California Environmental Quality Act Initial Study
Investigation Area C1 Remedial Action Plan
Lennar Mare Island

Department of Toxic Substances Control

July 2024

CALIFORNIA ENVIRONMENTAL QUALITY ACT
INITIAL STUDY

The Department of Toxic Substances Control (DTSC) has completed the following document for this Project in accordance with the California Environmental Quality Act (CEQA) [Pub. Resources Code, div. 13, § 21000 et seq] and accompanying Guidelines [Cal. Code Regs., tit. 14, § 15000 et seq].

PROJECT INFORMATION

PROJECT TITLE: Investigation Area C1 Remedial Action Plan, Mare Island		SITE CODING: 201383-11
PROJECT ADDRESS: Former Mare Island Naval Shipyard	**CITY:** Vallejo	**COUNTY:** Solano
PROJECT SPONSOR: Lennar Mare Island, LLC P. O. Box 4205 Vallejo, California 94590	**CONTACT:** Tom Sheaff / Lennar Mare Island, LLC	**PHONE:** (707) 853-3206
APPROVAL ACTION UNDER CONSIDERATION BY DTSC: ☐ Initial Permit Issuance ☐ Permit Re-Issuance ☐ Permit Modification ☐ Closure Plan ☐ Removal Action Workplan ☒ Remedial Action Plan ☐ Interim Removal ☐ Regulations ☐ Corrective Measure Study/Statement of Basis ☐ Other (specify):		
STATUTORY AUTHORITY: ☐ California H&SC, Chap. 6.5 ☒ California H&SC, Div. 45[1] ☐ Other (specify):		
DTSC PROGRAM/ ADDRESS: 700 Heinz Avenue, Berkeley, CA 94710	**CONTACT:** Nicole Yuen	**PHONE:** (510) 540-3881

Project Description

DTSC is considering approval of a Remedial Action Plan (RAP) for Investigation Area C1 (IA C1) within the Eastern Early Transfer Parcel (EETP) at Mare Island, pursuant to Health & Safety Code, Division 45, Part 2, Sections 79195 through 79240, as submitted on July 5, 2024 by Environmental Resources Management, Inc. (ERM) on behalf of Lennar Mare Island, LLC (LMI) (ERM 2024c). Preparation and approval of the RAP is pursuant to the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act of 1986; the National Oil and Hazardous Substances Pollution Contingency Plan in Title 40 of the Code of Federal Regulations, Part 300; and Division 45, Part 2, of the California Health and Safety Code (H&SC). DTSC is the lead regulatory oversight agency for the investigation and remediation of contamination at the EETP.

The RAP presents the proposed remedies for contamination of soil, concrete, wood, metal surfaces, and/or groundwater at 225 sites of potential environmental concern identified within the 83-acre portion of the former Mare Island Naval Shipyard (MINS or the Shipyard) called IA C1. IA C1 is part of a larger parcel transferred from the United States Department of the Navy (Navy) to the City of Vallejo and then to property developer LMI in 2002. In 2019, the bulk of the IA C1 property was transferred to another developer, The Nimitz Group, LLC (NG), with LMI retaining a 50-foot-wide strip of land that runs along the entire IA C1 waterfront to the Mare Island Causeway. LMI continues to be responsible for the completion of environmental cleanup activities at the 225 sites of potential environmental concern in IA C1. Figure 1 shows the Project Site vicinity and location. The figure also shows the location of all remediation sites in IA C1, and depicts the following:

- Four sites where the proposed remedy involves possible physical actions yet to be completed (such as removal of soil, concrete, wood, and/or dust, or subsurface injections) and a remedy has not already been selected and approved are as follows:

[1] The Hazardous Substance Account Act (HSAA), formerly H&SC, Division 20, Chapter 6.8, was recodified to H&SC, Division 45, part 2, effective January 1, 2024.

  - Installation Restoration Program Site (IR) Site 3 (IR03) Remediation Area
  - IR Site 14 (IR14; specifically, Industrial Wastewater Pumping Station No. 4 [IWPS4] and oil/water separator [OWS] T-2)
  - Building 91 Unknown Location (UL) #01 Mercury site (hereinafter referred to as the Building 91 Mercury site) including the mercury-contaminated contaminated soil in Buildings 87 and 89, and contaminated dust extending into Buildings 89, 87, 85, and 271
  - Building 85 Volatile Organic Compounds (VOCs) in Soil Gas
- The remaining 221 sites where remediation has been completed or a remedy has been selected and is being implemented (including sites where the remedy consists solely of establishing and maintaining institutional controls, such as a Land Use Covenant [LUC]).

