to aesthetics.	LTS	No mitigation required.	N/A
Section E.3, Population and Housing			
Impact PH-1: The proposed project would not induce substantial unplanned population growth, either directly or indirectly.	LTS	No mitigation required.	N/A
Impact PH-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	NI	No mitigation required.	N/A
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing.	LTS	No mitigation required.	N/A
Section E.4, Cultural Resources			
Impact CR-1: Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	NI	No mitigation required.	N/A
Impact CR-2: The proposed project could cause a substantial adverse change in the significance of an archeological resource.	S	**Mitigation Measure M-CR-2: Procedures for Discovery of Archeological Resources** Construction Crew Archeological Awareness. Prior to any soil-disturbing activities being undertaken, a qualified archeologist shall conduct a brief onsite archeological awareness training session that describes the types of resources that might be encountered and how they might be recognized, along with requirements and procedures for work stoppage, resource protection, and notification in	LTS

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the event of a potential archeological discovery. The archeologist or the project sponsor also shall distribute the department's "ALERT" wallet card and the department's "ALERT" sheet, which summarizes stop-work requirements and provides necessary contact information for the planning department's archeological staff and project sponsor. The project sponsor must provide the environmental review officer (ERO) with a signed affidavit confirming that all relevant personnel involved in soil-disturbing activities, including machine operators, field crews, pile drivers, supervisory personnel, etc., have received the sheet. The qualified archeologist shall repeat the training at intervals during construction, as determined necessary by the ERO, including when new construction personnel start work and prior to periods of soil-disturbing work when the project archeologist will not be on site. Cultural Sensitivity Training. In addition to and, if possible, concurrently with the archeological awareness training, the project sponsor shall ensure that a local Native American representative is afforded the opportunity to provide Native American cultural resources sensitivity training to all construction personnel. Stop Work and Notification Upon Discovery. Should any indication of an archeological resource be encountered during any soil-disturbing activity of the project, the project head	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		foreman and/or project sponsor shall immediately notify the ERO and immediately suspend any soil-disturbing activities in the vicinity of the discovery until the ERO has determined what additional measures should be undertaken. Discovery Identification, Evaluation, and Treatment Determination. If the ERO determines that an archeological resource may be present within the project site, the project sponsor shall retain the services of an archeological consultant from the qualified archeological consultant list maintained by the planning department. The archeological consultant shall advise the ERO as to whether the discovery is an archeological resource or if it retains sufficient integrity and is of potential scientific/historical/cultural significance. If an archeological resource is present, the archeological consultant shall identify, document, and evaluate the archeological resource. The archeological consultant shall make a recommendation as to what action, if any, is warranted. Based on this information, the ERO may require, if warranted, specific additional treatments to be implemented by the project sponsor. Treatment might include preservation in situ of the archeological resource, an archeological monitoring program, an archeological testing program, and/or an archeological interpretation program. If an archeological interpretive,	

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		monitoring, and/or testing program is required, it shall be consistent with the environmental planning division guidelines for such programs and shall be implemented immediately. The ERO may also require that the project sponsor immediately implement a site security program if the archeological resource is at risk from vandalism, looting, or other damaging actions. Consultation with Descendant Communities. On discovery of an archeological site associated with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the project, the Overseas Chinese, or other potentially interested descendant group, an appropriate representative of the descendant group and the ERO shall be contacted. The representative of the descendant group shall be given the opportunity to monitor archeological field investigations of the site and offer recommendations to the ERO regarding appropriate archeological treatment of the site, of recovered data from the site, and, if applicable, any interpretative treatment of the associated archeological site. The appropriate representative of the descendant group, at their discretion, shall provide cultural sensitivity training to all project contractors. The ERO and project sponsor shall work with the tribal representative or other representatives of descendant communities to identify the scope of work to fulfill the	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		requirements of this mitigation measure, which may include participation in preparation and review of deliverables (e.g., plans, interpretive materials, artwork). Representatives shall be compensated for their work, as identified in the agreed-upon scope of work. A copy of the archeological resources report (ARR) shall be provided to the representative of the descendant group. Archeological Data Recovery Plan. An archeological data recovery program shall be conducted in accordance with an archeological data recovery plan (ADRP) if all three of the following apply: 1) a resource has potential to be significant, 2) preservation in place is not feasible, and 3) the ERO determines that an archeological data recovery program is warranted. The project archeological consultant, project sponsor, and ERO shall meet and consult on the scope of the ADRP. The archeological consultant shall prepare a draft ADRP that shall be submitted to the ERO for review and approval. The ADRP shall identify how the proposed data recovery program will preserve the significant information the archeological resource is expected to contain. That is, the ADRP will identify what scientific/historical research questions are applicable to the expected resource, what data classes the resource is expected to possess, and how the expected data classes would address the	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		applicable research questions. Data recovery, in general, should be limited to the portions of the historical property that could be adversely affected by the proposed project. Destructive data recovery methods shall not be applied to portions of the archeological resources if nondestructive methods are practical. The scope of the ADRP shall include the following elements: • *Field Methods and Procedures.* Descriptions of proposed field strategies, procedures, and operations. • *Cataloging and Laboratory Analysis.* Description of selected cataloging system and artifact analysis procedures. • *Discard and Deaccession Policy*. Description of and rationale for field and post-field discard and deaccession policies. • *Security Measures*. Recommended security measures to protect the archeological resource from vandalism, looting, and non-intentionally damaging activities. • *Final Report*. Description of proposed report format and distribution of results. • *Curation*. Description of the procedures and recommendations for the curation of any recovered data having potential research value, identification of appropriate curation	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		facilities, and a summary of the accession policies of the curation facilities. Human Remains and Funerary Objects. The treatment of human remains and funerary objects discovered during any soil-disturbing activity shall comply with applicable state and federal laws. This shall include immediate notification of the Office of the Chief Medical Examiner of the City and County of San Francisco (Medical Examiner). The ERO also shall be notified immediately upon the discovery of human remains. In the event of the Medical Examiner's determination that the human remains are Native American remains, the Medical Examiner shall notify the California Native American Heritage Commission (NAHC), which will appoint a Most Likely Descendant (MLD). The MLD will complete his or her inspection of the remains and make recommendations or preferences for treatment within 48 hours of being granted access to the site (PRC section 5097.98[a]). The landowner may consult with the project archeologist and project sponsor and shall consult with the MLD and ERO on preservation in place or recovery of the remains and any scientific treatment alternatives. The landowner shall then make all reasonable efforts to develop an agreement with the MLD as expeditiously as possible for the treatment and disposition, with appropriate dignity, of human remains and funerary objects (as detailed in CEQA Guidelines section 15064.5[d]). Per PRC 5097.98	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		(b)(1), the agreement shall address and take into consideration, as applicable to the degree consistent with the wishes of the MLD, the appropriate excavation, removal, recordation, scientific analysis, custodianship prior to reinterment or curation, and final disposition of the human remains and funerary objects. If the MLD agrees to scientific analyses of the remains and/or funerary objects, the archeological consultant shall retain possession of the remains and funerary objects until completion of any such analyses unless otherwise specified in the agreement, after which the remains and funerary objects shall be reinterred or curated as specified in the agreement. Both parties are expected to make a concerted and good faith effort to arrive at an agreement, consistent with the provisions of PRC 5097.98. However, if the landowner and the MLD are unable to reach an agreement, the landowner, ERO, and project sponsor shall ensure that the remains and/or mortuary materials are stored securely and respectfully until they can be reinterred on the property, with appropriate dignity, in a location not subject to further or future subsurface disturbance, consistent with state law. Treatment of historic-period human remains and associated or unassociated funerary objects discovered during any soil-disturbing activity shall follow protocols laid out in the project's	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		archeological treatment documents and in any related agreement established between the Medical Examiner and the ERO. The project archeologist shall retain custody of the remains and associated materials while any scientific study scoped in the treatment document is conducted. The remains shall then be curated or respectfully reinterred by arrangement on a case-by case-basis. Cultural Resources Public Interpretation Plan. The project archeological consultant shall submit a cultural resources public interpretation plan (CRPIP) if a significant archeological resource is discovered during a project. As directed by the ERO, a qualified design professional with demonstrated experience in displaying information and graphics to the public in a visually interesting manner, local artists, or community group may also be required to assist the project archeological consultant in preparation of the CRPIP. If the resource to be interpreted is a tribal cultural resource (TCR), the CRPIP shall be prepared in consultation with and developed with the participation of Ohlone tribal representatives. The CRPIP shall describe the interpretive product(s), locations or distribution of interpretive materials or displays, the proposed content and materials, the producers or artists of the displays or installation, and a long-term maintenance program. The CRPIP shall be sent to	

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
		the ERO for review and approval. The CRPIP shall be implemented prior to project completion. Curation. Significant archeological collections and paleoenvironmental samples of future research value shall be permanently curated at an established curatorial facility or Native American cultural material shall be returned to local Native American tribal representatives at their discretion. The facility shall be selected in consultation with the ERO. Upon submittal of the collection for curation, the sponsor or archeologist shall provide a copy of the signed curatorial agreement to the ERO.	
Impact CR-3: The proposed project could disturb human remains, including those interred outside of formal cemeteries.	S	Mitigation Measure M-CR-2: Procedures for Discovery of Archeological Resources applies.	LTS
Impact C-CR-1: The proposed project, in combination with cumulative projects, would result in a significant cumulative impact related to cultural resources.	NI	No mitigation required.	N/A
Section E.5, Tribal Cultural Resources			
Impact TCR-1: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC section 21074.	S	Mitigation Measure M-CR-2: Procedures for Discovery of Archeological Resources applies.	LTS
Impact C-TCR-1: The proposed project, in combination with cumulative projects, could result in a significant cumulative impact on tribal cultural resources.	NI	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section E.6, Transportation and Circulation			
Impact TR-1: The proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations; interfere with accessibility for people walking or bicycling; or result in inadequate emergency access.	LTS	No mitigation required.	N/A
Impact TR-2: The proposed project would not substantially delay public transit.	LTS	No mitigation required.	N/A
Impact TR-3: The proposed project would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel.	LTS	No mitigation required.	N/A
Impact TR-4: The proposed project would not result in a loading deficit.	LTS	No mitigation required.	N/A
Impact TR-5: The proposed project would not result in a substantial vehicular parking deficit.	LTS	No mitigation required.	N/A
Impact C-TR-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on transportation and circulation.	LTS	No mitigation required.	N/A
Section E.7, Noise			
Impact NO-1: The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	No mitigation required.	N/A
Impact NO-2: The proposed project would not generate excessive groundborne vibration or groundborne noise levels.	NI	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-NO-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on noise.	LTS	No mitigation required.	N/A
Section E.9, Greenhouse Gas Emissions			
Impact C-GG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	No mitigation required.	N/A
Impact C-GG-2: The proposed project would not conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	No mitigation required.	N/A
Section E.10, Wind			
Impact WI-1: The proposed project would not create wind hazards in publicly accessible areas of substantial pedestrian use.	LTS	No mitigation required.	N/A
Impact C-WI-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts related to wind.	LTS	No mitigation required.	N/A
Section E.11, Shadow			
Impact SH-1: The proposed project would not create new shadow that substantially and adversely affects the use and enjoyment of publicly accessible open spaces.	LTS	No mitigation required.	N/A
Impact C-SH-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts related to shadow.	NI	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Section E.12, Recreation			
Impact RE-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities	LTS	No mitigation required.	N/A
Impact RE-2: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	NI	No mitigation required.	N/A
Impact C-RE-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts related to recreation.	LTS	No mitigation required.	N/A
Section E.13, Utilities and Service Systems			
Impact UT-1: The proposed project would not 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.	LTS	No mitigation required.	N/A
Impact UT-2: Sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years unless the 2018 Bay-Delta Plan Amendment is implemented; in that event, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing.			
Impact UT-3: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	N/A	N/A	N/A
Impact UT-4: The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair attainment of solid waste reduction goals.	LTS	No mitigation required.	N/A
Impact UT-5: The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste	LTS	No mitigation required.	N/A
Impact C-UT-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on utilities and service systems.	LTS	No mitigation required.	N/A
Section E.14, Public Services			
Impact PS-1: The proposed project would not increase the demand for public services to such an extent that construction of new or physically altered facilities would be required.	LTS	No mitigation required.	N/A
Impact C-PS-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts on police, fire, and school district services such that new or physically altered facilities, the construction of which	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
could cause significant environmental impacts, would be required in order to maintain acceptable levels of service.			
Section E.15, Biological Resources			
Impact BI-1: The proposed project would not 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.	LTS	No mitigation required.	N/A
Impact BI-2: The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	LTS	No mitigation required.	N/A
Impact BI-3: The proposed project would not have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS	No mitigation required.	N/A
Impact BI-4: The proposed project would not 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.	LTS	No mitigation required.	N/A
Impact BI-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	NI	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-BI-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on biological resources.	LTS	No mitigation required.	N/A
Section E.16, Geology and Soils			
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, strong seismic ground shaking, seismically induced ground failure, including liquefaction, or landslides.	LTS	No mitigation required.	N/A
Impact GE-2: The proposed project would not result in substantial erosion or loss of topsoil.	LTS	No mitigation required.	N/A
Impact GE-3: The proposed project would not result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse by being located on a geologic unit or soil that is unstable, or that could become unstable.	LTS	No mitigation required.	N/A
Impact GE-4: The proposed project would not create substantial risks to life or property by being located on expansive soils.	LTS	No mitigation required.	N/A
Impact GE-5: The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.	NI	No mitigation required.	N/A
Impact GE-6: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on geology, soils, or paleontological resources.	LTS	No mitigation required.	N/A
Section E.17, Hydrology and Water Quality			
Impact HY-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.	LTS	No mitigation required.	N/A
Impact HY-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	LTS	No mitigation required.	N/A
Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion, siltation, or flooding onsite or offsite and create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect floodflows.	LTS	No mitigation required.	N/A
Impact HY-4: The proposed project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.	LTS	No mitigation required.	N/A
Impact HY-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-HY-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on hydrology and water quality.	LTS	No mitigation required.	N/A
Section E.18, Hazards and Hazardous Materials			
Impact HZ-1: The proposed project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials.	LTS	No mitigation required.	N/A
Impact HZ-2: The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	No mitigation required.	N/A
Impact HZ-3: The proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	NI	No mitigation required.	N/A
Impact HZ-4: The proposed project would not be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment.	NI	No mitigation required.	N/A
Impact HZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	No mitigation required.	N/A
Impact HZ-7: The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	NI	No mitigation required.	N/A

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Environmental Impact	Level of Significance Prior to Mitigation	Mitigation Measures	Level of Significance After Mitigation
Impact C-HZ-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to hazards and hazardous materials.	LTS	No mitigation required.	N/A
Section E.19, Mineral Resources			
All Impacts	N/A	N/A	N/A
Section E.20, Energy			
Impact EN-1: The proposed project would not result in wasteful, inefficient, or unnecessary consumption of energy resources during construction or operation.	LTS	No mitigation required.	N/A
Impact EN-2: The proposed project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	No mitigation required.	N/A
Impact C-EN-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts related to the wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency.	LTS	No mitigation required.	N/A
Section E.21, Agriculture and Forestry Resources			
All Impacts	N/A	N/A	N/A
Section E.22, Wildfire			
All Impacts	N/A	N/A	N/A

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S.4 Summary of Project Alternatives

CEQA Guidelines section 15126.6(a) states that an EIR must describe and evaluate a reasonable range of alternatives to a project that would feasibly attain most of the project's basic objectives but avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a project or alternatives that are infeasible. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation.

Chapter 5, Alternatives, of this draft EIR presents the alternatives analysis as required by CEQA for the proposed project. The discussion includes the methodology used to select alternatives to the proposed project for detailed CEQA analysis, with the intent of developing potentially feasible alternatives that could avoid or substantially lessen the significant impacts identified while still meeting most of the project's basic objectives. The initial study found that ground disturbance resulting from the project has the potential to impact buried archeological resources, human remains, and tribal cultural resources, although, implementation of **Mitigation Measure M-CR-2, Procedures for Discovery of Archeological Resources**, would reduce impacts to less than significant. Thus, the alternatives were selected based on their ability to reduce or avoid a potentially significant impact to buried resources.

The following alternatives were selected for detailed analysis in this draft EIR:

- Alternative A: No Project Alternative
- Alternative B: Partial Modernization Alternative

Descriptions of the selected alternatives along with summaries of their impacts and abilities to meet the sponsor objectives are presented below.

S.4.1 Alternative A: No Project Alternative

S.4.1.1 Description of the Alternative

Under Alternative A, the project site would not be developed as described in Chapter 2, Project Description. There would be no physical modifications at the site: the site boundary, site configuration, and sand processing equipment would remain the same as it currently exists. There would be no new warehouse structure, surface paving, stormwater system, or electrical upgrades. The Pier 94 Wetlands access would remain at its current location. There also would be no operational changes at the site, and the permanent number of employees would remain the same as existing conditions.[1] The project sponsor would continue to operate at the site under its existing Port lease and would seek a permit to operate from the Air District with the same throughput (to receive and process up to 800,000 tons of sand during any 12-month consecutive period) as the permit sought under the project but would not modernize and reconstruct the facility.[2]

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1 During periods of high market demand the facility adds temporary staff, as needed. This practice would continue under the No Project Alternative.

2 A different No Project scenario could include another operator processing sand at the facility under an Air District permit exemption provided the operation complies with all applicable Air District rules and regulations, including ensuring that all sand transferred from the facility or stockpiled at the facility maintains a moisture content greater than 5 percent by weight. Under this No Project scenario, no Air District permit would be required, and no throughput limits would be established for the sand processing operation. While this No Project scenario was considered, it was rejected because the volume of sand processed at the facility is driven by market demand and the absence of a throughput limit would make it challenging for decision makers to understand the consequences of approving or disapproving the proposed project.

S.4.1.2 Summary of Impacts

Under Alternative A, the project site would remain in its existing condition with no new construction. Because no construction would occur under Alternative A, it would not have any significant impacts on any of the topics analyzed in the initial study (see Appendix B). Therefore, impacts under Alternative A related to land use and land use planning, aesthetics, population and housing, transportation and circulation, noise, greenhouse gases, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and energy would be the same or less than those anticipated with implementation of the proposed project because no construction, ground-disturbing activities, or changes to operations would occur. No impacts to wind and shadow would occur under Alternative A as the storage warehouse would not be constructed. The potential for significant impacts to cultural resources and tribal cultural resources would be avoided. Compared to the proposed project, Alternative A would result in reduced construction impacts and greater operational impacts to air quality because the environmental controls proposed under the project would not be constructed. Alternative A would not have any significant project-level or cumulative air quality impacts.

S.4.2 Alternative B: Partial Modernization Alternative

S.4.2.1 Description of the Alternative

Alternative B would be the same as the proposed project, but the proposed sand storage warehouse would not be constructed. This alternative would require less construction activity than the proposed project, including reduced excavation volume necessary for the storage warehouse foundation. Alternative B would reduce the total excavation by approximately 135 cubic yards and reduce the use of off-road equipment for excavation and warehouse construction, and result in fewer on-road vehicle trips associated with hauling excavated soil off-site and delivering building materials to the site.

S.4.2.2 Summary of Impacts

Alternative B would develop the site with similar though fewer improvements compared with the proposed project. With reduced construction excavation, construction related impacts would be less than under the proposed project. Overall, the construction and operational impacts of Alternative B under each of the initial study environmental topics would be similar to those of the proposed project. Specifically, impacts related to land use and planning, aesthetics, population and housing, transportation and circulation, noise, greenhouse gases, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and energy would be similar to those of the proposed project, given the similar development intensity. No impacts to wind and shadow would occur under Alternative B as the storage warehouse would not be constructed. The potential for impacts related to site-specific ground disturbance, including archeological resources, human remains, and tribal cultural resources would be less than under the proposed project because excavation for the storage warehouse foundation would not occur. Compared to the proposed project, Alternative B would result in greater operational impacts to air quality because there would be no storage warehouse to cover the washed sand (product sand), but it would not have any significant project-level or cumulative impacts. Temporary construction impacts would be slightly less than the proposed project.

S.5 Comparison of the Proposed Project and Alternatives

Table S-3, p. S-27, presents a summary comparison of the impacts of the proposed project and all the alternatives. Table S-4, p. S-36, summarizes the ability of each of the alternatives to meet the project objectives.

S.6 Environmentally Superior Alternative

CEQA Guidelines section 15126.6(e)(2) requires an EIR to identify the alternative to the proposed project that would have the least adverse environmental impacts (i.e., the "environmentally superior alternative"). In this case, the no project alternative (Alternative A) would not clearly be the environmentally superior alternative. Alternative A would avoid entirely potential impacts to buried archeological resources and tribal cultural resources as no ground disturbance would occur. However, Alternative A would not provide enhanced environmental controls to reduce air emissions during operation of the project or meet Objective 5 regarding air district requirements. Alternative B would partially avoid potential impacts to archeological resources and tribal cultural resources as excavation for the storage warehouse foundation would not occur. This alternative would provide fewer controls on air emissions compared to the proposed project during operation (but more than Alternative A) because the warehouse would not be constructed. Other enhancements would be constructed (e.g., paving and covered conveyors).

S.7 Areas of Known Controversy and Issues to Be Resolved

Based on the comments received on the notice of preparation of an EIR, potential areas of controversy for the proposed project include:

- Construction- and operation-related transportation impacts from VMT and temporary access points
- Construction and operation noise impacts and as it relates to birds and wildlife at Pier 94 wetland
- Construction and operation biological resource impacts particularly on species in Islais Creek and Pier 94 wetland
- Construction and operation air quality impacts on sensitive receptors
- Aesthetics related impacts from light and glare (from possible additional lighting)
- Construction and operation related water demand from the project
- Concern for potential land use conflict related to warehouse use
- Compliance with AB 53 and Senate Bill 18 as well as other applicable laws

Table S-3: Comparison of Environmental Impacts of the Proposed Project and of the Alternatives

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
SUMMARY OF IMPACTS FOR TOPICS IN THIS DRAFT EIR			
Section 3.C, Air Quality			
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the 2017 Air District Clean Air Plan.	LTS	LTS >	LTS >
Impact AQ-2: The proposed project's construction activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	NI	LTS <
Impact AQ-3: The proposed project's operational activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	LTS >	LTS >
Impact AQ-4: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations.	LTS	LTS >	LTS >
Impact AQ-5: Construction of the proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.	LTS	NI	LTS <
Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts on sensitive receptors.	LTS	LTS >	LTS >
SUMMARY OF IMPACTS FOR TOPICS IN THE INITIAL STUDY			
Section E.1, Land Use and Planning			
All Impacts	LTS	NI	LTS =
Section E.2, Aesthetics			
Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic vista.	LTS	LTS <	LTS <

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= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	NI	NI	NI
Impact AES-3: The proposed project would not conflict with applicable zoning and other regulations governing scenic quality.	LTS	LTS =	LTS =
Impact AES-4: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	LTS	LTS <	LTS <
Impact C-AES-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to aesthetics.	LTS	LTS <	LTS <
Section E.3, Population and Housing			
Impact PH-1: The proposed project would not induce substantial unplanned population growth, either directly or indirectly.	LTS	LTS =	LTS =
Impact PH-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	NI	NI	NI
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing.	LTS	LTS =	LTS =
Section E.4, Cultural Resource			
Impact CR-1: Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	NI	NI	NI
Impact CR-2: The proposed project could cause a substantial adverse change in the significance of an archeological resource.	LTSM	NI	LTSM <
Impact CR-3: The proposed project could disturb human remains, including those interred outside of formal cemeteries.	LTSM	NI	LTSM <
Impact C-CR-1: The proposed project, in combination with cumulative projects, would result in a significant cumulative impact related to cultural resources.	NI	NI	NI

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= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Section E.5, Tribal Cultural Resource			
Impact TCR-1: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC section 21074.	LTSM	NI	LTSM <
Impact C-TCR-1: The proposed project, in combination with cumulative projects, could result in a significant cumulative impact on tribal cultural resources.	NI	NI	NI
Section E.6, Transportation and Circulation			
Impact TR-1: The proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations; interfere with accessibility for people walking or bicycling; or result in inadequate emergency access.	LTS	LTS =	LTS =
Impact TR-2: The proposed project would not substantially delay public transit.	LTS	LTS =	LTS =
Impact TR-3: The proposed project would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel.	LTS	LTS =	LTS =
Impact TR-4: The proposed project would not result in a loading deficit.	LTS	LTS =	LTS =
Impact TR-5: The proposed project would not result in a substantial vehicular parking deficit.	LTS	LTS =	LTS =
Impact C-TR-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on transportation and circulation.	LTS	LTS =	LTS =
Section E.7, Noise			
Impact NO-1: The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	LTS =	LTS =
Impact NO-2: The proposed project would not generate excessive groundborne vibration or groundborne noise levels.	NI	NI	NI

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= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact C-NO-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on noise.	LTS	LTS =	LTS =
Section E.9, Greenhouse Gas Emissions			
Impact C-GG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	LTS <	LTS =
Impact C-GG-2: The proposed project would not conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	LTS <	LTS =
Section E.10, Wind			
All Impacts	LTS	NI	NI
Section E.11, Shadow			
All Impacts	LTS	NI	NI
Section E.12, Recreation			
Impact RE-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities	LTS	LTS =	LTS =
Impact RE-2: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	NI	NI	NI
Impact C-RE-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts related to recreation.	LTS	LTS =	LTS =
Section E.13, Utilities and Service Systems			
Impact UT-1: The proposed project would not require or result in the relocation or construction of new or expanded, water, wastewater treatment, or stormwater drainage, electric power, natural gas,	LTS	NI	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
or telecommunications facilities, the construction or relocation of which could cause significant environmental effects.			
Impact UT-2: Sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years unless the 2018 Bay-Delta Plan Amendment is implemented; in that event, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing	LTS	LTS =	LTS =
Impact UT-4: The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair attainment of solid waste reduction goals.	LTS	LTS =	LTS =
Impact UT-5: The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste	LTS	LTS =	LTS =
Impact C-UT-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on utilities and service systems.	LTS	LTS =	LTS =
Section E.14, Public Services			
All Impacts	LTS	LTS <	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Section E.15, Biological Resources			
Impact BI-1: The proposed project would not 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.	LTS	LTS =	LTS =
Impact BI-2: The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	LTS	LTS =	LTS =
Impact BI-3: The proposed project would not have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS	LTS =	LTS =
Impact BI-4: The proposed project would not 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.	LTS	LTS <	LTS <
Impact BI-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	NI	NI	NI
Impact C-BI-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on biological resources.	LTS	LTS =	LTS =
Section E.16, Geology and Soils			
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, strong seismic ground shaking, seismically induced ground failure, including liquefaction, or landslides.	LTS	LTS <	LTS =
Impact GE-2: The proposed project would not result in substantial erosion or loss of topsoil.	LTS	LTS <	LTS <

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact GE-3: The proposed project would not result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse by being located on a geologic unit or soil that is unstable, or that could become unstable.	LTS	LTS <	LTS <
Impact GE-4: The proposed project would not create substantial risks to life or property by being located on expansive soils.	LTS	LTS <	LTS <
Impact GE-5: The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.	NI	NI	NI
Impact GE-6: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LTS	LTS <	LTS <
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on geology, soils, or paleontological resource.	LTS	LTS <	LTS <
Section E.17, Hydrology and Water Quality			
Impact HY-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.	LTS	LTS =	LTS =
Impact HY-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	LTS	LTS =	LTS =
Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion, siltation, or flooding onsite or offsite and create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect floodflows.	LTS	LTS>	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact HY-4: The proposed project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.	LTS	LTS =	LTS =
Impact HY-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	LTS =	LTS =
Impact C-HY-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on hydrology and water quality.	LTS	LTS =	LTS =
Section E.18, Hazards and Hazardous Materials			
Impact HZ-1: The proposed project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials.	LTS	LTS =	LTS =
Impact HZ-2: The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	LTS =	LTS =
Impact HZ-3: The proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	NI	NI	NI
Impact HZ-4: The proposed project would not be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment.	NI	NI	NI
Impact HZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	LTS =	LTS =
Impact HZ-7: The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	NI	NI	NI
Impact C-HZ-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to hazards and hazardous materials.	LTS	LTS <	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Section E.19, Mineral Resources			
All Impacts	NA	NA	NA
Section E.20, Energy			
All Impacts	LTS	LTS <	LTS =
Section E.21, Agriculture and Forestry Resources			
All Impacts	NA	NA	NA
Section E.22, Wildfire			
All Impacts	NA	NA	NA

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Table S-4: Summary of Ability of Alternatives to Address Project Objectives

Project Objectives	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
	Does the alternative address the objective?	
1. Continue existing and ongoing sand processing operations with enhanced environmental controls.	No	Partially
2. Continue to supply marine sand—a critical building material necessary for concrete and asphalt production—throughout the City of San Francisco and Bay Area construction projects.	Yes	Yes
3. Continue to use sea-based shipping to import sand to the facility to avoid an increase in the number of truck trips into the City of San Francisco and, specifically, to the two concrete batch plants adjacent to the facility.	Yes	Yes
4. Obtain approval for an updated land lease with the Port of San Francisco.	Yes	Yes
5. Meet all the requirements imposed by regulatory agencies including the Air District and obtain approval from the Air District for an authority to construct and permit to operate to receive and process up to 800,000 tons of sand during any consecutive 12-month period.	No[3]	Yes

[3] As currently proposed, the No Project Alternative would need to be revised to pave haul roads to meet air district regulatory requirements.

CHAPTER 1
INTRODUCTION

This environmental impact report (EIR) evaluates reasonably foreseeable environmental effects associated with adoption and implementation of the Pier 92 Modernization and Plant Replacement project (proposed project). This chapter presents an overview of the proposed project, outlines the purpose of the EIR, summarizes the environmental review process, describes the intended uses of the EIR, and describes the organization of the EIR.

1.A Project Summary

The proposed project consists of the reconstruction and modernization of the existing sand processing facility on Pier 92 at the Port of San Francisco. The proposed project would install and operate a new sand processing system with new equipment, enhanced environmental controls, and other site upgrades. A key element of the modernization project is the installation of enhanced dust control measures to reduce particulate emissions and fugitive dust from the transfer and storage of sand. This would be achieved by retrofitting two existing conveyors and replacing four existing conveyors with covers and covering the finished material stockpile and truck loading areas for washed sand. The portions of the site over which mobile equipment travel would also be paved. The essential nature of the existing operations at the facility would not change under the proposed project. To accommodate these changes, the facility is proposing an increase in the size of its footprint under a new lease with the Port of San Francisco. Martin Marietta (project sponsor) has applied for an authority to construct and permit to operate from the Bay Area Air Quality Management District (Air District) to receive and process up to 800,000 tons of sand during any consecutive 12-month period.

1.B Purpose of This EIR

This EIR was prepared in accordance with all criteria, standards, and procedures of the California Environmental Quality Act (CEQA), as amended (California Public Resources Code section 21000 et seq.); the CEQA Guidelines (California Code of Regulations title 14, section 15000 et seq.); and San Francisco Administrative Code chapter 31.

In accordance with CEQA section 21067 and CEQA Guidelines sections 15367 and 15050–15053, the City and County of San Francisco (city) is the lead agency, under whose authority this document has been prepared. As described by CEQA and the CEQA Guidelines, public agencies are charged with a duty to avoid or substantially lessen significant environmental effects, where feasible. In undertaking this duty, a public agency has an obligation to balance a project's significant effects on the environment with its benefits, including economic, social, technological, legal, and other non-environmental characteristics.

As defined in CEQA Guidelines section 15382, a "significant effect on the environment" is:

> *"… a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant."*

CEQA requires an EIR to be prepared before the first discretionary decision is made to approve a project that may cause a significant effect on the environment that cannot be mitigated. The EIR is a public information document for use by governmental agencies and the public to identify and evaluate potential environmental impacts of a project, identify mitigation measures to lessen or eliminate significant adverse impacts, and examine feasible alternatives to the project.

The city must consider the information in this EIR and make certain findings with respect to each significant effect identified. The decision makers will review and consider the information in this EIR, along with other information available through the public review processes, before they decide to approve, disapprove, or modify the proposed project or adopt an alternative to the proposed project.

1.C Type of EIR

This document is a project-level EIR, pursuant to CEQA Guidelines section 15161. A project-level EIR focuses on changes in the environment that would result from construction and operation of a specific project. Furthermore, this EIR is also a focused EIR, pursuant to CEQA Guidelines section 15063(c)(3). An initial study was prepared for the proposed project in accordance with sections 15062 and 15082 (refer to Appendix B of this EIR). The initial study is being published concurrently with the EIR, and comments will be accepted on the initial study during the public review period for the EIR.[4] The initial study identifies the topics for which the proposed project would result in less-than-significant impacts or impacts that could be reduced to less than significant with implementation of the mitigation measures identified in the initial study, and therefore do not require further analysis in this EIR. Thus, this EIR focuses the environmental analysis on the topics identified in the initial study (i.e., air quality) with the potential to have significant environmental impacts.

An EIR is an informational document used by a lead agency (in this case, the city) when considering approval of a project. The purpose of an EIR is to provide public agencies and members of the public with detailed information regarding the environmental effects of implementing a proposed project. An EIR should analyze a project's environmental consequences, identify ways to reduce or avoid a project's potential environmental effects, and identify alternatives to a project that can avoid or reduce impacts.

This EIR provides information to be used in the planning and decision-making process. It is not the purpose of an EIR to recommend approval or denial of a project.

Before it can approve the proposed project, the city, as the lead agency and decision-making entity, must certify that this EIR has been completed in compliance with CEQA, that the information in the EIR has been considered, and that the EIR reflects the city's independent judgment. CEQA requires decision makers to balance the benefits of a project against its unavoidable environmental consequences. If environmental impacts are identified as significant and unavoidable, the city may still approve the project if it finds that social, economic, or other benefits outweigh the unavoidable impacts. The city would then be required to state in writing the specific reasons for approving the project, based on information in the EIR and other information sources in the administrative record. This reasoning is called a "statement of overriding considerations" (Public Resources Code section 21081; CEQA Guidelines section 15093). In addition, the city must adopt a mitigation monitoring and reporting program, describing the measures that were made a condition of project approval to avoid or mitigate significant effects on the environment (Public Resources Code section 21081.6; CEQA Guidelines section 15097). The mitigation monitoring and reporting program, which is adopted at the time of project approval, is

[4] Under CEQA Guidelines section 15128, the EIR must contain a brief statement indicating the reasons why certain effects were determined not to be significant and, thus, are not studied in detail in this EIR.

designed to ensure compliance with the project description and EIR mitigation measures during and after project implementation. If the city decides to approve the proposed project, it will be responsible for verifying that the mitigation monitoring and reporting program for the proposed project is implemented. The EIR will be used primarily by the city and Air District during approval of future discretionary actions and permits.

1.D CEQA Review Process

CEQA Guidelines sections 15080 through 15097 set forth the EIR process, which includes multiple phases involving notification and input from responsible agencies and the public, as described below.

1.D.1 Notice of Preparation of an EIR

Consistent with the requirements of CEQA Guidelines sections 15063 and 15082, the San Francisco Planning Department (planning department) has made a good-faith effort during the preparation of the draft EIR to contact all responsible and trustee agencies; organizations and persons who may have an interest in the proposed project; and all applicable government agencies, including the Governor's Office of Land Use and Climate Innovation.[5]

In accordance with CEQA Guidelines sections 15063 and 15082, the planning department circulated a Notice of Availability (NOA) and published and distributed a notice of preparation (NOP) of an EIR for the proposed project on July 2, 2025. The NOP was sent to governmental agencies, organizations, and persons interested in the proposed project, and publication of the NOP initiated the 30-day public scoping period for this EIR, which started on July 2, 2025, and ended on August 1, 2025. Due to technical issues, the receiving date by the State Clearinghouse was listed as July 14, resulting in a comment period for State agencies of July 14, 2025, to August 12, 2025. The NOP included a description of the proposed project and a request for agencies and the public to submit comments on the scope and content of the environmental issues that should be addressed in this EIR. The NOP is included as Appendix A of this document.

The planning department mailed the NOA of the NOP to tenants and property owners within 1,000 feet of the project site and sent email notifications to neighborhood groups and individuals that requested project notifications from the planning department. The planning department posted these notices on the planning department's environmental review webpage and filed the NOA with San Francisco County Clerk's office. The planning department also published a newspaper advertisement in the San Francisco Examiner on July 2, 2025, announcing the opportunity for public comment on the project. A public scoping meeting was held on July 16, 2025, to explain the environmental review process for the proposed project and provide an opportunity to take public comments related to the environmental issues of the project.

In total, the planning department received comments from five agencies and one organization.

1.D.2 Summary of Scoping Comments

The planning department has considered the comments made by the public and agencies in preparation of this EIR, as summarized in **Table 1-1.** Comments on the NOP that relate to environmental issues are addressed and analyzed throughout this EIR and initial study (see Appendix B for the initial study). The scoping comments, as summarized in the table below, also indicate areas of controversy known to the lead agency and issues to be resolved, per CEQA Guidelines section 15123.

[5] As of July 1, 2024, the Governor's Office of Planning and Research was renamed the Governor's Office of Land Use and Climate Innovation.

Table 1-1: Summary of Scoping Comments

EIR or Initial Study Section	Comment
EIR	
Section 2.F Project Approvals	• Notation of anticipated filing fee requirements for California Department of Fish and Wildlife (CDFW)
Section 3.C Air Quality	• Request for the EIR to include an analysis of air quality impacts on sensitive receptors.
Initial Study	
Section C Compatibility with Existing Zoning and Plans	• Suggestion to use the Attorney General Office's Bureau of Environmental Justice document ("Warehouse Projects: Best Practices and Mitigation Measures to Comply with CEQA") in the environmental evaluation
Section E.1 Land Use and Planning	• Request for the EIR to consider potential land use conflicts for warehouse uses
Section E.2 Aesthetics	• Request for the EIR to include analysis of light impacts from additional lighting planned for the project
Section E.5 Tribal Cultural Resources	• Notation that the EIR must comply with AB 52 and Senate Bill 18 as well as other applicable laws
Section E.6 Transportation and Circulation	• Request to review the project's VMT analysis • Request for the EIR to consider impacts on State right-of-way related to temporary access points • Observation that the movement of oversize or excessive-load vehicles on State roadways will require a transportation permit, which can be obtained from Caltrans Transportation Permits • Observation that prior to construction, coordination may be required with Caltrans for development of a transportation management plan to reduce construction traffic impacts on the State transportation network
Section E.7 Noise	• Mitigation related to construction and noise • Analysis of noise impacts related to operation, especially as it relates to impacts on birds and other wildlife in the Pier 94 wetland
Section E.13 Utilities and Service Systems	• Anticipated water demand during construction and operation of the project, including the use of recycled water or other non-potable sources of water for dust control, vehicle and equipment washing, and operational and maintenance needs
Section E.15 Biological Resources	• Coordination with CDFW if the project is subject to its lake and streambed alteration regulatory authority or should the project result in "take," as defined by the California Endangered Species Act

EIR or Initial Study Section	Comment
	• Provide habitat descriptions and species profiles, as well as related source materials, to assess which special-status species are likely to occur in the project vicinity • Scope of direct impacts considered under CEQA; cumulative impacts; discussion of take avoidance and minimization measures for special-status species; documentation of site surveys to California Natural Diversity Database • Analysis of potential impacts to Islais Creek habitat • Request for the EIR to include analysis of light impacts on biological resources from additional lighting planned for the project.

1.D.3 Draft EIR and Initial Study Public Review Process

The CEQA Guidelines and San Francisco Administrative Code chapter 31 encourage public participation in the planning and environmental review processes. The planning department provides opportunities for the public to present comments and concerns regarding this EIR and its appendices, including the initial study (Appendix B), throughout the environmental review process. These opportunities include a public review and comment period and a public hearing before the San Francisco Planning Commission (planning commission).

The public review period for the draft EIR is from May 20, 2026, to July 6, 2026. The planning commission will hold a public hearing on this EIR during the 47-day public review and comment period for this EIR to solicit public comment on the information presented in this draft EIR. The public hearing will be held on June 25, 2026, beginning at **12 p.m. or later.** Additional information may be found on the planning department's website at https://sfplanning.org/hearings-cpc-grid.

The draft EIR, initial study, and all attachments are available for public review and comment on the planning department's Negative Declarations and EIRs web page (http://www.sf-planning.org/sfceqadocs). A USB or paper copy of the draft EIR will be mailed upon request. Referenced materials will also be made available for review upon request. Contact the EIR coordinator, Jennifer McKellar, at CPC.Pier92EIR@sfgov.org or 628.652.7563 to make a request.

Governmental agencies, interested organizations, and other members of the public are invited to submit written comments on the adequacy, accuracy, and scope of the draft EIR and initial study during the public review period. The comments should address the sufficiency of the document with respect to identifying and analyzing possible significant environmental impacts and determining how they may be avoided or mitigated.

All written comments or questions about the draft EIR should be addressed to:

San Francisco Planning Department
Attention: Jennifer McKellar, Senior Planner
49 South Van Ness Avenue, Suite 1400
San Francisco, CA 94103

Or by email to:
CPC.Pier92EIR@sfgov.org

Comments on the draft EIR are most helpful when they address the environmental analysis itself or suggest specific alternatives and/or additional measures that would better mitigate significant environmental impacts of the proposed project.

Members of the public are not required to provide personal identifying information when they communicate with the planning commission. All written or oral communications, including submitted personal contact information, may be made available to the public for inspection and copying upon request and may appear on the department's website or in other public documents.

1.D.4 Final EIR and EIR Certification

Following the close of the public review and comment period for this draft EIR, the city will prepare and publish a document titled "Responses to Comments." This document will contain all written, email, and recorded oral comments received on this draft EIR and written responses to those comments, along with copies of the letters or emails received, a transcript of the public hearing on the draft EIR, and any necessary revisions to the draft EIR. The draft EIR and the Responses to Comments document will constitute the final EIR. Not less than 10 days prior to the planning commission hearing to consider certification of the final EIR, the final EIR will be made available to the public and any boards, commissions or departments that will carry out or approve the proposed project.

The planning commission, in an advertised public meeting, will consider the documents and, if found adequate, accurate, and objective, certify the final EIR. The San Francisco Port Commission will then adopt CEQA findings and approve a new lease with the applicant. CEQA requires that agencies shall neither approve a project nor implement a project unless the project's significant environmental impacts have been reduced to a less-than-significant level, thereby essentially eliminating, avoiding, or substantially lessening the potentially significant impacts of the project, except when certain findings are made. If an agency approves a project that would result in the occurrence of significant adverse impacts that cannot feasibly be mitigated to less-than-significant levels (that is, significant and unavoidable impacts), the agency must state the reasons for its action in writing; demonstrate that mitigation is infeasible, based on the EIR or other information in the record; and adopt a statement of overriding considerations. Based on the analysis in this draft EIR, the proposed project would not result in any significant and unavoidable impacts and therefore a statement of overriding considerations is not required.

1.D.5 Mitigation Monitoring and Reporting Program

At the time of project approval, CEQA and the CEQA Guidelines require agencies to adopt a mitigation monitoring and reporting program that is made a condition of project approval in order to mitigate or avoid significant impacts on the environment (CEQA section 21081.6; CEQA Guidelines section 15097). This EIR identifies and presents mitigation measures that would form the basis of such a mitigation monitoring and

reporting program. Any mitigation measures adopted by the city as conditions for approval of the proposed project would be included in the mitigation monitoring and reporting program.

1.E Organization of the Draft EIR

Consistent with CEQA Guidelines sections 15120 to 15132, this EIR describes the proposed project, required approvals, and existing land use plans and policies applicable to the proposed project (see initial study Section C, Compatibility with Existing Zoning and Plans for a discussion of plans and policies applicable to the proposed project); identifies potential environmental impacts of the proposed project, mitigation measures where those impacts are significant, and cumulative adverse impacts to which the proposed project could make a considerable contribution; discusses growth-inducing effects of the project; and evaluates alternatives to the proposed project that would avoid or reduce significant impacts while still meeting most of the proposed project's objectives.

This EIR is organized as follows:

- **Summary**. This chapter summarizes the EIR by providing an overview of the proposed project, the environmental impacts that would result from the proposed project, mitigation measures identified to reduce or eliminate the impacts, project alternatives and their comparative environmental effects, and areas of controversy and issues to be resolved.
- **Chapter 1, Introduction**. This chapter includes a discussion of the purpose of the EIR, a discussion of the environmental review process, a summary of the comments received on the scope of the EIR, and a brief outline of the document's organization.
- **Chapter 2, Project Description and Site Context.** This chapter provides a detailed description of the proposed project, including the project's objectives, the project location, the existing project site's land use characteristics, project components and characteristics, the construction schedule and anticipated activities, and identifies required project approvals. At the Air District's request, this section also provides historical context for the Bayview neighborhood and the project site.
- **Chapter 3, Environmental Setting, Impacts, and Mitigation Measures.** This chapter provides the analysis for air quality. This topic contains a description of the environmental setting (or existing conditions), regulatory framework, approach to the analysis, project-level and cumulative impacts, and mitigation measures as applicable.
- **Chapter 4, Other CEQA Issues.** Pursuant to CEQA Guidelines section 15126.2, this chapter summarizes any growth-inducing impacts that could result from the proposed project and irreversible changes to the environment.
- **Chapter 5, Alternatives**. This chapter presents and evaluates alternatives to the proposed project, including the required No Project Alternative. This chapter also compares their environmental effects to those of the proposed project. It also identifies the environmentally superior alternative. Alternatives evaluated in this chapter include the following:
  - Alternative A, No Project Alternative
  - Alternative B, Partial Modernization Alternative
- **Chapter 6, Report Preparers.** This chapter lists the EIR authors and consultants; project sponsor and consultants; and agencies and persons consulted.

- **Appendices.** The following appendices are included in this EIR:
  - Appendix A, Notice of Preparation of an Environmental Impact Report
  - Appendix B, Initial Study
  - Appendix C, Historic Resource Evaluation
    - C.1, Historic Resource Evaluation, Part 1, Pier 92 Modernization and Plant Replacement Project
    - C.2, Historic Resource Evaluation Response, Pier 92 Modernization and Plant Replacement Project
  - Appendix D, Transportation Supporting Information
    - D.1 Travel Demand Memorandum
    - D.2 Traffic Management Measures
  - Appendix E, Biological Resources Supporting Information
  - Appendix F, Geotechnical Report
  - Appendix G, Air Quality Supporting Information
    - G.1, Air Quality Methodology Memorandum
    - G.2, Air Quality and Health Risk Assessment Results Memorandum
  - Appendix H, Socioeconomic Context Memorandum

CHAPTER 2
PROJECT DESCRIPTION AND SITE CONTEXT

This chapter provides a detailed description of the proposed project, including the project's objectives, the project location, the existing project site's land use characteristics, project components and characteristics, the construction schedule and anticipated activities, and identifies required project approvals. At the Air District's request, this section also provides historical context for the Bayview neighborhood and the project site, with additional detail available in Appendix H.

2.A Project Overview

The Pier 92 Modernization and Plant Replacement Project (proposed project) consists of the reconstruction and modernization of the existing sand processing facility on Pier 92 at the Port of San Francisco. The proposed project would install and operate a new sand processing system with new equipment, enhanced environmental controls, and other site upgrades. A key element of the project modernization is the installation of enhanced dust control measures to reduce particulate matter emissions and fugitive dust from the transfer and storage of sand. This would be achieved by retrofitting two existing conveyors and replacing four existing conveyors with covers and covering the finished material stockpile and truck loading area for washed sand. The portions of the site over which mobile equipment travel would also be paved. The essential nature of the existing operations at the facility would not change under the proposed project. To accommodate these changes, the facility is proposing an increase in the size of its footprint under a new lease with the Port of San Francisco. Martin Marietta, the project sponsor and owner of the existing facility, has applied for an authority to construct and permit to operate from the Air District to receive and process up to 800,000 tons of sand during any consecutive 12-month period.

2.B Project Sponsor's Objectives

The project sponsor has identified the following project objectives:

- Continue existing and ongoing sand processing operations with enhanced environmental controls.
- Continue to supply marine sand—a critical building material necessary for concrete and asphalt production—throughout the City of San Francisco and Bay Area construction projects.
- Continue to use sea-based shipping to import sand to the facility to avoid an increase in the number of truck trips into the City of San Francisco and, specifically, to the two concrete batch plants adjacent to the facility.
- Obtain approval for an updated land lease with the Port of San Francisco.
- Meet all the requirements imposed by regulatory agencies including the Air District and obtain approval from the Air District for an authority to construct and permit to operate to receive and process up to 800,000 tons of sand during any consecutive 12-month period.

2.C Project Location and Site Characteristics

2.C.1 Project Site

The Pier 92 facility is located in San Francisco's Bayview neighborhood and in the Port of San Francisco's (Port's) Maritime Eco-Industrial Center, as established by the Port's Piers 80-96 Maritime Eco-Industrial Center Strategic Plan (2016) (see **Figure 2-1**, p. 2-3). The Maritime Eco-Industrial Center spans Piers 80 through 96 in the Southern Waterfront area of San Francisco. It is generally bound by 25th Street on the north, Illinois Street on the west, and Cargo Way on the south. The project site is also located within the Southern Waterfront area of the Port's Waterfront Plan. The project site is within an environmental justice community, per Senate Bill 1000 (SB 1000; "The Planning for Healthy Communities Act").[6] The site is also within an AB 617 community: Bayview Hunters Point/Southeast San Francisco.[7] More specifically, the project site is located at 480 Amador Street, within Assessor's Block 4502A, Lot 002, an M-2 Heavy Industrial Use District and 40 X Height and Bulk District. The project site is bound by Islais Creek Channel to the north, the Pier 94 wetlands to the east, Seawall Lot (SWL) 352 and Piers 94 and 96 to the south, and Amador Street to the west. The right-of-way immediately south of the project site and shown on **Figure 2-2**, p. 2-5, provides public access to the Pier 94 wetlands.

2.C.2 Existing Pier 92 Facilities and Operations

The approximately 190,230-square-foot Pier 92 facility has been used for marine sand offloading and processing since at least 1982. The site is currently unpaved, with the exception of the area after the truck scale, which is paved. The sand offloaded at Pier 92 is used in a variety of applications in many different projects throughout the city and the Bay Area. Sand is a crucial component in concrete and asphalt and is essential for development, infrastructure, and restoration projects, including beach and shoreline restoration projects. Five employees currently work at the facility. The facility is open for customer loadout from 5 a.m. to 3 p.m., Monday through Friday; barge unloading and sand washing/screening operations can occur 24 hours per day, year-round.

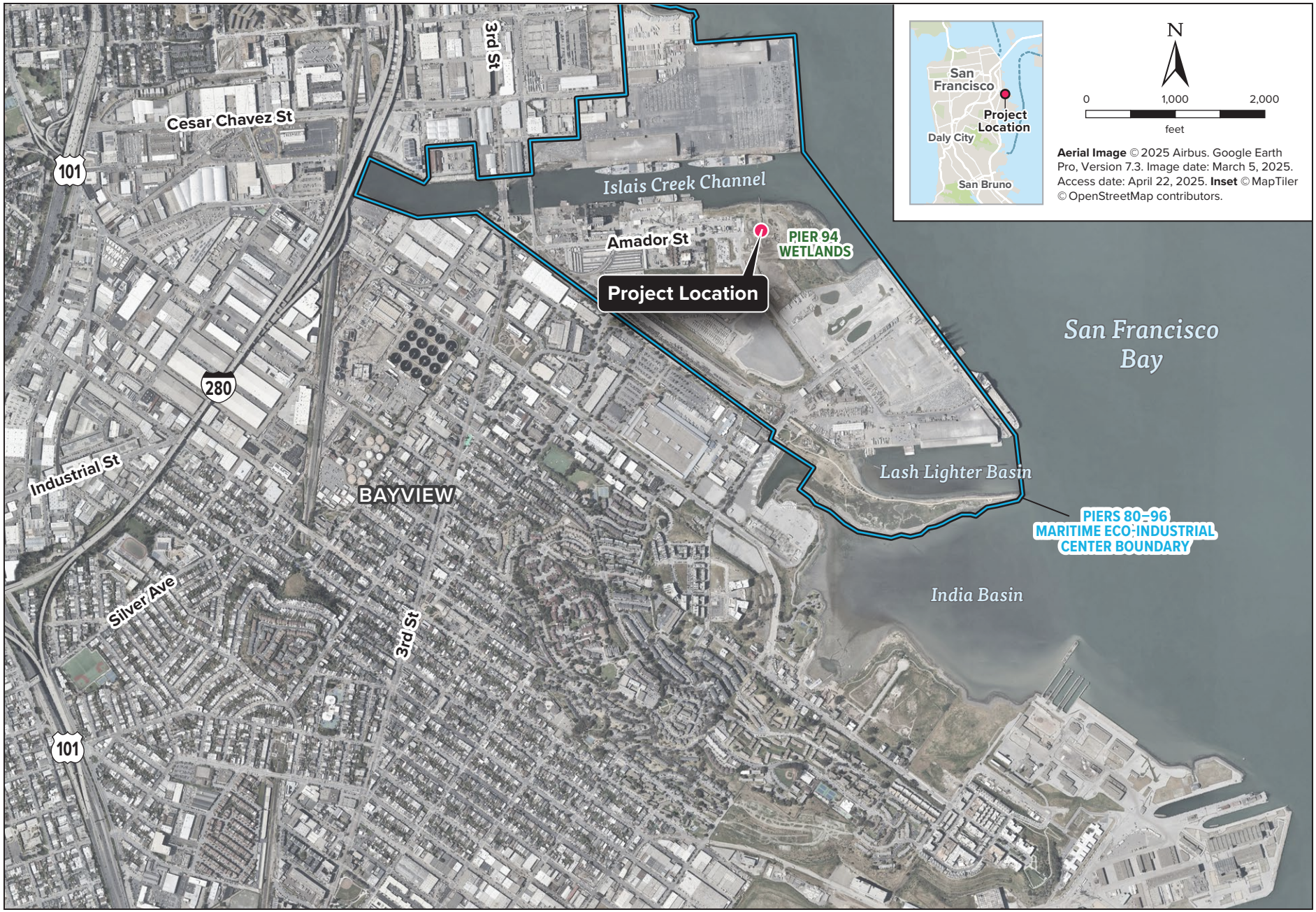
Marine sand is delivered to the Pier 92 facility by barge from the Islais Creek Channel along the northern boundary of the project site (see **Figure 2-2**, p. 2-5). The essential operations of the facility are as follows:

- **Step 1.** Marine sand is offloaded and stockpiled: sand is offloaded via conveyor from the barge to the shore. The sand is saturated with water upon arrival and during unloading. The unloading conveyor moves the sand south and onto the site where it is stored in a stockpile (raw material stockpile) using a radial stacker and kept wet with sprinklers. Unwashed sand for sale is transferred by loader to customers' trucks for delivery offsite.

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[6] SB 1000 requires jurisdictions that have disadvantaged communities to incorporate environmental justice into their general plans upon the next revision to two or more general plan elements. The project site is not within a disadvantaged community, based on the definition in SB 1000, but communities are encouraged to conduct analysis to define additional areas facing environmental and health challenges. The San Francisco Planning Department conducted additional analysis to identify areas in the city that face a disproportionate burden of environmental health challenges, informed by state and local data, resulting in the Environmental Justice Communities Map. For more information, see https://sfplanning.org/project/environmental-justice-framework-and-general-plan-policies#ej-communities.

[7] An AB 617 community is affected by a high cumulative exposure burden for toxic air contaminants and criteria air pollutants. (Source: Air District, 2022 CEQA Guidelines, Ch. 2, Best Practices for Centering Environmental Justice, Health, and Equity. Available at: chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-2-environmental-justicefinal-pdf.pdf?rev=724445e52f394fe1ab3d3b1636b6d023&sc_lang=en)

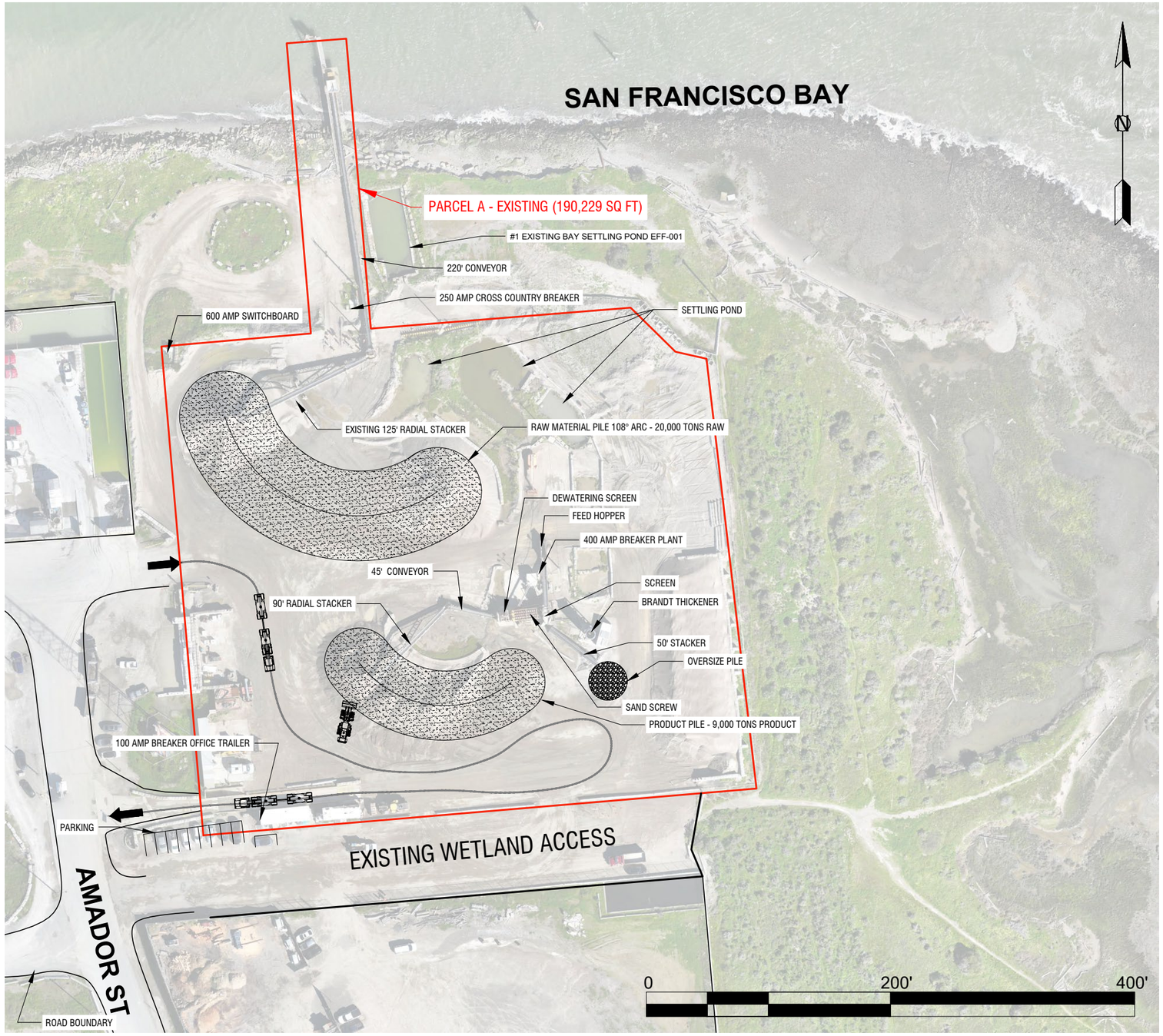


Graphics ... Martin_Marietta\105407_Pier_1_EIR (4-14-2026)

Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

Figure 2-1
Project Location

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Source: Martin Marietta, 2025

Graphics - Martin_Marietta\105407_Pier_92_EIR (4-14-2026)

Pier 92 Modernization and Plant Replacement Project
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Figure 2-2
Existing Equipment and Facilities

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- **Step 2.** Raw material is transferred to the wash plant: Wet sand is moved from the raw material stockpile to the wash plant by a front-end loader. The wash plant is located near the southeast corner of the stockpile. The loader scoops sand from the stockpile and places it in a feed hopper at the wash plant.
- **Step 3.** Raw material is screened and washed at the wash plant: The wash plant consists of a feed hopper and specifically designed conveyor with sand washing equipment that submerses the sand in water. The sand is fed into the plant by a front-end loader at the feed hopper and is conveyed by conveyor belt on to a sand wash screen. The sand wash screen sprays water onto the sand to saturate it while it passes over a quarter-inch mesh screen to remove the pea gravel and shell oversize material. The oversize material is conveyed by conveyor belt to a separate stockpile. The sand that passes through the screen enters a large tub of water and a twin auger screw conveys the sand onto a dewatering screen that shakes the water off the sand. The sand exits the dewatering screen at a moisture content of approximately 10 percent and is conveyed to a loadout stockpile via a stacker. The conveyors and processing screen are not enclosed. The maximum height of the tallest existing equipment is approximately 40 feet above grade. All stockpiles are uncovered; the conveyors, processing screen, and stockpiles are not required to be covered, per Air District regulations. All non-mobile equipment is electrically powered by a connection to the electrical grid. The sand washing process is used to produce an American Society for Testing and Materials (ASTM) standard concrete sand by washing the sand in fresh water to lower the saltwater content in the sand and screen off oversize pea gravel and shells.
- **Step 4.** Product sand is transferred to the product stockpile: The washed sand (product sand) is transferred to the product stockpile using a conveyor and radial stackers, which are not required to be covered per Air District regulations.
- **Step 5**. Product sand is transferred to customer trucks: Customers' trucks enter the facility from Amador Street on the northwest side of the site. Martin Marietta does not own or operate any haul trucks. The site is not currently paved. Sand from the product stockpile is transferred via loader to customers' trucks for delivery offsite. Customers transport the material or contract for delivery to end users and construction sites presently located throughout the city and San Mateo County. As trucks depart, they pass through environmental controls to reduce track-out of sand and fugitive dust emissions. The controls include a wheel wash system and track-out control mat. Trucks return to Amador Street near the southwest corner of the property.

Regular street sweeping of the entrance and exit of Amador Street is conducted Monday through Friday and depending on facility operations, on Saturdays as needed. This project site also includes two office trailers that serve as administrative offices. There are also storage areas and shipping containers for the storage of hazardous materials, including hazardous waste (mainly used oil), an aboveground storage tank containing diesel fuel, and non-hazardous materials (scrap metal, wood, etc.). Parking for at least ten employees and/or visitors is located in this area.

Based on historical sales data, Martin Marietta estimates that approximately 65 to 75 percent of the sand offloaded at the facility is eventually transported by truck as a finished product to the two adjacent ready-mix concrete facilities on Pier 92.[8] Central Concrete is adjacent to the project site on Amador Street and CEMEX is approximately 1,000 feet west of the site, also on Amador Street. This percentage varies depending on market demand. The remaining volume is generally used within the City of San Francisco with a small volume transported south of the city, as far as Redwood City.

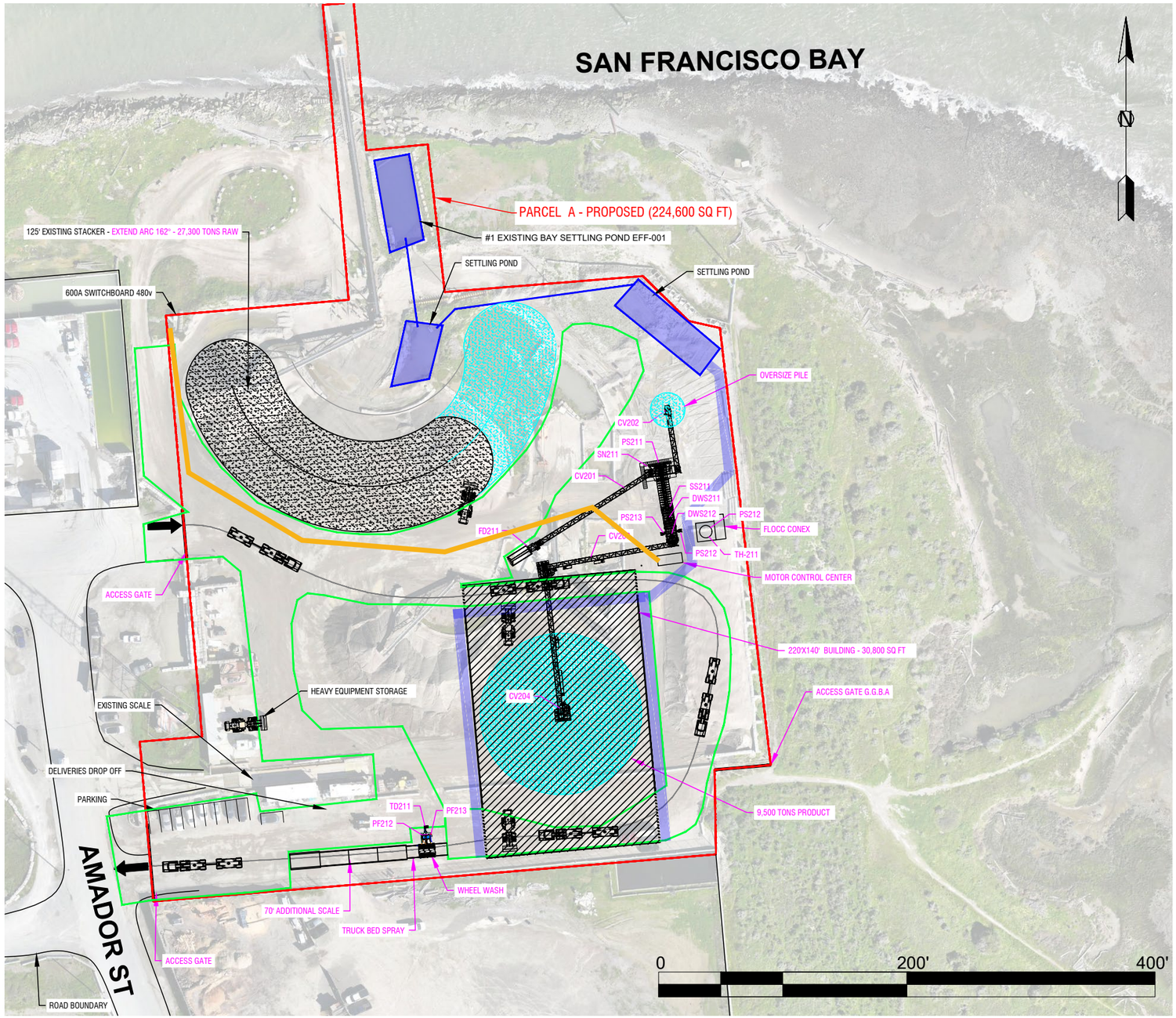
[8] Personal communication with Erika Guerra, Martin Marietta, May 19, 2025.

The volume of sand processed at the facility varies from year to year, reflecting market demand. The cyclical nature of the facility's operations is described in more detail in Section 2.F.7, Project Site: Sand Processing History. Therefore, for the purpose of environmental review, existing conditions are based on the facility's average activity over the most recent 5-year operating period (years 2020–2024), and not maximum activity achieved over the facility's history. Over this period, average production was 349,078 tons per year. A more detailed discussion of the approach to analysis is provided in Chapter 3, Section 3.B, and for air quality, under Section 3.C.4.2, Approach to Analysis.

On days when market demand for sand exceeds approximately 150 trucks per day, traffic management measures are typically implemented to accommodate the increase in the number of trucks processed through the facility (i.e., step 5 above). These measures could include, as determined appropriate for the anticipated daily truck volume, the following: expanding hours of operation, greater use of scheduling of truck arrivals, adding a second loader during peak demand periods, adding personnel to assist truck drivers and loaders inside the facility, assigning flaggers along Amador Street to direct and facilitate incoming and exiting truck maneuvers, and assigning truck staging areas to enhance truck arrival schedule.

2.D Project Characteristics

The proposed project would modernize and reconstruct the existing sand processing facility by installing new equipment, constructing a new warehouse, and paving and reconfiguring the site (see **Figure 2-3**, p. 2-9). The essential nature of the existing operations at the facility would not change. Rather, the proposed project would allow for the existing operation to continue on a redesigned site with modern equipment and improved environmental controls. To accommodate these changes, the project is also proposing an increase in size under a new lease with the Port of San Francisco and has applied for an authority to construct and permit to operate from the Air District. **Table 2-1**, p. 2-11, presents a comparison of existing facility characteristics and proposed changes.



PAVING LIMITS

UNDERGROUND CONVEYANCE

VALLEY GUTTERS/CHANNELS

PARCEL BOUNDARY

WAREHOUSE STRUCTURE

WATER CONTAINMENT AREA

RELOCATED STOCKPILES

EXISTING STOCKPILES

ELECTRICAL TRENCH PROPOSED

New Equipment	ID Tag
Feed Hopper Skid Mounted	FD211
Screen 1 1D5x16	SN211
Sand Screw 1	SS211
Dewatering Screen 1	DWS211
Dewatering Screen 2	DWS212
Screen Feed Conveyor 30"x 110'	CV201
Oversize Conveyor 30"x 50'	CV202
Building Feed Conveyor 30" x 110'	CV203
Building Conveyor 30" x 128'	CV204
Screw Recirculating Pump	PS211
Thickener Feed Pump	PS212
Cyclone Feed Pump	PS213
Thickener Mud Pump	PS214
Makeup Water Pump	PS211
Wheel Wash Pump 1	PF212
Wheel Wash Pump 2	PF213
Wheel Wash Drag Chain	TD211
Wheel Wash Water Sump	TK211
Flocc Dosing Pump	
Brandt Thickener	TH211
Underflow Density Meter	
Flocc Dosing Pump 1	
CAT Dosing Pump 2	

Source: Martin Marietta, 2025

Graphics_Martin_Marietta\105407_Pier_92_EIR (4-14-2026)

Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

Figure 2-3
Proposed Equipment and Facilities

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Table 2-1: Existing vs. Proposed Project Summary [a]

Use/Feature	Existing	Proposed	Net Change
Industrial use (square feet[sf])	190,230	224,600	34,370
Number of building(s) [b]	0	1	1
Building stories	0	1	1
Building height (feet)	0	63 [c]	63
Building area (sf)	0	30,800	30,800
Annual sand processing throughput (US tons) [d]	349,080	800,000	450,920
Number of employees	5	6	1
Site surface paving (sf)	4,400	63,330	67,730
Vehicle parking spaces (employee/visitor)	10	10	0

[a] Numbers are rounded.
[b] Refers to permanent buildings. Does not include temporary structures such as trailers or storage containers.
[c] Height noted is highest roof point and does not necessarily reflect the building height as measured per the San Francisco Planning Code. In addition, Section 260(b)(2)(M) of the San Francisco Planning Code (Code) exempts from the height requirement all structures and equipment necessary for the operation of industrial plants, where structures and equipment do not contain separate floors and where permitted as principal or conditional uses by the Code.
[d] Given the cyclical nature of the facility's operations, existing conditions are based on the facility's average activity over the most recent 5-year operating period (years 2020–2024), not maximum activity achieved over the facility's history. Proposed conditions are based on the maximum annual throughput requested by the project sponsor in its application to the Air District for a permit to operate. However, the facility's throughput would continue to be driven by market demand post-project, up to the limit set forth by the Air District.

2.D.1 Proposed Changes to Lease Parcel

Approximately 34,370 square feet is proposed to be added to the existing 190,230-square-foot parcel (Parcel A), increasing its size to 224,600 square feet. Two areas would be added to Parcel A (see **Figure 2-4**, p. 2-13):

1. An adjacent L-shaped area to the south, adding 34,091 square feet, and
2. A smaller adjacent area to the north that would be realigned to include an existing stormwater retention pond (EFF-001), changing the overall net square footage in this area by 280 square feet.

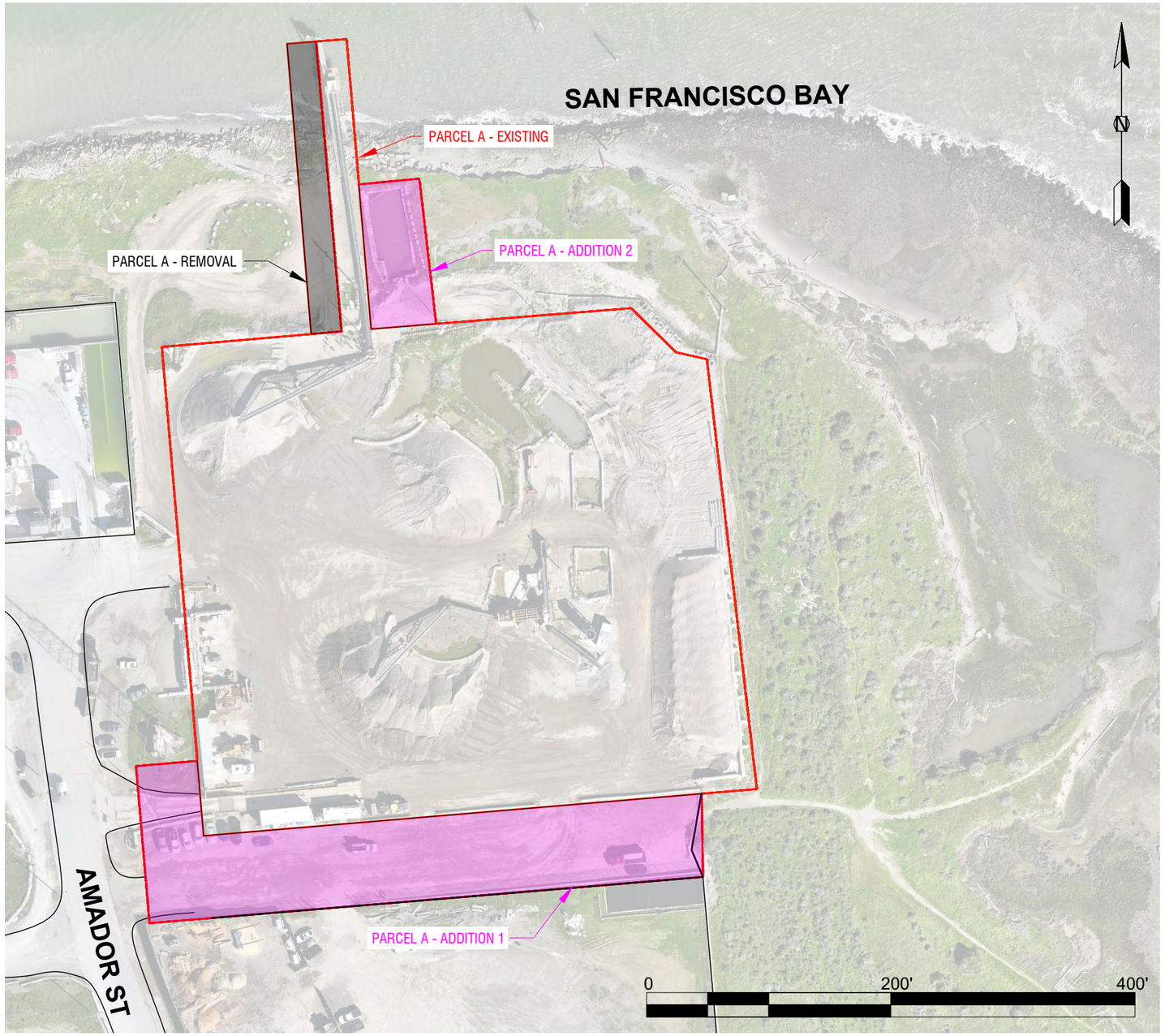
The area to the south is currently used by the public to access the Pier 94 wetlands area east of the project site. Access to the Pier 94 wetlands would be relocated approximately 700 feet southeast of the project site on Amador Street (see **Figure 2-5** p. 2-14). The Port would be responsible for implementing the improvements associated with the relocated access gate, which includes adding a new access gate on Amador Street and another access gate to the wetlands. The indirect effects of the new access improvements are analyzed in this EIR.

2.D.2 Proposed Operation

The March 2024 application for an authority to construct and permit to operate submitted for the proposed project by Martin Marietta to the Air District includes the following operational limits:

- 250 barge deliveries during any consecutive 12-month period
- 6,000 tons of sand received and processed during any day

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EXISTING LEASE PARCEL A - 190,229 SQ FT

PROPOSED LEASE PARCEL A - 224,600 SQ FT

PARCEL A - LEASE AREA REMOVAL

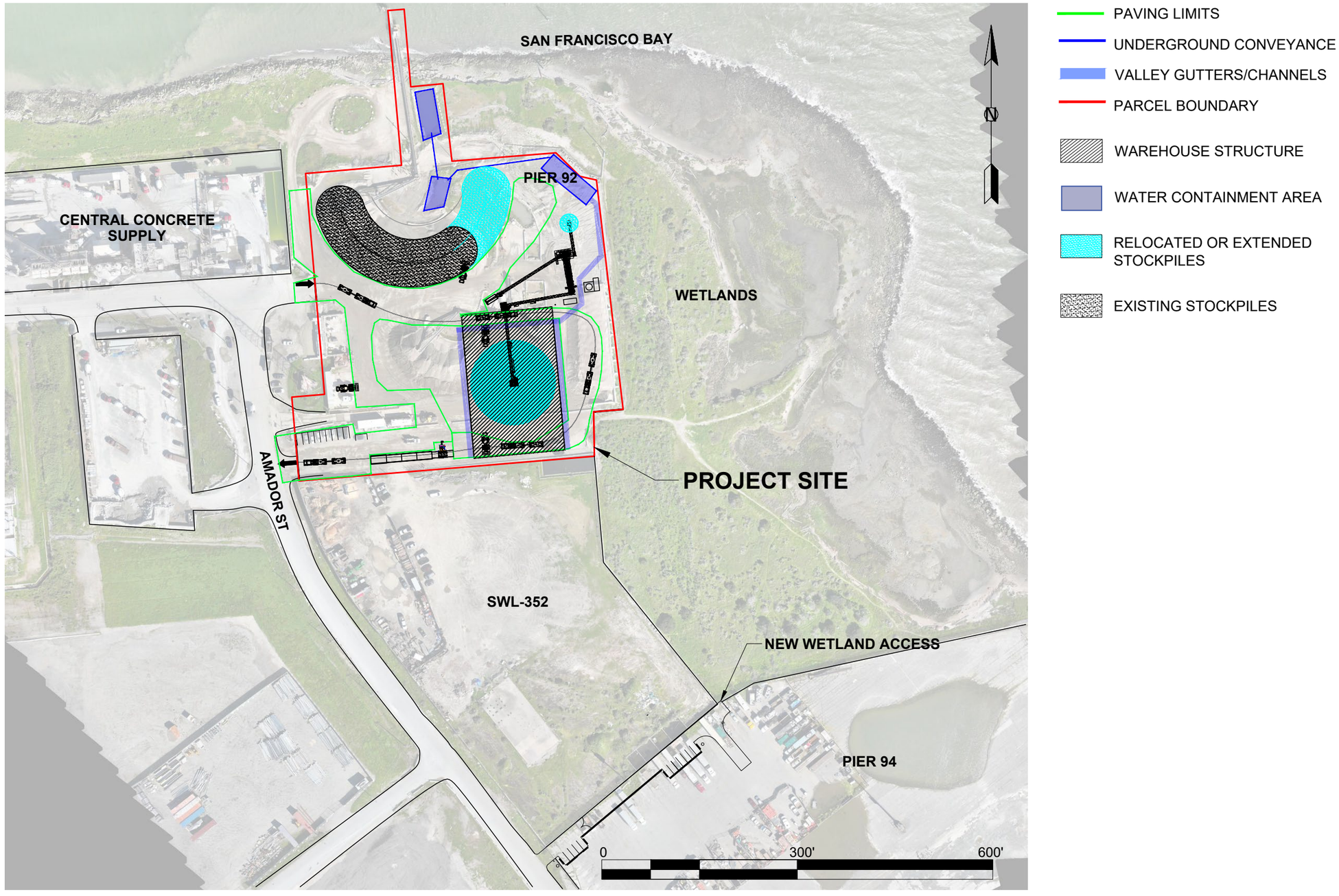
PARCEL A - LEASE AREA ADDITION

Source: Martin Marietta, 2025

Graphics: ...Martin_Marietta\105407_Pier_92_EIR (6-18-2025)

Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

Figure 2-4
Proposed Lease Parcel Changes



Source: Martin Marietta, 2025

Graphics: ...Martin_Marietta\105407_Pier_92_EIR (4-14-2026)

Pier 92 Modernization and Plant Replacement Project
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Figure 2-5
Proposed Wetland Easement

- 800,000 tons of sand received and processed during any consecutive 12-month period
- 300 truck trips during any day and 40,000 trips during any consecutive 12-month period on paved roads.
- 546 front-end loader trips during any day and 72,728 trips during any consecutive 12-month period on paved and unpaved roads.

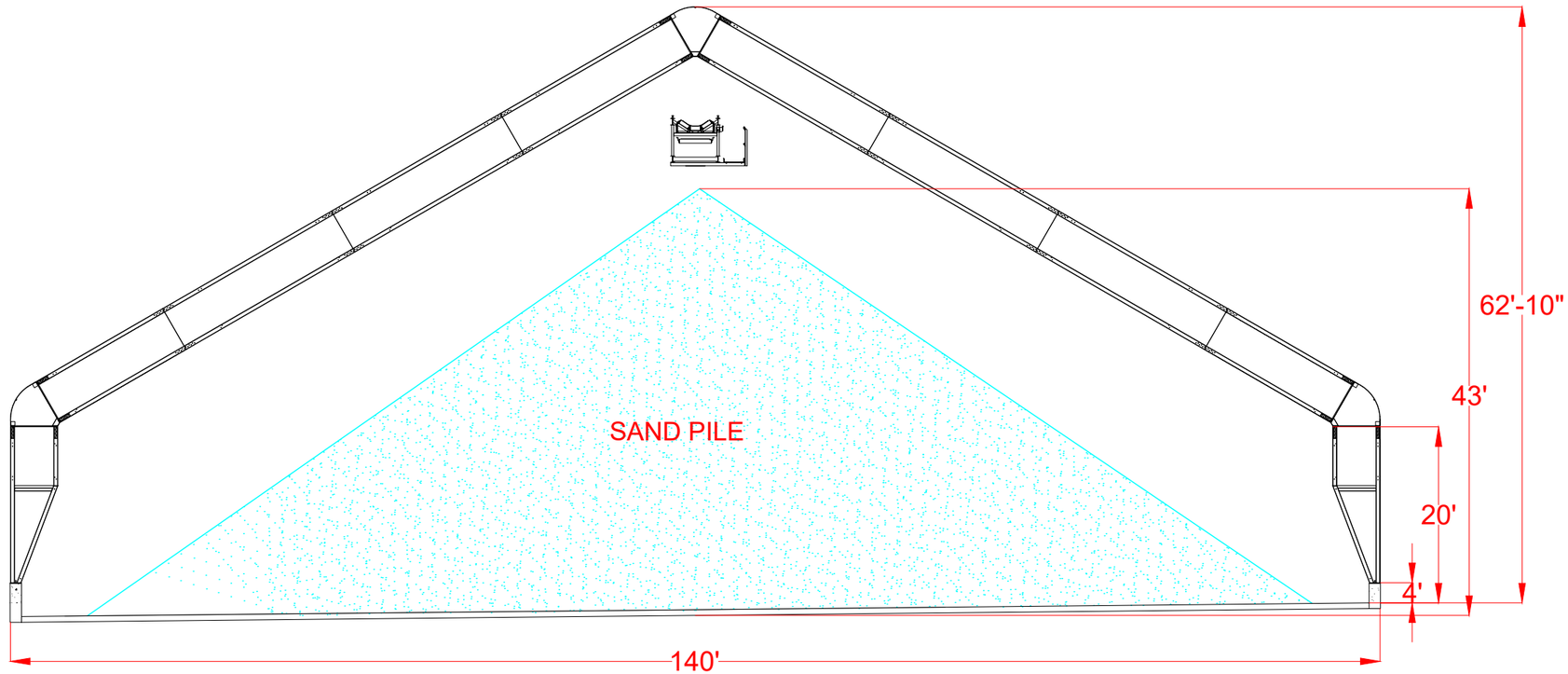
2.D.3 Proposed Facility Process Upgrades

Wet marine sand would continue to be delivered to the facility by barge from the Islais Creek Channel. The following describes the proposed facility process changes:

- **Step 1.** Marine sand is offloaded and stockpiled: The saturated sand would continue to be offloaded and moved onto the site via an uncovered conveyor belt/radial stacker and stored in an uncovered raw material stockpile. A new overhead water spray system would be installed above the raw material stockpile to replace the existing sprayer. Unwashed sand for sale would continue to be transferred by loader to customers' trucks for delivery offsite.
- **Step 2.** Raw material is transferred to the wash plant: There would be no changes to step 2; wet sand would continue to be moved from the raw material stockpile to the wash plant by a front-end loader.
- **Step 3.** Raw material is screened and washed at the wash plant: The processing screen in the wash plant would be replaced with a fully enclosed screen. Additionally, all wash plant conveyors would be replaced or retrofitted with covers.
- **Step 4.** Product sand is transferred to the product stockpile: Newly covered conveyors would transfer the washed sand to the product stockpile. Unlike existing conditions, the washed sand stockpile would now be stored in a new enclosed warehouse (see **Figures 2-6** through **2-8**, pp. 2-17 through 2-19). The warehouse would be approximately 140 feet by 220 feet and 63 feet tall at its peak.[9] The outer walls and roof would consist of metal siding (26 gauge). Some translucent panels on the roof would allow natural light into the structure. In addition, fixtures for artificial lighting would be installed within the structure on the project site.
- **Step 5.** Product sand is transferred to customer trucks: All truck loadout activities involving the washed sand would occur within the enclosed warehouse. A revised onsite circulation pattern would be implemented. Trucks would continue to enter the site from the same location on Amador Street. Customers would receive deliveries inside the proposed warehouse and exit onto Amador Street, slightly south of the previous exit gate. A new wheel wash system would be installed at the exit from the stockpile and truck-loading enclosure. This area also would include a new truck-bed water spray system.

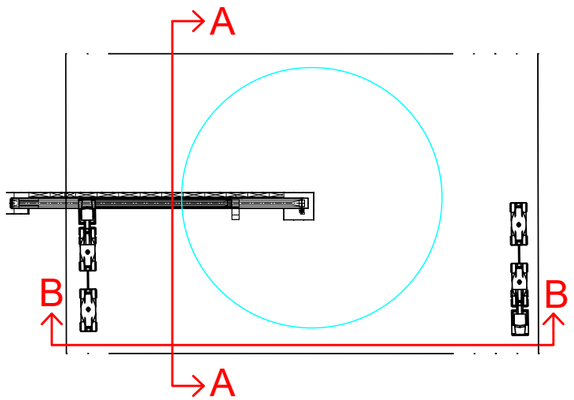
[9] Section 260(b)(2)(M) of the San Francisco Planning Code (Code) exempts from the height requirement all structures and equipment necessary for operation of industrial plants, and where structures and equipment do not contain separate floors, where permitted as principal or conditional uses by the Code.