Environmental effects from the remediation activities selected in the RAP that involve future physical changes to IA C1 are evaluated in this Initial Study. As such, the term “Project Site” in this document refers to these four sites within IA C1.

The following remedial actions would not result in a change in the physical environment as a result of implementing the RAP and, therefore, are not evaluated in the Initial Study:

- The establishment and maintenance of institutional controls
- Site investigation and remediation activities completed prior to the date of this Initial Study

As presented in the *Mare Island Specific Plan*, the City of Vallejo intends to develop the IA C1 area as “Mixed Use” (including office/research and development, light industrial, warehouse, retail commercial, and potential live-work/residential); educational/civic use; and developed recreation use (City of Vallejo 2013). Though these uses are called out in the Specific Plan, all of IA C1 is proposed for commercial/industrial reuse. An IA C1-Wide Commercial/ Industrial LUC will be applied across IA C1, which prohibits residences, schools for persons under 18 years, hospitals for humans, and daycare centers for children, among other restrictions. The topography of IA C1 is generally flat, with elevations of about 6 to 8 feet above mean sea level (United States Geological Survey [USGS] 2021a).

Fieldwork at all but six of the sites within IA C1 that required remediation has been completed. These prior remedial activities are not evaluated by this Initial Study. The four sites evaluated in the RAP and this CEQA Initial Study are listed above. The other two sites include:

- The Domestic Pump Station #6 (DOM-6, including the Intake Arm of the Building 121 Cooling Water Loop [CWL-IA]). This site is being overseen by the California State Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) and as such, remedial action at those sites is not evaluated by the RAP and, therefore, this CEQA Initial Study.
- IR Site 15 (IR15). IR15 had site-specific remedies that were evaluated in a separate remedy decision document and Initial Study. The remedy for this site, listed below, is being performed in accordance with the regulatory-agency-approved 2010 *IR15 Feasibility Study/Remedial Action Plan* (CH2M HILL 2010) and is not evaluated by this Initial Study. On January 29, 2024, a report titled *IR15 Remedial Action Status Report and Path to Closure, Investigation Area C1, Eastern Early Transfer Parcel, Former Mare Island Naval Shipyard, Vallejo, California* (IR15 Status Report) (Remedy Engineering, Inc. [Remedy] 2024) was submitted to DTSC and the Regional Water Board. This report provided the following information: a comprehensive site history and background; current groundwater, soil gas and indoor air analytical results, including the soil gas and indoor air samples that were collected in April and July 2023; a summary of the *IR15 Feasibility Study/Remedial Action Plan (FS/RAP), Investigation Area C1, Lennar Mare Island, Vallejo, California* (IR15 FS/RAP) (CH2MHILL 2010) conclusions and remedial approach; updated geologic/hydrogeologic cross sections, including recent analytical data; an updated site conceptual model; a post-remediation human health risk assessment (HHRA); detailed discussions of achievement of the remedial action objectives (RAOs) presented in the IR15 FS/RAP; and a recommendation to proceed to closure and prepare appropriate documentation. The conclusions of the IR15 Status Report are:
  - IR15 has been adequately characterized and remediated to the extent possible and appropriate to protect human health and the environment for current and proposed commercial/industrial land use with LUCs in place; and
  - It is recommended that IR15 proceed to closure with the requisite Remedial Action Implementation Report and the site-specific LUC and IA C1-wide Commercial/Industrial LUC in place. In addition, the IR15 site-specific LUC will require and operations and maintenance (O&M) Plan, an O&M agreement with appropriate financial assurance.

On April 22, 2024, DTSC provided comments from both DTSC and the Regional Water Board (DTSC 2024d). A response to comments is pending.

Each of the four sites (IR03 Remediation Area, IR14 [specifically IWPS4 and OWS T 2], Building 91 Mercury site, and Building 85 VOCs in Soil Gas) that do not have approved remedies were evaluated for various remedial alternatives in the RAP. Table PD-1 lists the proposed remedial alternative for each site in IA C1 that requires, or will likely require, action to address contaminants of concern (COCs); locations are shown on Figure 1.