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1 VIEW A-A - WAREHOUSE FRONT VIEW

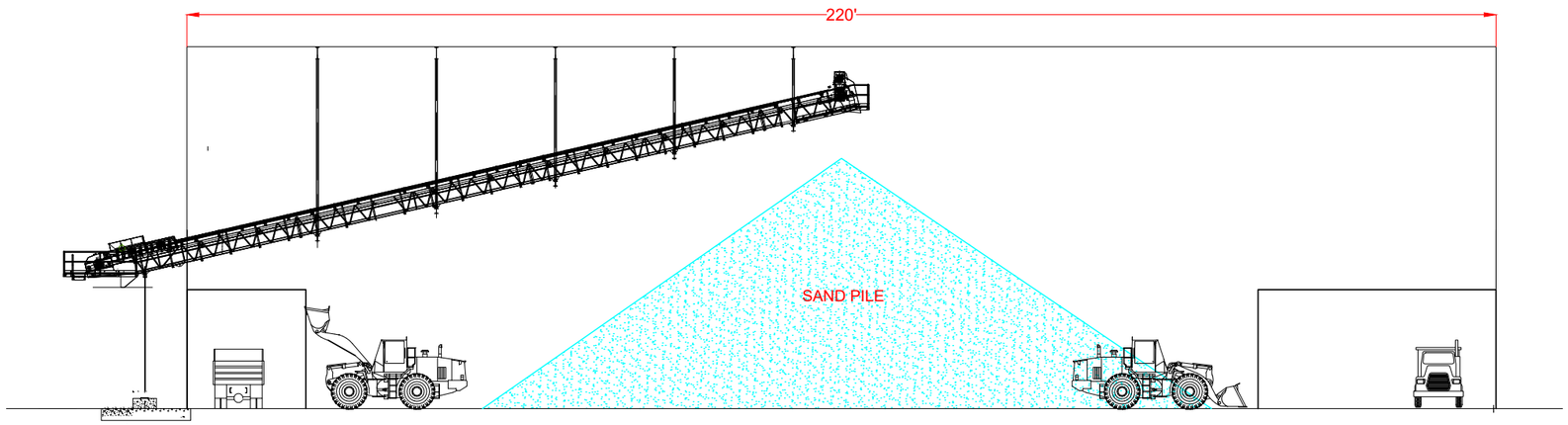
BUILDING PLAN VIEW KEY



Source: Martin Marietta, 2025

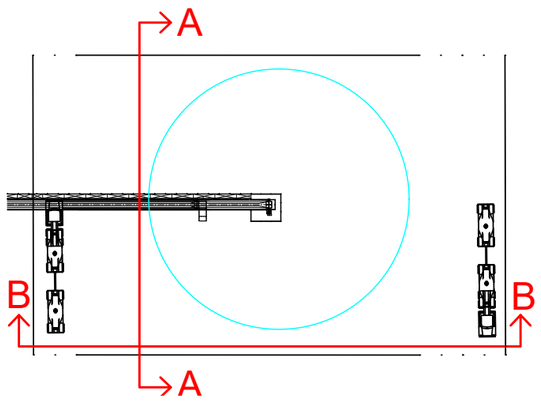
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Figure 2-6
Proposed Storage Warehouse (front view)



2 VIEW B-B - WAREHOUSE SIDE VIEW

BUILDING PLAN VIEW KEY

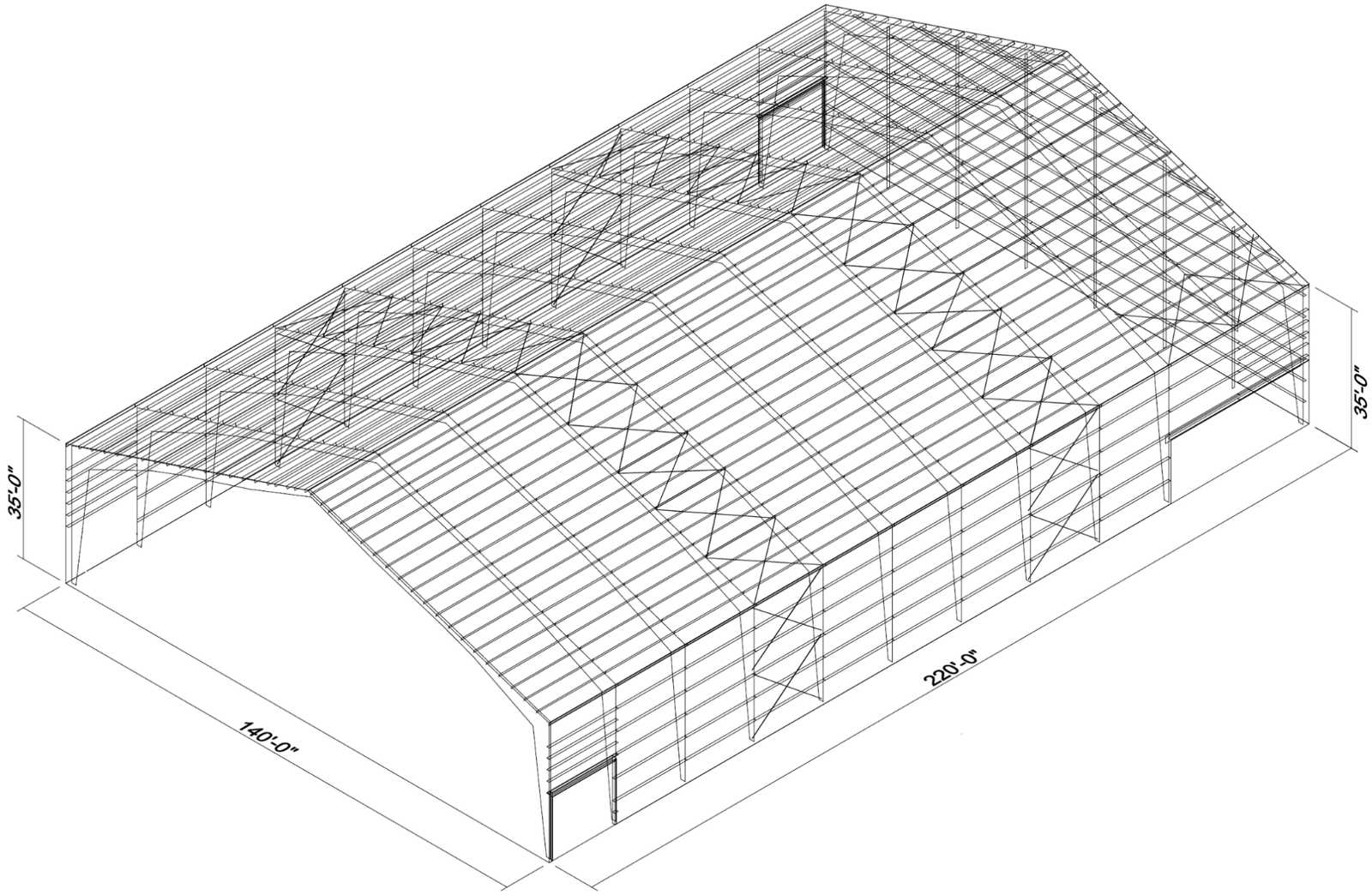


Source: Martin Marietta, 2025

Graphics: ...Martin_Marietta\105407_Pier_92_EIR (4-14-2026)

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Figure 2-7
Proposed Storage Warehouse (side view)



Source: Martin Marietta, 2025

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Figure 2-8
Proposed Storage Warehouse

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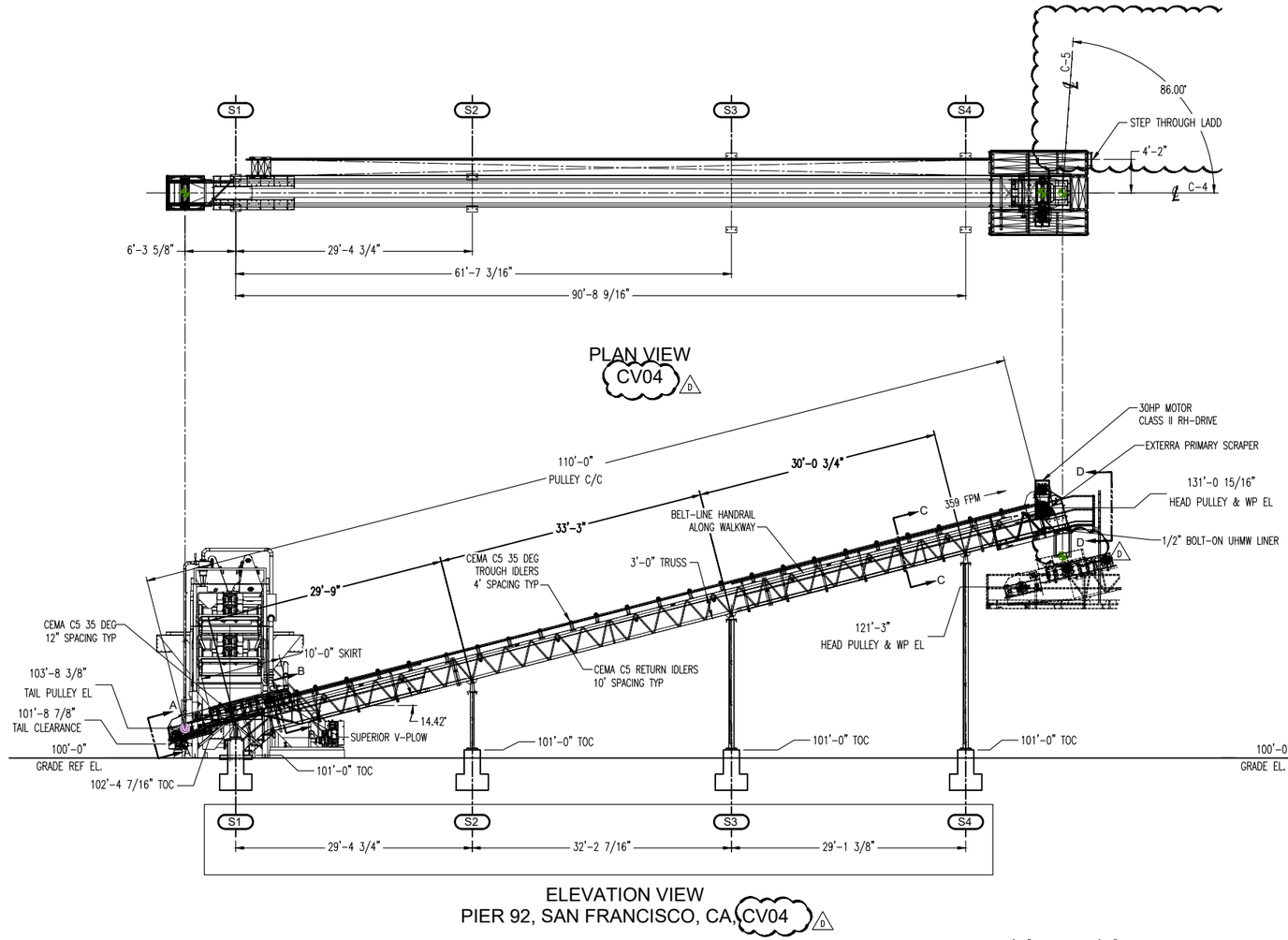
New equipment and facilities installed as part of the project include the following (see **Figures 2-9** through **2-14**, pp. 2-23 through 2-28, for diagrams of new equipment proposed by the project):

- Skid-mounted feed hopper
- Truss frame conveyor
- Single-deck wash screen
- Top-deck discharge overs (reject) stacking conveyor
- Truss feed conveyor (inside storage warehouse)
- Truss conveyor (inside storage warehouse)
- Twin fine-material washers sand screw
- Single-deck dewatering system 1
- Single-deck dewatering system 2
- Sump tanks
- Deep-cone thickener system
- Wheel wash system
- Storage warehouse
- Slurry pump system
- Water pump system
- Truck-bed water spray system

Areas of the site where mobile equipment would operate, including front-end loaders and customers' trucks, would be paved. Approximately 60,000 square feet of the site would be paved with asphalt over 12 inches of base rock (Class 2 base). The 10 existing employee/visitor parking spaces (3,330 square feet) would be paved as well. The facility would continue to contract street sweeping services of paved areas for four hours per day, from 7 a.m. to 11 a.m. Monday through Friday, and as needed on Saturdays.

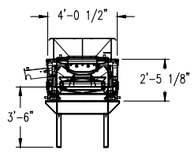
The proposed project would install a gate at the existing entry driveway into the facility, would eliminate the existing exit driveway (i.e., from the existing truck scales), and would reconfigure the existing driveway to the south of the existing facility that is currently used by employees and visitors, as well as for the wetlands access (i.e., the Parcel A – Addition 1 portion of the proposed project) by the general public, as a new gated exit driveway for the facility. The two driveways on Amador Street (i.e., one inbound driveway and one outbound driveway) would be paved. In addition, as described above, the Port would relocate vehicular access to the Pier 94 wetlands approximately 700 feet southeast of the project site on Amador Street. No other changes to Amador Street are proposed.

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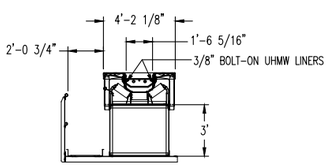


PLAN VIEW
CV04 D

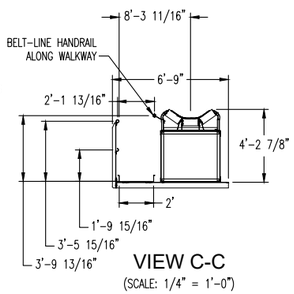
ELEVATION VIEW
PIER 92, SAN FRANCISCO, CA CV04 D



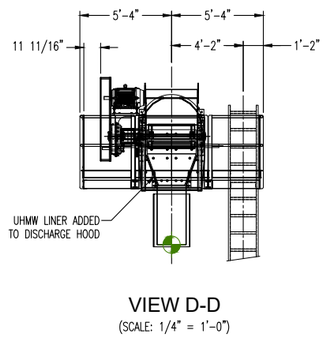
VIEW A-A
(SCALE: 1/4" = 1'-0")



VIEW B-B
(SCALE: 1/4" = 1'-0")

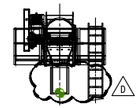


VIEW C-C
(SCALE: 1/4" = 1'-0")



VIEW D-D
(SCALE: 1/4" = 1'-0")

Source: Superior, 2025



C4-TO-C5 LADDER
ELEVATION VIEW

Conveyor Wind Covers—Typical/Planned

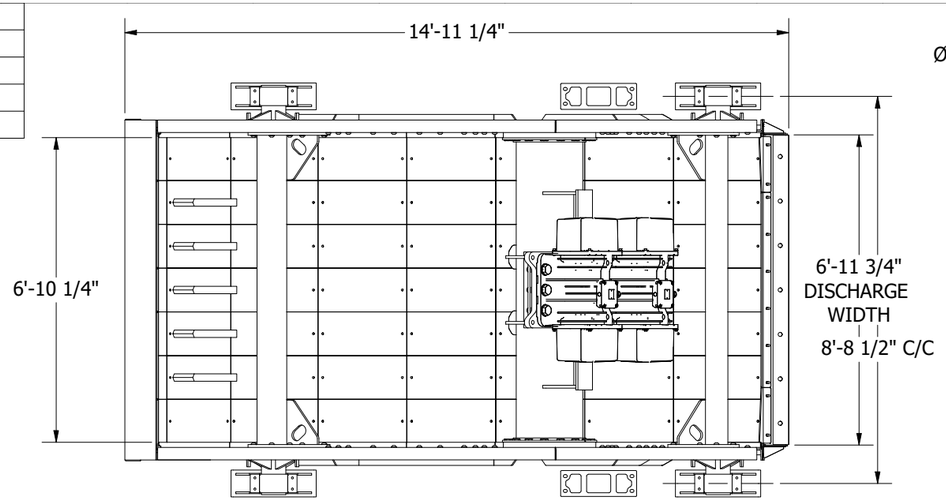


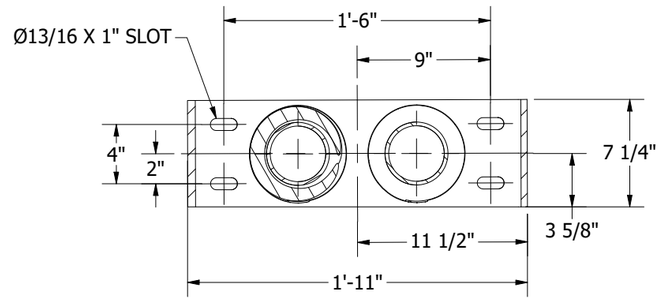
Graphics - Martin_Marietta\105407_Pier 92_EIR (4-14-2026)

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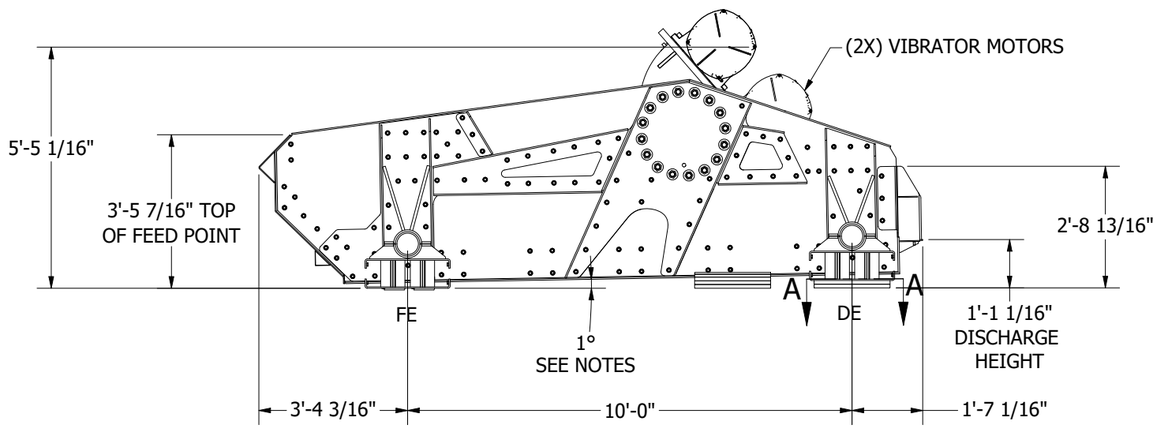
Figure 2-9
Proposed Truss Feed Conveyor (representative of all new covered conveyors)

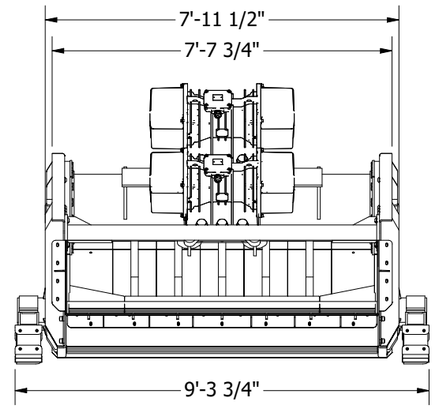
LOAD TABLE (LBS)		
TYPE	FE	DE
DL	7,000	6,900
LL VERT	11,400	11,400
LL HOR	1,500	1,500





SPRING BASE PLATE DETAIL
SECTION A-A
SCALE 1 1/2"=1'





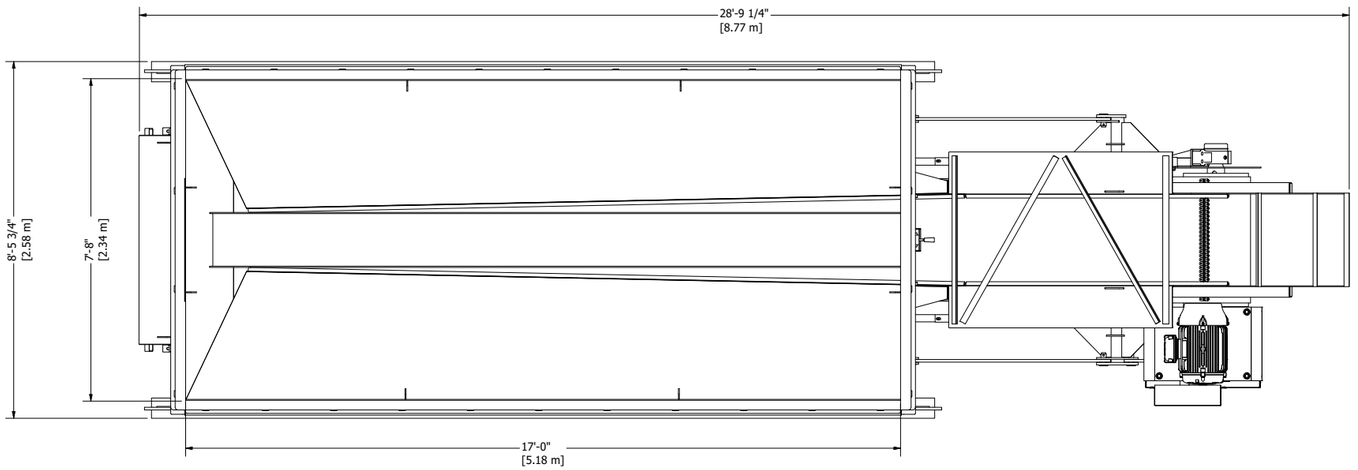
NOTE:

1. OPERATING ANGLE FROM 0°-3°. SHIMS INCLUDED TO ADJUST OPERATING ANGLE FROM 0°-2°. FACTORY RECOMMENDED OPERATING ANGLE AT 1°.
2. FE=FEED END, DE=DISCHARGE END
3. DL=DEAD LOAD, LL=LIVE LOAD

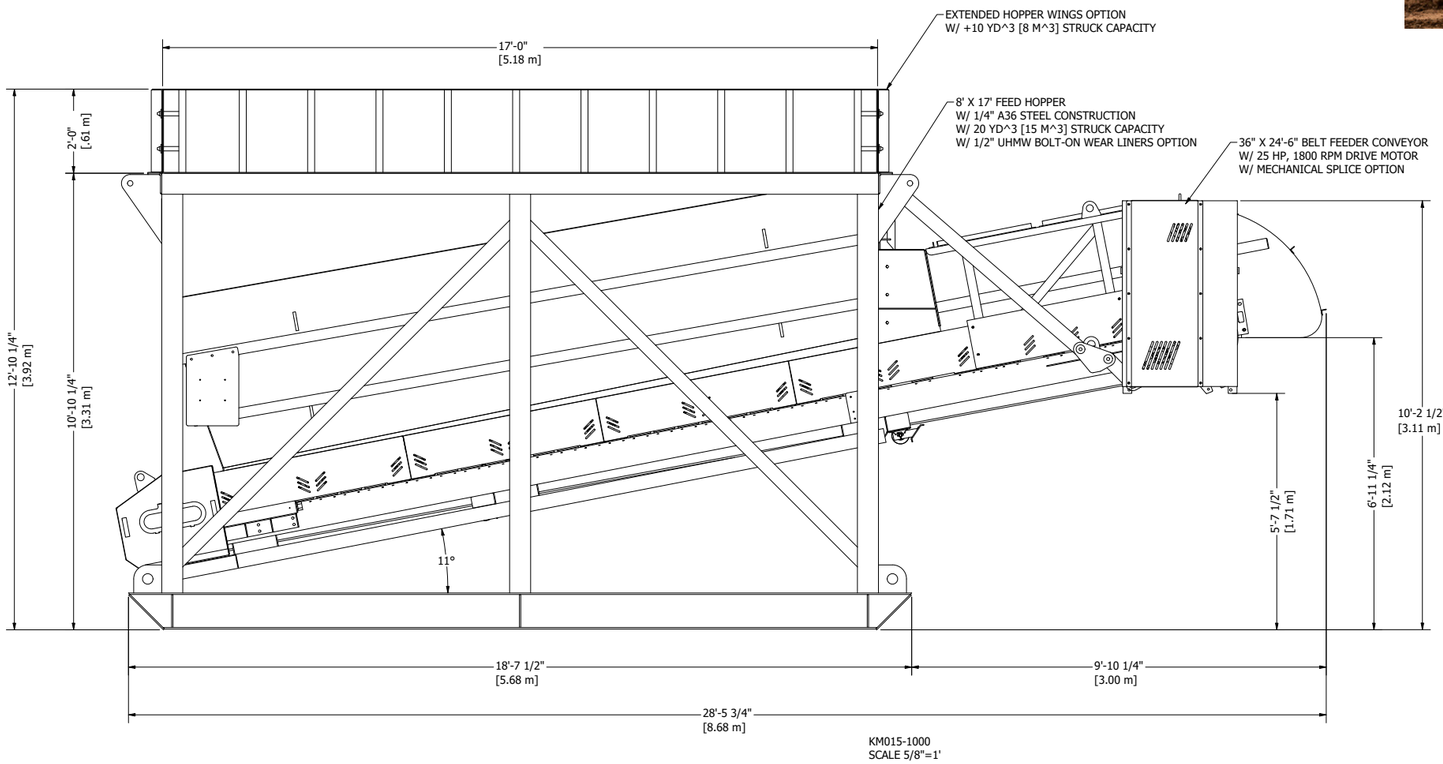
Source: Superior, 2025

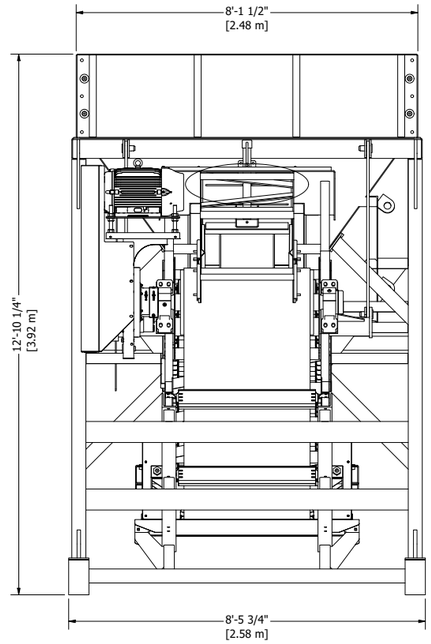
Graphics:_Martin_Marietta\105407_Pier_92_NOP (4.14.2026)

Figure 2-10
Proposed Single-Deck Dewatering System







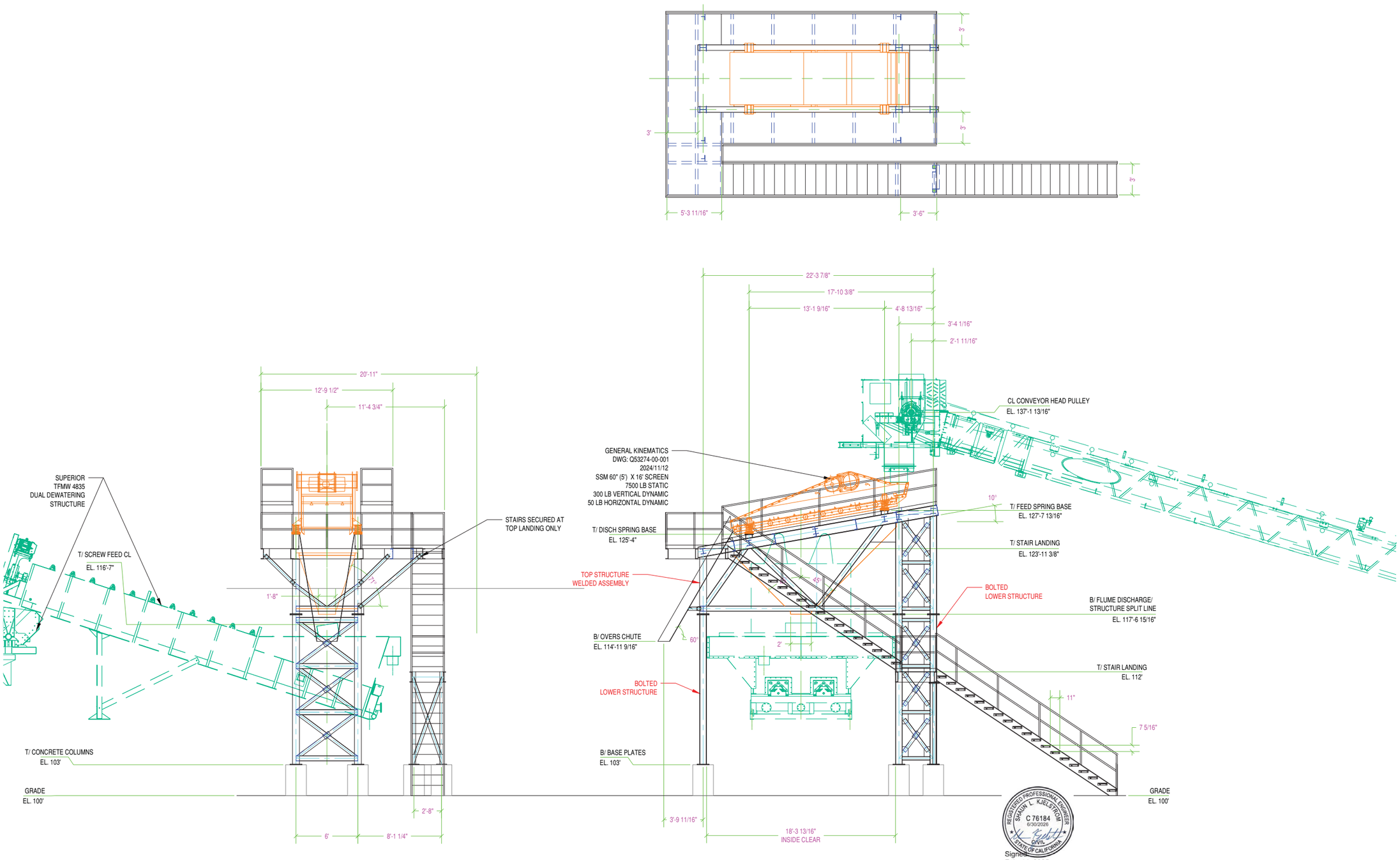


Source: Superior, 2024.

Graphics ... Martin_Marietta\105407_Pier_92_NOP (4-14-2026)

Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

Figure 2-11
Proposed Skid-Mounted Feed Hopper



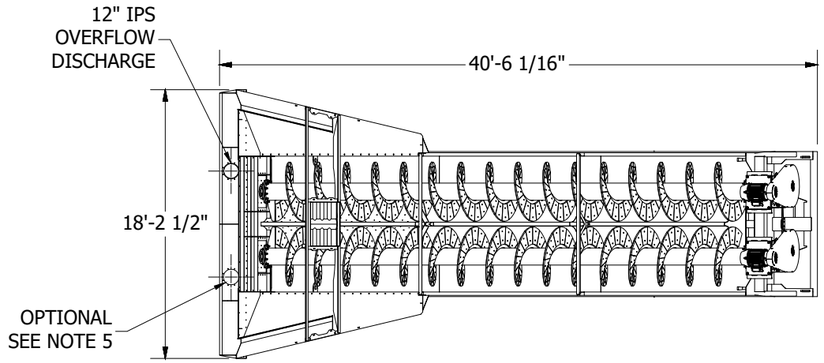
Source: © Kimball Equipment Company, 2025.

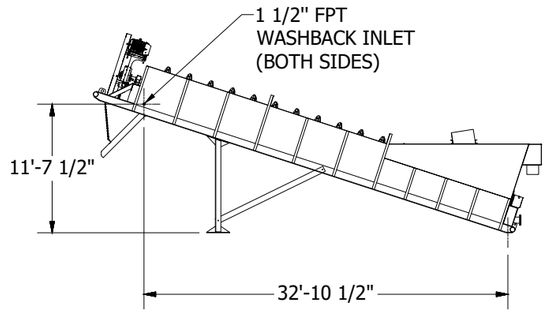
Graphics: ...Martin_Marietta\105407 Pier 92_NOP (4-14-2026)

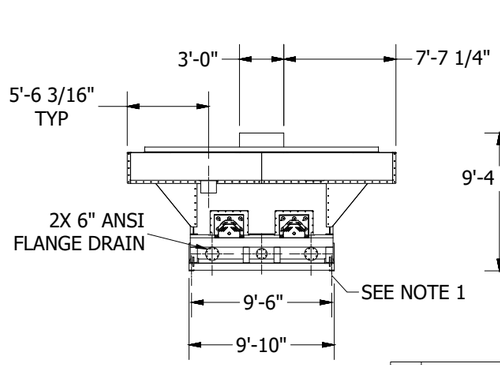
Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

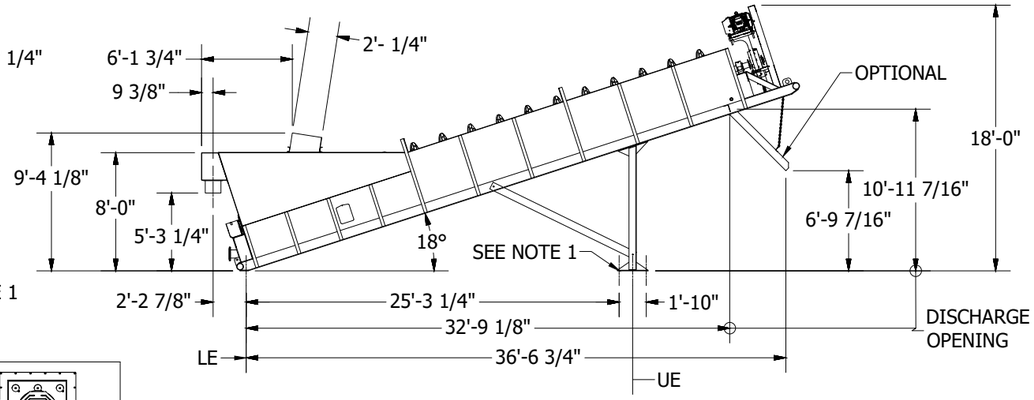
Figure 2-12
Proposed Single-Deck Wash Screen

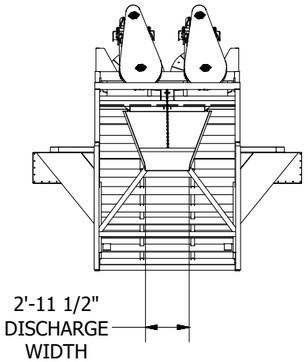
LOAD TABLE (LBS)		
TYPE	LE	UE
DL	12,800	23,600
LL	61,400	18,800
OP	74,200	42,400

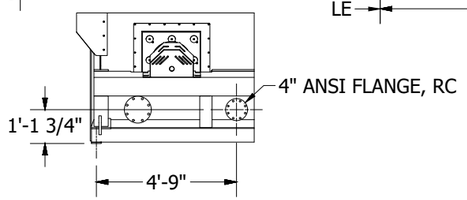












RISING CURRENT VIEW
SCALE 1/4"=1'

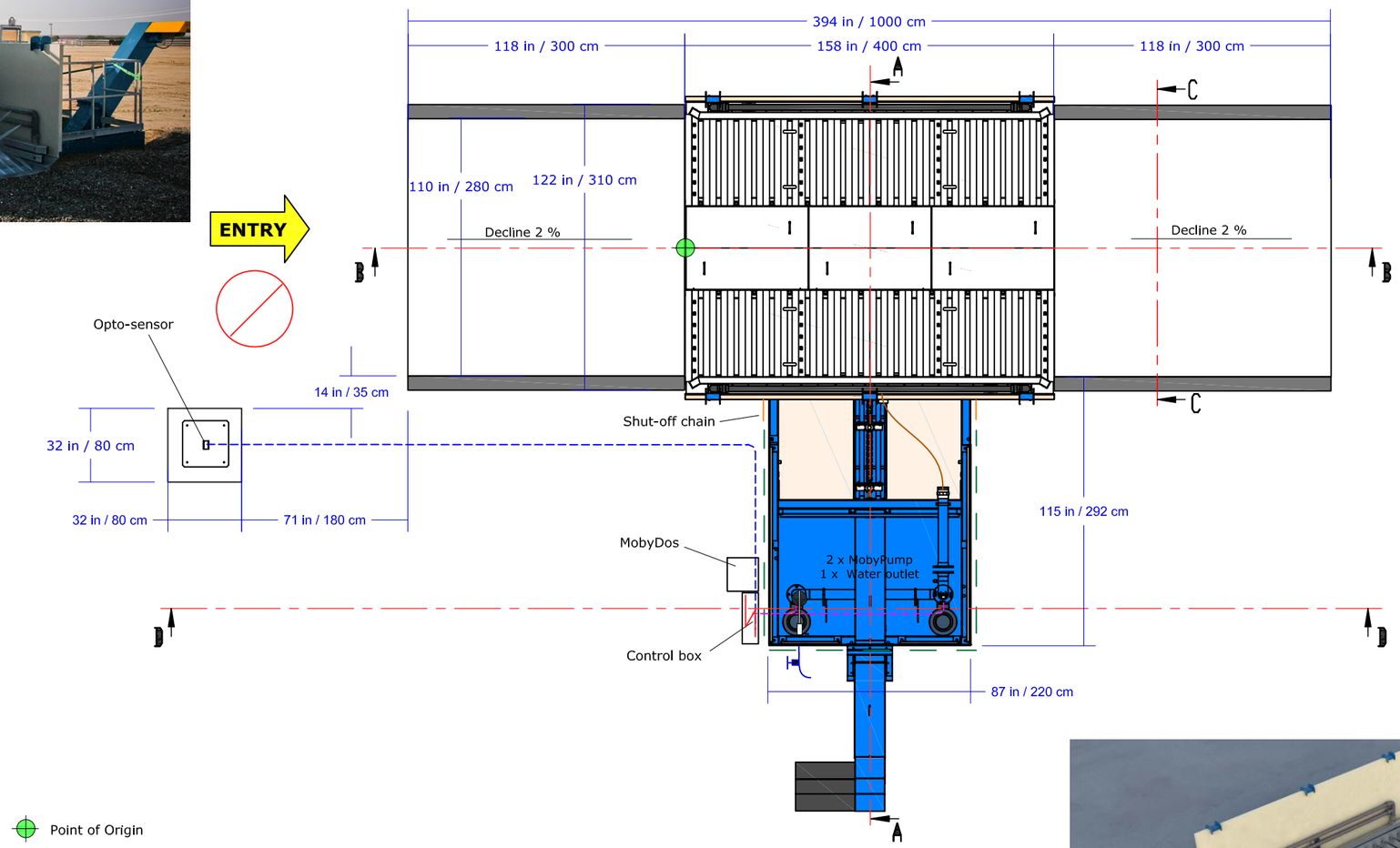
NOTES:
1. Ø 1-1/16" ANCHOR HOLES (6 LOCATION)
2. LE=LOWER END, UE=UPPER END
3. DL=DEAD LOAD, LL=LIVE LOAD, OP=OPERATING WEIGHT
4. RC=RISING CURRENT- 25 PSI MAXIMUM
5. BLANK FLANGE COVER INCLUDED, ADDITIONAL ~~DISCHARGE PIPE AVAILABLE UPON REQUEST~~

Source: Superior, 2023

Graphics ... Martin_Marietta\105407_Pier_92_NOP (4-14-2026)

Figure 2-13
Proposed Twin Fine-Material Washers Sand Screw





FRUTIGER:	CUSTOMER:	
cable for pumps cable for sensor Heduflex hose Safety railing Shut-off chain	Water supply line (customer side): 3/4" internal thread Water pressure max. 4 bar (float valve inside the tank)	Empty conduit, PVC, min. 2", for sensor cable For permanent installation Concrete base (thickness 10 cm)
	Rated input power (customer side): P=15.4 hp (P=11.5 kW), connected load=30 A, 3 NPE, ~60 Hz, 460 V, TN-S / loose cable end with 2 m length above ground	
	The system must be earthed in accordance with local regulations. Either existing earthing points on the system can be used for this or additional ones must be set if required.	

© copyright by FRUTIGER



Source: © Fruitger, 2024

Graphics_ Martin_Marietta\105407_Pier_92_NOP (4-14-2026)

Figure 2-14
Proposed Wheel Wash System

A modern stormwater management system also would be installed (see **Figure 2-15**, p. 2-31). The current system includes settling basins that are connected to an existing authorized discharge pond (EFF-001) by an underground pipe. The pond discharges into the Bay under a National Pollutant Discharge Elimination System (NPDES) permit (No. CAG982001, Order No. R2-2020-0028). The proposed drainage pattern would remain similar to the existing pattern and use drainage channels, valley gutters, and underground conveyance to direct flows to the discharge pond.

Approximately 10,000 square feet of the existing project site is impervious.[10] Proposed site alterations, including asphalt paving, concrete footers, drainage channels, and the warehouse, would result in approximately 95,000 square feet of impervious surface area.

No utility upgrades are anticipated for the project. As is the case today, water and electricity consumption would be dependent on the volume of sand processed and is expected to fluctuate based on demand. By way of example, in the 2024 calendar year, the facility processed 189,630 tons of sand and used 9,409,000 gallons of water.

Five employees work at the existing facility; the project would add one additional employee to the site for a total of six employees.

No changes to facility operations are anticipated for the project. As is the case today, traffic management measures would be implemented as needed to accommodate increases in the number of daily trucks processed through the facility. Appendix D presents the types of measures that would be implemented based on the daily truck volume. No changes are proposed to Pier 92 infrastructure or facilities located outside of the project site's boundaries.

2.D.4 Construction Activities and Schedule

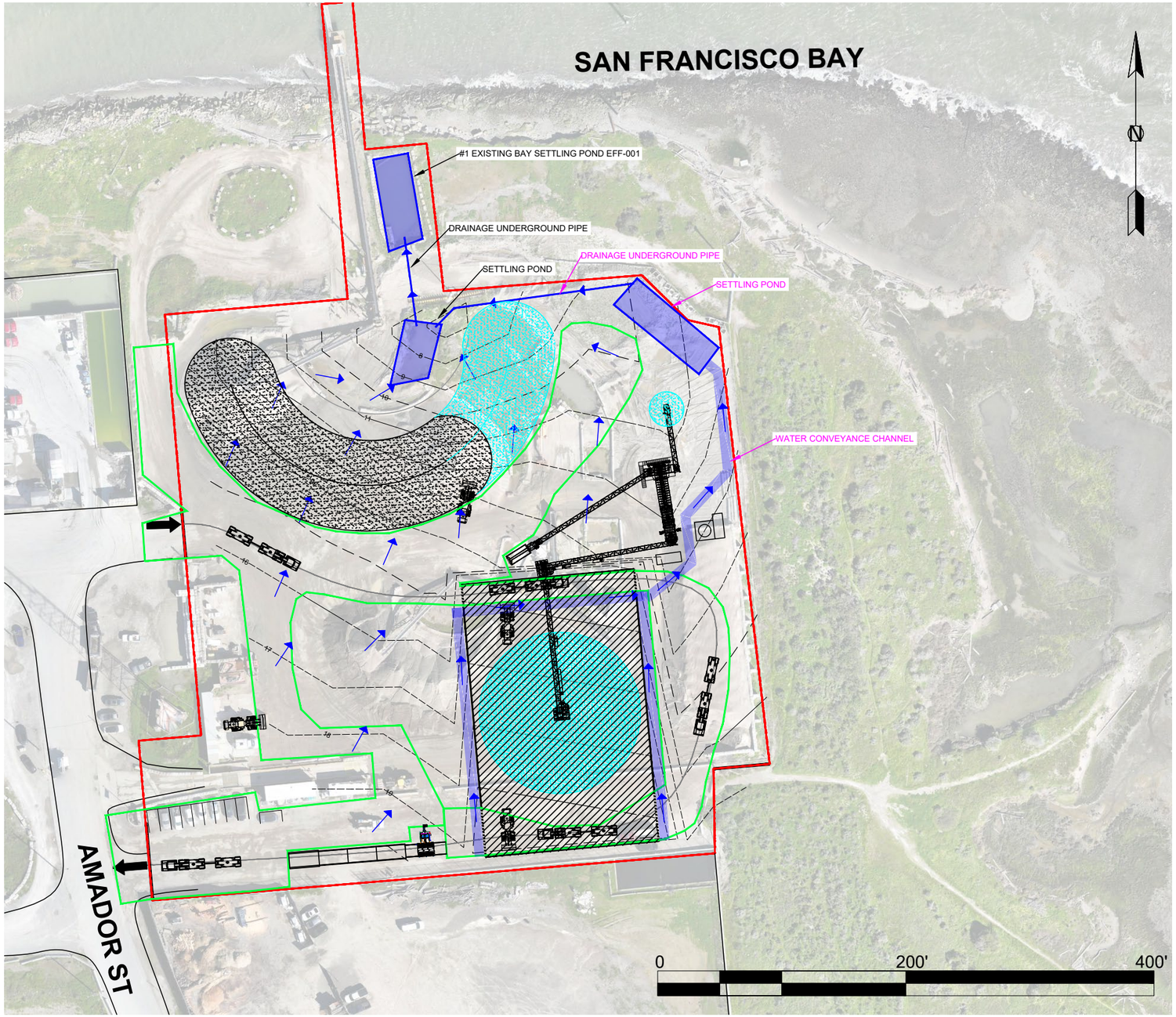
Project construction is estimated to last up to seven months and to occur within one calendar year (2027) require use of a man lift, crane, forklift, paver, water truck, Bobcat, sheepsfoot compactor, vibratory drum roller, and motor grader.

Existing equipment would be disassembled as the first step followed by removal of the concrete footings supporting such equipment. The project site would be regraded to a rough finish elevation and new concrete footings would be excavated. Footings would be poured and electrical trenches would be laid out. The concrete footings that would support the warehouse and other equipment would be embedded not more than 5 feet below surface grade. The site would be graded to the final elevation and the underground electrical conduit and poles (as required) would be installed. Asphalt paving would occur next as well as installation of concrete storm drain channels/valley gutters. Paving would disturb approximately 2,200 cubic yards of soil. Excess soil yardage would be removed and transported off-site; no fill will be required. Any soil that is identified as contaminated will be removed from the site in compliance with existing federal, state, and local regulations. New equipment would be erected on footings and new electrical cables would be installed connecting the equipment to the electrical supply.

Sand offloading and processing would continue during construction, although Martin Marietta will be unable to load certain customers with stockpiled finished sand product using the existing scale during the construction process.

[10] Impervious area includes paving associated with the truck scale and equipment storage areas as well as office trailers.

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- WATER FLOW DIRECTION
- PAVING LIMITS
- UNDERGROUND CONVEYANCE
- VALLEY GUTTERS/CHANNELS
- PARCEL BOUNDARY
- WAREHOUSE STRUCTURE
- WATER CONTAINMENT AREA
- RELOCATED OR EXTENDED STOCKPILES
- EXISTING STOCKPILES

Source: Martin Marietta, 2025

Graphics_ Martin_Marietta\105407_Pier_92_EIR (4-14-2026)

Figure 2-15
Proposed Site Drainage Plan (preliminary)

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Table 2-2 presents required soil excavation for the proposed project.

Table 2-2: Estimate of Soil Excavation

Equipment and Improvement Feature – Foundation	Depth (Feet)	Soil Excavation/Disturbance (Cubic Yards)
Skid-mounted feed hopper	2-5	21
Truss frame conveyor	2-5	16
Single-deck wash screen	2-5	26
Top-deck discharge overs (reject) stacking conveyor	2-5	8
Truss feed conveyor	2-5	16
Truss conveyor	2-5	5
Twin fine-material washers sand screw	2-5	67
Single-deck dewatering system 1	2-5	0
Single-deck dewatering system 2	2-5	0
Sump tanks	2-5	0
Deep-cone thickener system	2-5	17
Wheel wash system	2-5	16
Storage warehouse	2-5	135
Slurry pump system	2-5	0
Paving	< 1	2,200
Stormwater System	< 3	730
Electrical Trenches	3	50
Total	**1-5**	**3,305**

2.E Project Approvals

The following is a preliminary list of approvals required for the proposed project; the list is subject to change. These approvals may be considered by decision-makers in conjunction with the required environmental review, but final determination on the required approvals may not be reached until completion of the environmental review.

Actions by the San Francisco Planning Commission

- Certification of an EIR

Actions by the San Francisco Port or Port Commission

- Adoption of CEQA findings
- Approval of proposed new lease

- Issuance of a building permit

Actions by San Francisco Bay Conservation and Development Commission (BCDC)

- Approval of permit for proposed improvements within BCDC jurisdiction, if any.

Actions by the Bay Area Air Quality Management District

- Authority to Construct and/or Permit to Operate for each source at the facility that requires a permit under Air District regulations

Actions by the San Francisco Bay Regional Water Quality Control Board

- Update to the existing National Pollutant Discharge Elimination System (NPDES) permit

2.F Historic and Existing Context of San Francisco's Bayview Neighborhood and Project Site

This section provides historic and socioeconomic context for the Bayview neighborhood and the project site. Socioeconomic effects are not, in themselves, considered physical environmental impacts under CEQA. Rather, pursuant to CEQA Guidelines section 15064, an EIR reviews the effects of a project that are related to a physical change to the environment. A significant effect on the environment, in turn, is one that results in a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the project, including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. However, an economic or social change by itself shall not be considered a significant effect on the environment. Therefore, evidence of social or economic effects that do not contribute to or are not caused by physical impacts on the environment are not substantial evidence of a significant effect on the environment. While environmental justice and socioeconomics are not topics required by CEQA, the Air District's CEQA Guidance encourages lead agencies to exercise discretion to include material on these topics in environmental documents prepared pursuant to CEQA. Therefore, key environmental and socioeconomic indicators from CalEnviroScreen[11] are also included to show how past actions have shaped and continue to shape the physical environmental conditions that people in the Bayview neighborhood experience. For a detailed discussion of these indicators, refer to Appendix H, the Socioeconomic Context.

2.F.1 Bayview Neighborhood

In San Francisco, as in many other cities, low-income households and people of color are more likely to live in neighborhoods with environmental hazards, such as toxic groundwater, polluting industrial activities, congested freeways, and hazardous and solid waste facilities. In large part, this is the direct result of racial covenants, redlining, urban renewal, and other discriminatory programs that have historically restricted where people of color may live.[12]

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[11] CalEnviroScreen is a California Office of Environmental Health Hazard Assessment's mapping tool that ranks census tracts in California based on potential exposures to pollutants, adverse environmental conditions, socioeconomic factors and the prevalence of certain health conditions. CalEnvironScreen was last updated October 2021, and the CalEnviroScreen draft 5.0 is available, released for review as of January 28, 2026. It is expected that this new version will be adopted sometime after April 2026, when the comment period closes.

[12] San Francisco Planning Department, *Housing Element 2022 Update*, January 2023, https://generalplan.sfplanning.org/I1_Housing.htm, accessed May 23, 2025.

Bayview is a large residential and industrial neighborhood in southeast San Francisco, covering 3,132 acres and encompassing neighborhoods like Hunters Point, India Basin, Bayview, Silver Terrace, and Bret Harte. Its boundaries are Cesar Chavez Boulevard to the north, the U.S. 101 (Bayshore Freeway) to the west, and San Francisco Bay to the east and south.

The area's industrial history began with construction of the San Francisco Dry Dock at Hunters Point starting in 1866, followed by the establishment of Butchertown on Islais Creek and later formation of the Islais Creek Channel. Throughout the 20th century, marsh and tideland infill projects transformed the waterfront along the Bayview neighborhood.[13] Specifically, the formation of the Islais Creek Reclamation District and subsequent creation of a 2,000-foot-long rock seawall to create the Islais Creek Channel and associated piers for commercial and industrial use reshaped both the land and the character of the neighborhood. By World War I, the industrial belt extended southward along the Central Waterfront to Islais Creek, leading to extensive landfill for industrial sites. The prominence of the Bayview neighborhood grew during World War II when the U.S. Navy acquired the Hunters Point Dry Dock, attracting thousands of war workers, many of whom were African American, and solidifying Bayview as a major industrial zone on the West Coast.[14]

With the growth of the shipbuilding industry during World War II, thousands of Black workers settled the area to work at the Hunters Point Naval Shipyard. The shipyard was a major shipbuilding and repair center for the Pacific and the driving contributor to the neighborhood's economic livelihood, employing nearly 18,500 people at its peak.[15] Following the end of World War II, the Black population continued to grow, spurred by government and nongovernmental actions such as redlining. Redlining gave marginalized communities no choice where they could live and contributed to the financial and racial barriers that restricted Blacks to the Hunters Point neighborhood. Policy actions across the United States in the 1950s introduced an era of redevelopment of urban neighborhoods to remove blight; in San Francisco, this effort was specifically directed at the traditionally African American Fillmore/Western Addition districts. The effect was the displacement of many Black families and their migration to the Bayview neighborhood.

During this period, the mission of the Hunters Point Naval Shipyard transitioned to nuclear research, and the National Radiological Defense Laboratory that was established at the site in the latter part of the 1940s was the only laboratory in the country working on atomic defense issues. The closure of the Hunters Point Naval Shipyard in 1974 resulted in significant job loss in the area, with the commercial and retail opportunities impacted further due to the decommissioning of the Naval base in 1991. The U.S. Navy permanently closed the nearly 900-acre shipyard in 1994, leaving behind a number of health and environmental hazards associated with its industrial and research activities.

A portion of the Hunters Point Naval Shipyard is designated as an environmental "superfund" site that requires extensive remediation by the U.S. Navy. The U.S. Navy's clean-up is overseen by the United States Environmental Protection Agency, the California Department of Toxic Substances Control, and the Regional Water Quality Control Board. Once the remediation is complete, the U.S. Navy will transfer the property to San Francisco. In 2018, employees working as a contractor to the U.S. Navy were alleged to have misrepresented and falsified data regarding the presence of radiological materials on the Hunters Point

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[13] San Francisco Planning Department, *Central Waterfront Cultural Resources Survey,* prepared for the City and County of San Francisco Planning Department. October 2011.

[14] Kelley & Verplanck Historical Resources Consulting, *Bayview-Hunters Point Area B Survey Town Center Activity Node, San Francisco, California,* prepared for the San Francisco Redevelopment Agency, February 11, 2010, https://www.sanfranciscohistory.com/BVHP_Context.pdf.

[15] Lemke-Santangelo, Gretchen, and Charles Wollenberg, *A Day's Work: Hunters Point Shipyard Workers, 1940–1945,* Historical Essay, https://www.foundsf.org/index.php?title=A_Day%27s_Work:_Hunters_Point_Shipyard_Workers,_1940-1945, accessed May 28, 2025.

Shipyard site. This allegation eroded trust from some communities in the Hunters Point Naval Shipyard remediation process.

In 1995, the planning department amended the General Plan to include the Bayview Hunters Point Area Plan; this plan is intended as a tool to guide future development in the area. The plan was subsequently amended, most recently in 2011, and now encompasses most of the Bayview neighborhood with the exception of Hunters Point Shipyard and Port property east of Cargo Way (Piers 90-96), where the project site is located. The future development of the Hunters Point Shipyard area is addressed in the Hunters Point Shipyard Area Plan, which was incorporated in the General Plan in 2010.

The Bayview neighborhood's history of residential and industrial development occurred prior to environmental regulations and modern land use controls, leaving issues of environmental health and land use conflicts. Key goals for the Bayview Hunters Point Area Plan, formulated with citizen input, include creating the necessary land use and market conditions to enable the neighborhood to thrive economically, using housing growth to attract businesses, and resolving conflicts between adjacent industrial and residential areas. Key goals for the Hunters Point Shipyard Area Plan include fostering residential and mixed-use development that would also serve to create jobs for the Bayview community. Since the 1990s, the planning department has also established a series of area plans and land use regulations that limit core Production, Distribution, and Repair (PDR) zoning to the Bayview area of the city; additionally, the only areas of the city zoned for light or heavy manufacturing are either in the southeastern portion of the city or along the waterfront and controlled by the Port.

The overall Bayview neighborhood is zoned for a mixture of residential, PDR, industrial, commercial, and public uses; however, the project site is zoned M-2 Heavy Industrial Use District, under which residential uses are not permitted. Although Bayview began as a heavy industrial area, with a portion of the neighborhood known as Butchertown, and continued with steel manufacturing, ship repair, junk yards, and auto wrecking, the current distribution of employment by category (managerial professional, services, etc.) is diverse and not predominantly blue- or white-collar.

2.F.2 Project Site and Vicinity

As previously discussed, the project site is within the northeast corner of the Bayview neighborhood in an area that is under Port jurisdiction and zoned M-2 Heavy Industrial Use District where residential uses are not permitted. The closest residential uses are between approximately 3,000 to 3,500 feet southwest of the project site. A brief overview of public trust lands under Port jurisdiction and a history of the industrial uses at Piers 80-96, including the project site, is provided below for context. Localized socioeconomic data is not discussed in this section because the project site is not within the census tract boundaries included in CalEnviroScreen. Socioeconomic characteristics at the Bayview neighborhood level are provided in Appendix H.

2.F.3 Port of San Francisco and the Public Trust

Upon admission to the United States, the State of California received title to the sovereign tidelands, submerged lands, and beds of navigable waters within its border, to be held subject to the public trust on behalf of the people of California. The California State Lands Commission is the trustee for trust lands in state ownership. In certain cases, the State of California has granted its trust lands to another public entity, which, as grantee, becomes the trustee. The City and County of San Francisco (City), through its Port Commission, is such a grantee. In 1968, the State legislature adopted the Burton Act and authorized the transfer of state

lands within San Francisco to the City. As a condition of the transfer, the State of California required the City to create a Port Commission with the authority to use, operate, manage, and regulate the Port, and to take all actions necessary to fulfill its public trust responsibilities consistent with the Burton Act.

Pursuant to the Burton Act, the Port is responsible for promoting navigation, fisheries, waterborne commerce, enhancing natural resources, and attracting people to use and enjoy San Francisco Bay. The Port Commission assumed fiduciary responsibility for overseeing the "Harbor Fund," which is comprised of revenues generated by the Port that can be used only for Port operations, maintenance, capital improvements, and other purposes in furtherance of the trust. As an enterprise agency of the City, the Port supports itself from the revenue it earns on Port property and generally does not receive operating subsidies from the State of California or the City. Although the Port is structured much like other City departments, it is unique in that it must further state-wide rather than purely local interests. As such, public trust lands have certain land use restrictions that are tied to its waterfront location, and which are meant to benefit all Californians. The Port's Piers 80-96 facilities are subject to the public trust and are the Port's last remaining facilities that can handle cargo imports reliant on deep water berths. It is for this reason that the Martin Marietta sand import facility is located at Pier 92.

2.F.4 Maritime Eco-Industrial Center – Southern Waterfront, San Francisco

The Port's Piers 80-96, which include the project site, are part of the Maritime Eco-Industrial Center. The following from the Port's Piers 80-96 Maritime Eco-Industrial Center Strategic Plan summarizes the project site context.

The Maritime Eco-Industrial Center is located in southeast San Francisco, extending from Mission Bay to Candlestick Point. This area remains one of the last major concentrations of industrial land in San Francisco, even as it is targeted for new development to increase housing and support the City's economic and employment growth. Since 2001, city planning efforts have sought to preserve key industrial zones, including Port lands, while identifying how other uses—such as transportation, infrastructure, and open space—can be integrated compatibly.

The Port defines the Maritime Eco-Industrial Center as a hub where maritime and industrial activities are co-located to enable goods and material exchange; optimize resource use; incorporate green technologies and design; foster recovery, reuse, and recycling; create local employment opportunities; minimize environmental impact; include public open space; and provide habitat access.

2.F.5 Piers 80-96: From Container Shipping to Bulk Cargo

By the mid-1990s, container cargo operations at San Francisco's Port terminals began to decline as larger facilities emerged along the West Coast, particularly at the Port of Oakland. Container operations ceased in 2006. Despite this, San Francisco's deepwater berths remain valuable assets, supporting breakbulk cargo at Pier 80 and bulk cargo at Piers 94–96.

In 2000, the Port shifted its marketing to focus on bulk materials—aggregate, rock, sand, and other raw materials—imported primarily from British Columbia. A bulk terminal agreement with Lehigh-Hanson at Piers 92 and 94 supported this transition. These materials supply the Bay Area construction industry, including major infrastructure projects like the Transbay Terminal.

By focusing breakbulk at Pier 80 and bulk materials at Piers 94–96, the Port attracted concrete manufacturers to co-locate nearby. In the early 2000s, leases were signed with CEMEX and Central/Bode Concrete to build

state-of-the-art concrete plants at Pier 92. By 2015, the Port was receiving nearly 1.7 million metric tons of aggregate annually, eliminating around 35,000 truck trips from local roads—reducing congestion and emissions.

These facilities use imported aggregates to reduce heavy truck traffic, employ low-emission equipment and stormwater capture/reuse systems, provide stable, living-wage jobs for local residents, and improve the appearance of industrial zones.

2.F.6 Southern Waterfront Community Benefits and Beautification Policy

In 2007, the Port Commission adopted the Southern Waterfront Community Benefits and Beautification Policy. This policy outlines expectations for Port tenants in the Southern Waterfront, including: site beautification, a good neighbor policy, support for local job training and hiring practices, including use of local truckers and businesses, and environmentally responsible operations such as low-emissions equipment and green infrastructure.

Pursuant to this policy, the Port sets aside a portion of the monthly rents collected from leases to fund the Southern Waterfront Community Benefit and Beautification Fund. This fund supports projects such as: open space development, wetland restoration, pier removal, public art and historic preservation, and has enabled the Port to make public investments in open space, enhancing the quality of life in neighborhoods like Bayview-Hunters Point.

2.F.7 Project Site: Sand Processing History

The project site has been operating as a sand processing facility since at least 1982. From 1982 to about 1999, Tidewater Sand and Gravel Company (Tidewater) operated at the site under a permit issued by the San Francisco Bay Conservation and Development Commission (BCDC).[16] The permit was amended five times during this period to provide operating extensions and to allow the facility to convert its existing sand reclamation operation from a hydraulic sand unloading system to a dry conveyor belt system, starting in 1988.[17] In 1993, Tidewater applied for a permit to operate from the Air District. The Air District evaluated the facility and based on the high moisture content of the sand it processed, issued the facility a certificate of exemption from permitting requirements pursuant to Air District Regulation 2-1-301 (Authority to Construct) and 2-1-302 (Permit to Operate), citing insignificant air emissions. This exemption was subject to certain conditions, including the condition that the facility maintain the sand being processed at an adequate moisture level.[18]

In 1999, Hanson Building Materials America acquired the facility from Tidewater[19] and continued sand processing operations at the site—as Hanson Aggregates Mid-Pacific, Inc. (hereafter referred to as Lehigh Hanson)—under a permit extension issued by BCDC in 2004.[20] In June 2017, the Air District determined that

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16 San Francisco Bay Conservation and Development Commission, *Permit No. M81-55* (issued on March 4, 1982, and amended in 1985, 1988, 1994, 1998, 1999). The projects authorized by these permits were determined to be categorically exempt from the requirement to prepare an environmental impact report pursuant to California Code of Regulations, Title 14, Section 11501, Categorical Exemptions (formerly Section 10910, which was renumbered to Section 11501, effective June 17, 1987).

17 Ibid.

18 Bay Area Air Quality Management District, correspondence from John Swanson, Director, Permit Services Division, to M.H. Cheney, Tidewater Sand & Gravel Company, concerning Permit Application No. 12062, May 23, 1994.

19 *Maritime News*, "Hanson Acquires Tidewater and Moe Sand," Hanson Acquires Tidewater And Moe Sand, accessed June 3, 2025.

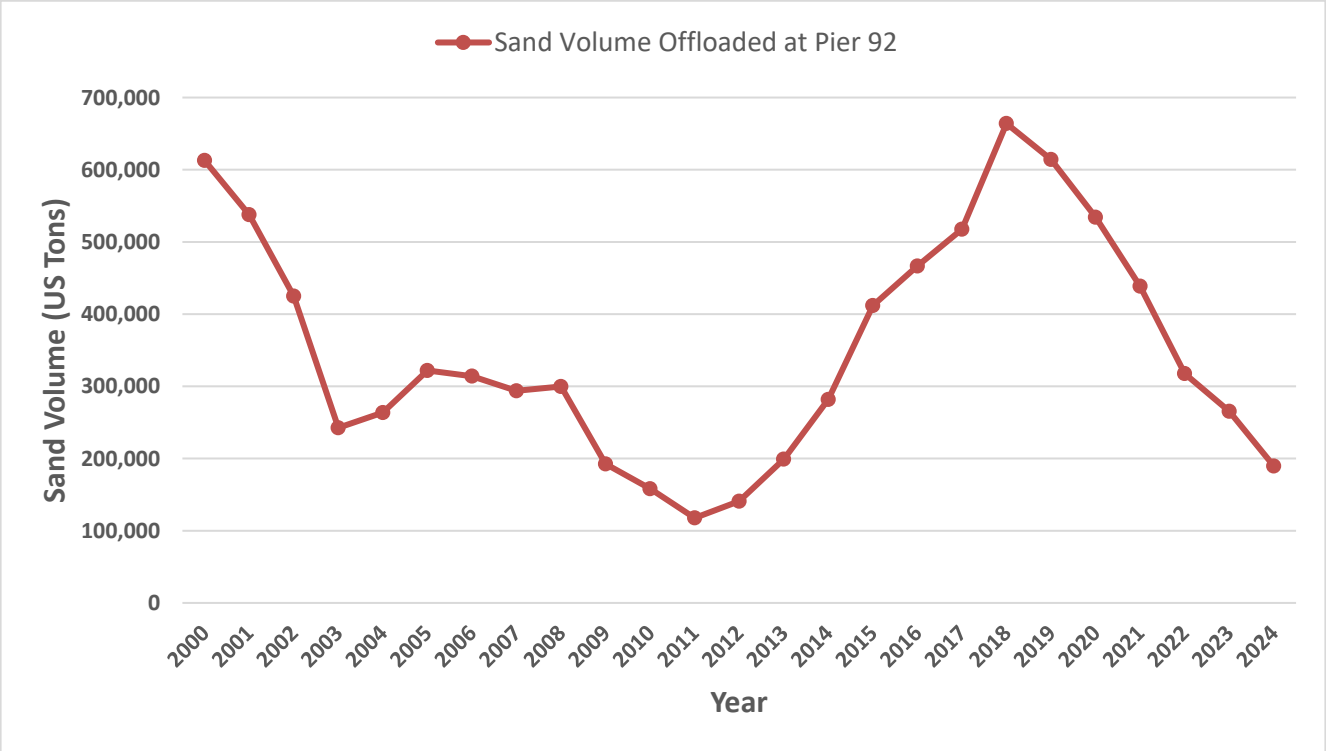
20 San Francisco Bay Conservation and Development Commission, *Permit No. M81-55, Amendment No. Six* (issued March 16, 2004).

the processed sand product (i.e., sand stockpiled after going through the wash plant) was not being kept wet enough to qualify for that exemption and directed the owner at the time, Lehigh Hanson, to apply for an operating permit pursuant to Air District Regulation 2-1-302. Lehigh Hanson subsequently applied for a permit in August 2017, and the Air District began an evaluation of the permit application.

In October 2021, when Martin Marietta acquired the Pier 92 facility, the 2017 permit application previously filed by Lehigh Hanson remained pending before the Air District due to numerous changes Lehigh Hanson made to the permit application. In August 2023, after discussions with the Port and the Air District, Martin Marietta proposed modernizing the Pier 92 facility (the proposed project) in lieu of continuing to process the pending 2017 permit application. Subsequently, Martin Marietta began working with the Air District to clarify the scope of a new application. The existing facility is currently operating pursuant to interim conditions issued by the Air District in 2024.[21] These conditions include temporary throughput limits, emissions standards and testing, road sweeping and spraying, track-out control, and recordkeeping requirements.

As shown in **Figure 2-16**, p. 2-39, the volume of sand processed at the Pier 92 facility has varied substantially over the past 25 years, reflecting the cyclical nature of the construction industry, which relies on sand as an ingredient for concrete and asphalt production and for use as backfill or as cover material for beach restoration and shoreline resilience. From 2000 to 2024, annual sand processing has ranged between a peak of approximately 664,000 tons and a low of 118,000 tons.

Figure 2-16: Sand Processed at Pier 92 (Annual US Tons)



[21] Bay Area Air Quality Management District, *Conditional Order for Abatement*, April 24, 2024, https://www.baaqmd.gov/~/media/files/board-of-directors/hearing-board/agendas/2024-hb/20240424-cofa-pdf.pdf?rev=031f6f0561aa40cc951b3f0f742ce28d&sc_lang=en.

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CHAPTER 3
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

3.A Introduction to the Environmental Analysis

This chapter provides a project-level impact analysis of the potentially significant, physical environmental impacts of implementing the proposed project as described in Chapter 2, Project Description. Section 3.C, Air Quality, includes a description of the environmental setting and regulatory framework; assessments of project impacts (i.e., offsite, onsite, construction-related, operational, direct, and indirect impacts) and cumulative impacts. This impact overview section describes the scope of analysis in the initial study and EIR and explains the format and basis for the impact analysis for all resource topics, including the cumulative impact analysis for these topics. This section also provides a brief overview of the existing and cumulative setting. The overview is supplemented by the environmental and cumulative setting identified in each resource topic subsection in the initial study and EIR.

3.A.1 CEQA Standards of Adequacy

CEQA Guidelines section 15151 describes standards for the preparation of an adequate EIR. The specific standards under section 15151 are listed below:

- An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information that enables them to make a decision that intelligently takes into account environmental consequences of the project.
- An evaluation of the environmental impacts of a project need not be exhaustive; rather, the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.
- Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts.

In practice, the above points indicate that EIR preparers should adopt a reasonable methodology upon which to estimate impacts. This approach means making reasonable assumptions, using the best information available. In some cases, when information is limited, this draft employs a “reasonable worst-case analysis” to identify the largest expected potential change from existing baseline conditions that the proposed project may create. See Section 3.A.4 for details regarding the baseline used in the evaluation of the proposed project. The following sections provide an overview of the background and approach for the impact assessments that follow.

3.A.2 Scope and Organization of this Chapter

The initial study (Appendix B) determined that the proposed project could result in potentially significant impacts related to air quality. This resource topic is addressed in the chapter listed below, and the

abbreviation for the resource topic used in the naming of impact statements and mitigation measures is shown in parenthesis:

- Section 3.C, Air Quality (AQ)

The environmental topic analyzed in this chapter includes the following subsections:

- **Introduction.** This subsection includes a brief description of the types of impacts that are analyzed as well as a summary of the impacts that were scoped out in the initial study (e.g., impacts that were determined to result in a less-than-significant impact or no impact), and a summary of comments received on the NOP that relate to a resource topic.
- **Environmental Setting.** This subsection presents a description of existing baseline physical conditions on the project site and in the surroundings at the time of issuance of the NOP, with enough detail and breadth to allow a general understanding of the environmental impacts of the proposed project.
- **Regulatory Framework.** This subsection describes the relevant federal, state, and local regulatory requirements that are directly applicable to the environmental topic being analyzed.
- **Impacts and Mitigation Measures.** This subsection describes the physical environmental impacts (e.g., the changes to baseline physical environmental conditions) that could result from the proposed project, as well as any mitigation measures that could avoid, eliminate, or reduce identified significant impacts. The analysis includes construction and operation of the proposed project, as applicable. This subsection is further divided to discuss the following topics.
  - **Significance Criteria.** The discussion under this heading lists the criteria—specific to each resource topic—used to identify and determine significant environmental effects of the proposed project. Under CEQA, a significant effect is defined as a substantial or potentially substantial adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data, including the entire record for the project, and not on argument, speculation, or unsubstantiated evidence. The significance criteria used in this draft EIR are based on planning department guidance used to assess the severity of environmental impacts of the proposed project, and on CEQA Guidelines Appendix G, using the procedures set forth in San Francisco Administrative Code chapter 31.10.
  - **Approach to Analysis.** The discussion under this heading describes the general approach and methodology used to apply the significance thresholds in evaluating the impacts of the proposed project. The methodology for applying significance criteria provides the basis for the impact analysis, which could be either qualitative or quantitative, depending on the specific impact. The methodology identifies the applicable regulatory guidelines, thresholds, standards, or accepted professional practices or protocols to be used to assess construction, operational, and cumulative impacts, as applicable.
  - **Impact Evaluation.** The discussion under this heading evaluates the potential for the proposed project to result in significant adverse effects on the existing physical environment. The proposed project's impacts are presented as individually numbered impact statements (shown in boldface type) that address each significance criterion. Each impact statement is keyed to a subject area abbreviation (e.g., AQ for Air Quality and an impact number (e.g., 1, 2, 3) for a combined alphanumeric code (e.g., Impact AQ-1, Impact AQ-2). Thus, Impact AQ-1 would be the first impact in the Air Quality section and discusses the effects of the proposed project in response to the first

significance criterion. The impact statement concludes with a significance determination (see descriptions below under Significance Determinations).

Following each impact statement is a discussion that provides the analysis and rationale for the significance determination.

If the impact analysis concludes that an impact is significant, potentially feasible mitigation measure(s) are presented immediately following the impact analysis. CEQA Guidelines section 15126.4 directs preparers of an EIR to describe feasible measures that could minimize significant adverse impacts. Mitigation measures are developed to avoid, minimize, rectify, reduce, eliminate, or compensate for an impact resulting from project implementation. CEQA Guidelines section 15041 grants authority to the lead agency to require feasible changes in any or all activities involved in a project to substantially lessen or avoid significant effects on the environment. Pursuant to CEQA Guidelines section 15126.4, mitigation measures are not required for environmental impacts that are not found to be significant.

Mitigation measures are indented and are numbered to correspond to the number of the impact analysis. For example, Mitigation Measure M-AQ-1a would be the first mitigation measure identified to address Impact AQ-1, Mitigation Measure M-AQ-1b would be a second mitigation measure identified for that impact, and so forth.

- **Cumulative Impacts.** The discussion under this heading considers the combined impacts of the proposed project and other closely related projects. A description of cumulative impacts and other related projects is provided below under CEQA Requirements and Approach to Cumulative Impacts.

3.A.3 Significance Determinations

A "significant effect" is defined by CEQA Guidelines section 15382 as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant."

The significance criteria used in this EIR are based on the planning department's guidance regarding the thresholds of significance for assessing the severity of the environmental impacts of the proposed project. The planning department's guidance is based on CEQA Guidelines Appendix G, with some modifications. The level of significance of the impact is indicated in parentheses at the end of the impact statement based on the following terms and definitions:

- **No Impact (NI) –** No adverse physical changes (or impacts) to the environment are expected, or if the environmental resources does not occur in the project area or the area of potential effects.
- **Less than Significant (LTS) –** Impact that does not exceed the defined significance criteria or is eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations. No mitigation is required for impacts determined to be less than significant.
- **Less than Significant with Mitigation (LTSM) –** Impact would or could result in a significant adverse effect, exceeding the defined significance criteria, but the impact is reduced to a less-than-significant level through implementation of the identified mitigation measures.

- **Significant and Unavoidable with Mitigation (SUM) –** Impact that exceeds the defined significance criteria and – although the impact can be reduced through compliance with existing local, state, and federal laws and regulations and/or implementation of all feasible mitigation measures – the residual impact would still exceed the defined significance criteria. Thus, even with implementation of feasible mitigation, the impact would be significant and therefore unavoidable.
- **Significant and Unavoidable (SU) –** Impact that exceeds the defined significance criteria and cannot be eliminated or reduced to a less-than-significant level through compliance with existing local, state, and federal laws and regulations and there are no feasible mitigation measures. Therefore, the impact would be significant and unavoidable.

3.A.4 Approach to Analysis

CEQA Guidelines section 15125 states that the "environmental setting will normally constitute the baseline physical conditions by which a lead agency determines whether an impact is significant." The environmental setting typically includes the existing physical conditions on the project site and vicinity at the time of NOP publication, including projects that are under construction. The environmental analysis then presents existing and existing-plus-project scenarios to identify environmental impacts that would occur from implementation of the proposed project. The analysis in this EIR uses the facility's average activity over the most recent 5-year operating period (years 2020–2024) as the baseline physical conditions to determine whether an impact is significant, as described below.

3.A.4.1 Approach to Baseline Conditions

As noted in Section 2.C.2, Existing Pier 92 Facilities and Operations, and in Section 2.F.7, Project Site: Sand Processing History, the volume of sand processed at the Pier 92 facility has varied substantially over the past 25 years, reflecting the cyclical nature of the construction industry, which relies on sand as an ingredient for concrete and asphalt production and for use as backfill or as cover material for beach restoration and shoreline resilience. From 2000 to 2024, annual sand processing has ranged between a peak of approximately 664,000 tons and a low of 118,000 tons. The data also indicates that the current activity at the Pier 92 facility represents the lower end of the cycle for the current period. Therefore, the baseline conditions considered in this analysis are based on the facility's average activity over the most recent 5-year operating period (years 2020–2024), and not maximum or lowest activity achieved over the facility's history. Over this period, average production was approximately 350,000 (349,078) tons per year.

3.A.4.2 Approach to Project Analysis

The analyses of operational impacts in this EIR and initial study use the most applicable operational characteristics, as described in Section 2.D.2, Proposed Operation, depending on the environmental topic. For example, the transportation analysis, which analyzes impacts related to daily and peak hour vehicle trips, considers two proposed project scenarios of peak operations, whereas the air quality analysis considers average annual and average daily emissions resulting from proposed project operations. These topic-specific approaches allow for comparison to each topic's significance thresholds, which vary. In either case, the actual maximum throughput permitted under the Air District permit would be reached only when the market demand for processed sand increases substantially from existing levels, and from levels observed over the past 25 years, independent of the physical changes proposed by the project. Refer to the discussion provided under the respective environmental topics for a more detailed explanation of the approach to analysis.

3.A.5 CEQA Requirements and Approach to Cumulative Impact Analysis

3.A.5.1 CEQA Requirements for Cumulative Impact Analysis

Cumulative impacts, as defined in CEQA Guidelines section 15355, refer to two or more individual effects that, when taken together, are "considerable" or that compound or increase other environmental impacts. A cumulative impact from several projects is the change in the environment that would result from the incremental impact of the project added to the impacts of other reasonably foreseeable future projects. Pertinent guidance for cumulative impact analysis is provided in CEQA Guidelines section 15130:

- An EIR shall discuss cumulative impacts of a project when the project's incremental effect is "cumulatively considerable" (e.g., the incremental effects of an individual project are considerable when viewed in connection with the effects of past, current, and probable future projects, including those outside the control of the lead agency, if necessary).
- An EIR should not discuss impacts that do not result in part from the project evaluated in the EIR.
- A project's contribution is less than cumulatively considerable, and thus not significant, if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.
- The discussion of impact severity and likelihood of occurrence need not be as detailed as for effects attributable to the project alone.
- The focus of analysis should be on the cumulative impact to which the identified other projects contribute, rather than on attributes of the other projects that do not contribute to the cumulative impact.

The cumulative impact analysis for each individual resource topic is described in each resource section immediately following the description of the project impacts and identified mitigation measures.

3.A.5.2 Approach to Cumulative Impact Analysis

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines section 15130(b)(1):

- The analysis can be based on a list of past, present, and probable future projects producing closely related impacts that could combine with those of the proposed project; or
- A summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts.

  The following factors were used to determine an appropriate list of reasonably foreseeable future projects to be considered in the near-term cumulative impact analysis:

  - **Similar Environmental Impacts.** A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project or plan is defined as one that is "reasonably foreseeable," such as a proposed project for which an application has been filed with the approving agency or has approved funding, or an approved plan that amended the land use controls applicable to an adjacent neighborhood.
  - **Geographic Scope and Location.** A relevant project is located within the defined geographic scope area for which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, because health risk impacts from exposure to air pollutants are generally localized, the

cumulative context for health risk analysis is within 1,000 meters of the maximally exposed receptor. In contrast, the geographic scope for evaluating cumulative effects on regional air quality consists of the affected air basin (i.e., the San Francisco Bay Area Air Basin).

- **Timing and Duration of Implementation.** Effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) would likely coincide in timing with the effects of the proposed project.

The analyses in this EIR and initial study employ a list-based approach and projections-based approach, depending on the environmental topic analyzed. For instance, the cumulative analysis of cultural resources impacts (for historical architectural resources only) considers individual projects that are anticipated in the project site vicinity that may affect historical architectural resources also affected by the proposed project. By comparison, the cumulative population and housing analysis relies on a projection of overall citywide growth and other reasonably foreseeable projects, which is the typical methodology the planning department applies to analysis of population and housing impacts.

3.A.5.3 Cumulative Setting

Cumulative projects within a 1,000-meters radius of the project site are listed below in **Table 3-1** and mapped on **Figure 3-1**, p. 3-12. These cumulative projects are projects that are currently under review by the planning department or a building permit is on file or has been approved by the San Francisco Department of Building Inspection (building department). In addition to the cumulative projects described below, the Port conducts routine maintenance and repair activities along the waterfront to maintain facilities in a state of good repair. These activities are authorized by CEQA under a categorical exemption (Planning Department Case No. 2021-003773ENV). Furthermore, there are two large projects, the Potrero Power Station and Southeast Water Pollution Control Plant Biosolids Digesters (Biogas) projects, located more than 1,000 meters from the proposed project. As such, they are too far away to have impacts that would combine with impacts of the project to result in cumulative impacts.

Table 3-1: Cumulative Projects within a 1,000-meter Radius of the Project Site

Map No.	Project Name	Address (Planning Dept. Case No.)	Description and Status	Approximate Distance from the Project Site [1]	Anticipated Construction/ Implementation Dates
1	50 Quint Street	Planning Record # 2025-012232ENV	The project proposes an electric vehicle repair and maintenance facility. Interior improvements would include installation of 8 two-point service lift bays and 7 flat service bays. No exterior alterations are proposed to the existing building. Site improvements would include re-striping of the existing exterior parking lot for 118 total spaces and installation of 35 electrical vehicle chargers and associated infrastructure to serve 70 of the parking spaces. Existing accessible parking spaces and associated path of travel would remain.	910 meters (west)	Unknown
2	Islais Creek Bridge Project (Third Street between Cargo Way and Marin Street)	Planning Record # 2022-000112ENV	SF Public Works proposes to demolish the existing bascule leaves, trunnions, counterweights, and all of the electrical equipment and drive machinery associated with the bascule-drawbridge operability. These would be replaced by a new 114'-long, 108'-wide, single-span concrete through-girder bridge with a cast-in-place concrete deck at a higher elevation than the existing bridge structure. The new bridge would accommodate a center 25'-wide dedicated light-rail trackway, two 12' travel lanes in each direction, one dedicated 5' Class III bikeway in each direction, and two 8'-wide concrete sidewalks with steel pedestrian guard rail. The four 6'-deep through-girders, of which 2' would be below the top of the deck and 4' would be above, would serve as barriers between trackway, roadway, and sidewalk. Additional reinforced concrete structure would be added to existing abutments to provide bearing seats for the new span, but no pile driving is anticipated. Excavation to five feet would be required around the perimeter of the abutments to construct new approaches and install utility connections. The through-girders would be constructed off-site, barged to the project site, and placed into position with the use of	580 meters (west)	Fall 2026 – Spring 2029

Map No.	Project Name	Address (Planning Dept. Case No.)	Description and Status	Approximate Distance from the Project Site [1]	Anticipated Construction/ Implementation Dates
			barge-mounted cranes. The deck would be a combination of precast, cast-in-place, and posttensioned concrete components installed from shore or barge to the through-girders. Additional concrete would be cast for the cantilevered sidewalk sections. The existing control tower, and the existing abutments with pile foundations, would be retained.		
3	Pier 80 Subsidence Repairs	Planning Record # 2025-005768PRJ	Port proposes to improve the southeast corner of Pier 80 by raising the grade and improving the storm water utilities to remediate flooding issues. The project site consists of approximately 13 acres of area currently used by the tenant, PASHA, to stage and park vehicles for their Roll-on, Roll-off ships. During high tide and storm events, the area experiences flooding due to differential settlement and becomes inaccessible. This drainage and surface rehabilitation project would extend the depth of up to seven existing catch basins 3-feet by 3-feet at higher elevations compared to existing basins, install duck bill valves at the ends of existing drain lines, and install 330,000 square feet of new asphalt concrete pavement at an average depth of 1 foot, up to 2 feet in the deepest depressions. This repair will extend the terminal's useful life by another 15-20 years and increase the Port's export terminal's effectiveness, productivity, and safety.	140 meters (north)	August 2026 – August 2027
4	Pier 90 Building & Wharf Demolition Project	Planning Record # 2019-023037ENV	Port proposes to demolish six, pile supported loading towers; the dilapidated timber wharf deck and pilings (with six concrete pile-supported dolphin structures remaining on waterside); and all landside Pier 90 buildings and structures except for the grain silos. Security fencing would be installed. Underground utilities would be abandoned in place. Hazardous materials would be abated. Existing businesses would remain or be relocated.	410 meters (west)	September 2025 – November 2026

Map No.	Project Name	Address (Planning Dept. Case No.)	Description and Status	Approximate Distance from the Project Site [1]	Anticipated Construction/ Implementation Dates
5	CEMEX Construction Materials Pacific (Pier 92)	Air District Permit Application #28001	CEMEX has a permit that currently allows it to import 389,375 tons per year (tpy) of aggregate and 389,375 tpy of sand by truck and 60,000 tpy sand by barge. CEMEX has applied to the air district for a permit to bring in 235,572 tpy sand by barge and 153,803 tpy aggregate by barge. There would be no increase in the plant's permitted production limit.	250 meters (west)	CEMEX Construction Materials Pacific (Pier 92)
6	Amador Street Infrastructure Improvements Project – Contract No. 2852	Planning Record # 2021-003773ENV	Port proposes to reconstruct approximately 1,800 linear feet of Amador Street and underground utilities that serve the Port's Maritime Eco-Industrial Area tenants along its southern waterfront area.	100 meters (west)	August 2025 – December 2026
7	Pier 94 Grassland Meadow Enhancements	Planning Record # 2020-011352PRJ	Port proposes to remove invasive nonnative plants from 3 acres of uplands adjacent to the "Pier 94 Wetlands" and plant 500 native plants, creating 2 acres of biologically diverse native grasslands meadow habitat. This two-year project is part of a multi-year effort by the Port of San Francisco (property owner) and Golden Gate Audubon (site restoration partner) to establish valuable saltmarsh and uplands habitat in San Francisco's southeastern waterfront. The project does not include excavation or grading activities. No trees would be removed.	0 meters (east)	Ongoing
8	Pier 94/96 Seismic Improvements	Application forthcoming	Port project that would implement seismic improvements to support emergency response at Piers 94 and 96.	140 meters (southeast)	Unknown, but not likely earlier than 2028

Map No.	Project Name	Address (Planning Dept. Case No.)	Description and Status	Approximate Distance from the Project Site [1]	Anticipated Construction/ Implementation Dates
9	200 Acacia Avenue[22]	On hold	The project would construct seven buildings with a total of 34 residential units as part of a larger development project (HOPE SF).	1,000 meters (approximately)	Unknown
10	300 Catalina Street[23]	On hold	The project would construct four buildings with a total of 30 residential units as part of HOPE SF.	Over 1,000 meters	Unknown
11a-e	Blue Greenway Improvements	Application(s) forthcoming	Using Southern Waterfront Beautification Funds, the Port proposes park and open space improvements at six locations throughout the southern waterfront. Specific projects within 1,000 meters of the project site include: a. Warm Water Cove- Redesign of the upland portions of the park to include new paving, site furnishings, solar lighting, understory plantings, irrigation, and installation of a two-way cycle track for one-block on the north side of 24th Street leading to the park. b. Illinois Street Bridge-replacement of existing fence and installation of four new street trees and artwork on the east site of Illinois Street. c. Islais Landing- Redesign of the upland portions of the park to include new paving, site furnishings, solar lighting, new plantings and fencing, along with demolition of the existing restroom. This project also includes expansion of Kayak Unlimited leasehold on the site. d. Bayview Gateway- replacement of nine unhealthy trees and installation of a bocce ball court.	Various: closest project is approximately 650 meters (south)	Construction dates may vary for each site; improvements anticipated to be installed/constructed in 2027

[22] This project is within 1,000 feet of the Residential Maximally Exposed Individual Sensitive Receptor (MEISR) (as shown on Figure 3.B-2 and discussed in Section 3.B, Air Quality) and approximately 1,000 meters from the project site.