Table PD-1: Environmental Sites in Investigation Area C1 where Physical Remediation Activities are Proposed in the RAP

Remedial Alternative 2 – Institutional Controls

- Building 85 VOCs in Soil Gas – This building is referred to as Building 85, however, this building is part of a continuous "superstructure" that includes five buildings (Buildings 85, 87, 89, 91, and 271). Investigation and remedial activity associated with soil and groundwater cleanup along industrial wastewater pipelines in the Building 85 area have been conducted since early 1990s. Currently, an evaluation is being performed to confirm that the site has met RAOs via meeting either site-specific cleanup goals applicable to commercial/industrial site use, or as a contingency, an acceptable risk level subject to a risk management decision by DTSC, now that the following activities are complete: sealing the open space in the floor of Building 85 and collecting additional soil gas/indoor air samples in two sampling events (a cool/wet event and a warm/dry event). Results from these data collection events indicate that vapor intrusion (VI) does not appear to be occurring, as confirmed by recent regulatory agency concurrence on October 12, 2023. A summary of these activities and an update to the HHRA was submitted to the regulatory agencies in a report dated January 22, 2024 (ERM 2024a). The revised HHRA concluded that there is likely no substantial long-term potential VI risk.

  Based on the results of the HHRA, the cleanup goals and RAOs have been met for the Building 85 VOCs in Soil Gas site and implementation of the IA C1-wide Commercial/Industrial LUC (that would limit site uses to commercial/industrial, along with other provisions) as a standalone remedy is adequate for this site. Potential risks from VI for future development and modified site uses will be managed via the requirements in this LUC. If cleanup at this site is determined necessary in the future, the remedy plan incorporates a flow chart of proposed remedies, which range from attaining site-specific cleanup goals via the primary remedy (Alternative 2 – Institutional Controls) to cleanup using a contingency remedy (Alternative 4 – Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance) via soil vapor extraction (SVE). If warranted, installation of a passive or active vapor intrusion mitigation system (VIMS) would be included to improve indoor air quality and reduce health risks. If RAOs are not able to be met via removal alone, one or more of the following contingencies that require O&M in a post-remediation O&M phase would be implemented: an engineering control (e.g., VIMS) is installed, operation of a SVE system is continued into an O&M phase, or groundwater and/or soil gas monitoring is needed to confirm attainment of acceptable health risk levels. In addition, a site-specific LUC would be applied to prevent disturbance of an engineered remedy, among other restrictions, where O&M phase operation of an engineered remedy is required to manage residual risk.

Remedial Alternative 4 – Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance

- Building 91 Mercury site– Removal of contaminated wood flooring, concrete, soil and dust (indoor, both above and below former wood plank floor). If RAOs are not able to be met via removal alone, the following contingency that requires a post-remediation O&M phase would be implemented: an engineering control (e.g., a cap or vapor mitigation system) is installed to attain acceptable health risk levels. In addition, a site-specific LUC will be applied to prevent disturbance of an engineered remedy, among other restrictions, where O&M phase operation of an engineered remedy is required to manage residual risk.

Remedial Alternative 6 – In Situ Treatment Potentially with Site-Specific Land Use Covenant and Operation and Maintenance

- IR14 (specifically IWPS4 and OWS T-2) – To address petroleum hydrocarbon (total petroleum hydrocarbons [TPH]-diesel and TPH-motor oil) and chlorinated volatile organic compound (CVOC) impacted groundwater, the proposed remedy includes the application of in situ chemical oxidation (ISCO), in situ biological reduction (ISBR), and enhanced in situ bioremediation (EISB) through injection of reagents to reduce contaminant concentrations and enhance natural biodegradation. If RAOs are not able to be met via in situ treatment alone, one or more of the following contingencies that require a post-remediation O&M phase would be implemented: an engineering control (e.g., a containment system or VIMS) is installed; a groundwater or SVE system is installed and operation is continued into an O&M phase; or groundwater, soil gas and/or indoor air monitoring is

needed to confirm attainment of acceptable health risk levels. In addition, a site-specific LUC will be applied to prevent disturbance of an engineered remedy, among other restrictions, where O&M phase operation of an engineered remedy is required to manage residual risk. Based on the completion of remedy execution via a series of pilot tests, cleanup goals and RAOs have been achieved for this site and additional cleanup activities are not warranted beyond groundwater monitoring to confirm that cleanup goals continue to be maintained and recordation and implementation of the IA C1-wide Commercial/Industrial LUC. Potential risks from VI for future development and modified site uses will be managed via the requirements in the IA C1-wide Commercial/Industrial LUC.

- IR03 Remediation Area – IWPS4, OWS T-2, and the underground conduit portions of IR14 were also located within the IR03 Remediation Area. To address petroleum hydrocarbon and CVOC impacted groundwater in the IR03 Remediation Area, the proposed remedy for IR03 is the same remedy selected for the portion of IR14 described above.