[23] This project is within 1,000 feet of the Residential MEISR (as shown on Figure 3.B-2 and discussed in Section 3.B, Air Quality) and slightly over 1,000 meters from the project site.

Map No.	Project Name	Address (Planning Dept. Case No.)	Description and Status	Approximate Distance from the Project Site [1]	Anticipated Construction/ Implementation Dates
			e. Heron's Head Park- Replacement of the existing parking lot restroom with a new restroom including a new gravity fed sewer and water connection, installation of a new gravity fed sewer to the EcoCenter, and replacement of existing picnic tables with exercise equipment. f. Installation of approximately 65 new trees in the southern waterfront.		

Table Notes:
1. Distance measured in meters (to nearest 10) between closest property boundaries



Graphics ... Martin_Marietta\105407_Pier_92_EIR (3-20-2026)

Pier 92 Modernization and Plant Replacement Project
Case No. 2024-005922ENV

Figure 3-1
Cumulative Projects within a 1,000-meter Radius of the Project Site

3.B Air Quality

3.B.1 Introduction

This section of the environmental impact report (EIR) analyzes potential air quality impacts that could occur as a result of the proposed project and cumulative conditions. Emissions of greenhouse gases (GHGs) and potential impacts on climate change, as well as City and County of San Francisco (City) and State of California (State) goals regarding GHG emissions, are discussed in Section 10, *Greenhouse Gas Emissions*, in the initial study (see Appendix B).

This section discusses the environmental setting, regulatory framework, approach to analysis, and environmental impacts regarding air quality. The analysis is based on a review of existing air quality conditions in the Bay Area and air quality regulations administered by the U.S. Environmental Protection Agency (U.S. EPA), the California Air Resources Board (air resources board), and the Air District. This analysis includes methodologies identified in the Air District's updated California Environmental Quality Act (CEQA) Air Quality Guidelines, and its companion documentation,[24] and methods and assumptions developed by the city in its Air Quality and Greenhouse Gas Analysis Guidelines from February 2025. Appendix G includes the calculations prepared to quantitatively assess the air quality contributions of the proposed project. This information forms the basis for the assessment of air quality impacts presented in this section.

3.B.2 Environmental Setting

3.B.2.1 Climate and Meteorology

The project site is within the San Francisco Bay Area Air Basin (air basin). The air basin's moderate climate steers storm tracks away from the region for much of the year, although storms do affect the region, typically from November through April. San Francisco's proximity to onshore breezes stimulated by the Pacific Ocean provides generally very good air quality in much of the city.

Average annual temperatures in the project area are in the mid-50s (degrees Fahrenheit), generally ranging from the low 40s on winter mornings to the mid-70s during summer afternoons. Daily and seasonal changes in temperature are small because of the moderating effects of nearby San Francisco Bay. In contrast to the steady temperature regime, rainfall is highly variable but confined almost exclusively to the "rainy" period from November through April. Precipitation can vary widely from year to year because a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and drought conditions.

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants regionally. The project site is within the Peninsula climatological subregion. Marine air traveling through the Golden Gate is a dominant weather factor and affects the dispersal of air pollutants within the region. Wind measurements recorded on the San Francisco mainland indicate a prevailing wind direction from the west and an average annual wind speed of 10.3 miles per hour.[25] Increased temperatures create conditions in which ozone formations can increase.

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[24] Bay Area Air Quality Management District, *California Environmental Quality Act Air Quality Guidelines*, April 2023, https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed September 24, 2025.

[25] Western Regional Climate Center, *Average Wind Speeds – MPH*, https://wrcc.dri.edu/Climate/comp_table_show.php?stype=wind_speed_avg, accessed September 25, 2025.

3.B.2.2 Ambient Air Quality – Criteria Air Pollutants

As required by the 1970 federal Clean Air Act, the U.S. EPA initially identified six criteria air pollutants that are pervasive in urban environments and for which State and federal health-based ambient air quality standards have been established. The U.S. EPA calls these pollutants "criteria air pollutants" because the agency regulates them by developing specific public health–based and welfare-based criteria for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead were the six criteria air pollutants originally identified by the U.S. EPA. Since adoption of the 1970 act, subsets of particulate matter have been identified for which permissible levels have been established. These include particulate matter of 10 microns in diameter or less (PM_{10}) and particulate matter of 2.5 microns in diameter or less ($PM_{2.5}$). Refer to "Regulatory Framework," p. 3-28, for further detail with respect to State and federal air quality standards for specific pollutants and their attainment status within the air basin.

The Air District is the regional agency with jurisdiction for regulating air quality within the nine-county air basin. The region's air quality monitoring network provides information on ambient concentrations of criteria air pollutants at various locations in the San Francisco Bay Area. **Table 3.B-1**, p. 3-17, presents a five-year summary of the highest annual criteria air pollutant concentrations recorded at the air quality monitoring station operated and maintained by the Air District at 16th and Arkansas streets in San Francisco's lower Potrero Hill area. **Table 3.B-1**, p. 3-17, also compares measured pollutant concentrations with the most stringent applicable ambient air quality standards (State and federal). These concentrations are health-based standards that have been established with an ample margin of safety. To determine attainment of air quality standards, exceedances are assessed on a region-wide basis. Concentrations shown in boldface type indicate only a localized exceedance of the standard and do not reflect the attainment status for the air basin (see **Table 3.B-2**, p. 3-18, for the air basin's attainment status for each criteria pollutant). **Table 3.B-1**, p. 3-17 does not include SO_2 because monitoring is not required for the Bay Area; the air basin has never been designated as a nonattainment area for SO_2.

Ambient air quality standards—both federal and State—are expressed as airborne concentrations of various pollutants. Compliance with the standards is on a regional basis. In the Bay Area, compliance is demonstrated by ongoing measurements of pollutant concentrations at more than 30 air quality monitoring stations operated by the Air District in all nine Bay Area counties. An exceedance of an ambient air quality standard at any one of the stations counts as a regional exceedance.

The national ambient air quality standards and California ambient air quality standards have been set at levels that are considered safe and capable of protecting public health, including the health of sensitive populations, such as asthmatics, children, and the elderly, with a margin of safety as well as public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. As explained by the air resources board, "An air quality standard defines the maximum amount of a pollutant averaged over a specified period of time that can be present in outdoor air without any harmful effects on people or the environment."[26] That is, if a region is in compliance with the ambient air quality standards, its regional air quality can be considered protective of public health. The national ambient air quality standards are statutorily required to be set by the U.S. EPA at levels that are "requisite to protect the public health."[27]

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[26] California Air Resources Board, *California Ambient Air Quality Standards*, last updated July 16, 2024, https://ww2.arb.ca.gov/sites/default/files/2024-08/AAQS%20Table_ADA_FINAL_07222024.pdf, accessed September 30, 2025.

[27] Cornell Law School, Legal Information Institute, *National Primary and Secondary Ambient Air Quality Standards,* https://www.law.cornell.edu/uscode/text/42/7409.

Therefore, the closer a region is to attaining a particular national ambient air quality standard, the lower the human health impact is from that pollutant.

A brief description of the health effects of exposure to criteria air pollutants is provided below.

Ozone

Ozone is a secondary air pollutant that is produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROGs, sometimes referred to as "volatile organic compounds" [VOCs] by some regulatory agencies) and oxides of nitrogen (NO_X) in the presence of sunlight. The main sources of ROG and NO_X, often referred to as "ozone precursors," are combustion processes, including combustion within motor vehicle engines, and the evaporation of solvents, paints, and fuels.

In the Bay Area, automobiles are the single largest source of ozone precursors. Ozone is referred to as a "regional air pollutant" because its precursors are transported and diffused by wind concurrently with ozone production through a photochemical reaction process. Ozone causes eye irritation, airway constriction, and shortness of breath and can aggravate existing respiratory diseases, such as asthma, bronchitis, and emphysema.

According to published data, and as shown in **Table 3.B-1**, p. 3-17, neither the State or federal ozone standards were exceeded in between 2020 and 2024.

Carbon Monoxide

CO is an odorless, colorless gas, usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. As shown in **Table 3.B-1**, p. 3-17, the State CO standards were not exceeded between 2020 and 2024. Measurements of CO indicate that the hourly maximums were between 6 and 22 percent of the State standard; maximum eight-hour CO levels were approximately 10 to 21 percent of the allowable eight-hour standard.

Particulate Matter

Particulate matter is a class of air pollutants that consists of a complex mix of solid and liquid airborne particles from human-made and natural sources. Regulated particulate matter is measured according to two size ranges: PM_{10} and $PM_{2.5}$. In the Bay Area, motor vehicles generate about one-half of the air basin's particulates through tailpipe emissions as well as brake pad and tire wear. Fireplaces and stoves that burn wood, industrial facilities, and ground-disturbing activities such as construction are other sources of such fine particulates. These fine particulates are small enough to be inhaled into the deepest parts of the human lung and can cause adverse health effects. According to the air resources board, studies in the United States and elsewhere "have demonstrated a strong link between elevated particulate levels and premature deaths, hospital admissions, emergency room visits, and asthma attacks," and studies of children's health in California have demonstrated that particle pollution "may significantly reduce lung function growth in children." The air resources board also reports that statewide attainment of particulate matter standards could prevent thousands of premature deaths, lower hospital admissions for cardiovascular and respiratory disease as well as asthma-related emergency room visits, and avoid hundreds of thousands of episodes of respiratory illness in California.

Among the regulated criteria pollutants, particulates appear to represent a serious, ongoing health hazard. According to a 2010 Air District health impact study, fine particulate matter ($PM_{2.5}$) pollution was linked to approximately 1,705 premature deaths per year in the nine-county Bay Area. A more recent localized study estimated that over 3,000 deaths annually can be attributed to $PM_{2.5}$ exposure.[28,29] High levels of particulate matter can exacerbate chronic respiratory ailments, such as bronchitis and asthma, and increase the number of emergency room visits and hospital admissions.

PM2.5 is of particular concern because epidemiologic studies have demonstrated that people who live near freeways and high-traffic roadways have poorer health outcomes, including increased occurrences of asthma symptoms and respiratory infections as well as decreased pulmonary function and lung development in children.30 Studies have also shown that long-term average exposure to PM2.5 is associated with an increased risk of death from coronavirus 2019 (COVID-19) disease in the United States. One study also found that an increase of 1 microgram per cubic meter (µg/m3) in PM2.5 is associated with an 8 percent increase in the COVID-19 death rate.31 Exposure to the wildfire smoke (which includes PM2.5) experienced by Californians in 2020 also could have contributed to increased cases of COVID-19.32 Note that these studies all demonstrate a correlational relationship between exposure to PM2.5 and increases in the COVID-19 death rate, not a causal relationship.

As shown in **Table 3.B-1**, p. 3-17, the State 24-hour PM_{10} standard of 50 $\mu g/m^3$ was exceeded on two days in 2020 but not on any days between 2021 and 2024. The federal 24-hour $PM_{2.5}$ standard was exceeded on eight days in 2020.

Nitrogen Dioxide

NO_2 is a reddish-brown gas that is a byproduct of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of the air on high-pollution days, especially in conjunction with high ozone levels. The current State one-hour standard for NO_2 (0.18 part per million [ppm]) is being met in San Francisco. In 2010, the U.S. EPA implemented a new one-hour NO_2 standard (0.10 ppm), as presented in **Table 3.B-2**, p. 3-18. Currently, the air resources board is recommending that the air basin be designated as an attainment area for the new standard.[33] As shown in **Table 3.B-1**, this new federal standard was not exceeded at the San Francisco station between 2020 and 2024.

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28 Bay Area Air Quality Management District, *Health Impact Analysis of Fine Particulate Matter in the San Francisco Bay Area*, September 2011, https://www.baaqmd.gov/ ~/media/files/planning-and-research/research-and-modeling/cost-analysis-of-fine-particulate-matter-in-the-bay-area.pdf.

29 Environmental Defense Fund, *New Study Reveals Large and Unequal Health Burden from Air Pollution in California's Bay Area*, March 31, 2011, https://www.edf.org/media/new-study-reveals-large-and-unequal-health-burden-air-pollution-californias-bay-area.

30 San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review,* May 6, 2008, https://default.sfplanning.org/temp/Air%20Quality%20For%20EP%20and%20Consultants/Air%20Quality%20References/DPH%202008.pdf, accessed September 30, 2025.

31 Wu, X., R.C. Nethery, B.M. Sabath, D. Braun, and F. Dominici, *Exposure to Air Pollution and COVID-19 Mortality in the United States*, November 4, 2020, medRxiv 2020.04.05.20054502, https://www.science.org/doi/epdf/10.1126/ sciadv.abd4049, accessed September 30, 2025.

32 Xiaodan Zhou, Kevin Josey, Leila Kamareddine, Miah C. Caine, Tianjia Liu, Loretta J. Mickley, Matthew Cooper, and Francesca Dominici, *COVID-19 Cases and Deaths Due to Fine Particulate Matter Exposure during the 2020 Wildfires in the United States*, August 13, 2021, https://pubmed.ncbi.nlm.nih.gov/ 34389545/, accessed September 30, 2025.

33 California Air Resources Board, *Recommended Area Designations for the 2010 Nitrogen Dioxide Standards*, Technical Support Document, January 2011, https://www.epa.gov/sites/production/files/2016-04/documents/09carec2.pdf, accessed September 30, 2025.

Table 3.B-1: Summary of San Francisco Air Quality Monitoring Data (2020–2024)

Pollutant	Most-Stringent Applicable Standard	Number of Days Standards Were Exceeded and Maximum Concentrations Measured[a]				
		2020	2021	2022	2023	2024
Ozone						
Days 1-hour Standard Exceeded		0	0	0	0	0
Maximum 1-hour Concentration (ppm)	> 0.090 ppm[b]	0.088	0.074	0.070	0.057	0.040
Days 8-hour Standard Exceeded		0	0	0	0	0
Maximum 8-hour Concentration (ppm)	> 0.070 ppm[c]	0.056	0.055	0.061	0.047	0.038
Carbon Monoxide (CO)						
Days 1-hour Standard Exceeded		0	0	0	0	0
Maximum 1-hour Concentration (ppm)	> 20 ppm[b]	1.8	1.2	1.5	4.4	1.6
Days 8-hour Standard Exceeded		0	0	0	0	0
Maximum 8-hour Concentration (ppm)	> 9 ppm[b]	1.6	0.9	1.0	1.9	1.0
Suspended Particulates (PM_{10})						
Days 24-hour Standard Exceeded		2	0	0	0	0
Maximum 24-hour Concentration (µg/m³)	> 50 µg/m³[b]	**105.0**	33.0	36.0	44.9	*[d]
Suspended Particulates ($PM_{2.5}$)						
Days 24-hour Standard Exceeded		8	0	0	0	*[d]
Maximum 24-hour Concentration (µg/m³)	> 35 µg/m³[c]	**147.3**	22.4	29.0	16.7	*[d]
Annual Average (µg/m³)	> 12 µg/m³[b,c]	10.5	7.1	6.8	*[d]	*[d]
Nitrogen Dioxide (NO_2)						
Days 1-hour Standard Exceeded		0	0	0	0	0
Maximum 1-hour Concentration (ppm)	> 0.100 ppm[c]	0.047	0.049	0.046	0.043	0.040

Source: California Air Resources Board, *Top 4 Summary for the San Francisco Arkansas Street Monitoring Site, 2020–2024*, n.d., https://www.arb.ca.gov/adam/topfour/topfour1.php, accessed September 30, 2025.
U.S. Environmental Protection Agency, *Monitor Values Report,* 2025, https://www.epa.gov/outdoor-air-quality-data/ monitor-values-report, accessed September 30, 2025.
Notes:
Bold values are in excess of applicable standard.
ppm = parts per million; µg/m³ = micrograms per cubic meter

a. Number of days exceeded is for all days in a given year, except for particulate matter. PM_{10} is monitored every six days. Therefore, the number of days exceeded is out of approximately 60 annual samples.
b. State standard, not to be exceeded.
c. Federal standard, not to be exceeded.
d. Data not available.

Table 3.B-2: State and Federal Ambient Air Quality Standards and Attainment Status for the San Francisco Bay Area Air Basin

Pollutant	Averaging Time	State (CAAQS)[a]		Federal (NAAQS)[b]	
		Standard	Attainment Status	Standard	Attainment Status
Ozone	1 hour	0.09 ppm	**N**	NA	—[c]
	8 hours	0.07 ppm	**N**	0.070 ppm	**N**
Carbon Monoxide (CO)	1 hour	20 ppm	A	35 ppm	A
	8 hours	9 ppm	A	9 ppm	A
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	A	0.100 ppm	U
	Annual	0.030 ppm	NA	0.053 ppm	A
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	A	0.075	A
	24 hours	0.04 ppm	A	0.14	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM_{10})	24 hours	50 µg/m^3	**N**	150 µg/m^3	A
	Annual[d]	20 µg/m^3	**N**	NA	NA
Fine Particulate Matter ($PM_{2.5}$)	24 hours	NA	NA	35 µg/m^3	**N**
	Annual	12 µg/m^3	**N**	9 µg/m^3	U/A[e]
Sulfates	24 hours	25 µg/m^3	A	NA	NA
Lead	30 days	1.5 µg/m^3	A	NA	NA
	Calendar quarter	NA	NA	1.5 µg/m^3	A
Hydrogen sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility-reducing Particles	8 hours	—[f]	A	NA	NA

Sources: California Air Resources Board, *Maps of State and Federal Area Designations*, https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations, accessed: October 29, 2025.
U.S. Environmental Protection Agency, *California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants*, https://www3.epa.gov/airquality/greenbook/anayo_ca.html, accessed October 29, 2025.
Notes:
A = attainment; N = nonattainment; U = unclassified; NA = not applicable, no applicable standard; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

a. CAAQS = California ambient air quality standards. CAAQS for ozone, CO (except Lake Tahoe), SO_2 (one-hour and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

b. NAAQS = national ambient air quality standards. NAAQS, other than those for ozone and particulates, as well as those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The eight-hour ozone standard is attained when the three-year average of the fourth-highest daily concentration is 0.08 ppm or less. The 24-hour PM_{10} standard is attained when the three-year average of the 99th percentile of monitored concentration is less than the standard. The 24-hour $PM_{2.5}$ standard is attained when the three-year average of the 98th percentile is less than the standard.

c. The U.S. EPA revoked the national one-hour ozone standard on June 15, 2005.

d. State standard = annual geometric mean; national standard = annual arithmetic mean.

e. In December 2012, the U.S. EPA strengthened the annual $PM_{2.5}$ NAAQS from 15 to 12 µg/m^3. In December 2014, the U.S. EPA issued final area designations for the 2012 primary annual $PM_{2.5}$ NAAQS. Areas designated "unclassifiable/attainment" must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015. In February 2024, the U.S. EPA lowered the annual NAAQS to 9.0 µg/m^3.

f. Statewide visibility-reducing particle standard (except Lake Tahoe Air Basin): Particles in sufficient quantities to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and equivalent to a 10-mile nominal visual range.

The U.S. EPA established requirements for a new monitoring network to measure NO_2 concentrations near major roadways in urban areas with a population of 500,000 or more. Sixteen monitoring stations were required in California. The three in the Bay Area are in Oakland, San José, and Berkeley. The new monitoring data may result in a need to change area designations in the future. The air resources board will revise the designations, as appropriate, once the new monitoring data become available.

Sulfur Dioxide

SO_2 is a colorless acidic gas with a strong odor. It is produced by the combustion of sulfur-containing fuels such as oil, coal, and diesel. SO_2 has the potential to damage various materials and can cause health effects at high concentrations. It can damage the respiratory tract as well as vegetation.[34] Pollutant trends suggest that the air basin currently meets the State standard for SO_2 and will continue to meet the standard for the foreseeable future.

In 2010, the U.S. EPA implemented a new one-hour SO_2 standard, as presented in **Table 3.B-2**, p. 3-18. The U.S. EPA initially designated the air basin as an attainment area for SO_2. As it did with NO_2, the U.S. EPA established requirements for a new monitoring network to measure SO_2 concentrations, beginning in January 2013.[35] No additional SO_2 monitoring stations are required for the Bay Area because the region has never been designated as a nonattainment area for SO_2; therefore, state implementation plans and maintenance plans have not been prepared for SO_2. The U.S. EPA designated the entire state as attainment/unclassifiable as of December 2017.[36]

Lead

Leaded gasoline (phased out from use in automobiles in the United States beginning in 1973), paint (on older houses and cars), smelters (metal refineries), and manufacturers of lead storage batteries have been the primary sources of lead in the atmosphere. Lead has a range of adverse neurotoxic health effects that put children at special risk. Some lead-containing chemicals cause cancer in animals. Lead levels in the air have decreased substantially since leaded gasoline in automobiles was eliminated.

Ambient lead concentrations are monitored in California on an as-warranted, site-specific basis. On October 15, 2008, the U.S. EPA strengthened the national ambient air quality standard for lead by lowering it from 1.50 to 0.15 microgram per cubic meter ($\mu g/m^3$) (rolling three-month average). The agency also revised the monitoring requirements for lead in December 2010.[37] The requirements, which focused on airports and large urban areas, resulted in an additional 76 monitoring stations nationally. In the Bay Area, the lead

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[34] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed September 30, 2025.

[35] U.S. Environmental Protection Agency, *Fact Sheet: Revisions to the Primary National Ambient Air Quality Standard, Monitoring Network, and Data Reporting Requirements for Sulfur Dioxide,* June 2, 2010, https://www.epa.gov/sites/production/files/2016-05/documents/final_primary_naaqs_factsheet.pdf, accessed September 30, 2025.

[36] Bay Area Air Quality Management District, *2019 Air Monitoring Network Plan*, July 1, 2019, pp. 34–36, https://www.baaqmd.gov/~/media/files/technical-services/air-monitoring-network-plans/ 2019_network_plan-pdf.pdf?rev=29256371f8e14dc59fdbe1f612e9a113&sc_lang=en, accessed September 30, 2025.

[37] U.S. Environmental Protection Agency, *Fact Sheet: Revisions to Lead Ambient Air Quality Monitoring Requirements,* December 10, 2010, https://www.epa.gov/sites/production/files/2016-03/documents/leadmonitoring_finalrule_factsheet.pdf, accessed September 30, 2025.

monitoring stations are at Reid-Hillview Airport and 158 East Jackson Street, both in San José. Another lead monitoring station, at San Carlos Airport, discontinued operations as of April 11, 2017.

Air Quality Index

The U.S. EPA developed the Air Quality Index (AQI) to make the public health impacts of air pollution concentrations easily understandable. The AQI, much like an air quality "thermometer," translates daily air pollution concentrations into a number on a scale between 0 and 500, then assigns the number to one of the following six color-coded ranges that rank air quality:

- **Good (Green, AQI = 0–50):** Air quality is considered satisfactory, and air pollution poses little or no risk.
- **Moderate (Yellow, AQI = 51–100):** Air quality is acceptable; however, for some pollutants, there may be a moderate health concern for a very small number of people who are unusually sensitive to air pollution. Unusually sensitive people should consider reducing prolonged or heavy outdoor exertion.
- **Unhealthy for Sensitive Groups (Orange, AQI = 101–150):** Although the general public is not likely to be affected in this AQI range, those with lung disease, as well as children and older adults, are at a greater risk from exposure to ozone; those with heart and lung disease, as well as children and older adults, are at a greater risk from the presence of particles in the air. Active people with respiratory disease such as asthma, as well as children and older adults, should limit prolonged or heavy outdoor exertion.
- **Unhealthy (Red, AQI = 151–200):** Everyone may begin to experience some adverse health effects, and sensitive groups may experience more serious effects. Active children and adults, as well as people with respiratory disease such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit prolonged outdoor exertion.
- **Very Unhealthy (Purple, AQI = 201–300):** The "very unhealthy" air quality rating would trigger a health alert, signifying that everyone may experience serious health effects. Active children and adults, as well as people with respiratory disease such as asthma, should avoid prolonged outdoor exertion; everyone else, especially children, should limit outdoor exertion.
- **Hazardous (Maroon, AQI = 301–500):** The rating of "hazardous" air quality would trigger health warnings regarding emergency conditions. The entire population is more likely to be affected. Everyone, especially children, should limit outdoor exertion.

The AQI numbers refer to specific amounts of pollution in the air. They are based on the federal air quality standards for ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$. In most cases, the federal standards correspond to 100 on the AQI chart. If the concentration of a pollutant rises above the respective standard, the air can be unhealthy for the public. In determining the air quality forecast, local air districts use anticipated concentration measurements for the major pollutants, convert them to AQI numbers, then determine the highest AQI for each zone in a district. Typically, levels below 100 on the AQI scale would not affect the health of the general public, although readings in the moderate range of 50 to 100 may affect unusually sensitive people.

AQI statistics over recent years indicate that air quality in the Bay Area is predominantly in the "good" or "moderate" categories and healthy on most days for most people. A number of the unhealthy days are attributable to the increasing frequency of wildfires. In the Bay Area, the fire season generally occurs between May and October, with the peak period between July and October when dry winds blow. This

period is also prior to the first significant precipitation of the fall or winter. However, the parameters are shifting with climate change. The 2017 wildfires in Northern California resulted in violations of the federal 24-hour $PM_{2.5}$ standard on seven days in September and October, as reported at the Air District's San Francisco – Arkansas Street station. The 2018 wildfires in Northern California also resulted in violations, with one day reported in August and 12 days in November.[38] There were no recorded violations of the federal 24-hour $PM_{2.5}$ standard in 2019, but the August and September 2020 wildfires in Northern California and other parts of the state resulted in violations of the federal 24-hour $PM_{2.5}$ standard.

Wildfires appear to be occurring with increasing frequency in California and the Bay Area as the climate changes. Since 2000, 18 of the state's 20 largest wildfires and 18 of the state's 20 most destructive fires have occurred.[39,40]

3.B.2.3 Toxic Air Contaminants and Local Health Risks and Hazards

In addition to criteria air pollutants, individual projects may directly or indirectly emit toxic air contaminants (TACs), which collectively refers to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects.[41] Human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

Unlike criteria air pollutants, TACs do not have ambient air quality standards; instead, TACs are regulated by the Air District using a risk-based approach to determine which sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis in which human health exposure to toxic substances is estimated and considered, together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.[42]

Exposures to fine particulate matter ($PM_{2.5}$) are strongly associated with mortality, respiratory diseases, and impaired lung development in children as well as other end results, such as hospitalization for cardiopulmonary disease.[43] In addition to $PM_{2.5}$, diesel particulate matter (DPM), a byproduct of diesel fuel

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38 Bay Area Air Quality Management District, *Fine Particulate Matter ($PM_{2.5}$),* Daily Measurements (San Francisco – Arkansas Street Station), October 2017, https:// www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/airp?date=2017-09-01&id=316&view=daily&style=table&zone=2a5e64eb-ca0b-4aaf-b619-2e18f48e2a28; Bay Area Air Quality Management District, *Fine Particulate Matter ($PM_{2.5}$),* November 2018, https://www.baaqmd.gov/about-air-quality/current-air-quality/air-monitoring-data/#/airp?id=316&style=table&zone=-1&date=2018-11-01&view=daily, accessed February 4, 2026.

39 California Department of Forestry and Fire Protection, *Top 20 Largest California Wildfires*, October 2, 2024, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/top-20-largest-ca-wildfires.pdf?rev=fba7bfc52eab4d5d87fbee5bd9416ed8&hash= 270E810A7FCF091122EE2A18EB24ACB.

40 California Department of Forestry and Fire Protection, *Top 20 Most Destructive California Wildfires*, October 9, 2025, https://34c031f8-c9fd-4018-8c5a-4159cdff6b0d-cdn-endpoint.azureedge.net/-/media/calfire-website/our-impact/fire-statistics/newtop20_destruction.pdf?rev=a12fe8cd105b4df8bf479beba79cb692 &hash=E70B3C80C15C2B9024F719D2C12F6E3F, accessed November 4, 2025.

41 "Carcinogenic" indicates that scientific studies have shown that exposure to a substance or mixture of substances at certain levels for some period of time has the potential to promote the formation of cancer.

42 In general, a health risk assessment is required if the Air District concludes that projected emissions of a specific air toxic compound from a proposed new or modified source suggest a potential public health risk. The applicant of the project that would emit TACs is then subject to a health risk assessment for the source in question. Such an assessment generally evaluates chronic long-term effects and estimates the increased risk of cancer as a result of exposure to one or more TACs.

43 San Francisco Department of Public Health, *Assessment and Mitigation of Air Pollutant Health Effect from Intra-urban Roadways: Guidance for Land Use Planning and Environmental Review,* May 6, 2008, https://default.sfplanning.org/ temp/Air%20Quality%20For%20EP%20and%20Consultants/Air%20Quality%20References/DPH%202008.pdf, accessed September 30, 2025.

combustion, is also of concern. The air resources board identified DPM as a TAC in 1998, based primarily on evidence that demonstrated cancer effects in humans.[44] The estimated cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other TAC routinely measured in the region. Under California regulatory guidelines, DPM is used as a surrogate measure of exposure for the mixture of chemicals that make up diesel exhaust as a whole. The California Environmental Protection Agency and other proponents of using the surrogate approach for quantifying cancer risks associated with the diesel mixture indicate that this method is preferable to use of a component-based approach.

San Francisco Modeling of Air Pollutant Exposure Zones

In an effort to identify the areas of San Francisco that are most adversely affected by TACs, San Francisco partnered with the Air District to inventory and assess air pollution and exposures from on-road vehicles, permitted stationary sources, Caltrain diesel locomotives, ships and other harbor craft, ferry boats, and area sources within San Francisco. Air quality dispersion modeling was conducted using the U.S. EPA's atmospheric dispersion modeling system (AERMOD)[45] to estimate concentrations of $PM_{2.5}$ and various TACs, including DPM, through use of a 20- by 20-meter (approximately 66- by 66-foot) receptor grid that covered the entire city. The citywide modeling results were used to support the San Francisco Citywide Health Risk Assessment, which is a comprehensive assessment of existing cumulative exposures to air pollution throughout the city. The methodology and technical documentation for modeling citywide air pollution are available in *San Francisco Citywide Health Risk Assessment: Technical Support Documentation*.[46]

The Citywide Health Risk Assessment was used to create the air pollutant exposure zone, or APEZ map, which identifies areas where air modeling indicates higher levels of air pollution. These areas were initially identified by considering the following health-protective criteria: (1) excess cancer risk greater than 100 per 1 million persons exposed from the contribution of emissions from all modeled sources or (2) cumulative $PM_{2.5}$ concentrations equal to or greater than 10 $\mu g/m^3$, including background $PM_{2.5}$ concentrations. Additional criteria was incorporated into the determination of the APEZ for San Francisco zip codes in the worst quintile of Bay Area health vulnerability scores as a result of air pollution-related causes (i.e., 94102, 94103, 94110, 94124, and 94134). In these health vulnerable zip codes, the standard for identifying areas as being within an APEZ were lowered to (1) a cancer risk greater than 90 per 1 million persons exposed and/or (2) a cumulative $PM_{2.5}$ concentration greater than 9 $\mu g/m^3$. In addition, all parcels within 500 feet of a major freeway were also included in the APEZ, consistent with the findings in the air resources board's *Air Quality and Land Use Handbook: A Community Health Perspective*, which suggests that air pollutant levels decrease substantially approximately 500 feet from a freeway.[47] The project area and the surrounding land uses near the site are within ZIP code 94124.

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[44] California Air Resources Board, *Fact Sheet: The Toxic Air Contaminant Identification Process: Toxic Air Contaminant Emissions from Diesel-fueled Engines*, October 1998, https://ww3.arb.ca.gov/toxics/dieseltac/ factsht1.pdf, accessed September 30, 2025.

[45] AERMOD is the U.S. EPA's preferred or recommended steady-state air dispersion plume model. More information on AERMOD and the AERMOD Implementation Guide is available at https://www.epa.gov/ scram/air-quality-dispersion-modeling-preferred-and-recommended-models.

[46] San Francisco Planning and Department of Public Health, *San Francisco Citywide Health Risk Assessment: Technical Support Documentation*, September 2020. In 2020, the city completed an update to the citywide health risk assessment and APEZ map. This included updated emissions estimates for mobile, stationary, rail, and maritime sources; air dispersion modeling on a 20- by 20-meter (approximately 66- by 66-foot) receptor grid that encompassed the entire city; and updated guidance from the Office of Environmental Health Hazard Assessment. The APEZ map was updated again in 2025 and published on February 6.

[47] California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed September 30, 2025.

In 2025, the APEZ map was updated to incorporate parcels within 1,000 feet of roadways that have annual daily traffic amounting to 100,000 vehicles or more while still maintaining the parcels within 500 feet of a freeway. In addition, the $PM_{2.5}$ criterion of 9 µg/m^3 that previously applied only to health vulnerable ZIP codes was applied to all areas within the city for consistency with the federal $PM_{2.5}$ standard.[48]

The 2025 APEZ covers predominantly the east side of the city as well as areas along major transportation corridors in other parts of the city (i.e., 19th Avenue/State Route 1, Sunset Boulevard, Skyline Boulevard, Geary Boulevard, California Street, Lombard Street, Interstate 280, U.S. 101 through the Presidio, southern portion of Treasure Island). An interactive map showing the APEZ is available from the planning department.[49]

Roadway, stationary, rail, and maritime sources are major contributors to concentrations of $PM_{2.5}$ and cancer risks in San Francisco. The Air District's inventory of permitted stationary sources of emissions indicates that there are hundreds of permitted stationary sources of emissions in the city. The permitted stationary sources are primarily standby generators, dry cleaners, and facilities such as auto body shops. In addition, the Air District's guidance indicates that roadways with vehicle volumes that exceed an average annual daily traffic level of 10,000 may affect sensitive receptors if within 1,000 feet of a receptor. This traffic contributes to elevated concentrations of $PM_{2.5}$, DPM, and other contaminants that are emitted from motor vehicles near the street level. The modeling used to identify the APEZ includes all permitted stationary sources and conservatively includes all roadways with daily vehicle volumes of 1,000 or more.

The project site is within an APEZ. **Figure 3.B-1**, p. 3-24, shows the APEZ that covers the project site and nearby areas. Air pollution at the project site results from stationary sources at the many industrial land uses in the vicinity, such as concrete batch plants and material processing facilities. In addition, Third Street is approximately 2,500 feet west of the project site, and Interstate 280 is less than one mile west of the site. These major roadways result in pollution from mobile sources. The APEZ criteria are described further below.

Fine Particulate Matter

The U.S. EPA revised the annual PM2.5 standard in March 2024 to 9 µg/m^3 based on an updated assessment of the scientific evidence connecting health effects and PM2.5 exposure.[50] As a result, the PM2.5 criterion for defining an APEZ in the City was also lowered in 2025 to 9 µg/m^3 to align with U.S. EPA's new standard for $PM_{2.5}$.[51]

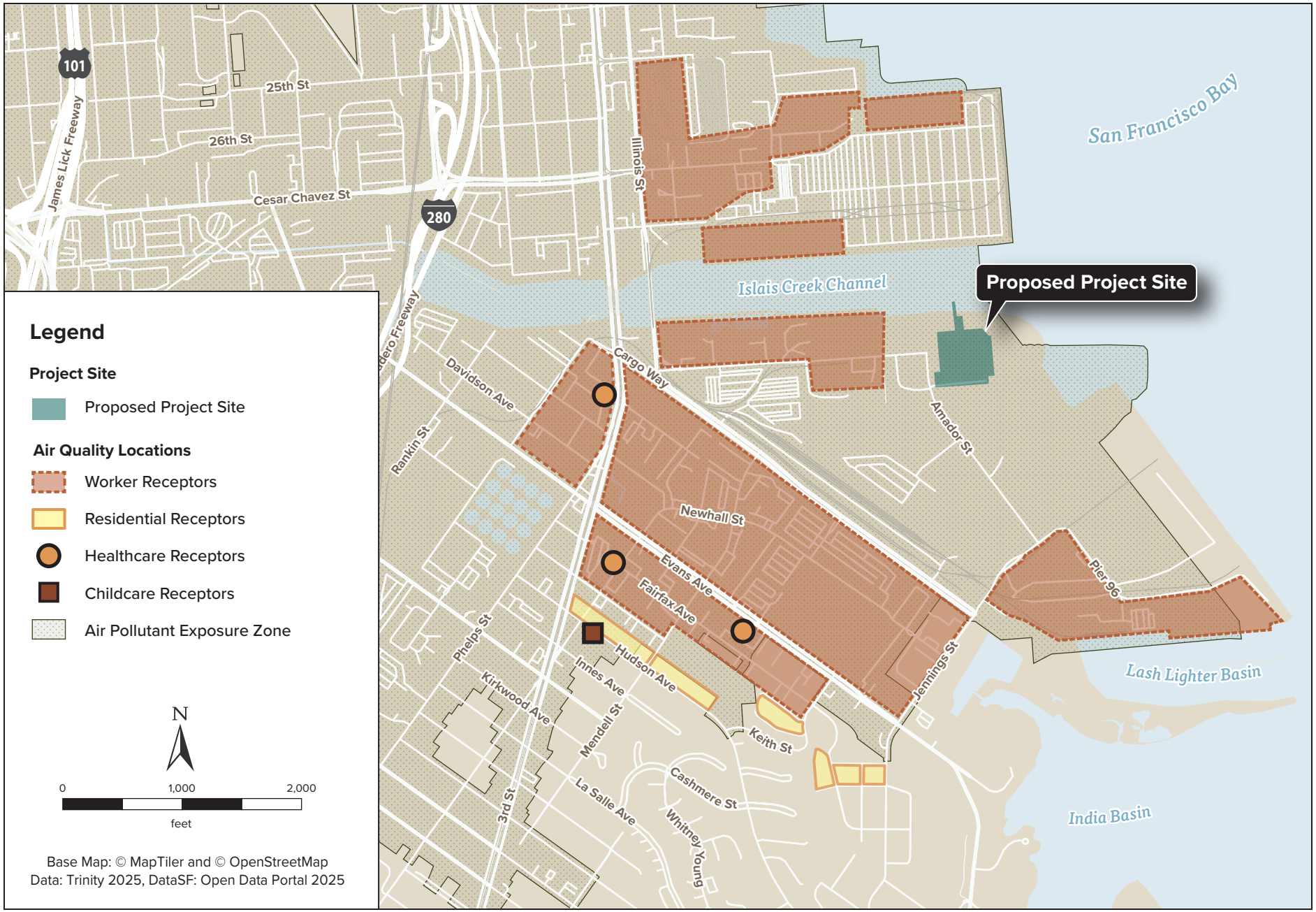
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48 San Francisco Planning, Air Quality Group, *Air Pollutant Exposure Zone,* February 6, 2020, https://storymaps.arcgis.com/stories/3df9534ee9ac4652805bc0b6b73fb1ec, accessed September 30, 2025.

49 The APEZ is available from the San Francisco Property Information Map, https://sfplanninggis.org/ PIM/map.html?layers=Air%20Pollutant%20Exposure%20Zone.

50 *Federal Register*, Volume 89, No. 45, March 6, 2024. https://www.govinfo.gov/content/pkg/FR-2024-03-06/pdf/2024-02637.pdf, accessed March 16, 2026.

51 San Francisco Planning, Air Quality Group, *Air Pollutant Exposure Zone,* February 6, https://storymaps.arcgis.com/stories/3df9534ee9ac4652805bc0b6b73fb1ec, accessed September 30, 2025.



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Figure 3.B-1
Sensitive Receptors Near the Proposed Project Site

Excess Cancer Risk

The excess-cancer-risk criterion (i.e., more than 100 persons per 1 million persons exposed) for defining an APEZ is based on U.S. EPA guidance for conducting air toxic analyses and making risk management decisions at the facility and community-scale level.[52] As described by the Air District, the U.S. EPA considers a cancer risk of 100 per 1 million persons exposed, or less, to be within the "acceptable" range of cancer risks. Furthermore, in the 1989 preamble to the benzene-related National Emissions Standards for Hazardous Air Pollutants rulemaking,[53] the U.S. EPA states that it "… strives to provide maximum feasible protection against risks to health from hazardous air pollutants by (1) protecting the greatest number of persons possible to an individual lifetime risk level no higher than approximately one in 1 million persons exposed and (2) limiting to no higher than approximately one in 10,000 [100 in 1 million] the estimated risk that a person living near a plant would have if he or she were exposed to the maximum pollutant concentrations for 70 years." The 100-per-1-million cancer risk is consistent with the ambient cancer risk in the most pristine portions of the Bay Area, based on the Air District's regional modeling.[54]

In addition to monitoring criteria pollutants, both the Air District and the air resources board operate TAC monitoring stations in the air basin. The stations measure 10 to 15 TACs, depending on the station. The TACs selected for monitoring are those that traditionally have been found in the highest concentrations in ambient air and therefore can present substantial risks. The Air District's TAC monitoring station is at 16th and Arkansas streets. The ambient concentrations of carcinogenic TACs measured at the station are presented in **Table 3.C-3**, p. 3-26. The table also shows the estimated cancer risk from a lifetime exposure (70 years) to such substances. When TAC measurements from this station are compared to ambient concentrations of various TACs in the Bay Area as a whole, the cancer risks in San Francisco are similar to those for the Bay Area as a whole. Therefore, the estimated average lifetime cancer risk resulting from exposure to TAC concentrations at the San Francisco station does not appear to be any greater than that for the Bay Area as a whole.

Roadway-Related Pollutants

Motor vehicles are responsible for a large share of air pollution, especially in California. Vehicle tailpipe emissions contain diverse forms of particles and gases. Vehicles also contribute particulates by generating road dust through tire wear. Epidemiological studies have demonstrated that people living close to freeways or busy roadways have poorer health outcomes, including increased occurrences of asthma symptoms and respiratory infections as well as decreased pulmonary function and lung development in children. Air pollution monitoring conducted in conjunction with epidemiological studies has confirmed that roadway-related health effects vary with modeled exposure to particulate matter and NO_2. In traffic-related studies, the additional non-cancer health risk attributable to roadway proximity was seen within 1,000 feet of the roadway and strongest within 300 feet.[55] As a result, the air resources board recommends that new sensitive land uses not be located within 500 feet of a freeway or urban roads carrying 100,000 vehicles per day.

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52 Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance,* October 2009, p. 67, https://www.baaqmd.gov/~/ media/files/planning-and-research/ceqa/revised-draft-ceqa-thresholds-justification-report-oct-2009.pdf, accessed March 24, 2022.

53 54 *Federal Register* 38044, September 14, 1989.

54 Bay Area Air Quality Management District, *Revised Draft Options and Justification Report, California Environmental Quality Act Thresholds of Significance*, October 2009, p. 67, https://www.baaqmd.gov/~/ media/files/planning-and-research/ceqa/revised-draft-ceqa-thresholds-justification-report-oct-2009.pdf, accessed March 24, 2022.

55 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed September 30, 2025.

Table 3.B-3: Annual Average Ambient Concentrations of Carcinogenic Toxic Air Contaminants Measured at Air District Monitoring Station at 10 Arkansas Street, San Francisco, in 2024[a]

Substance	Concentration	Cancer Risk per Million
Gaseous TACs	**(ppb)**	
Acetaldehyde	0.44	6
Benzene	0.097	25
1,3-butadiene	0.023	25
Carbon tetrachloride	0.077	60
Formaldehyde	1.19	25
Perchloroethylene	0.006	0.7
Methylene chloride	0.096	0.9
Chloroform	0.019	1
Trichloroethylene	0.010	0.3
Particulate TACs	**(ng/m^3)**	
Chromium (hexavalent)[b]	0.025	10
Total Risk for All TACs		**153.9**

Source: California Air Resources Board, *Ambient Air Toxics Summaries by Monitoring Sites*, http://www.arb.ca.gov/adam/toxics/sitesubstance.html, accessed February 4, 2026.
Notes:
TACs = toxic air contaminants; ppb = part per billion; ng/m^3 = nanograms per cubic meter.
[a] The most recent year with complete data at the time of writing was 2024.

Diesel Particulate Matter

As stated above, the air resources board identified DPM as a TAC in 1998, based primarily on evidence that demonstrates cancer effects in humans. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Mobile sources such as trucks and buses are among the primary sources of diesel emissions, and concentrations of DPM are highest near heavily traveled highways. The air resources board estimated that, as of 2000, the average Bay Area cancer risk from exposure to DPM, based on a population-weighted average ambient DPM concentration, is approximately 480 per 1 million persons exposed, which is much higher than the risk associated with any other routinely measured toxic air pollutant in the region. The statewide risk from DPM, as determined by the air resources board, declined from 750 per 1 million persons exposed in 1990 to 570 per 1 million persons exposed in 1995; the air

resources board estimated that the average statewide cancer risk from DPM would be 480 in 1 million persons exposed by 2000.[56,57]

In 2000, the air resources board approved a comprehensive diesel risk reduction plan to reduce diesel emissions from both new and existing diesel-fueled vehicles and engines. Subsequent air resources board regulations were applicable to new trucks and diesel fuel. For example, with new controls and fuel requirements, 60 trucks built in 2007 had the same particulate exhaust emissions as one truck built in 1988.[58] Overall, the air resources board's regulations cut diesel particulate matter by 78 percent statewide in the period from 1990 to 2014, even though diesel fuel use increased by 20 percent.[59]

Despite notable emissions reductions, the air resources board recommends that proximity to sources of DPM emissions be considered in the siting of new sensitive land uses. The air resources board notes that the recommendations are advisory and should not be interpreted as an effort to establish defined "buffer zones." Local agencies must balance other considerations, including transportation needs, the benefits of urban infill, community economic development priorities, and other quality-of-life issues. With careful evaluation of exposure and health risks, as well as affirmative steps to reduce risks where necessary, the air resources board's position is that infill development; mixed-use, higher-density transit-oriented development; and other concepts that benefit regional air quality can be compatible with efforts to protect the health of individuals at the neighborhood level[60] (see San Francisco Health Code article 38, discussed in the "Regulatory Framework," below).

3.B.2.4 Sensitive Receptors

Air quality does not affect every individual in the population in the same way. Some groups are more sensitive to adverse health effects than others. The population subgroups that are sensitive to the health effects of air pollutants include the elderly and the young; those with higher rates of respiratory disease, such as asthma and chronic obstructive pulmonary disease; and those with other environmental or occupational health exposures that affect cardiovascular or respiratory diseases. The factors responsible for variations in exposure are also often similar to factors associated with greater susceptibility to air quality health effects. For example, lower-income residents may be more likely to live in substandard housing near industrial or roadway sources of air pollution. The Air District defines *sensitive receptors* as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Typically, these facilities and land uses include residential dwellings, schools, day-care centers, hospitals, and senior-care facilities. The Air District also

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56 California Air Resources Board, *California Almanac of Emissions and Air Quality – 2009 Edition,* Table 5-44 and Figure 5-12, https://filelib.wildlife.ca.gov/FileLib/Ballona_Restoration_EIR_Reference_Material/3-03_AQ_Refs/ ARB%202009%20-%20Cal%20Almanac.pdf, accessed October 1, 2025.

57 This calculated cancer risk value from ambient air exposure in the Bay Area can be compared against the lifetime probability of being diagnosed with cancer in the United States from all causes, which for men is about 40 percent, or about 400,000 in 1 million, according to the American Cancer Society (American Cancer Society, *Lifetime Risk of Developing or Dying from Cancer,* last revised January 30, 2025, https://www.cancer.org/cancer/cancer-basics/lifetime-probability-of-developing-or-dying-from-cancer.html, accessed October 1, 2025).

58 Pollution Engineering, *New Clean Diesel Fuel Rules Start*, July 2006, https://sj-admin.s3-us-west-2.amazonaws.com/2006_0700-PollutionEngineering_NewCleanDiesel.pdf, accessed October 1, 2025.

59 Schwarzman, M, S. Schildroth, M. Bhetraratana, A. Alvarado, and J. Balmes, *Raising Standards to Lower Diesel Emissions,* March 26, 2021, https://www.science.org/doi/full/10.1126/science.abf8159, accessed October 1, 2025.

60 California Air Resources Board, *Air Quality and Land Use Handbook: A Community Health Perspective,* April 2005, https://ww2.arb.ca.gov/sites/default/files/2023-05/Land%20Use%20Handbook_0.pdf, accessed September 30, 2025.

considers off-site workers, which are people employed at workplaces not-affiliated with the proposed project, to be sensitive receptors.[61]

The proximity of sensitive receptors to motor vehicles is an air pollution concern, especially in San Francisco where building setbacks are limited and roadway volumes are higher than in most other parts of the Bay Area.

Existing receptors evaluated in this analysis include multiple health-care facilities, a day-care center, residential areas, and off-site worker areas. The nearest off-site sensitive receptor is an industrial area where workers are present, approximately 492 feet west of the property boundary at the nearest point. There are also worker receptors to the north, approximately 1,000 feet away, and to the south, approximately 1,400 feet away. Both are predominantly industrial land uses.

The next-closest type of receptor is a child health-care facility on Evans Street, which is approximately 2,600 feet southwest of the property boundary. Two health-care facilities, both located on 3rd Street, and a day-care center on Hudson Street are approximately 2,700 feet to 3,600 feet away to the west and southwest. There are also residential areas southwest of the project site along Mendell Street. Those areas are more than 3,000 feet from the property boundary at the nearest point. San Francisco Bay is east of the project site; therefore, there are no sensitive receptors to the east.

The citywide modeling effort, discussed under *San Francisco Modeling of Air Pollution Exposure Zones*, p. 3-22, evaluated all sensitive receptors as residential receptors to yield conservative (i.e., high-end) results. This is because residential receptors have longer exposure durations than non-residential sensitive receptors and are therefore expected to have greater health impacts. The locations of sensitive receptors near the project site are shown in **Figure 3.B-1**, p. 3-24.

The proposed project would not add new sensitive receptors on the project site because only off-site workers and not on-site workers are considered to be sensitive receptors by the Air District.

3.B.2.5 Odors

Sources that typically generate odors include wastewater treatment and pumping facilities; landfills; transfer stations; composting facilities; petroleum refineries; asphalt batch plants; chemical plants, including fiberglass manufacturers; metal smelters; painting and coating operations; rendering plants; coffee roasters and food processing facilities; and animal feed lots and dairies. The wide range of land uses in the city includes some urban uses that may generate odors, such as wastewater treatment and pumping facilities, transfer stations, painting and coating operations, coffee roasters, and auto body shops. Non-urban uses, such as animal feed lots and dairies, are not located in the city.

3.B.3 Regulatory Framework

3.B.3.1 Federal Regulations

The 1970 Clean Air Act (most recently amended in 1990) requires regional planning and air pollution control agencies to prepare a regional air quality plan that outlines the measures by which both stationary and mobile sources of pollutants will be controlled to achieve all standards by the deadlines specified in the act. Ambient air quality standards are intended to protect the public health and welfare. They specify the

[61] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed September 30, 2025.

concentration (with an ample margin of safety) of a pollutant the public can be exposed to without adverse health effects. The standards are designed to protect those segments of the public that are most susceptible to respiratory distress, including asthmatics, the very young, the elderly, people weakened from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels that are somewhat above ambient air quality standards before adverse health effects are observed.

The current attainment status for the air basin, with respect to federal standards, is summarized in **Table 3.B-2**, p. 3-18. In general, the air basin experiences low concentrations of most pollutants, except ozone[62] and particulate matter (PM_{10} and $PM_{2.5}$), for which the standards are exceeded periodically (see **Table 3.B-1**, p. 3-17).

The air basin is currently designated as an unclassifiable/attainment area (an area that has monitoring data that show the standard is met and not contributing to a nearby violation) with respect to the federal annual average PM2.5 standard. As discussed above, on February 7, 2024, the federal annual $PM_{2.5}$ standard was revised from 12.0 µg/m^3 to 9.0 µg/m^3. Within two years of setting a new or revised national ambient air quality standard, the Clean Air Act requires the U.S. EPA to designate areas as either meeting (attainment) or not meeting (nonattainment) the standard, at which time the air basin will be designated as either in attainment or nonattainment of the recently revised annual average standard of 9.0 µg/m^3.

3.B.3.2 State Regulations

Although the federal Clean Air Act established national ambient air quality standards, individual states retained the option to adopt more stringent standards and include other pollution sources. California had already established its own air quality standards when the federal standards were established. Because of unique meteorological challenges in California, there are many differences between the state and national ambient air quality standards, as shown in **Table 3.B-2**, p. 3-18. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent.

In 1988, California passed the California Clean Air Act (California Health and Safety Code section 39600 et seq.), which, like its federal counterpart, required the designation of attainment and nonattainment areas; however, these were based on state ambient air quality standards rather than the federal standards. As indicated in **Table 3.B-2**, p. 3-18, the air basin is designated as a nonattainment area for the State ozone, PM_{10}, and $PM_{2.5}$ standards and as an attainment area for other pollutants.

Toxic Air Contaminants

In 2005, the air resources board approved a regulatory measure to reduce emissions of toxic and criteria pollutants by limiting the idling of new heavy-duty diesel vehicles. The regulations generally limit the idling of commercial motor vehicles, including buses and trucks, within 100 feet of a school or residential area for more than five consecutive minutes or aggregate periods more than five minutes in any one hour. Buses or vehicles must also turn off their engines upon stopping at a school and must not turn them back on more than 30 seconds before departing from a school. Also, Senate Bill 352, adopted in 2003, places restrictions on locating public schools within 500 feet of a freeway or busy traffic corridor (Education Code section 17213; Public Resources Code section 21151.8).

[62] Although the monitoring data in Table 3.C-1 do not show any exceedances of ozone, there have been exceedances measured at other monitoring stations in the air basin. Because ozone is a regional pollutant, those exceedances affect and are applicable to the whole air basin.

The air resources board has adopted rules for new diesel trucks as well as off-road diesel equipment. Along with the rules adopted by the U.S. EPA, the rules from the air resources board have resulted in substantially more stringent emissions standards for new diesel trucks as well as off-road diesel equipment, including construction vehicles.

Effective January 2011, both the U.S. EPA and air resources board adopted so-called interim Tier 4 standards for new equipment with diesel engines of 175 horsepower or more. The interim Tier 4 emissions standards for particulate matter are about 85 percent more restrictive than previous standards (i.e., Tier 2 or Tier 3 standards, depending on the engine size).[63] As a result, the use of engines that meet the interim Tier 4 standards would reduce diesel exhaust emissions of particulate matter by approximately 85 percent compared with engines produced under the previous standards. Tier 4 Final standards are required for new off-road engines, depending on the engine size, starting in model-year 2014 or 2015. Compared to interim Tier 4 standards, Tier 4 Final standards are about 80 percent more restrictive with respect to NO_X emissions and 30 percent more restrictive with respect to particulate matter emissions. As a result, the use of engines that meet the Tier 4 Final standards would reduce exhaust emissions of NO_X by approximately 80 percent and diesel exhaust emissions of particulate matter by approximately 30 percent compared with engines produced under the interim Tier 4 standards.[64]

Regarding the equipment already in use, the air resources board adopted rules in 2007 for in-use off-road diesel vehicles, including construction equipment, and most recently amended these rules in November 2022. Beginning in 2014, air resources board regulations required off-road equipment fleets to begin gradual replacement of older engines with newer, cleaner engines; the installation of exhaust filters on remaining older engines; or some combination of the two to achieve fleet-wide emissions reductions. The rules also limit idling to five minutes and require a written idling policy for larger vehicle fleets, fleet operators to provide information regarding their engines to the air resources board, and vehicles to be labeled with an air resources board–issued vehicle identification number. The off-road rules require the retrofit or replacement of diesel engines in existing equipment. For example, Tier 2 or Tier 3 engines (for larger equipment manufactured since 2006) can achieve generally the same reduction in PM emissions through retrofitting and installing a diesel particulate filter (an air resources board–certified Level 3 Verified Diesel Emissions Control System). As amended, the start of repowering began in 2014 for large fleets, 2017 for medium-size fleets, and 2019 for small fleets.[65] The most recent amendments require phase-out through 2036 of the oldest and highest-emitting off-road engines in California, depending on the equipment tier and fleet size. They also restrict the addition of vehicles with Tier 3 and Tier 4 interim engines through 2035, expanding the provisions of the regulation prior to the amendments. In addition, contracting entities are required, beginning in 2024 to obtain and retain a valid Certificate of Reported Compliance for a fleet prior to awarding a contract or hiring a fleet. Beginning in 2024, the amendments mandate the use of renewable diesel (either "R99" or "R100") in all fleets. According to the air resources board, the recent amendments would achieve a reduction that would go above and beyond the previous regulation by approximately 31,087 tons for NO_X and 2,717 tons for fine particulate matter. Because only a certain percentage of each fleet's engines must be replaced or retrofitted on an annual or periodic basis to achieve the required emissions reductions, and because fleet

[63] For most construction equipment, other than that with extremely powerful engines (greater than 750 horsepower), Tier 2 and Tier 3 emissions standards are the same with respect to particulate matter. Therefore, the cancer risk from DPM—a subset of all particulate matter—is essentially the same for Tier 2 and Tier 3 engines.

[64] California Air Resources Board, *Non-road Diesel Engine Certification Tier Chart*, https://ww2.arb.ca.gov/resources/documents/non-road-diesel-engine-certification-tier-chart, accessed October 9, 2025.

[65] Fleet size is based on total horsepower. Large fleets are those with more than 5,000 horsepower. Medium fleets have 2,501 to 5,000 horsepower, and small fleets have less than 2,500 horsepower.

turnover for heavy-duty off-road equipment takes many years, the full effect of the regulations on emissions reductions is not anticipated to be realized until sometime between 2024 and 2038, depending on the engine size and pollutant.[66]

3.B.3.3 Regional Regulations and Plans

Bay Area Air Quality Planning

Air quality plans developed to meet federal requirements are referred to as state implementation plans. The federal and California Clean Air Act require plans to be developed for areas designated as nonattainment areas (with the exception of areas designated as nonattainment areas for the State PM_{10} standard).

The Air District's 2017 *Clean Air Plan: Spare the Air, Cool the Climate* (Clean Air Plan), adopted on April 19, 2017, was developed in cooperation with the Metropolitan Transportation Commission, the San Francisco Bay Conservation and Development Commission, and the Association of Bay Area Governments to provide a regional strategy to improve Bay Area air quality and meet public health goals.[67] The control strategy described in the 2017 Clean Air Plan included a wide range of control measures to reduce emissions and lower ambient concentrations of harmful pollutants, safeguard public health by reducing the public's exposure to the air pollutants that pose the greatest health risk, and reduce GHG emissions to protect the climate.

The 2017 Clean Air Plan addresses four categories of pollutants: ground-level ozone and its key precursors, ROG and NO_x; PM, primarily $PM_{2.5}$ and precursors to secondary $PM_{2.5}$; air toxics; and GHG emissions. Categorization of the control measures is based on an economic sector framework that includes stationary sources, transportation, energy, building, agriculture, natural and working land, waste management, and water measures.

The Air District is the regional agency with jurisdiction over the nine-county region within the air basin. The Association of Bay Area Governments, Metropolitan Transportation Commission, county transportation agencies, cities and counties, and various non-governmental organizations also participate in efforts to improve air quality through a variety of programs. These programs include the adoption of regulations and policies as well as implementation of extensive educational and public outreach programs.

The Air District is responsible for attaining and/or maintaining air quality in the region with respect to federal and State air quality standards. Specifically, the Air District is responsible for monitoring ambient air pollutant levels throughout the region as well as developing and implementing strategies to attain the applicable federal and State standards. The Air District has permit authority over most types of stationary emissions sources and can require stationary sources to obtain permits. It can also impose emissions limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The Air District also regulates new or expanding stationary sources of TACs and requires air toxic control measures for many sources that emit TACs.

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[66] California Air Resources Board, *Overview of Proposed Amendments to the In-Use Off-Road Diesel-Fueled Fleets Regulation,* October 2022, https://ww2.arb.ca.gov/resources/fact-sheets/overview-proposed-amendments-use-road-diesel-fueled-fleets-regulation, accessed October 10, 2025.

[67] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed October 14, 2025.

Air District Rules

The Air District regulates stationary-source emissions of TACs through Rule 2-1 (General Permit Requirements), Rule 2-2 (New Source Review), and Rule 2-5 (New Source Review of Toxic Air Contaminants). Under these rules, all stationary sources that have the potential to emit air pollutant emissions, including criteria air pollutants and TACs, above levels specified by regulation are required to obtain permits from the Air District. These rules provide guidance for the review of new and modified stationary sources of emissions, including evaluation of health risks and potential measures to reduce health risks.

Stationary sources must apply best available control technology to reduce emissions. In recent years, the Air District has updated its best available control technology requirement for emergency generators greater than 1,000 horsepower, requiring such sources to achieve the U.S. EPA Tier 4 emissions standards.[68] In December 2024, the Air District updated the requirement so that emergency generators between 50 and 1,000 horsepower must also achieve the U.S. EPA Tier 4 emissions standards.[69]

San Francisco Construction Dust Control Ordinance

Health code article 22B and San Francisco Building Code section 106.A.3.2.6 collectively constitute the Construction Dust Control Ordinance (adopted in July 2008).[70] The ordinance requires all site preparation work, demolition, or other construction activities in San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards or 500 square feet of soil to comply with specified dust control measures, whether or not the activity requires a building permit from the Department of Building Inspection (DBI). For projects disturbing more than 0.5 acre within 1,000 feet of sensitive receptor(s) (e.g., residences and group living quarters, schools, day-care centers, hospitals and other health-care facilities), and other projects as deemed necessary by the director of the San Francisco Department of Public Health (health department), the Construction Dust Control Ordinance requires the project sponsor to submit a dust control plan, with a goal of minimizing visible dust, for approval by the health department prior to issuance of a building permit. Such larger projects must also identify a compliance monitor. That person must be available at all times during construction activities. Construction permits for projects disturbing more than 0.5 acre within 1,000 feet of sensitive receptor(s) would not be issued without written notification from the health department director, stating that sponsors of the development have a site-specific dust control plan, unless the director waives the requirement.

The Construction Dust Control Ordinance requires project sponsors who are responsible for construction activities to control construction dust on a site or implement practices that result in equivalent dust control that are acceptable to the health department director. Dust suppression activities may include watering all active construction areas enough to prevent dust from becoming airborne. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water must be used if required by article 21, section 1100 et seq., of the San Francisco Public Works Code.

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[68] Bay Area Air Quality Management District, *Best Available Control Technology Guideline (< 1,000 BHP Output)*, https://www.baaqmd.gov/~/media/files/engineering/ bact-tbact-workshop/combustion/96-1-5.pdf?rev=1f89f9faaa434df5bf31ac10b5888bd2&sc_lang=en, accessed October 14, 2025.

[69] Bay Area Air Quality Management District, *Best Available Control Technology Guideline (50 BHP and 1,000 BHP Output),* https://www.baaqmd.gov/~/media/files/engineering/bact-tbact-workshop/combustion/96-1-3.pdf?rev=210312454f084efe9dba8846cda4d372&sc_lang=en, accessed October 14, 2025.

[70] The Port Building Code, which applies to projects constructed in Port jurisdiction, incorporates these requirements in Section 106.A.3.2.3, *Construction dust control*

San Francisco Health Code Provisions for Urban Infill Development (Article 38)

The citywide health risk modeling discussed above in *San Francisco Modeling of Air Pollution Exposure Zones* is referenced in Enhanced Ventilation Required for Urban Infill Sensitive Use Developments, or health code article 38 (Ordinance No. 224-14, effective December 8, 2014) (article 38). The purpose of article 38 is to protect the public health and welfare by establishing an air pollutant exposure zone and imposing an enhanced ventilation requirement on all urban infill sensitive-use development within that zone. Article 38 is not applicable to the proposed project because the proposed project would not add new sensitive receptors to the site, as defined in article 38.

Regulation of Public Nuisances and Odors

Air District's Regulation 1-301 prohibits public nuisances, specifically barring emissions that "cause injury, detriment, nuisance or annoyance" or endanger "the comfort, repose, health or safety" of the public or that cause injury or damage to business or property. Additionally, Air District's Regulation 7 places general limitations on odorous substances and specific emissions limitations on certain odorous compounds. The regulation limits the discharge of "any odorous substance which causes the ambient air at or beyond the property line … to be odorous and to remain odorous after dilution with four parts of odor-free air." The Air District must receive odor complaints from 10 or more complainants within a 90-day period for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the Air District if a test panel can detect an odor in samples collected periodically from the source.

3.B.4 Impacts and Mitigation Measures

This section presents the impact analysis related to air quality with implementation of the proposed project. It describes the methods used to determine the impacts of the proposed project and lists the thresholds that were used to conclude whether an impact would be significant.

3.B.4.1 Significance Criteria

Implementation of the proposed project would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase in any criteria pollutant for which the project region is in nonattainment status under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations; or
- Result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.

3.B.4.2 Approach to Analysis

This section provides an overview of the approach to the air quality impact analysis and describes the methods used to evaluate the proposed project's impacts related to consistency with the Clean Air Plan, emissions of regional criteria air pollutants for which the area is in nonattainment, local health risks and hazards, odor emissions, and cumulative impacts with detail under the topics below; additional detail is provided in Appendix G, *Air Quality CEQA Air Quality and Health Risk Assessment Results Memorandum*, of this EIR.

Project construction would take approximately 7 months; construction is currently anticipated to occur within one calendar year (2027). While no demolition would occur, the total amount of soil disturbed would be 1,105 cubic yards. To expand and modernize the existing sand processing facility, new equipment would be installed, a new warehouse would be constructed, and 1.45 acres of the site would be paved.

Project operational activities under the proposed permit limits (see Section 2.D.2, Proposed Operation) are estimated to occur for 262 days per year, which is greater than but similar to the operational activities observed over the baseline period (254 days per year). This analysis assumes the sand throughput increases from approximately 350,000 tons per year under baseline conditions to the proposed throughput limit of 800,000 tons per year, or an estimated increase of 450,000 tons per year. Because air quality impacts are compared to significance thresholds that are based on annual and average daily emissions, this section does not evaluate peak conditions.

Consistency with Clean Air Plan

The most recently adopted air quality plan for the air basin is the 2017 Clean Air Plan, which is a road map that demonstrates how the Bay Area will achieve compliance with the State ozone standards as expeditiously as practicable and how the region will reduce the transport of ozone and ozone precursors to neighboring air basins. In determining consistency with the 2017 Clean Air Plan, this analysis considers whether the proposed project would (1) support the primary goals of the 2017 Clean Air Plan, (2) include applicable control measures from the 2017 Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the 2017 Clean Air Plan.[71] Impact AQ-1 assesses the proposed project's consistency with the 2017 Clean Air Plan.

Criteria Air Pollutants and Precursors

As shown in **Table 3.B-2**, p. 3-18, the air basin is designated as being in nonattainment for ozone, $PM_{2.5}$, and PM_{10}. By definition, regional air pollution is largely a cumulative impact in that no single project is sufficient in size to, by itself, result in nonattainment of air quality standards. Instead, a project's individual emissions are considered to contribute to the existing cumulative air quality conditions. If a project's contribution to cumulative air quality conditions is considerable, then the project's impact on air quality would be considered significant.

Table 3.B-4, p. 3-34, identifies quantitative criteria air pollutant significance thresholds. The table is followed by a discussion of each threshold. Projects that would result in criteria pollutant emissions above the significance thresholds would result in a cumulatively considerable net increase in nonattainment criteria air pollutants in the air basin (ozone precursors and PM). Projects with emissions that would not exceed the thresholds would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants. Construction emissions are assessed solely with respect to average daily thresholds, pursuant to the Air District's guidance, because of the generally temporary nature of construction-related emissions. Impact AQ-2 and Impact AQ-3 analyze construction criteria air pollutant impacts and operational criteria air pollutant impacts resulting from the proposed project, respectively.

[71] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed October 14, 2025.

Table 3.B-4: Criteria Air Pollutant Thresholds

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds per day)	Average Daily Emissions (pounds per day)	Maximum Annual Emissions (tons per year)
ROG	54	54	10
NO_X	54	54	10
PM_{10}	82 (exhaust)	82	15
$PM_{2.5}$	54 (exhaust)	54	10
Fugitive Dust	best management practices	Not applicable	

Source: Bay Area Air Quality Management District, *2022 CEQA Air Quality Guidelines,* Chapter 3, Thresholds of Significance. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed October 15, 2025.

The Air District's CEQA Air Quality Guidelines, Appendix A, Thresholds of Significance Justification, provides evidence to support the criteria air pollutant significance thresholds listed in **Table 3.B-4**, p. 3-34 ;[72] these thresholds for the ozone precursors ROG and NO_X are tied to the Air District's offset requirements for ozone precursors. This is because the Bay Area is not in attainment with the federal ozone standard; therefore, such an approach is appropriate "to prevent further deterioration of ambient air quality and thus has nexus and proportionality to prevention of a regionally cumulative significant impact (e.g., worsened status of nonattainment)."[73] As discussed above, ambient air quality standards have been established by developing specific public health–based and welfare-based criteria for setting permissible levels. Therefore, attainment can be considered protective of public health, providing a strong link between a mass emission threshold and avoidance of health effects. For PM_{10} and $PM_{2.5}$, the Air District established significance thresholds, based on the federal New Source Review program for new stationary sources of pollution. As stated in the Air District's CEQA Air Quality Guidelines, Appendix A, "These thresholds represent the emission levels above which a project's individual emissions would result in a considerable contribution to the [air basin]'s existing air quality conditions."[74] As with ROG and NO_X, these thresholds provide a connection between a mass emission threshold and avoidance of health effects.

Fugitive dust emissions from land use development projects are associated primarily with construction activities. Studies have shown that the application of best management practices at construction sites can significantly control fugitive dust,[75] and individual measures have been shown to reduce fugitive dust by anywhere from 30 to 90 percent.[76] San Francisco's Construction Dust Control Ordinance requires a number of fugitive dust control measures to ensure that construction projects do not result in visible dust. The project

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[72] Bay Area Air Quality Management District, *2022 CEQA Guidelines, Appendix A, Thresholds of Significance Justification*. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2 a25fb1df9&sc_lang=en, accessed October 15, 2025.

[73] Ibid.

[74] Ibid.

[75] Western Regional Air Partnership, *WRAP Fugitive Dust Handbook*, September 7, 2006, https://www.env.nm.gov/ wp-content/uploads/sites/2/2017/02/WRAP_FDHandbook_Rev_06.pdf, accessed October 15, 2025.

[76] Bay Area Air Quality Management District, *2022 CEQA Guidelines, Appendix A, Thresholds of Significance Justification*. https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ appendix-a-thresholds-of-significance-justification_final-pdf.pdf?rev=d35960ec035546629124ae2a25fb1df9 &sc_lang=en, accessed October 15, 2025.

would be subject to the requirements of the Construction Dust Control Ordinance, which is the basis for determining the significance of criteria air pollutant and ozone precursor impacts from fugitive dust emissions associated with construction activities.

Construction

During construction, air quality impacts could result from exhaust emissions generated by off-road construction equipment and on-road vehicles used by construction workers, along with vehicles for vendor deliveries and material hauling. Fugitive dust emissions would result from earthmoving activities; fugitive ROG emissions would be generated from paving the previously unpaved surfaces at the site.

A list of construction equipment expected to be used and the level of activity (i.e., number of days and hours per day of use), as well as the anticipated number of construction worker, vendor, and haul trips by phase for the proposed project, is included in Appendix G of this EIR in the section describing the assumptions and methodology for the analysis. Air pollutant emissions generated by construction activities (e.g., conveyor reconfiguration, excavation, grading, road paving, pile enclosure construction) were estimated using methodology consistent with the California Emissions Estimator Model, version 2022.1 (CalEEMod). CalEEMod is the latest air quality emissions model developed by the California Air Pollution Control Officers Association (CAPCOA) and recommended by the Air District. CalEEMod incorporates air resources board–approved off-road and on-road mobile-source emission factor models (OFFROAD and EMFAC, respectively) and is designed to estimate emissions from land use development projects. CalEEMod allows for the input of project-specific information and includes default assumptions for when project-specific information is not available. Construction data were provided by the project sponsor; City and default construction assumptions from CalEEMod were used for some inputs (e.g., equipment horsepower and load factors values). Emissions modeling input data and assumptions for the project schedule, off-road construction equipment, soil excavation, construction worker and truck trips, and asphalt paving are based on information provided by the project sponsor. Where project-specific data were not available, default assumptions from CalEEMod were used to estimate project emissions. Modeling assumptions are detailed in Appendix G. The results of this analysis were compared against the significance thresholds discussed above.

Operations

Project operations would involve multiple sources of emissions that would be standard for a sand processing facility but atypical for other development in the city (e.g., residential, mixed-use office, retail). As such, in some cases, CalEEMod was used to estimate the project's operational emissions. However, some sources of emissions were not calculated in CalEEMod; therefore, a different methodology was used.

During operations, the project would continue to result in the use of both off-road equipment (e.g., forklifts, loaders) for processing sand and on-road vehicles (e.g., dump trucks) operated by customers of the site. Exhaust from these sources of emissions for both the baseline condition and project were quantified using the CalEEMod methodology and EMFAC emissions factors, as outlined above, for construction.

The project would continue to use barges to transport material. This source of emissions was estimated using the emission factors for barges identified by the U.S. EPA. The specific emission factors used can be found in Appendix G of this EIR.

The project also would result in emissions during operations from fugitive dust and sand because the material is affected by wind at the project site and from being physically moved between locations within the site. Wind can cause material from uncovered stockpiles to be blown away from the pile and into the

atmosphere; this is known as wind erosion. The new warehouse that would be constructed would reduce wind erosion-related emissions; however, emissions from this source could still occur. In addition, as material is transferred between equipment at the facility, such as between a diesel loader and a hopper, the physical movement of the material results in dust being emitted into the atmosphere. The material stored in stockpiles and moved with equipment has and would continue to have a high moisture content, which results in lower fugitive dust emissions relative to material that is drier. Dust that is present on roadways, both within and outside of the project site, can be emitted into the atmosphere when vehicles travel over the surfaces and re-entrain the dust upward. Unpaved road travel results in substantially higher dust emissions than paved road travel on a per mile basis. Within the project site, front-end loaders would travel on paved and unpaved roads. Customer trucks would travel on paved roads. Outside of the project site, vehicles such as customer's trucks would travel on only paved roads within the project vicinity. The fugitive dust modeling for the project reflects the difference in the extent of paved roads within the facility between the existing and proposed project condition. In the existing condition, the modeling reflects both front-end loaders and customer trucks traveling on unpaved roads, along with customer's trucks traveling on paved roads. Because of the site improvements that would be implemented, which will result in more paved roads within the facility, the proposed project scenario assumes that customers' trucks would travel only on paved roads and not on unpaved roads. It also assumes that front-end loaders would now travel on paved roads within the facility but not at all times. There would still be limited front-loader travel on unpaved roads. Appendix G includes the specific mileage assumptions for paved and unpaved roads used in the modeling.

In general, emissions from fugitive dust and sand-related sources were quantified using the U.S. EPA AP-42 Compilation of Air Pollutant Emission Factors (AP-42) methodology because these types of sources are not included in CalEEMod or are more accurately quantified using AP-42 methods. In some cases, other resources were used, such as guidance from the Air District pertaining to the efficiencies of the control measures used to minimize emissions. Appendix G of this EIR identifies the specific sections and formulas of the AP-42 methodology that were used for calculating emissions from material transfer, stockpiles, and fugitive road dust; it also identifies other resources that were used to quantify emissions.

Total emissions from all sources during operations, both from the project conditions and from the baseline conditions, were summed. The net difference between the two was compared to the significance thresholds discussed above.

Community Health Risks and Hazards

The project would generate DPM during construction and operation from the use of off-road equipment and on-road vehicles. During operations, DPM would also be generated by barge trips. The proposed project would result in emissions of TACs contained in fugitive dust generated during operations. Based on sampling conducted in August 2024, the fugitive dust from the interior roadways contained various heavy metals (e.g., mercury, arsenic, cadmium) which would be emitted as vehicles travel on the interior roadways.[77] Sampling was not conducted on exterior (i.e., public) roadways. Fugitive dust on exterior roadways, which are all paved, is assumed to contain negligible TACs. The proposed project would not introduce new types of TAC sources that are not already occurring under existing conditions.

Based on the criteria pollutant and TAC emissions inventory, a health risk analysis (HRA) was prepared to provide quantitative estimates of construction- and operational-period health risks to off-site receptors resulting from TAC emissions from the proposed project due to DPM and other TACs. Overall, the HRA was

[77] Appendix A, Table 3-7, shows the inventory of heavy metals that compose fugitive road dust on the interior project site roadways.

prepared to be consistent with the City's Air Quality and Greenhouse Gas Analysis Guidelines, with some supplementary information from the Air District's CEQA Air Quality Guidelines, Appendix E.[78]

Air dispersion was modeled using the U.S. EPA's AERMOD model, with regulatory default parameters for six scenarios: construction-phase HRA and annual average $PM_{2.5}$, baseline operational HRA and annual average $PM_{2.5}$, and project operational HRA and annual average $PM_{2.5}$. The disparate baseline and project operations scenarios allow for the calculation of the proposed project's net incremental impact. The model estimates air pollutant concentrations, based on the site and source geometry, the rate of emissions, distance from the source to the receptor, and meteorological data.

Meteorological data were obtained from the Air District, with surface data from San Francisco International Airport and upper-air data from Oakland International Airport. Emission sources and receptors were represented in AERMOD using a UTM coordinate system, with terrain elevations based on the U.S. Geological Survey National Elevation Dataset. The land use category in AERMOD was modeled as "urban," with a population of 827,526.

Receptors representing ambient air locations were placed along the facility boundary and within a 20-meter grid extending 1,000 meters in all directions from the center of the site, with additional grids added along truck travel paths and nearby worker and residential receptor areas. All receptors were modeled to have a breathing height of 1.8 meters to represent human exposure.

For construction, the HRA modeling assumed a seven-month construction period, occurring five days a week over a total of 140 days. Both off-road and on-road sources of TACs associated with the proposed project's construction phases were included in the HRA. For construction, off-road sources of emissions were modeled as area sources, while on-road sources were estimated using the planning department's roadway health risk screening methodology. The estimated risks from construction vehicle activity were incorporated into the modeling analysis.

Operational emissions for both baseline and project conditions included point sources, such as barge use and truck idling; area sources, such as stockpiles, off-road equipment, and paved and unpaved travel areas; and volume sources, such as material handling, transfer points, and fugitive roadway emissions. Building downwash effects were evaluated for truck idling sources in some instances.

Health risk calculations were performed using the Hot Spots Analysis and Reporting Program (HARP), consistent with Air District [79] and Office of Environmental Health Hazard Assessment (OEHHA) Air Toxics Hot Spots Program[80] guidance. Exposure pathways included inhalation and, where applicable, multi-pathway exposures such as soil ingestion, dermal absorption, and mother's milk. Construction-phase exposure was treated as a one-time event, with the exposure duration equal to the construction period.

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78 Bay Area Air Quality Management District, *2022 CEQA Guidelines*, Appendix E, https://www.baaqmd.gov/ plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed March 18, 2026.

79 Ibid.

80 California Office of Environmental Health Hazard Assessment, *Guidance Manual for Preparation of Health Risk Assessments,* 2015, https://oehha.ca.gov/sites/default/files/media/downloads/crnr/2015guidancemanual.pdf.

Operational exposure assumed long-term residential and worker exposure durations of 30 years and 25 years, respectively, consistent with regulatory guidance, including Air District guidance. A detailed discussion of the methodology pertaining to the HRA and dispersion modeling is available in Appendix G.

Table 3.B-5, p. 3-40, presents the cancer risk and $PM_{2.5}$ health risk thresholds that have been applied to the proposed project. The thresholds of significance used to evaluate health risks from new and modified sources of TACs associated with the proposed project are based on the potential for the proposed project to substantially affect the geography or severity of the APEZ at sensitive receptor and worker locations. If the proposed project would result in sensitive receptor locations meeting the APEZ criteria that otherwise would not occur without the proposed project, then a substantial health risk contribution threshold, as shown in **Table 3.B-5**, p. 3-40, is defined as an annual average $PM_{2.5}$ concentration at or above 0.3 µg/m^3 or an excess cancer risk at or greater than 10.0 per 1 million. The 0.3 µg/m^3 annual average $PM_{2.5}$ concentration and the excess cancer risk of 10.0 per 1 million are the project-level health risk significance levels identified by the Air District; they are the levels below which the Air District considers new sources not to make a considerable contribution to cumulative health risks.[81] For those locations meeting the APEZ criteria, a lower significance threshold is required to ensure that the proposed project's contribution to existing health risks would not be significant. In those areas, project-generated $PM_{2.5}$ concentrations at or above 0.2 µg/m^3, or an excess cancer risk at or greater than 7.0 per 1 million, would be considered to be a substantial health risk contribution, and a significant impact would occur.[82] As discussed previously under *San Francisco Modeling of Air Pollution Exposure Zones*, the project site and vicinity are within the APEZ screening area; therefore, the first step in this analysis is to confirm whether the APEZ criteria are met at the affected receptors. If the APEZ criteria are met, then the proposed project's contribution is compared to the thresholds applicable to APEZ areas. If the APEZ criteria are not met and would not be met under the existing-plus-proposed project scenario, then no further comparison to the thresholds is necessary because the proposed project would not substantially affect the geography or severity of the APEZ.

Projects that result in a cancer risk or annual average $PM_{2.5}$ concentration below the aforementioned levels at sensitive or worker receptors would not result in exposure to substantial pollutant concentrations. The chronic and acute HI resulting from the proposed project is also disclosed and compared with the Air District's HI threshold of 1.0.

The health risk impact of the proposed project at the maximally exposed sensitive receptors is presented in Impact AQ-4. Impact AQ-4 also provides health risk information from existing (background) sources of air pollution, based on the 2020 citywide HRA.

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81 Bay Area Air Quality Management District, *2022 CEQA Guidelines, Chapter 5, Project-Level Air Quality Impacts*, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239cbbc0d62c37a, accessed October 15, 2025.

82 A 0.2 µg/m^3 increase in PM2.5 would result in a 0.28 percent increase in noninjury mortality, or about 21 excess deaths per 1,000,000 per year from noninjury causes in San Francisco. This information is based on Jerrett M. et al., *Spatial Analysis of Air Pollution and Mortality in Los Angeles*, Epidemiology 16 (2005):727–736. The excess cancer risk has been proportionally reduced to result in a significance criterion of seven per 1 million persons exposed.

Table 3.B-5: Excess Cancer Risk and $PM_{2.5}$ Concentration Thresholds

Affected Sensitive Receptors	Thresholds for Construction and Operation	
	$PM_{2.5}$ ($\mu g/m^3$)	Excess Cancer Risk (cases per 1 million)
APEZ Criteria[a]	9.0	100.0
APEZ Criteria at Health-vulnerable ZIP Codes[a]	9.0	90.0
Significance Threshold for Project Contributions to Sensitive Receptors Meeting APEZ Criteria[b]	0.2	7.0
Significance Threshold for Project Contribution to Sensitive Receptors that Do Not Meet APEZ Criteria but Would Meet APEZ Criteria as a Result of the Project[c]	0.3	10.0

Source: San Francisco Planning, *Air Quality and Greenhouse Gas Analysis Guidelines,* 2025, https://citypln-m-extnl.sfgov.org/SharedLinks.aspx?accesskey= ac7ae6c9956af1a8126fecf6f1663eba4a88e8e536ba4899502503bf69c1ae51&VaultGUID=A4A7DACD-B0DC-4322-BD29-F6F07103C6E0, accessed October 16, 2025.
[a.] San Francisco Planning, Air Quality Group, *Air Pollutant Exposure Zone,* February 6, *https://storymaps.arcgis.com/stories/3df9534ee9ac4652805bc0b6b73fb1ec,* accessed September 30, 2025.
[b.] A 0.2 $\mu g/m^3$ increase in $PM_{2.5}$ would result in a 0.28 percent increase in noninjury mortality, or about 21 excess deaths per million per year from noninjury causes in San Francisco. This information is based on M. Jerrett et al. 2005. The excess cancer risk has been proportionally reduced to result in a significance criterion of seven per 1 million persons exposed.
[c.] Bay Area Air Quality Management District, *2022 CEQA Guidelines,* Chapter 3, Thresholds of Significance, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-3-thresholds_final_v2-pdf.pdf?rev=a976830cce0c4a6bb624b020f72d25b3&sc_lang=en, accessed October 15, 2025.
APEZ = Air Pollutant Exposure Zone
$\mu g/m^3$ = micrograms per cubic meter
$PM_{2.5}$ = particulate matter less than or equal to 2.5 micrometers in diameter

Odors

For evaluating odor impacts, a proposed project must identify the location of existing and planned odor sources and include policies to reduce potential odor impacts if such sources are anticipated from the project. Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities. The Air District identifies a screening distance for new sources of potential odors, depending on use.[83] In general, such setback distances would avoid the potential for significant odor impacts. The proposed project would not include any of the typical odor sources cited above.

Cumulative Impact Assessment

Regional air quality impacts are cumulative impacts. Emissions from past, present, and future projects contribute to adverse regional air quality impacts on a cumulative basis. No single development project is large enough to result in regional nonattainment of ambient air quality standards. The project-level thresholds for mass emissions of criteria air pollutants are based on levels at which new sources are not

[83] Bay Area Air Quality Management District, *2022 CEQA Guidelines, Chapter 5, Project-Level Air Quality Impacts*, https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-5-project-air-quality-impacts_final-pdf.pdf?rev=de582fe349e545989239 cbbc0d62c37a, accessed October 15, 2025.

anticipated to result in a considerable net increase in nonattainment criteria air pollutants. Therefore, if the project's mass emissions would not exceed the project-level thresholds, the project would not result in a considerable contribution to cumulatively significant regional air quality impacts. For this reason, no separate cumulative criteria air pollutant analysis is warranted, and none is provided below.