The sites where DTSC is the lead regulatory agency are evaluated in this Initial Study. As specified in the RAP, one or more of the following RAOs for commercial/industrial land use may be applicable for a site located in IA C1 (not all RAOs listed may be applicable for a particular site):

- Remediating contaminated sites to be protective of human health under commercial/industrial land use scenarios
- Remediating COCs to meet site-specific cleanup goals protective of human health and the environment
- Protecting human health and ecological receptors from unacceptable exposure to constituents in soil and/or groundwater (constituents may include various metals, polynuclear aromatic hydrocarbons, pesticides, semi-volatile organic compounds, VOCs, TPH, and/or polychlorinated biphenyls [PCBs]) (applies to all sites in IA C1)
- Protecting human health from unacceptable exposure to PCBs in concrete, asphalt, wood planks, wood blocks, metal surfaces and/or air
- Protecting human health from unacceptable exposure to mercury in concrete, asphalt, wood planks, wood blocks, metal surfaces, dust, and/or air
- Mitigating unacceptable odor and nuisance concerns associated with TPH in shallow soil (applies only to certain sites)
- Preventing significant degradation to groundwater caused by leaching of constituents from soil to groundwater (applies to all sites in IA C1)
- Maintaining concentrations of constituents so that the current and future beneficial use of groundwater is not unacceptably affected (applies to all sites in IA C1)
- Preventing significant accumulation of VOCs, TPH-gasoline, and naphthalene in soil and in soil gas (applies only to certain sites)
- Achieving compliance with applicable or relevant and appropriate regulatory requirements (applies to all sites in IA C1)

The RAP presents a set of numerical, chemical-specific, site-specific cleanup goals that will achieve the RAOs; these cleanup goals are consistent with the planned use of the site (commercial/industrial). The proposed cleanup remedies for the sites listed in Table PD-1, which have been selected to achieve these cleanup goals and applicable RAOs, are expected to involve the following related activities:

- Injecting reagents into the subsurface to enhance conditions for degradation of TPH and CVOCs in place (IR03 and IR14). Associated activities include mixing reagents and injection fluids prior to injection, drilling additional monitoring and remediation (e.g., injection and extraction) wells, abandoning injection wells (if used), and grouting the injection-related borings to surrounding grade after injections are complete.
- Scabbling (chipping away), excavating, and removing contaminated soil, concrete, and/or wood using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) (and Building 91 Mercury site). Mercury dust will be removed using a vacuum equipped with high efficiency particulate air (HEPA) filters on the exhaust to prevent mercury emission into the air. Contaminated media will be loaded directly into bins and/or drums, where it will be stored and covered, pending disposal. The purpose of these activities is to remove contaminated media to achieve applicable commercial/industrial cleanup goals to the greatest extent possible.
- Soil gas extraction. Depending on the treatment system and COC concentrations in the extracted soil gas, a permit may be required for discharge of treated gases to the atmosphere.

- Import of clean soil to backfill excavations, as necessary (Building 91 Mercury site). Imported soil will need to follow the Soil Quality and Tracking Requirements included in the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001).
- Characterization of soil, dust, wastewater, concrete, and/or wood removed from the sites and investigation-derived waste to determine if treatment is required prior to disposal.
- Transportation and disposal of excavated soil, concrete, wood, and/or dust offsite to permitted treatment, storage, and disposal facilities (TSDFs) (Table PD-2) based on waste characterization results and the facility's permit.

Table PD-2: Facilities to be Used for Disposal of Remediation Wastes

Facility or Operator Name	Types of Waste Accepted			City	State
	NH	CA-H	RCRA-H		
Allied/Forward, Inc. (a subsidiary of Republic Services) (~80 miles from site)	X			Stockton	California
Clean Harbors, Inc. (~75 miles from site)		X	X	San Jose	California
Republic Services ECDC Landfill (~850 miles from site)	X	X		East Carbon	Utah
Republic Services Keller Canyon Landfill (~30 miles from site)	X			Pittsburg (Bay Point)	California
Kettleman Hills (~220 miles from site)	X	X	X	Kettleman City	California
Recology (~35 miles from site)	X	X		Vacaville	California
Republic Services (~620 miles from site)		X	X	Grand View	Idaho
Republic Services (~520 miles from site)	X	X	X	Beatty	Nevada
Waste Management – Altamont Landfill (~60 miles from site)	X			Livermore	California
Republic Services Vasco Road Landfill (~60 miles from site)	X			Livermore	California

NH = Non-Hazardous
CA-H = California-Hazardous, exceptions for certain types of contaminants may apply
RCRA-H = Resource Conservation and Recovery Act (RCRA)-Hazardous

Note: Each of these facilities is licensed to accept certain types of materials. Prior to selecting the appropriate disposal facility, the remediation wastes in question will be analyzed to determine which facilities from the above list would be suitably licensed to accept those wastes.