The analysis of cumulative health risks is addressed qualitatively because of the lack of available emissions and health risk data for the applicable cumulative projects. Further, the quantitative analysis of health risks conducted for the project-level impact is inherently cumulative because it includes background sources of emissions and health risks that would combine cumulatively with the contribution from the proposed project. Where quantitative health risk information exists from cumulative projects, that information is disclosed. Cumulative development in the project vicinity includes six projects: Pier 94 Grassland Meadow Enhancements, Amador Street Infrastructure, Pier 80 Subsidence Repairs, CEMEX Construction Materials Pacific, 200 Acacia Avenue, and 300 Catalina Street. Some of these cumulative projects are not within 1,000 feet of the project site but are included here because they are within 1,000 feet of the maximally exposed sensitive receptors. This list of projects has been identified by the planning department and differs from the list of projects shown in Table 3-1, Cumulative Projects within a 1,000-meter Radius of the Project Site, because the cumulative analysis of air quality impacts is focused on projects within 1,000 feet of sensitive receptors and not projects within 1,000 meters of the proposed project site. The inclusion of these projects that are not within 1,000 feet of the project site is supported by the Air District's CEQA Guidelines, which notes that "the project radius may be expanded beyond 1,000 feet to include sources that are significant contributors to the overall cumulative risks and hazards at the maximum affected receptor". [84]

3.B.4.3 Impacts and Mitigation Measures

Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the 2017 Air District Clean Air Plan. *(Less than Significant)*

The most recently adopted air quality plan for the air basin is the 2017 Bay Area Clean Air Plan,[85] a road map that demonstrates how the Bay Area will, in accordance with requirements of the California Clean Air Act, implement all feasible measures to reduce ozone precursors (ROG and NO_X) and reduce the transport of ozone and its precursors to neighboring air basins. It also provides a control strategy to reduce PM, air toxics, and GHGs. In determining consistency with the Clean Air Plan, this analysis considers whether the proposed project would (1) support the primary goals of the Clean Air Plan, (2) include applicable control measures from the Clean Air Plan, and (3) avoid disrupting or hindering implementation of control measures identified in the Clean Air Plan.

The primary goals of the Clean Air Plan are to protect air quality and health at the regional and local scale and protect the climate by reducing regional criteria air pollutant emissions, reducing local air quality–related health risks by meeting State and national ambient air quality standards, and reducing GHG emissions to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050. [86]

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[84] Bay Area Air Quality Management District, *2022 CEQA Guidelines*, Appendix E, https://www.baaqmd.gov/ plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines, accessed March 18, 2026.

[85] Bay Area Air Quality Management District, *2017 Clean Air Plan: Spare the Air, Cool the Climate*, April 19, 2017, https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en, accessed October 14, 2025.

[86] The Air District's 2030 GHG target is consistent with California's GHG 2030 reduction target, per Senate Bill 32. The Air District's 2050 target is consistent with California's 2050 GHG reduction target, per Executive Order S-3-05.

To meet the primary goals, the plan recommends 85 specific control measures and actions. These control measures are grouped into nine sectors that involve stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-GHG pollutants. Overall, these measures have limited relevance to the proposed project, because the proposed project is not a typical land use development, such as a residential, office, or mixed-use development that has a sizable population of residents or employees and thus more potential to conserve energy and water, reduce waste, and carpool or use alternative modes of transportation. Further, some measures in the plan are not within the Air District's regulatory authority and thus may be advisory or are otherwise not specifically applicable to land use projects.

The Clean Air Plan recognizes that, to a great extent, community design dictates individual travel mode and that a key long-term control strategy to reduce emissions of criteria pollutants, TACs, and GHGs from motor vehicles is to channel future Bay Area growth into vibrant urban communities where goods and services are close at hand and people have a range of viable transportation options. The proposed project achieves alignment with that strategy of the Clean Air Plan, because the facility is located in proximity to two main customers served by the facility, which will continue to result in minimal truck travel to deliver materials. The project also would result in raw materials arriving by barge, which is the same as the existing conditions, and this would have a limiting effect on VMT, because fewer truck deliveries would be needed than if barges were not used. Under the maximum allowable permitted conditions, the number of employees at the project site would increase from five to six; therefore, the net effect of the project would be one additional employee commuting to and from the site, resulting in minimal additional VMT from employee travel. Further, the number of vehicle parking spaces at the site would remain at 10 spaces. As such, the proposed project would not substantially increase vehicle trips or vehicle miles traveled (VMT), nor would it result in excessive parking that could discourage alternative modes of transportation. The proposed project's impact with respect to GHGs is discussed in initial study Section 9, *Greenhouse Gas Emissions*, which demonstrates that the proposed project would not result in a significant GHG impact (see Appendix B).

The proposed project is fundamentally consistent with the goals of the Clean Air Plan, because, as noted above in Section 2.B, Project Sponsor's Objectives one of the primary objectives of the project is to implement enhanced environmental controls at the existing facility and to obtain a permit to operate from the Air District. As such, if constructed, the proposed project would result in facility operations that are more consistent with the Clean Air Plan than existing operations, because various controls would ensure that the project is lower-emitting on a per-throughput-basis than the existing operations. The nature of the existing operations at the facility would not change but would continue with a redesigned site with modern equipment and improved environmental controls. The proposed project would modernize and reconstruct the existing sand processing facility by installing new equipment, constructing a new warehouse, and paving and reconfiguring the site. Although the proposed permit would allow for processing of up to 800,000 tons of sand in a year, based on historic demand this level of throughput is not the most likely outcome of the project.[87] After implementation of the proposed project, the facility would process throughput at a rate determined by market demand, which is the same as the existing facility operations. Consequently, the primary change between the proposed project scenario and the existing conditions is the inclusion of modernization features and enhanced environmental controls described here, resulting in lower-emitting operations, and the establishment of a throughput restriction that is enforceable through permit limitations. Throughput will be controlled by market demand in both the existing conditions scenario and project scenario. At the maximum throughput level established by the permit, the facility would result in more emissions than the baseline conditions; however, as

[87] The proposed permit limit is based on the annual maximum barge capacity. Market demand may not generate consumption at this level.

evaluated in Impacts AQ-2 to AQ-4, the corresponding emissions and health risks from the maximum permitted throughput level would be below all air quality thresholds of significance and would thus not conflict with the goals or implementation of the Clean Air Plan.

Because the proposed project would be consistent with the applicable air quality plan that demonstrates how the region would improve ambient air quality and achieve the State and federal ambient air quality standards, this impact would be ***less than significant.*** No mitigation measures are required.

Impact AQ-2: The proposed project's construction activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin. *(Less than Significant)*

During the proposed project's construction period, construction activities would result in emissions of ozone precursors and PM in the form of fugitive dust and exhaust (e.g., vehicle tailpipe emissions). Emissions of ozone precursors and PM are primarily a result of the combustion of fuel from on-road and off-road vehicles. However, ROGs are also emitted from asphalt paving. These emissions are discussed below.

Fugitive Dust

Excavation, grading, and other construction activities may cause wind-blown dust that could contribute PM into the local atmosphere. The Construction Dust Control Ordinance requires all site preparation work, demolition, or other construction activities in San Francisco that have the potential to create dust or expose or disturb more than 10 cubic yards or 500 square feet of soil to comply with specified dust control measures, whether or not the activity requires a permit from the DBI. In compliance with the Construction Dust Control Ordinance, the project sponsor and the contractor responsible for construction activities at the project site would be required to water all active construction areas sufficiently to prevent dust from becoming airborne; increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. During excavation and soil-moving activities, contractors shall wet sweep or vacuum the streets, sidewalks, paths, and intersections where work is in progress at the end of the workday. Inactive stockpiles (where no disturbance occurs for more than seven days) greater than 10 cubic yards or 500 square feet of excavated material, backfill material, import material, gravel, sand, road base, or soil shall be covered with a 10-mil (0.01-inch) polyethylene plastic (or equivalent) tarp and braced down, or protected with other equivalent soil stabilization techniques. For projects disturbing more than one-half acre, such as the proposed project, the dust control ordinance requires the project sponsor to submit a dust control plan for approval by the San Francisco Department of Public Health.[88] The site-specific dust control plan would require implementation of additional dust control measures (e.g., installing dust curtains and windbreaks, conducting independent third-party inspections and monitoring, providing a public complaint hotline, and suspending construction during high-wind conditions).

San Francisco ordinance 175-91 restricts the use of potable water for soil compaction and dust control activities undertaken in conjunction with any construction or demolition project occurring within the boundaries of San Francisco unless permission is obtained from San Francisco Public Utilities Commission (SFPUC). Non-potable water must be used for soil compaction and dust control activities during project construction and demolition.

[88] The DBI will not issue a building permit without written notification from the director of public health that the applicant has a site-specific dust control plan, unless the director waives the requirement.

Compliance with the regulations and procedures set forth by the Construction Dust Control Ordinance would reduce potential dust-related air quality impacts, including dust-related PM (a criteria air pollutant). This impact would be **less than significant**. No mitigation measures are required.

Criteria Air Pollutants

Proposed project construction activities would result in emissions of criteria air pollutants from the use of off- and on-road vehicles and equipment, along with paving activities. **Table 3.B-6**, p. 3-44, shows the estimated emissions from project construction in comparison to the thresholds of significance. As shown in **Table 3.B-6**, p. 3-44, the proposed project's construction activities would not exceed any of the Air District's criteria air pollutant significance thresholds. Therefore, the proposed project's construction-period criteria air pollutant impact would be **less than significant**. No mitigation measures are required.

Table 3.B-6: Project Construction Emissions

Construction Source	Construction Emissions in 2027[a]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$
Average Daily Emissions (pounds per day)				
Paving	< 0.1	—[b]	—	—
Excavation	—	—	0.4	0.2
Grading	—	—	< 0.1	< 0.1
Off-Road Equipment	0.2	4.4	< 0.1	< 0.1
On-Road Vehicles	< 0.1	0.2	< 0.1	< 0.1
Fugitive Road Dust	—	—	< 0.1	< 0.1
Total Construction	**0.3**	**4.6**	**0.5**	**0.3**
Significance Threshold	**54**	**54**	**82**	**54**
Threshold Exceeded?	**No**	**No**	**No**	**No**

Source: Trinity Consultants, *CEQA Air Quality and Health Risk Assessment Results Memorandum, Pier 92 Modernization and Plant Replacement Project*, January 2026, Tables 3-1 and 3-2 (see **Appendix G**).

Notes:

a. Construction emissions use emission factors for fleet-average equipment for 2027. Emissions are averaged over the estimated number of working days per year for each activity, which ranges from 15 to 140 days.

b. If no value is presented that means no pollutant would be emitted. Not all emissions sources result in emissions of every pollutant. For example, paving results in off-gassing emissions of ROG but not pollutants that are typically emitted from combustion processes or fugitive dust (NOx, PM_{10}, and $PM_{2.5}$).

Impact AQ-3: The proposed project's operational activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin. *(Less than Significant)*

Operation of the proposed project would have the potential to create air quality impacts, which would result from multiple components of facility operation. The sources of emissions during operations include fugitive dust from material transfer, stockpiles, and vehicle travel as well as exhaust emissions from barges, off-road equipment, and on-road vehicle travel. All of these sources are part of the baseline condition because the facility is an existing business conducting operational activities. Thus, the nature of the existing operations at the facility would not change but would continue with a redesigned site with modern equipment and improved environmental controls. These environmental controls include retrofitting and replacing existing sand

conveyors (and adding covers) and constructing a warehouse for the finished material stockpile and loading area. Another modernization feature is the paving of currently unpaved portions of the site where mobile equipment travels, which would reduce dust emissions since vehicle travel on unpaved roads results in substantially greater dust emissions than on paved roads. As such, on a per-throughput-basis, the proposed project would result in less emissions than existing conditions because of the modernization features.

The maximum permitted throughput is a theoretical maximum and is not the most likely outcome of the project, because the facility would process throughput at a rate determined by market demand, which is the same as the existing facility operations. In the event that the maximum permitted throughput is achieved, the project would result in a change in emissions from the sources noted above, because more material would result in more on-road vehicle travel, off-road equipment use, wind erosion, and thus more emissions overall. In the event the maximum permitted throughput is achieved, there would be an increase in fugitive dust and an increase in exhaust emissions from the barges, equipment, and vehicles that transport and process the sand. However, the increase in fugitive dust emissions from the increased sand throughput would be minimized through the modernization features to enhance dust control.

Table 3.B-7, p. 3-45, shows the estimated emissions from project operations, baseline conditions, and the net difference. The net change in emissions between the baseline condition and project condition is the quantity of emissions used to evaluate the project's significance. As shown in **Table 3.B-7**, p. 3-45, net project emissions would not exceed any of the Air District's criteria air pollutant significance thresholds. Before construction is complete, there would be an interim period during which the facility would be operational while construction is occurring. However, the operations of the facility during this interim period are within existing conditions, because construction activities at the site would likely result in physical or logistical limitations that could cause a throughput-reducing effect at the facility. Regardless, even combining emissions in **Table 3.B-7** for net project operations and the emissions in **Table 3.B-6** for construction would not result in an exceedance of a threshold of significance for any pollutant.[89] Therefore, the proposed project's operational-period criteria air pollutant impact would be ***less than significant***. No mitigation measures are required.

Table 3.B-7: Operational Emissions for the Project, Existing Conditions, and the Net Difference

Emission Source	Emissions (pounds per day)[a]				Emissions (tons per year)[a]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Baseline (Existing) Conditions								
Material Transfer	—[b]	—	1.5	0.2	—	—	0.3	< 0.1
Stockpiles	—	—	0.2	< 0.1	—	—	< 0.1	< 0.1
Fugitive Road Dust	—	—	5.1	1.0	—	—	0.9	0.2
Barge Trips	1.9	46.7	0.6	0.6	0.3	8.5	0.1	0.1
Off-Road Equipment	0.5	4.8	0.2	0.2	0.1	0.9	< 0.1	< 0.1
On-Road Vehicles	< 0.1	0.9	0.1	< 0.1	< 0.1	0.2	< 0.1	< 0.1
Total Baseline (Existing) Emissions[c]	**2.5**	**52.3**	**7.6**	**2.1**	**0.4**	**9.5**	**1.4**	**0.4**

[89] For example, NOx emissions, which are the highest of any pollutant, are 24.3 pounds per day for net project operations and 4.6 pounds per day for project construction. The sum of these, 28.9 pounds per day, is substantially less than the total project operations, 76.7 pounds per day.

Emission Source	Emissions (pounds per day)[a]				Emissions (tons per year)[a]			
	ROG	NO_X	PM_{10}	$PM_{2.5}$	ROG	NO_X	PM_{10}	$PM_{2.5}$
Project Operations								
Material Transfer	—	—	3.5	0.5	—	—	0.6	0.1
Stockpiles	—	—	0.2	< 0.1	—	—	< 0.1	< 0.1
Fugitive Road Dust	—	—	5.2	1.3	—	—	1.0	0.2
Barge Trips	3.1	69.6	0.8	0.8	0.6	12.7	0.1	0.1
Off-Road Equipment	1.0	6.3	0.3	0.2	0.2	1.1	< 0.1	< 0.1
On-Road Vehicles	< 0.1	0.8	0.1	< 0.1	< 0.1	0.1	< 0.1	< 0.1
Total Project Operations Emissions	**4.1**	**76.7**	**10.1**	**2.9**	**0.7**	**14.0**	**1.9**	**0.5**
Net Increase in Project Emissions[c]	**1.6**	**24.3**	**2.5**	**0.8**	**0.3**	**4.4**	**0.5**	**0.2**
Significance Threshold	**54**	**54**	**82**	**54**	**10**	**10**	**15**	**10**
Above Threshold?	**No**	**No**	**No**	**No**	**No**	**No**	**No**	**No**

Source: Trinity Consultants, *CEQA Air Quality and Health Risk Assessment Results Memorandum, Pier 92 Modernization and Plant Replacement Project*, January 2026, Tables 3-4 and 3-5 (see **Appendix G**).
Notes:
[a] Daily emissions are average daily emissions, using an averaging period of 365 days per year.
[b] If no value is presented that means no pollutant would be emitted. Not all emissions sources result in emissions of every pollutant. For example, stockpiles result in fugitive dust emissions of PM_{10}, and $PM_{2.5}$ but not pollutants that are typically emitted from combustion processes (ROG, NOx).
[c] Totals may not add up because of rounding.

Impact AQ-4: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations. *(Less than significant)*

An HRA was conducted to identify the maximum health risks from construction and operation of the proposed project on sensitive receptors from inhalation of $PM_{2.5}$ and from TACs emitted from diesel-fueled equipment and vehicles. During operations, crystalline silica and heavy metals, which are TACs, would also be emitted from material movement and operations at the site. Emissions of these pollutants were included in the HRA.

The HRA evaluated excess lifetime cancer risk and annual average $PM_{2.5}$ concentrations at sensitive receptors that would be exposed to emissions from construction and operation of the proposed project. The chronic HI is also reported. All sensitive receptors within 1,000 meters of the project site were evaluated in the HRA. The results at the maximally exposed individual sensitive receptor (MEISR) are reported below.

There are multiple MEISRs because the different types of receptors in the project area are exposed to and affected by the project's emissions differently. This analysis presents the results for the sensitive receptors most affected by the proposed project, which are a residential MEISR and a worker MEISR. Impacts at other types of sensitive receptors, such as people visiting healthcare facilities or children attending daycare, were found to be much lower than the results presented in this chapter for residential and worker receptors.

Health risks resulting from the proposed project were analyzed according to the methods summarized above in *Community Health Risks and Hazards*. Additional information on the health risk methods and assumptions can be found in Appendix G.

Excess Cancer Risk and Hazard Index at Offsite Receptors

The modeled excess cancer risk results at the residential and worker MEISRs are shown in **Table 3.B-8**, p. 3-47. **Figure 3.B-1**, p. 3-24, shows the locations of the MEISRs for cancer risk from construction and operation of the proposed project.

With the proposed permit limit of 800,000 tons per year, there would be an increase in emissions compared to baseline conditions, because the quantity of material would increase by approximately 450,000 tons per year; however, the intensity of emissions on a per-throughput-basis would be less than baseline conditions, because the proposed project includes modernization features that would be implemented to reduce fugitive dust, such as the retrofit and replacement of conveyors, the construction of a warehouse for the finished material stockpile and loading area, and the paving of unpaved areas that are used for vehicle travel. As shown in **Table 3.B-8**, p. 3-47, the proposed project would cause a net reduction in cancer risk at the worker MEISR but not at the residential MEISR. This is illustrated in **Table 3.B-8**, p. 3-47, by comparing the existing lifetime excess cancer risk for the worker MEISR (32.48 in 1 million) to the net cancer risk with implementation of the proposed project (30.68 in 1 million). The reason for the decrease in cancer risk at the worker MEISR is the result of a difference in exposure assumptions for the worker receptors between the existing-plus-project scenario and the existing scenario, because the facility's operational hours would be different between these two scenarios and thus receptors would be exposed to pollutants for different periods of time. As the facility throughput increases, the facility operating hours also would increase, and change worker exposure such that the cancer risk decreases. Conversely, at lower throughputs the operating hours may be more similar to the existing conditions, and, in those circumstances, the cancer risk value would be less of a decrease relative to existing conditions. A detailed explanation of the exposure assumptions and the difference between scenarios is provided in Appendix G.

Table 3.B-8: Existing-Plus-Project Cancer Risk at the Maximally Exposed Individual Sensitive Receptors

Emissions Source Category	Cancer Risk (per 1 million persons exposed)	
	Residential MEISR	Worker MEISR
Receptor Coordinates (UTM X, UTM Y)	554440, 4176900	554740, 4177860
Existing Sources from Citywide HRA		
Existing Lifetime Excess Cancer Risk[a]	42.32	32.48
Project Sources		
Construction	0.02	0.02
Operations	0.81	6.91
Total Project Contribution	0.83	6.93
Baseline Sources		
Total Baseline Contribution	0.81	8.74
Existing plus Net Project (Baseline Sources Removed)		
Resulting Cancer Risk at MEISR[b]	42.35	30.68
Net Change in Cancer Risk at MEISR[b]	0.02	-1.8
Existing + Project Cancer Risk Meets APEZ Criteria?[c]	No	No

Emissions Source Category	Cancer Risk (per 1 million persons exposed)	
	Residential MEISR	Worker MEISR
Project Contribution Threshold[d]	N/A	N/A
Project Contribution Threshold Exceeded?	**No**	**No**

Source: Trinity Consultants, *CEQA Air Quality and Health Risk Assessment Results Memorandum, Pier 92 Modernization and Plant Replacement Project*, January 2026, Tables 4-1, 4-2, and 4-3 (see **Appendix G**).

a. The existing sources values are from the 2020 San Francisco Citywide Health Risk Assessment.
b. Summing of the individual sources may not add exactly to the total because of rounding.
c. The project is in health-vulnerable ZIP code 94124; therefore, the following APEZ criterion applies: excess cancer risk of 90 per million.
d. Because the APEZ criteria are not met for the existing-plus-project scenario, the impact is considered less than significant, and no further steps are necessary to determine significance.

Conducting the same comparison for the residential MEISR shows that the lifetime cancer risk without the proposed project (42.32 in 1 million) is slightly lower than the net cancer risk with implementation of the proposed project (42.35 in 1 million); therefore, there would be an increased cancer risk of 0.02 in 1 million from the proposed project.

For both the existing scenario and the existing-plus-project scenario, the maximum cancer risk would be less than 90 per 1 million for both receptor types, which is the cancer risk criteria for the APEZ in health-vulnerable ZIP codes, as shown in **Table 3.B-5**, p. 3-40. As such, the modeled results from this analysis show that the nearest receptors would not meet the APEZ criteria, and the proposed project would not substantially affect the geography and severity of the APEZ at sensitive receptor locations.

In addition, the proposed project would result in a maximum chronic HI of -0.0160 at the worker MEISR and -0.0002 at the resident MEISR, and a maximum acute HI of –0.004 at the worker MESIR and –0.0003 at the resident MEISR. These HI results are net reductions and thus below the air district's HI threshold of 1.0. The reduction in chronic and acute HI values for both receptors would occur because of the reduction in on-site fugitive dust emissions.[90] As noted previously, the interior roads at the site would be paved, which would reduce the TACs that make-up fugitive dust emitted from vehicle travel on unpaved surfaces; thus, the proposed project would result in lower chronic and acute HI values relative to existing conditions. Therefore, the health risk impact from construction and operation of the proposed project would be ***less than significant***. No mitigation measures are required.

$PM_{2.5}$ Concentrations at Off-site Receptors

The modeled annual $PM_{2.5}$ concentrations at the residential and worker MEISRs are shown in **Table 3.B-9**, p. 3-49. **Figure 3.B-1**, p. 3-24 , shows the locations of the MEISRs during construction and operation of the proposed project.

[90] Emissions of dust from vehicles traveling on roads interior to the site and the TACs that are within the dust would decrease from the paving that would occur at the site. However, emissions of dust from vehicles traveling on public roads exterior to the site would increase, which reflects the additional hauling needed to accommodate the proposed throughput limit.

Table 3.B-9: Existing-Plus-Project $PM_{2.5}$ Concentration at the Maximally Exposed Individual Sensitive Receptors

Emissions Source Category	Annual Average $PM_{2.5}$ Concentration ($\mu g/m^3$)	
	Residential MEISR	Worker MEISR
Receptor Coordinates (UTM X, UTM Y)	554440, 4176900	554740, 4177860
Existing Sources from Citywide HRA		
Existing Annual Average $PM_{2.5}$ Concentration[a]	8.37	7.91
Project Sources		
Construction	< 0.01	0.01
Operations	0.01	0.23
Total Project Contribution	0.01	0.23
Baseline Sources		
Total Baseline Contribution	< 0.01	0.19
Existing plus Net Project (Baseline Sources Removed)		
Resulting PM2.5 concentration at MEISR[b]	8.37	7.95
Net Change in PM2.5 concentration at MEISR[b]	< 0.01	0.04
Existing-plus-$PM_{2.5}$ Concentration Meets APEZ Criteria?[c]	No	No
Project Contribution Threshold[d]	N/A	N/A
Project Contribution Threshold Exceeded?	**No**	**No**

Source: Trinity Consultants, *CEQA Air Quality and Health Risk Assessment Results Memorandum, Pier 92 Modernization and Plant Replacement Project*, January 2026, Tables 4-1, 4-2, and 4-3 (see **Appendix G**).

a. The existing sources values are from the 2020 San Francisco Citywide Health Risk Assessment.

b. Summing of the individual sources may not add exactly to the total because of rounding.

c. The project is in health-vulnerable ZIP code 94124; therefore, the following APEZ criterion applies: annual average $PM_{2.5}$ concentration of 9.0 $\mu g/m^3$.

d. At the residential and worker MEISR, the APEZ criteria are not met for the existing-plus-project scenario. The impact is considered less than significant, and no further steps are necessary to determine significance.

Table 3.B-9, p. 3-49, reflects the reduction in the $PM_{2.5}$ concentration from existing sources and the net effect from implementation of the proposed project. For $PM_{2.5}$, the proposed project would result in a net increase in $PM_{2.5}$ concentrations at both receptors. Comparing the worker MEISR value shows that the $PM_{2.5}$ concentrations without the proposed project (7.91 $\mu g/m^3$) would be slightly lower than the $PM_{2.5}$ concentrations with implementation of the proposed project (7.95 $\mu g/m^3$). The $PM_{2.5}$ concentration at the residential MEISR would experience a small increase of less than 0.01 $\mu g/m^3$, such that the concentration with and without the proposed project is 8.37 $\mu g/m^3$.[91] As such the proposed project would increase the $PM_{2.5}$ concentration by 0.04 $\mu g/m^3$ at the worker MEISR and by less than 0.01 at the residential MEISR.

For both the residential and worker MEISR, the net new concentration would be less than 9.0 $\mu g/m^3$, which is the APEZ criteria. No further evaluation of these results with respect to project contribution thresholds is

[91] The $PM_{2.5}$ values are presented shown to the hundredths digit (i.e. 0.01), so there appears to be no change between the residential MEISR value with and without the project; however, the difference between the two is less than 0.01, and the difference would be apparent if results were presented to the thousandths digit (i.e. 0.001).

necessary (see **Table 3.B-5**, p. 3-40) because the APEZ criteria have not been met. Consequently, the proposed project's contribution of $PM_{2.5}$ would not be significant because it would not substantially affect the geography and severity of the APEZ with respect to $PM_{2.5}$, as evidenced by the $PM_{2.5}$ concentration results being less than 9.0 µg/m^3 both with and without the proposed project at both receptor types. Therefore, the $PM_{2.5}$ concentration impact from construction and operation of the proposed project would be ***less than significant***. No mitigation measures are required.

Impact AQ-5: Construction of the proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people. (*Less than Significant*)

Typical odor sources of concern include wastewater treatment plants, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing facilities, fiberglass manufacturing facilities, auto body shops, rendering plants, and coffee roasting facilities.

The existing conditions at the project site involve the use of idling haul trucks and off-road equipment, such as loaders, forklifts, and aerial lifts, which are diesel fueled. With buildout of the proposed project, there would be the continuation of these existing diesel sources in addition to the increased use of haul trucks and off-road equipment to accommodate the additional sand processing that would occur if the facility throughput exceeds baseline conditions up to the permit limit. Additionally, the proposed project would include the use of multiple pieces of diesel-powered equipment for 140 days of construction. Although diesel exhaust can be a source of odors, it is generally not offensive enough to generate complaints. Because the proposed project would result in diesel exhaust–related odors, which currently occur at the project site, any odors related to the project (i.e., from increased use of haul trucks or equipment) or during construction would most likely not be noticeably different from odors under existing conditions. Furthermore, diesel exhaust and, therefore, odors would dissipate with increasing distance from the sources. As noted previously in *Sensitive Receptors*, the nearest off-site receptors are approximately 492 feet from the project site; these are workers at an industrial land use. The nearest residence is 3,000 feet away. Therefore, the proposed project would not introduce significant sources of new odors that would affect a substantial number of people in the vicinity. As such, odor impacts from the proposed project would be ***less than significant***. No mitigation measures are required.

3.B.4.4 Cumulative Impacts

Regional air quality effects are inherently cumulative effects because the nonattainment status of regional pollutants results from past and present development in the air basin. No single project would be sufficient in size to result in nonattainment of regional air quality standards. The potential for the proposed project to result in significant criteria air pollutant emissions, and therefore a cumulatively considerable contribution to nonattainment criteria pollutants, is addressed in Impact AQ-2 and Impact AQ-3. Therefore, no separate cumulative criteria air pollutant analysis is required. The discussion of cumulative impacts below addresses cumulative impacts related to exposure to local sources of $PM_{2.5}$ and TAC emissions.

Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts on sensitive receptors. *(Less than Significant)*

The MEISRs are in an area currently designated as an APEZ, based on the City's APEZ map; however, the map is intended to be a screening tool to conservatively identify which receptors may meet the APEZ criteria. A closer examination conducted for this analysis of the MEISR locations indicates that the APEZ criteria are not met at the affected receptors. For example, **Table 3.B-8**, p. 3-47, shows that the existing cancer risk is below

the health-vulnerable ZIP code APEZ criterion of 90.0 per 1 million at both worker and residential MEISR receptor types. Similarly, **Table 3.B-9**, p. 3-49, shows that the existing $PM_{2.5}$ concentrations are below the APEZ criterion of 9.0 µg/m^3 at both MEISR receptor types.

The purpose of this section is to determine whether the contribution of reasonably foreseeable projects, in combination with existing sources and the proposed project's contribution, would result in a cumulatively considerable impact. There are six cumulative development projects near the MEISR locations: Pier 94 Grassland Meadow Enhancements, Amador Street Infrastructure, Pier 80 Subsidence Repairs, CEMEX Construction Materials Pacific, 200 Acacia Avenue, and 300 Catalina Street. **Table 3.B-10**, p. 3-51, lists these projects, the estimated timeframes of the projects, and the distances to the nearest receptor. This list of projects has been identified by Planning and differs from the list of projects shown in Table 3-1, Cumulative Projects within a 1,000-meter Radius of the Project Site, because the cumulative analysis of air quality impacts is focused on projects within 1,000 feet of the MEISR locations and not projects within 1,000 meters of the project site. **Figure 3.B-2**, p. 3-52, shows the locations of the cumulative projects that are within 1,000 feet of a MEISR and thus relevant to the air quality analysis. As shown in the figure, two cumulative projects could contribute to impacts at the residential MEISR (200 Acacia Avenue and 300 Cataline Street) and four projects could contribute to impacts at the worker MEISR (Pier 94 Grassland Meadow Enhancements, Amador Street Infrastructure, Pier 80 Subsidence Repairs, and CEMEX Construction Materials Pacific).

Table 3.B-10: Cumulative Projects for Air Quality Analysis

Project Name	Anticipated Construction and Implementation Dates	Approximate Distance to Receptor
Pier 94 Grassland Meadow Enhancements	Ongoing, 2 years total	545 feet east of worker MEISR
Amador Street Infrastructure	August 2025–December 2026	145 feet southwest of worker MEISR
Pier 80 Subsidence Repairs	August 2025–August 2026	775 feet north of worker MEISR
CEMEX Construction Materials Pacific (Pier 92)	Unknown[a]	625 feet west of worker MEISR
200 Acacia Avenue	Unknown[b]	430 feet southeast of residential MEISR
300 Catalina Street	Unknown[b]	640 feet southeast of residential MEISR

[a] This project's permit application is currently under review.
[b] These projects are currently on hold.



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Figure 3.B-2
Cumulative Projects for Air Quality Analysis

At the worker MEISR, there would be four projects that are within 1,000 feet of that receptor, and these four foreseeable projects would not contribute substantially to cumulative cancer risks or cumulative $PM_{2.5}$ concentrations at the worker MEISR for multiple reasons. The Pier 94 Grassland Meadow Enhancements project would not involve any grading or excavation, the Amador Street Infrastructure construction periods would not overlap with construction or operation of the proposed project, and the Pier 80 Subsidence Repairs project would be at a substantial distance (775 feet) from the affected receptor. The CEMEX Construction Materials Pacific project would not result in an increase in the plant's production limit and would only change the amount of sand and aggregate throughput that can be transported to the site via barges. As with the proposed project, the permit establishes a maximum throughput limit but that throughput is not guaranteed to occur, because other factors, such as market demand, would affect throughput. The operational change at the CEMEX facility would likely overlap with proposed project construction and/or operation; however, the distance of that facility to the worker MEISR is 625 feet. Additionally, in the environmental analysis for the CEMEX facility, the net cancer risk (0.67 in 1 million), chronic hazard index (0.011), and $PM_{2.5}$ concentration (0.161 µg/m^3) impacts from that project were determined to be less than significant for all receptors.[92]

Further, the worker MEISR for that project is not the same worker MEISR for the proposed project. The two worker MEISR locations are separated by approximately 400 feet. As discussed in Impact AQ-4, the HRA conducted for the proposed project concluded that the contribution from the proposed project at the worker MEISR would be net negative for the cancer risk (-1.8 in 1 million); meaning, the proposed project would reduce cancer risk at that receptor relative to existing conditions and would thus not contribute to any cumulative health risk impact.

As shown in **Table 3.B-9**, p. 3-49, the APEZ criteria is not met at the worker MEISR, because the $PM_{2.5}$ concentration is less than 9.0 µg/m^3. The small contribution from the proposed project and the four cumulative projects are unlikely to change that, because, as noted above, the projects do not involve grading or excavation, would be not overlap with the proposed project, are an appreciable distance from the project site, or would also result in small changes to health risks and $PM_{2.5}$ concentrations. The net increase in $PM_{2.5}$ at the residential MEISR from the proposed project would be 0.04 µg/m^3. The increase of 0.04 µg/m^3 is less than both project contribution thresholds for (1) receptors that meet the APEZ criteria (0.2 µg/m^3) and (2) receptors that would not meet the APEZ criteria without the project but would meet the criteria with the project (0.3 µg/m^3). Thus, the proposed project would not contribute a substantial $PM_{2.5}$ impact at any receptors affected by the nearby cumulative projects whether those receptors meet the APEZ criteria or not. Given this small increase, the proposed project would not make a cumulatively considerable contribution to any cumulative $PM_{2.5}$ impact.

For the residential MEISR, which is more than 3,000 feet southwest of the project site, there are two cumulative projects within 1,000 feet of that receptor, which are the 200 Acacia Avenue and 300 Catalina Street projects. The distance between the residential MEISR and 200 Acacia Avenue is approximately 430 feet, while the distance between the residential MEISR and 300 Catalina Street is 640 feet. These cumulative projects are currently on hold, however, and thus the specific timeframe of construction and operations for these are unknown. The air quality impacts of these two projects were evaluated as part of the larger Hunters View Redevelopment project (Planning Department Case No. Case 2007.0168E), and quantitative data for each individual site are not available. Therefore, no quantitative cancer risk or $PM_{2.5}$ results for these

[92] Placeworks, *Initial Study – CEMX Air District Permit Application Number 28001*, 2026, https://www.baaqmd.gov/~/media/files/engineering/public-notices/2026/28001/isnd_final/cemex_permit28001_isnd_final-pdf.pdf?rev=cb85c13074074e03829bb4adeaef06eb&sc_lang=en, accessed: March 18, 2026.

two projects can be added to the residential MEISR for this cumulative analysis. As discussed in Impact AQ-4, the HRA conducted for the proposed project concluded that the contribution from the proposed project at the residential MEISR would be minor for both the cancer risk and $PM_{2.5}$ impacts. As shown in **Table 3.B-9**, p. 3-49, the APEZ criteria are not met at the residential MEISR, because the cancer risk is less than 90 per million and the $PM_{2.5}$ concentration is less than 9.0 µg/m^3. The small contributions from the proposed project and the two cumulative projects are unlikely to change that, given that, at the nearest, the distance between the MEISR and cumulative projects is 430 feet. The net increase in cancer risk at the residential MEISR from the proposed project would be 0.02 in 1 million, while the net increase in $PM_{2.5}$ at the residential MEISR would be less than 0.01 µg/m^3. The increase in cancer risk of 0.02 in 1 million and $PM_{2.5}$ of less than 0.01 µg/m^3 is less than both project contribution thresholds for (1) receptors that meet the APEZ criteria (7.0 in 1 million and 0.2 µg/m^3, respectively) and (2) receptors that would not meet the APEZ criteria without the project but would meet the criteria with the project (10.0 in 1 million and 0.3 µg/m^3, respectively). Thus, the proposed project would not contribute a substantial cancer risk or $PM_{2.5}$ impact at any receptors affected by the nearby cumulative projects whether those receptors meet the APEZ criteria or not. Given these small increases, it is reasonable to conclude that the proposed project would not make a cumulatively considerable contribution to any cumulative health risk or $PM_{2.5}$ impact.

Overall, the cumulative cancer risk and $PM_{2.5}$ impact at the worker and residential MEISR from construction and operation of the proposed project would be ***less than significant***. No mitigation measures are required.

CHAPTER 4
OTHER CEQA CONSIDERATIONS

This chapter discusses the following topics in relation to the proposed Pier 92 Modernization and Plant Replacement project (proposed project): growth inducement potential, significant environmental effects that cannot be avoided if the project is implemented, significant irreversible environmental changes that would result if the proposed project is implemented, and areas of known controversy and issues to be resolved.

4.A Growth-Inducing Impacts

The California Environmental Quality Act (CEQA) Guidelines require that an environmental impact report (EIR) evaluate the growth-inducing impacts of a proposed action (section 15126.2(e)). A growth-inducing impact is defined in CEQA Guidelines section 15126.2(e) as:

> *[T]he ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth … It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

A project can have direct and/or indirect growth-inducement potential. Direct growth inducement would result if a project involved construction of new housing that would result in new residents moving to the area. A project can have indirect growth-inducement potential if it would establish substantial new permanent employment opportunities (e.g., commercial, industrial, governmental enterprises) or if it would involve a substantial construction effort with substantial short-term employment opportunities and indirectly stimulate the need for additional housing and services to support the new employment demand. Similarly, under CEQA, a project would indirectly induce growth if it would remove an obstacle to additional growth and development, such as removing a constraint on a required public service (e.g., a wastewater treatment facility). Increases in population could strain existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. The CEQA Guidelines also require analysis of the characteristics of projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

As discussed in Section E.3, Population and Housing, in the initial study (see Appendix B), the proposed project would result in an increase of one worker. Therefore, the proposed project would not induce substantial employment growth but rather accommodate projected job growth within the city.

The proposed project also would not indirectly induce substantial unplanned population growth in the project area due to infrastructure improvements because the project site is an infill site located in an urbanized area and does not propose any extensions to area roads or other infrastructure that could enable additional development in currently undeveloped areas.

4.B Significant and Unavoidable Impacts of the Proposed Project

In accordance with CEQA section 21068 and CEQA Guidelines sections 15126(b) and 15126.2(c), an EIR must identify significant and unavoidable environmental impacts that cannot be reduced to less than significant levels through regulatory compliance, design strategies, and/or mitigation incorporation. Development of the proposed project would not result in any significant and unavoidable impacts. All project impacts would be either less than significant or, in the case of impacts to archaeological resources, human remains, and tribal cultural resources, reduced to less-than-significant levels by implementation of the identified mitigation measures.

4.C Significant Irreversible Environmental Changes

In accordance with CEQA section 21100(b)(2)(B) and CEQA Guidelines section 15126.2(d), an EIR must identify any significant irreversible environmental changes that could result from implementation of the proposed project. This may include current or future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future uses of nonrenewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. According to the CEQA Guidelines, irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. In general, such irreversible commitments include resources such as energy consumed and construction materials used in construction of a proposed project, as well as the energy and natural resources (notably water) that would be required to sustain a project and its inhabitants or occupants over the usable life of the project.

The initial study (Appendix B) found that the proposed project would have less-than-significant or no impacts on land use and planning. Significant irreversible changes pertaining to long-term land use changes are not anticipated with project implementation and therefore are not discussed further in this analysis. Other irreversible changes that would occur as a result of project implementation are discussed below.

4.C.1 Irreversible Changes to an Environmental Resource

No significant environmental damage (e.g., accidental spills or the explosion of a hazardous material) is anticipated with implementation of the proposed project. Compliance with federal, state, and local regulations would ensure that construction and operation activities at the project site would not result in the release of hazardous materials into the environment and that associated impacts would be less than significant (refer to Section E.18, Hazards and Hazardous Materials, of the initial study in Appendix B).

While the removal and processing of sand as part of project operations is an extractive process, management of it, to ensure it is not extracted faster than it can be replenished, qualifies it as renewable. Recent rulings in the state require that mining can only take place such that it would not harm a public resource[93]. The proposed project would not alter existing mining operations but rather upgrade the existing sand processing facility. Therefore, no irreversible changes, such as those that may occur from construction of a large-scale

[93] In Baykeeper II, 29 Cal. App. 5th at 580, the court, relying on the California State Lands Commission's (CSLC)'s statutory authority (Cal. Pub. Resources Code secs. 6301, 6895, and 6900, amended) and findings in its staff report reapproving the sand mining leases (Item 33, June 28, 2016), held that the CSLC had substantial evidence to conclude that "sand mining activities would not impair public trust uses by either substantially depleting the sand resource or substantially interfering with sand transport and coastal morphology at the San Francisco Bar and Ocean Beach." Available at: http://www.courts.ca.gov/opinions/documents/A151821.PDF. Accessed February 6, 2026.

mining project, a hydroelectric dam project, or other industrial project, would result from development of the proposed project.

4.C.2 Irreversible Consumption of Nonrenewable Resources

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. No agricultural lands would be converted and no access to mining reserves would be lost with construction of the proposed project (refer to Section D, Summary of Environmental Effects, of the initial study in Appendix B).

Construction of the proposed project would require the use of energy, including energy produced from nonrenewable resources, and energy would be consumed during the operational period of the proposed project. Construction may also require the commitment of materials such as steel, aluminum, and other metals, concrete, masonry, lumber, sand and gravel, as well as water. Construction and operation of the proposed project would result in irreversible commitment of energy, primarily for automobile and truck fuel during construction and operation of processing and delivery of sand, and for energy production required to run the operational sand throughput. The proposed project would also require an ongoing commitment of potable water for project operations.

New buildings in California are required to conform to energy conservation standards specified in California Code of Regulations title 24, which are among the most stringent in the United States. The standards establish energy budgets for different types of residential and nonresidential buildings with which all new buildings must comply. In addition, to ensure that all buildings are healthy, sustainable places to live, work, and learn, the Port of San Francisco Green Building Code (2025) requirements are designed to minimize waste of energy, water, and other resources in the construction and operation of buildings in the Port of San Francisco and to provide healthy indoor environments. New construction in San Francisco must meet all applicable California and local building codes, provide on-site facilities for recycling and composting, and meet the City's green building requirements tied to the Leadership in Energy and Environmental Design and GreenPoint Rated green building rating systems, all of which would ensure that natural resources are conserved or recycled to the maximum extent feasible and that greenhouse gas emissions resulting from the proposed project would be minimized.

Even with implementation of conservation measures, the consumption of natural resources, including those associated with the generation of electricity, would generally increase with implementation of the proposed project. However, the proposed project would not involve the wasteful, inefficient, or unnecessary consumption of energy resources, as discussed in the initial study (refer to Section E.20, Energy, of the initial study in Appendix B).

As further described in Section E.13, Utilities and Services Systems, of the initial study, while the proposed project would incrementally increase the demand for water in San Francisco, the proposed project would not make a considerable contribution to a cumulative impact on water supply, and the impact would be less than significant. During construction activities, water could be used for soil compaction and dust control activities. During operation water use would increase commensurate with the increase in sand processed by the project. Therefore, although water consumption would increase as a result of project construction and operation, the proposed project would not involve the wasteful, inefficient, or unnecessary use of water resources, as discussed in the initial study.

As discussed in Section E.6, Transportation and Circulation, the project site is in a transportation analysis zone (493)[94] where existing average daily VMT per capita for office-type uses (i.e., with worker trips) exceeds the planning department's screening criteria of 15 percent below the regional average threshold.[95] However, based on the following factors, the proposed project was found to not cause substantial additional miles traveled:

- The transportation analysis zone in which the project is located includes industrial and cargo operations that have different travel characteristics, including origin/destination and time of day for travel, compared with more residential and commercial land uses in San Francisco and therefore have higher VMT per capita.
- The project site is also in the Metropolitan Transportation Commission's Plan Bay Area 2050 priority production areas, which support key industrial clusters on industrial land. The Plan Bay Area 2050 EIR found that Plan Bay Area 2050 can achieve the California Air Resources Board target that calls for a 19 percent reduction in GHG emissions from cars and light trucks by 2035 compared with 2005 emission levels.
- The proposed project would modernize and reconstruct the existing sand processing facility but would not change the essential nature of the existing operations. With implementation of the proposed project, the volume of sand processed at the facility, as well as the associated number of trucks transporting sand to offsite locations, would continue to be market driven. The destinations would remain similar to those under existing conditions, including the two adjacent ready-mix concrete facilities along Amador Street and to project sites in San Francisco and San Mateo County.
- With implementation of the proposed project, the number of employees at the project site would increase from five employees under existing conditions to six employees under project reasonable peak conditions and nine under project maximum conditions. All employees drive to the project site. Implementation of the proposed project would not change employee ways of travel or the distances that employees travel.

Given the project's features and location, it would not result in wasteful use of fuel from vehicle trips.

As discussed in Section E.9, Greenhouse Gas Emissions, the proposed project would not result in any significant impacts associated with an increase in greenhouse gas emissions or conflict with measures adopted for the purpose of reducing such emissions because the proposed project would comply with the regulations listed in the city's Greenhouse Gas Reduction Strategy. In addition, the proposed project would not require the construction of major new utility lines to deliver energy or natural gas because these services are already provided in the area. Therefore, the proposed project would not result in a significant impact associated with the consumption of nonrenewable resources.

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[94] Planners use these zones as part of transportation planning models for transportation analyses and other planning purposes The zones vary in size from single blocks in the downtown core to multiple blocks in outer neighborhoods, with even larger zones in historically industrial areas such as within the Bayview. The project site is in transportation analysis zone 493, which is bounded by Islais Creek Channel, San Francisco Bay, and Cargo Way.

[95] The existing average daily VMT per capita for an office land use, which is applicable to the existing industrial uses on Pier 92, in transportation analysis zone 493 is 27.0. This VMT per capita is above the planning department's screening threshold of 21.9.

4.D Areas of Known Controversy and Issues to Be Resolved

Publication of the notice of preparation of an EIR initiated a 30-day public review and comment period that began on July 2, 2025, and ended on August 1, 2025. During the review and comment period, a total of nine comment letters and emails were submitted to the planning department.

To the extent the comments received on the NOP relate to environmental issues, they are addressed in the draft EIR and initial study. Any comments related to the proposed project's merits that cannot be addressed through the CEQA process will be provided to decision-makers as part of the entitlement process. Potential areas of controversy and unresolved issues for the proposed project, as expressed by agencies and community members, include the following:

- Construction- and operation-related transportation impacts from VMT and temporary access points
- Construction and operation noise impacts and as it relates to birds and wildlife at Pier 94 wetland
- Construction and operation biological resource impacts particularly on species in Islais Creek and Pier 94 wetland
- Construction and operation air quality impacts on sensitive receptors
- Aesthetics related impacts from light and glare (from possible additional lighting)
- Construction and operation related water demand from the project
- Concern for potential land use conflict related to warehouse use
- Compliance with AB 53 and Senate Bill 18 as well as other applicable laws

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CHAPTER 5
ALTERNATIVES

5.A Introduction

This chapter presents the alternatives analysis, as required by CEQA, for the proposed project. The chapter includes a discussion of the CEQA requirements for an alternatives analysis and the methodology used for the selection of alternatives, with the intent of developing potentially feasible alternatives that avoid or substantially lessen the significant impacts identified for the proposed project while still meeting most of the basic project objectives. Because the proposed project has the potential to adversely affect cultural resources and tribal cultural resources through accidental discovery during excavation (although mitigable to less than significant), an alternative has been developed to consider strategies that would lessen such impacts. This section identifies a reasonable range of alternatives that fulfill CEQA criteria and evaluates the alternatives for their comparative merits with respect to minimizing adverse environmental effects, including those on cultural resources and tribal cultural resources that would occur with the proposed project as designed.

After identifying the alternatives, the chapter evaluates the alternatives' impacts compared to baseline environmental conditions and compared to the impacts of the proposed project. Based on this analysis, this chapter then identifies the environmentally superior alternative. Finally, it describes other alternative concepts that were considered but eliminated from detailed consideration and the reasons for their elimination.

5.A.1 CEQA Requirements for Alternatives Analysis

CEQA Guidelines section 15126.6(a) states that an environmental impact report (EIR) must describe and evaluate a reasonable range of alternatives to the proposed project that would feasibly attain most of the project's basic objectives, but that would avoid or substantially lessen any identified significant adverse environmental effects of the project. An EIR is not required to consider every conceivable alternative to a proposed project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision-making and public participation.

CEQA, the CEQA Guidelines, and the case law on the subject have found that feasibility can be based on a range of factors and influences. CEQA Guidelines section 15364 defines "feasibility" as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors." CEQA Guidelines section 15126.6(f)(1) states that the factors that may be taken into account when addressing the feasibility of alternatives include site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (if the site is not already owned by the proponent).

The EIR must evaluate the comparative merits of the alternatives and include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. Specifically, the CEQA Guidelines set forth the following criteria for selecting and evaluating alternatives:

- "An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible." (CEQA Guidelines section 15126.6(a))
- "[T]he discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly." (CEQA Guidelines section 15126.6(b))
- "The range of potential alternatives shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects." (CEQA Guidelines section 15126.6(c))
- "The specific alternative of 'no project' shall also be evaluated along with its impact." (CEQA Guidelines section 15126.6(e)(1))
- "The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need to examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision-making." (CEQA Guidelines section 15126.6(f))

5.A.2 Alternatives Selection

This section describes the basis for determining the range of CEQA alternatives and identifies the specific alternatives that are analyzed in this EIR.

5.A.2.1 Project Objectives

- Continue existing and ongoing sand processing operations with enhanced environmental controls.
- Continue to supply marine sand—a critical building material necessary for concrete and asphalt production—throughout the City of San Francisco and Bay Area construction projects.
- Continue to use sea-based shipping to import sand to the facility to avoid an increase in the number of truck trips into the City of San Francisco and, specifically, to the two concrete batch plants adjacent to the facility.
- Obtain approval for an updated land lease with the Port of San Francisco.
- Meet all the requirements imposed by regulatory agencies including the Air District and obtain approval from the Air District for an authority to construct and permit to operate to receive and process up to 800,000 tons of sand during any consecutive 12-month period.

5.A.2.2 Summary of Significant Impacts

As stated in the CEQA Guidelines section 15126.6(a), alternatives to a project selected for analysis in an EIR must substantially lessen or avoid any of the significant environmental impacts associated with the project. This EIR focuses the environmental analysis solely on air quality, which was identified in the initial study as the only resource where the project would have the potential to result in a significant environmental impact. However, as addressed in EIR Section 3.C, Air Quality, the project would not create any significant impacts related to air quality.

The initial study found that ground disturbance resulting from the project has the potential to impact buried archeological resources, human remains, and tribal cultural resources, although, implementation of **Mitigation Measures M-CR-2: Procedures for Discovery of Archeological Resources**, would reduce impacts to less than significant.

5.A.2.3 Alternatives Screening and Selection

In accordance with CEQA Guidelines section 15126.6(a), this EIR examines a reasonable range of alternatives to the proposed project or to the location of the project. An alternative selected for analysis must meet three criteria: (1) the alternative would attain most of the project's basic objectives, (2) the alternative would avoid or substantially lessen the significant environmental impacts of the proposed project, and (3) the alternative would be potentially feasible. An EIR need not consider an alternative whose impact cannot be reasonably ascertained and whose implementation is remote and speculative. Furthermore, an EIR need not consider every conceivable alternative but must consider a reasonable range of alternatives to foster informed decision-making and public participation.

The planning department based the alternatives selection process on identifying alternative concepts that would avoid or lessen the potentially significant impacts identified above. Strategies to avoid or lessen significant environmental impacts involved reducing the extent of ground disturbance that could occur with implementation of the proposed project, thereby further reducing the potential for significant impacts to occur. The planning department then screened the potential alternatives for their feasibility and ability to meet most of the project objectives. This process resulted in the selection of two alternatives to be carried forward for detailed evaluation, including the No Project Alternative required by CEQA. The planning department determined that these alternatives represent a reasonable range of alternatives described and analyzed in this draft EIR.

As discussed in Section 5.E, the planning department considered three additional alternatives but rejected them from further evaluation due to failure to meet most of the basic project objectives, infeasibility, and/or inability to avoid or substantially reduce significant environmental impacts.

5.B Summary of Alternatives

Based on the alternatives screening process described above, the following two alternatives were selected for detailed analysis in this EIR:

- Alternative A: No Project Alternative – Under Alternative A, there would be no physical modifications to equipment or the site boundary and operations would be expected to continue similar to historic use, though under a new permit to operate from the Air District that would restrict maximum throughput to 800,000 tons of sand during any 12-month consecutive period.

- Alternative B: Partial Modernization Alternative –Alternative B would include the same equipment modifications and site boundary adjustments as the proposed project except that the proposed sand storage warehouse would not be constructed.

These two alternatives were determined to adequately represent the range of potentially feasible alternatives required under CEQA for this project. These alternatives would lessen the less than significant with mitigation impacts related to cultural and tribal cultural resources that were identified for the proposed project. A "No Project Alternative" is included as Alternative A, as required by CEQA, even though it would not meet all the basic project objectives. **Table 5-1** provides a comparison of the alternative features. Detailed descriptions of each alternative are presented below.

Table 5-1: Comparison of Proposed Project and Alternatives [a]

Use/Feature	Existing	Proposed	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Industrial use (square feet[sf])	190,230	224,600	190,230	224,600
Number of building(s) [b]	0	1	0	0
Building stories	0	1	0	0
Building height (feet)	0	63 [c]	0	0
Building area (sf)	0	30,800	0	0
Soil Disturbance (yards)	0	3,305	0	3,170
Excavation Depth (feet)	0	5	0	5
Annual sand processing throughput (US tons) [d]	349,080	800,000	800,000	800,000
Number of employees	5	6	6	6
Site surface paving (sf)	4,400	63,330	4,400	63,330
Vehicle parking spaces (employee/visitor)	10	10	10	10

NOTES:

[a] Numbers are rounded.

[b] Refers to permanent buildings. Does not include temporary structures such as trailers or storage containers.

[c] Height noted is highest roof point and does not necessarily reflect the building height as measured per the San Francisco Planning Code. In addition, Section 260(b)(2)(M) of the San Francisco Planning Code (Code) exempts from the height requirement all structures and equipment necessary for the operation of industrial plants, where structures and equipment do not contain separate floors and where permitted as principal or conditional uses by the Code.

[d] Given the cyclical nature of the facility's operations, existing conditions are based on the facility's average activity over the most recent 5-year operating period (years 2020–2024), not maximum activity achieved over the facility's history. Proposed conditions are based on the maximum annual throughput requested by the project sponsor in its application to the Air District for a permit to operate.

5.C Alternatives Analysis

5.C.1 Alternative A: No Project Alternative

As required by CEQA Guidelines section 15126.6(e), a no project alternative is evaluated in this draft EIR to allow decision-makers to compare the environmental effects of approving the proposed project with the effects of not approving the project. CEQA Guidelines section 15126.6(e)(2) requires that the no project alternative analysis "discuss the existing conditions … as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and policies and consistent with the available infrastructure and community services." The no project alternative would not preclude development of the site by another project in the future. Currently, there are no other development proposals pending at the project site. Therefore, pursuant to CEQA Guidelines section 15126.6(e)(3)(B), the no project alternative for purposes of this analysis is considered "no build" wherein the existing environmental setting is maintained and is "the circumstance in which the project does not proceed."

Under Alternative A (No Project Alternative), the project site would not be developed as described in Chapter 2, Project Description. There would be no physical modifications at the site: the site boundary, site configuration, and sand processing equipment would remain the same as it currently exists. There would be no new warehouse structure, surface paving, stormwater system, or electrical upgrades. The Pier 94 Wetlands access would remain at its current location. There also would be no operational changes at the site, and while the permanent number of employees and operating conditions would remain the same as existing, as noted in the transportation analysis in Table 2 of Appendix A, p. 37, the number of employees could increase during maximum conditions. The project sponsor or another operator would continue to operate at the site under a Port lease and would seek a permit to operate from the Air District with the same throughput (to receive and process up to 800,000 tons of sand during any 12-month consecutive period) as the permit sought under the project but would not modernize and reconstruct the facility. As addressed in Section 2.E.7, Project Site: Sand Processing History, and shown in **Figure 2-16**, p. 2-39, the volume of sand processed at the Pier 92 facility has varied substantially over the past 25 years. From 2000 to 2024, annual sand processing ranged between a peak of approximately 664,000 tons and a low of 118,000 tons. The volume of sand processed at the facility under the no project alternative would continue to reflect the cyclical nature of the construction industry as shown in **Figure 2-16**.

A different No Project scenario could include another operator processing sand at the facility under an Air District permit exemption provided the operation complies with all applicable Air District rules and regulations, including ensuring that all sand transferred from the facility or stockpiled at the facility maintains a moisture content greater than 5 percent by weight. Under this No Project scenario, no Air District permit would be required, and no throughput limits would be established for the sand processing operation. While this No Project scenario was considered, it was rejected because the volume of sand processed at the facility is driven by market demand and the absence of a throughput limit would make it challenging for decision makers to understand the consequences of approving or disapproving the proposed project.

5.C.1.1 No Project Alternative Impact Analysis

Air Quality

Under Alternative A, the existing uses and their operations on the project site would not change. This alternative assumes the project sponsor would apply for the same permit limits as the proposed project but would not construct the facility modifications proposed under the project. It is expected that operations

would thus entail the same baseline and upper limits of throughput as the proposed project, as well as a range of throughput consistent with the historical range of activity. However, unlike the proposed project, operation of Alternative A would take place without site improvements. Thus, while the lack of construction activity under Alternative A would result in reduced temporary construction emissions, operation of Alternative A would result in increased annual emissions of fugitive dust from wind erosion, because the warehouse would not be built to cover the washed sand (product sand) stockpile and conveyors would not be covered; and from vehicle travel, because the interior roads would not be paved, causing more fugitive dust from the road surfaces. The increase in operational emissions would occur indefinitely as long as the facility is operating, whereas the emissions avoided from the lack of construction is a period of only 7 months.

It is unlikely that emissions from Alternative A would exceed the Air District's thresholds of significance for criteria air pollutants, because, as shown in **Table 3.B-7**, p. 3-45, the emissions from the proposed project are well below all thresholds. Alternative A would primarily result in an increase in emissions of PM_{10} and $PM_{2.5}$ fugitive dust compared to the project, because the site improvements for the proposed project (e.g., paving unpaved road surfaces, covered conveyors, and a partially enclosed sand warehouse) that would not be implemented for Alternative A are mainly intended to reduce fugitive dust. The pollutant that would experience the highest net increase from the proposed project is NOx at 24.3 pounds per day, which is less than half of the threshold of 54 pounds per day. NOx emissions would be similar to the proposed project for Alternative A, because these emissions are a result of the combustion of equipment on site (e.g., use of barge and on- and off-road vehicles), which would not change under Alternative A. ROG, PM_{10}, and $PM_{2.5}$ emissions are even further below their respective thresholds for the proposed project and would continue to be less than the Air District's thresholds for Alternative A. Consequently, even though Alternative A would have operational emissions greater than the proposed project, the increase would not likely result in an exceedance of any of the thresholds.

It is also unlikely that Alternative A would result in a significant cancer risk impact, because, at the maximally exposed sensitive receptors, the APEZ criteria would not likely be met even if Alternative A results in greater emissions than the proposed project. **Table 3.B-8**, p. 3-47, shows that the existing plus project cancer risk for the residential and worker receptors would be 42.35 per 1 million and 30.68 per 1 million, respectively, for the proposed project. These values are well below the APEZ criterion of 90 per 1 million, which is applicable to health-vulnerable ZIP codes. The additional emissions resulting from Alternative A would be in the form of fugitive dust and not DPM, and DPM is a substantially greater contributor to cancer risk than fugitive dust. Because DPM emissions would be mostly the same between Alternative A and the proposed project, the cancer risk would also be approximately the same between the two, and Alternative A's residential and worker receptor results would be very similar to the proposed project's results of 42.35 and 30.68 per 1 million, respectively.

For $PM_{2.5}$ concentrations, the existing plus project concentrations for the residential and worker receptors are 8.37 and 7.95 $\mu g/m^3$, respectively, as shown in **Table 3.B-9**, p. 3-49. The net change resulting from the proposed project is estimated to be less than 0.01 $\mu g/m^3$ for the residential receptor and 0.04 $\mu g/m^3$ for the worker receptor. Although Alternative A could result in net contributions that are greater than these values, it is unlikely that the APEZ criterion of 9.0 $\mu g/m^3$ would be met, because that would require a project contribution of 0.63 $\mu g/m^3$ for the residential receptor and 1.05 $\mu g/m^3$ for the worker receptor. These values that would be required to reach the APEZ criterion are an order of magnitude or more greater than the results from the proposed project, and it is not likely that Alternative A would result in net concentrations that have a magnitude that is 20 times or more greater than the proposed project. Although the proposed

control measures at the proposed project site are effective at reducing fugitive dust, it is unlikely that even without these control measures the concentration at the worker receptor could increase by a factor of more than 20 or at the residential receptor by a factor of more than 60. Thus, the additional emissions resulting from Alternative A would increase the $PM_{2.5}$ concentrations relative to the proposed project but are unlikely to increase it such that the results would exceed 9.0 µg/m^3, which is the APEZ criterion for health vulnerable ZIP codes.

Alternative A would result in greater hazard indices than the proposed project during operations, although the temporary hazards during construction would be avoided. For hazard index, the on-site fugitive dust components (i.e. crystalline silica and metals) are larger factors than DPM emissions. Thus, the additional fugitive dust emissions resulting from Alternative A would increase the hazard indices relative to the proposed project but are unlikely to increase them such that the results would increase to 1.0 or greater, given that the values resulting from the proposed project scenario are negative (i.e. a net benefit).

Compared to the proposed project, Alternative A would result in no construction impacts, but greater operational impacts because the environmental controls proposed under the project would not be constructed. Compared to baseline conditions, Alternative A would not have any significant impacts related to air quality. Like the proposed project, the cumulative cancer risk and $PM_{2.5}$ impact at affected MEISR locations would also be less than significant, because, as noted above, Alternative A is unlikely to result in a cancer risk or $PM_{2.5}$ impact that causes the APEZ criteria of 90 per million or 9.0 µg/m^3, respectively, to be met. Given the relatively small increases expected and APEZ criteria not being met, the contribution from Alternative A would thus not be cumulatively considerable.

Topics Analyzed in the Initial Study

Under Alternative A, the project site would remain in its existing condition with no new construction or installation of a modern stormwater management system. Because no construction would occur under Alternative A, it would not have any construction-related impacts on any of the topics analyzed in the initial study (see Appendix B). Therefore, impacts under Alternative A related to land use and land use planning, aesthetics, population and housing, transportation and circulation, noise, greenhouse gases, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and energy would be the same or less than those anticipated with implementation of the proposed project because no construction, ground-disturbing activities, or changes to operations would occur. No impacts to wind and shadow would occur under Alternative A as the storage warehouse would not be constructed.

The potentially significant impacts related to site-specific ground disturbance, including archeological resources, human remains, and tribal cultural resources would be avoided, thus eliminating the need for mitigation (which would reduce those impacts to a less-than-significant level for the proposed project).

5.C.2 Alternative B: Partial Modernization Alternative

The Partial Modernization Alternative would be the same as the proposed project, except the proposed sand storage warehouse would not be constructed in order to lessen the potential for impacts related to buried cultural and tribal cultural resources, in the event such resources are found in the fill layer underlying the project site. This alternative would require less construction activity than the proposed project, including reduced volume of excavation necessary for the storage warehouse foundation. Alternative B would reduce the total excavation by approximately 135 cubic yards and reduce the use of off-road equipment for

excavation and warehouse construction, and result in fewer on-road vehicle trips associated with hauling excavated soil off-site and delivering paving and building materials to the site. It would still result in an increase in project employment during maximum throughput conditions.

Air Quality

Under Alternative B, the proposed operations of the proposed project would continue to take place, though, without construction of the sand storage warehouse. Thus, while there would be less construction activity under Alternative B and reduced construction emissions, operation of Alternative B would result in increased emissions from wind erosion, because the warehouse would not be built to cover the washed sand (product sand) stockpile. The increase in operational emissions would occur indefinitely as long as the facility is operating, whereas the emissions avoided from reduced construction is likely a few months, given that total construction for the proposed project would only be 7 months. Odors during construction would be slightly less for Alternative B, because less construction would be required. Odor impacts during construction would be less than the proposed project and thus less than significant.

It is unlikely that emissions from Alternative B would exceed the Air District's thresholds of significance, because, as shown in **Table 3.B-7**, p. 3-45, the emissions from the proposed project are well below all thresholds. Alternative B would primarily result in an increase in emissions of fugitive dust, because the storage warehouse built for the proposed project that would not be built for Alternative B is mainly intended to reduce fugitive dust from the product stockpile. The pollutant that would experience the highest net increase from the proposed project, NOx at 24.3 pounds per day, is less than half of the Air District's NOx threshold of 54 pounds per day. NOx emissions would be similar to the proposed project for Alternative B, because these emissions are a result of the combustion of equipment on site (e.g., use of barge and on- and off-road vehicles), which would not change under Alternative B . ROG, PM_{10}, and $PM_{2.5}$ emissions are even further below their respective thresholds for the proposed project and would continue to be less than the Air District's thresholds for Alternative B. Consequently, even though Alternative B would have operational emissions greater than the proposed project, the increase would not likely result in an exceedance of any of the Air District's criteria air pollutant thresholds.

It is also unlikely that Alternative B would result in a significant cancer risk impact, because, at the maximally exposed sensitive receptors, the APEZ criteria would not likely be met even if Alternative B results in greater emissions than the proposed project. **Table 3.B-8**, p. 3-47, shows that the existing plus project cancer risk for the residential and worker receptors would be 42.35 per 1 million and 30.68 per 1 million, respectively, for the proposed project. These values are well below the APEZ criterion of 90 per 1 million, which is applicable health-vulnerable ZIP codes. The additional emissions resulting from Alternative B would be in the form of fugitive dust and not DPM, which is a substantially greater contributor to cancer risk than fugitive dust. Because DPM emissions would be mostly the same between Alternative B and the proposed project, the cancer risk would also be approximately the same between the two, and Alternative B's residential and worker receptor results would be very similar to the proposed project's results of 42.35 and 30.68 per 1 million, respectively. Like the proposed project, Alternative B has the benefit of resulting in paved interior roadways and thus reducing the silica and other metals within fugitive road dust and the corresponding cancer risk from that source of emissions.

For $PM_{2.5}$ concentrations, the existing plus project concentrations for the residential and worker receptors are 8.37 and 7.95 $\mu g/m^3$, respectively, as shown in **Table 3.B-9**, p. 3-49. The net change resulting from the proposed project is estimated to be less than 0.01 $\mu g/m^3$ for the residential receptor and 0.04 $\mu g/m^3$ for the worker receptor. Although Alternative B could result in net contributions that are greater than these values, it

is unlikely that the APEZ criterion of 9.0 µg/m^3 would be met, because that would require a project contribution of 0.63 µg/m^3 for the residential receptor and 1.05 µg/m^3 for the worker receptor. These values that would be required to reach the APEZ criterion are an order of magnitude or more greater than the results from the proposed project, and it is not likely that Alternative B would result in net concentrations that have a magnitude that is 10 times or more greater than the proposed project. Like the proposed project, Alternative B would result in reduced fugitive dust emissions from vehicle travel on the interior roads relative to baseline conditions because the interior roads would be paved. As noted above, however, no warehouse would be constructed, wind erosion emissions would be greater, and the additional emissions resulting from Alternative B would increase the $PM_{2.5}$ concentrations relative to the proposed project but are unlikely to increase it such that the existing plus Alternative B $PM_{2.5}$ concentrations would exceed 9.0 µg/m^3, which is the APEZ criterion for health vulnerable ZIP codes.

Alternative B would result in greater hazard indices than the proposed project during operations, although there may be a slight reduction in hazard index during construction. For hazard index, the on-site fugitive dust components (i.e. crystalline silica and metals) are larger factors than DPM emissions. Thus, the additional emissions resulting from Alternative B would increase the hazard indices relative to the proposed project but are unlikely to increase them such that the results would increase to 1.0 or greater, given that the values resulting from the proposed project scenario are negative (i.e. a net benefit).

Compared to the proposed project, Alternative B would result in greater operational impacts but would not have any significant project-level or cumulative impacts related to air quality. Temporary construction impacts would be slightly less than the proposed project and also less than significant. Like the proposed project, the cumulative cancer risk and $PM_{2.5}$ impact at affected MEISR locations would also be less than significant, because, as noted above, Alternative B is unlikely to result in a cancer risk or $PM_{2.5}$ impact that causes the APEZ criteria of 90 per million or 9.0 µg/m^3, respectively, to be met. Given the relatively small increases expected and APEZ criteria not being met, the contribution from Alternative B would thus not be cumulatively considerable.

Topics Analyzed in the Initial Study

Alternative B would develop the site with similar though fewer improvements compared with the proposed project. With reduced construction excavation, construction related impacts from Alternative B would be less than under the proposed project. The impacts of Alternative B related to site-specific ground disturbance, including archeological resources, human remains, and tribal cultural resources would be less than under the proposed project because excavation for the storage warehouse foundation would not occur. Overall, the construction and operational impacts of Alternative B under each of the initial study environmental topics would be similar to those of the proposed project. Specifically, impacts related to land use and planning, aesthetics, population and housing, transportation and circulation, noise, greenhouse gases, recreation, utilities and service systems, public services, biological resources, geology and soils, hydrology and water quality, hazards and hazardous materials, and energy would be similar to those of the proposed project, given the similar development intensity. No impacts to wind and shadow would occur under Alternative B as the storage warehouse would not be constructed.

5.D Comparison of Alternatives and Environmentally Superior Alternative

Table 5-2 identifies the level of impact from the proposed project and each alternative (e.g., no impact [NI], less-than-significant impact [LTS], less-than-significant impact with mitigation [LTSM], significant and unavoidable impact [SU], or significant and unavoidable impact with mitigation[SUM]) and whether the impact of the alternative would be the same as (=), less than (<), or greater than (>) the proposed project impacts. In most cases, the proposed project and alternative would result in the same significance determination, but the degree of that impact with the alternative might be less than or greater than the proposed project.

Table 5-2: Comparison of Environmental Impacts of the Proposed Project and of the Alternatives

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
SUMMARY OF IMPACTS FOR TOPICS IN THIS DRAFT EIR			
Section 3.C, Air Quality			
Impact AQ-1: The proposed project would not conflict with or obstruct implementation of the 2017 Air District Clean Air Plan.	LTS	LTS >	LTS >
Impact AQ-2: The proposed project's construction activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	NI	LTS <
Impact AQ-3: The proposed project's operational activities would not result in a cumulatively considerable net increase in nonattainment criteria air pollutants within the air basin.	LTS	LTS >	LTS >
Impact AQ-4: Construction and operation of the proposed project would not generate toxic air contaminants, including DPM, at levels that would expose sensitive receptors to substantial pollutant concentrations.	LTS	LTS >	LTS >
Impact AQ-5: Construction of the proposed project would not result in other emissions (such as those leading to odors) that would adversely affect a substantial number of people.	LTS	NI	LTS <
Impact C-AQ-1: The proposed project, in combination with reasonably foreseeable future cumulative projects, would not result in significant health risk impacts on sensitive receptors.	LTS	LTS >	LTS >
SUMMARY OF IMPACTS FOR TOPICS IN THE INITIAL STUDY			
Section E.1, Land Use and Planning			
All Impacts	LTS	NI	LTS =
Section E.2, Aesthetics			
Impact AES-1: The proposed project would not have a substantial adverse effect on a scenic vista.	LTS	LTS <	LTS <
Impact AES-2: The proposed project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.	NI	NI	NI

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact AES-3: The proposed project would not conflict with applicable zoning and other regulations governing scenic quality.	LTS	LTS =	LTS =
Impact AES-4: The proposed project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area	LTS	LTS <	LTS <
Impact C-AES-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to aesthetics.	LTS	LTS <	LTS <
Section E.3, Population and Housing			
Impact PH-1: The proposed project would not induce substantial unplanned population growth, either directly or indirectly.	LTS	LTS =	LTS =
Impact PH-2: The proposed project would not displace substantial numbers of existing people or housing units, necessitating the construction of replacement housing.	NI	NI	NI
Impact C-PH-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to population and housing.	LTS	LTS =	LTS =
Section E.4, Cultural Resource			
Impact CR-1: Impact CR-1: The proposed project would not cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5.	NI	NI	NI
Impact CR-2: The proposed project could cause a substantial adverse change in the significance of an archeological resource.	LTSM	NI	LTSM <
Impact CR-3: The proposed project could disturb human remains, including those interred outside of formal cemeteries.	LTSM	NI	LTSM <
Impact C-CR-1: The proposed project, in combination with cumulative projects, would result in a significant cumulative impact related to cultural resources.	NI	NI	NI

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Section E.5, Tribal Cultural Resource			
Impact TCR-1: The proposed project could cause a substantial adverse change in the significance of a tribal cultural resource, as defined in PRC section 21074.	LTSM	NI	LTSM <
Impact C-TCR-1: The proposed project, in combination with cumulative projects, could result in a significant cumulative impact on tribal cultural resources.	NI	NI	NI
Section E.6, Transportation and Circulation			
Impact TR-1: The proposed project would not create potentially hazardous conditions for people walking, bicycling, or driving or for public transit operations; interfere with accessibility for people walking or bicycling; or result in inadequate emergency access.	LTS	LTS =	LTS =
Impact TR-2: The proposed project would not substantially delay public transit.	LTS	LTS =	LTS =
Impact TR-3: The proposed project would not cause substantial additional vehicle miles traveled or substantially induce additional automobile travel.	LTS	LTS =	LTS =
Impact TR-4: The proposed project would not result in a loading deficit.	LTS	LTS =	LTS =
Impact TR-5: The proposed project would not result in a substantial vehicular parking deficit.	LTS	LTS =	LTS =
Impact C-TR-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on transportation and circulation.	LTS	LTS =	LTS =
Section E.7, Noise			
Impact NO-1: The proposed project would not generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the proposed project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.	LTS	LTS =	LTS =
Impact NO-2: The proposed project would not generate excessive groundborne vibration or groundborne noise levels.	NI	NI	NI
Impact C-NO-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on noise.	LTS	LTS =	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Section E.9, Greenhouse Gas Emissions			
Impact C-GG-1: The proposed project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LTS	LTS <	LTS =
Impact C-GG-2: The proposed project would not conflict with any policy, plan, or regulation adopted for the purpose of reducing GHG emissions.	LTS	LTS <	LTS =
Section E.10, Wind			
All Impacts	LTS	NI	NI
Section E.11, Shadow			
All Impacts	LTS	NI	NI
Section E.12, Recreation			
Impact RE-1: The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities	LTS	LTS =	LTS =
Impact RE-2: The proposed project would not include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.	NI	NI	NI
Impact C-RE-1: The proposed project, combined with cumulative projects, would not result in significant cumulative impacts related to recreation.	LTS	LTS =	LTS =
Section E.13, Utilities and Service Systems			
Impact UT-1: The proposed project would not 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.	LTS	NI	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact UT-2: Sufficient water supplies are available to serve the proposed project and reasonably foreseeable future development during normal, dry, and multiple dry years unless the 2018 Bay-Delta Plan Amendment is implemented; in that event, the SFPUC may develop new or expanded water supply facilities to address shortfalls in single and multiple dry years but this would occur with or without the proposed project. Impacts related to new or expanded water supply facilities cannot be identified at this time or implemented in the near term; instead, the SFPUC would address supply shortfalls through increased rationing, which could result in significant cumulative effects, but the project would not make a considerable contribution to impacts from increased rationing	LTS	LTS =	LTS =
Impact UT-4: The proposed project would not generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair attainment of solid waste reduction goals.	LTS	LTS =	LTS =
Impact UT-5: The proposed project would comply with federal, state, and local management and reduction statutes and regulations related to solid waste	LTS	LTS =	LTS =
Impact C-UT-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on utilities and service systems.	LTS	LTS =	LTS =
Section E.14, Public Services			
All Impacts	LTS	LTS <	LTS =
Section E.15, Biological Resources			
Impact BI-1: The proposed project would not 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.	LTS	LTS =	LTS =
Impact BI-2: The proposed project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.	LTS	LTS =	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact BI-3: The proposed project would not have a substantial adverse effect on federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.	LTS	LTS =	LTS =
Impact BI-4: The proposed project would not 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.	LTS	LTS <	LTS <
Impact BI-5: The proposed project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.	NI	NI	NI
Impact C-BI-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on biological resources.	LTS	LTS =	LTS =
Section E.16, Geology and Soils			
Impact GE-1: The proposed project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving fault rupture, strong seismic ground shaking, seismically induced ground failure, including liquefaction, or landslides.	LTS	LTS <	LTS =
Impact GE-2: The proposed project would not result in substantial erosion or loss of topsoil.	LTS	LTS <	LTS <
Impact GE-3: The proposed project would not result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse by being located on a geologic unit or soil that is unstable, or that could become unstable.	LTS	LTS <	LTS <
Impact GE-4: The proposed project would not create substantial risks to life or property by being located on expansive soils.	LTS	LTS <	LTS <
Impact GE-5: The proposed project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.	NI	NI	NI
Impact GE-6: The proposed project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.	LTS	LTS <	LTS <

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact C-GE-1: The proposed project, in combination with cumulative projects, would not result in significant cumulative impacts on geology, soils, or paleontological resource.	LTS	LTS <	LTS <
Section E.17, Hydrology and Water Quality			
Impact HY-1: The proposed project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality.	LTS	LTS =	LTS =
Impact HY-2: The proposed project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the proposed project may impede sustainable groundwater management of the basin.	LTS	LTS =	LTS =
Impact HY-3: The proposed project would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion, siltation, or flooding onsite or offsite and create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff or impede or redirect floodflows.	LTS	LTS>	LTS =
Impact HY-4: The proposed project would not risk release of pollutants due to project inundation in flood hazard, tsunami, or seiche zones.	LTS	LTS =	LTS =
Impact HY-5: The proposed project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	LTS	LTS =	LTS =
Impact C-HY-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact on hydrology and water quality.	LTS	LTS =	LTS =
Section E.18, Hazards and Hazardous Materials			
Impact HZ-1: The proposed project would not create a significant hazard through the routine transport, use, or disposal of hazardous materials.	LTS	LTS =	LTS =

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

Parcels/Address	Proposed Project	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
Impact HZ-2: The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	LTS =	LTS =
Impact HZ-3: The proposed project would not emit hazardous emissions or involve handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	NI	NI	NI
Impact HZ-4: The proposed project would not be located on a site included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, create a significant hazard to the public or the environment.	NI	NI	NI
Impact HZ-6: The proposed project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	LTS =	LTS =
Impact HZ-7: The proposed project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.	NI	NI	NI
Impact C-HZ-1: The proposed project, in combination with cumulative projects, would not result in a significant cumulative impact related to hazards and hazardous materials.	LTS	LTS <	LTS =
Section E.19, Mineral Resources			
All Impacts	NA	NA	NA
Section E.20, Energy			
All Impacts	LTS	LTS <	LTS =
Section E.21, Agriculture and Forestry Resources			
All Impacts	NA	NA	NA
Section E.22, Wildfire			
All Impacts	NA	NA	NA

NA = Not applicable | NI = No impact | LTS = Less than significant or negligible impact; no mitigation required | LTSM = Less than significant with mitigation
= (equal to) | < (less than) | > (greater than)

5.D.1 Alternatives Summary Comparison of Impacts and Ability to Meet Project Objectives

A comparison of each alternative and its ability to meet the project objectives compared to the proposed project is evaluated below and summarized in **Table 5-3**.

5.D.1.1 Alternative A: No Project Alternative

As under the proposed project, except for cultural resources and tribal cultural resources, all impacts would be less than significant or would not occur under Alternative A. Because no excavation would occur under Alternative A, no potential impacts would occur to archeological or tribal cultural resources, and no mitigation would be necessary.

While the lack of construction activity under Alternative A would result in reduced air emissions, operation of Alternative A would result in increased emissions from wind erosion, because the warehouse would not be built to cover stockpiles and conveyors would not be covered; and from vehicle travel, because the interior roads would not be paved, causing more fugitive dust from the road surfaces. Even though Alternative A would have operational emissions greater than the proposed project, the increase would not likely result in an exceedance of any of the thresholds. It is also unlikely that Alternative A would result in a significant cancer risk impact, because, at the maximally exposed sensitive receptors, the APEZ criteria would not likely be met even if Alternative A results in greater emissions than the proposed project. Compared to the proposed project, Alternative A would result in greater operational impacts but would not have any significant project-level or cumulative impacts related to air quality. There would be no construction, and thus no impacts from construction, which is a lesser impact than the proposed project.

The No Project Alternative would meet many of the project objectives as the facility would continue to receive and process sand as it does currently. However, it would not meet the project objective of providing enhanced environmental controls as proposed by the project or Objective 5 regarding air district requirements.

5.D.1.2 Alternative B: Partial Modernization Alternative

As under the proposed project, except for cultural resources and tribal cultural resources, all impacts would be less than significant or would not occur under Alternative B. Less excavation would occur under Alternative B compared to the proposed project, as the foundation required for the storage warehouse would not be constructed; therefore, potential impacts related to buried archeological resources and tribal cultural resources would be less than the proposed project.

While there would be less construction activity under Alternative B and reduced construction-related air emissions, operation of Alternative B would result in increased emissions from wind erosion, because the storage warehouse would not be built to cover the finished material stockpile. It is unlikely that air emissions from Alternative B would exceed the Air District's thresholds of significance, because the emissions from the proposed project are well below all thresholds and Alternative B is not anticipated to increase emissions to the extent these thresholds would be exceeded. Alternative B would result primarily in an increase in emissions of fugitive dust as compared to the proposed project, because the warehouse built for the proposed project is mainly intended to reduce fugitive dust. Even though Alternative B would have operational emissions greater than the proposed project, the increase would not likely result in an exceedance of any of the thresholds. It is also unlikely that Alternative B would result in a significant cancer risk impact, because, at the maximally exposed sensitive receptors, the APEZ criteria would not likely be met even if Alternative B results in greater emissions than the proposed project. Compared to the proposed

project, Alternative B would result in greater operational impacts but would not have any significant project-level or cumulative impacts related to air quality. Temporary construction impacts would be slightly less than the proposed project and less than significant.

Alternative B would meet partially meet the project objective related to providing for enhanced environmental controls as the storage warehouse would not be constructed. The alternative would meet the remaining project objectives.

Table 5-3: Summary of Ability of Alternatives to Address Project Objectives

Project Objectives	Alternative A: No Project Alternative	Alternative B: Partial Modernization Alternative
	Does the alternative address the objective?	
1. Continue existing and ongoing sand processing operations with enhanced environmental controls.	No	Partially
2. Continue to supply marine sand—a critical building material necessary for concrete and asphalt production—throughout the City of San Francisco and Bay Area construction projects.	Yes	Yes
3. Continue to use sea-based shipping to import sand to the facility to avoid an increase in the number of truck trips into the City of San Francisco and, specifically, to the two concrete batch plants adjacent to the facility.	Yes	Yes
4. Obtain approval for an updated land lease with the Port of San Francisco.	Yes	Yes
5. Meet all the requirements imposed by regulatory agencies including the Air District and obtain approval from the Air District for an authority to construct and permit to operate to receive and process up to 800,000 tons of sand during any consecutive 12-month period.	No[96]	Yes

5.D.2 Environmentally Superior Alternative

CEQA Guidelines section 15126.6(e)(2) requires an EIR to identify the environmentally superior alternative among the other alternatives if the no project alternative is environmentally superior. CEQA case law further establishes that when none of the alternatives is clearly environmentally superior, an EIR satisfies CEQA by explaining the relative environmental advantages and disadvantages of each alternative as compared to the project.[97] In the case of the proposed project, the no project alternative (Alternative A) would not clearly be the environmentally superior alternative. Alternative A would avoid entirely potential impacts to buried archeological resources and tribal cultural resources as no ground disturbance would occur. However, Alternative A would not provide enhanced environmental controls to reduce air emissions during operation

[96] As currently proposed, the No Project Alternative would need to be revised to pave haul roads to meet air district regulatory requirements.

[97] *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 566–572.

of the project or meet Objective 5 regarding air district requirements. Alternative B would reduce the potential for impacts to archeological resources and tribal cultural resources as excavation for the storage warehouse foundation would not occur. However, excavation would still be required for other components of the project and therefore, there is still the potential for Alternative B to encounter buried resources, requiring implementation of Mitigation Measure M-CR-2. This alternative would provide fewer controls on air emissions compared to the proposed project during operation (but more than Alternative A) because the warehouse would not be constructed. Other enhancements would be constructed (e.g., paving of unpaved surfaces and covered conveyors).

5.E Alternatives Considered but Rejected

CEQA Guidelines section 15126.6(c) requires an EIR to identify alternatives that were considered by the lead agency during the scoping process but rejected due to infeasibility. Section 15126.6(c) provides that among the factors that may be used to eliminate alternatives from detailed consideration are: (1) failure to meet most of the basic project objectives, (2) infeasibility, or (3) inability to avoid significant environmental impacts.

One alternative was considered that would reduce the volume of sand the facility would be allowed to receive and process under the proposed permit to operate, which is up to 800,000 tons of sand during any consecutive 12-month period. This alternative was rejected because the proposed project would not result in any significant impacts related to the volume of sand processed; therefore, a reduction in this upper limit would not avoid or reduce any significant environmental impacts.

Another alternative was considered that would eliminate paving at the site in order to reduce ground disturbance during construction. This alternative was rejected because it would not reduce potential impacts to buried archeological resources and tribal cultural resources as excavation for equipment foundations would still occur, and at a greater depth than required for paving. This alternative also was rejected because it would result in increased dust emissions from trucks and mobile equipment driving on unpaved roads during operation of the project, which could lead to increased air quality impacts. It would only be partially consistent with the project objective to provide enhanced environmental controls at the project site.

CEQA Guidelines section 15126.6(f)(2) states that alternative locations should be considered if they would avoid or substantially lessen any of the significant effects. An alternative location would likely have a similar potential to affect previously unknown buried cultural resources or tribal cultural resources. In addition, consideration of an alternative location was rejected from further consideration due to the potential to introduce an industrial use, and associated air emissions, to a new area potentially closer to sensitive receptors. Furthermore, the project sponsor does not control another comparable site and the availability of industrially zoned land in San Francisco is largely limited to Port property. Potential locations that would be capable of importing raw sand via barge also would be a limiting factor. There could be potential alternative locations on Port property, but any potential impacts to affected buried cultural or tribal cultural resources at these alternative locations would likely be similar to potential impacts at the existing project site. Finally, an existing sand processing facility already exists on the site and there are two adjacent concrete batch plants.

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