- Waste water transportation and disposal offsite to permitted TSDFs (Table PD-2) based on waste characterization results and the facility's permit, or in select circumstances, discharge under permit to the Vallejo Sanitation and Flood Control District (now referred to as the Vallejo Flood and Wastewater District [VFWD]) sewer system.
- Collection of soil, soil gas, groundwater, concrete, and/or wipe samples to confirm that cleanup goals have been met and to aid in determining any areas that require further remedial action (e.g., excavation/removal or engineering controls [e.g., exposure barriers such as caps]).
- Using temporary traffic and engineering controls (i.e., fences, barricades, signs, caution marking, and/or traffic control staff/flaggers) as necessary. These measures would be implemented to protect the public from cleanup activities and cleanup equipment. The duration of traffic and engineering controls would not exceed the duration of these related cleanup activities and no permanent alterations in the layout of fences, roads, sidewalks, or other pathways are anticipated as a result of the proposed remediation projects.
- Recordation of LUCs. Institutional controls are not physical remedies; they are legal documents such as LUCs that would govern future use of the property, restricted activities, and monitoring requirements, as appropriate. A site-specific LUC would prohibit certain uses of a site without prior approval from DTSC. For the areas covered by LUCs, there would be annual inspections and 5-year reviews and reporting requirements to evaluate the effectiveness of the remedy to protect human health and the environment. LUCs can be considered partial or

complete remedies for certain contaminated sites because they protect site occupants and the environment by limiting activities that could result in: (1) releases of contaminated materials; or (2) unacceptable exposures to chemicals remaining in place. All sites in IA C1 will be covered under an IA-wide LUC that restricts land use to commercial/industrial purposes and prohibits the following land uses: residences, daycare centers for children, schools for persons under 18 years of age, and hospitals for humans. Site-specific LUCs including PCB-specific and other site-specific LUCs would also be established within IA C1. LUCs are not evaluated in this Initial Study because they do not require physical remediation and do not have the potential to result in significant environmental impacts to the sites.

- O&M activities may be associated with engineering control remedies at sites where contamination is left in place. Engineering controls that may be employed at sites located in IA C1 include installation of an encapsulation remedy (such as existing concrete and asphalt floors, concrete caps, and coatings and sealants) to prevent exposure to remaining contaminants or installation of a VIMS to reduce contaminant concentrations in indoor air. Additionally, existing concrete or asphalt floor, ground surfaces, or electrical equipment may also be considered as a capping alternative. In cases where both 1) a removal action (e.g., groundwater or soil gas extraction and/or treatment system) is needed to achieve RAOs and 2) where operation of that system continues into the post-remediation O&M phase, O&M of that system would be required. In cases where achieving RAOs through removal action alone is not feasible and where groundwater needs to be managed due to residual risk to human health or the environment, an engineered remedy (e.g., a permeable reactive barrier [where “reactive” materials in a below-ground wall either trap harmful contaminants or make them less harmful and allow the treated groundwater to flow out the other side of the wall] or a vertical barrier wall to protect Mare Island Strait) would be installed. Finally, long-term O&M phase groundwater and/or VI to indoor air monitoring may be required, such as when a site meets RAOs by achieving acceptable risk levels subject to a risk management decision by DTSC instead of meeting cleanup goals.

The activities listed above that are associated with the proposed IA C1 remediation approach are commonly employed at remediation sites. These activities are generally described in the RAP, which is a remedy selection document. To implement these remedies after RAP approval and CEQA Negative Declaration, they are, or will be, more fully described in remedial design work plans prepared for the sites.

Descriptions of the remedies for the sites evaluated in this Initial Study are provided below.

- *IR14* (specifically IWPS4 and OWS T-2) – The remedy selected for this site includes in situ treatments (e.g., ISCO, ISBR, and EISB) to address residual petroleum hydrocarbons and CVOCs in groundwater. Pilot testing completed in 2014 indicated that CVOC concentrations have been reduced to below Tier 2 screening levels for all CVOCs except vinyl chloride in some isolated wells. A second round of injections was conducted in 2019 and 2020. TPH-diesel and vinyl chloride concentrations continue to exceed Tier 2 screening levels in some wells. For the purpose of analyzing potential environmental impacts related to IR14 cleanup actions, this Initial Study assumes that future cleanup activities, if needed, will be consistent with the general scope of work performed during the previous rounds of pilot testing performed in 2019, 2020, and 2023. Fieldwork was performed as summarized below.

  In situ treatment was performed by injecting appropriate reagents into select portions of the site (either through borings installed for that purpose or injection wells) and monitoring groundwater to assess the progress and effectiveness of the cleanup. As specified in the work plan for the most recent injection activities (ERM 2022a,c), ISCO was proposed for inland portions of this site (Former IWPS4). Groundwater was extracted, mixed with reagent, and reinjected simultaneously to facilitate groundwater recirculation within the treatment area to improve reagent distribution. For treatment areas closer to Mare Island Strait (the Strait) ISBR was considered an appropriate remedial technology to reduce COCs since EISB is not an effective reagent for remediation of trichloroethene (TCE) and cis-1,2-dichloroethene (DCE). For the treatment area closest to the Strait, EISB was selected based on the COCs and to minimize the potential for release of the reagent to the nearby Strait because stimulating biodegradation with naturally occurring bacteria in the subsurface is a safer approach for decreasing contamination near sensitive ecological receptors in the Strait than applying reagents that rely on oxidation or other vigorous chemical processes to reduce contamination. Overall, reductions in COCs indicate that all treatment areas have fully achieved the cleanup goals. Routine (semiannual) groundwater monitoring will continue to confirm COC concentrations remain below the updated cleanup goals for a period of one year. A summary of the pilot testing performed to date was provided in a summary report dated February 13, 2024 (ERM 2024b). Based on the completion of remedy execution to date, via a series of regulatory-approved pilot tests, cleanup goals and RAOs appear to have been achieved for these two sites. If regulatory oversight agencies agree with this conclusion, additional cleanup activities would not be needed, beyond groundwater monitoring as required to confirm that cleanup goals will be maintained, and recordation and implementation of the IA C1-wide Commercial/Industrial LUC, including its expected VI evaluation provisions.

If additional treatment becomes necessary in the future, in situ treatment would be performed until TPH/CVOC concentrations in groundwater are shown to either be below cleanup goals or decreasing at a rate that indicates cleanup goals would be achieved within a reasonable, defined timeframe. Performance groundwater monitoring is included in the remedy because the chemical reactions of the treatment can take months to achieve their full effectiveness. When possible, this groundwater sampling would employ low-flow sampling techniques, which reduce the volume of water that is purged from a well during the sampling process.

The remediation activities would employ heavy equipment (air knife [an excavation tool that uses high-pressure airflow], drill rigs, and injection rigs) and several support pickup trucks. Limited vehicle traffic (5 to 10 vehicle trips per day) for heavy equipment (typically vehicles with a gross vehicle weight rating greater than 10,000 pounds) would be required to perform cleanup actions. The anticipated duration of the injection activity is 3 weeks. The anticipated duration of groundwater monitoring is 12 months. During the monitoring period, at least two groundwater monitoring events would be conducted using a truck-mounted groundwater sampling vehicle, each of which would require up to 2 days to complete. Minimal amounts of potable water (approximately 1,000 to 2,000 gallons) would be needed to perform the remediation and minimal waste (less than 100 gallons) would be generated during the injection and groundwater monitoring. The use of potable water will be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (California State Water Resources Control Board [SWRCB] Resolution No. 2022-0002; 2022). Minimal vehicle traffic would be necessary to offhaul the anticipated volume of waste (one truck trip per groundwater sampling event). No waste soil is anticipated to be generated as the in situ injections will be performed via direct-push drilling technology that does not generate waste soil cuttings. Future land use at the site would be restricted to commercial/industrial by the IA C1-wide Commercial/Industrial LUC.

- *IR03 Remediation Area* – The remedy selected for IR03 includes in situ treatments (e.g., ISCO and EISB) to address residual petroleum hydrocarbon and CVOC concentrations in groundwater at the IR03 site. The remedy for this site would be performed simultaneously with the remedy for IR14. Also, groundwater monitoring for this site would be performed simultaneously with the groundwater monitoring for the IR14 site. The resources and potential environmental impacts of implementing remedial action at this site are incorporated in the IR14 remedy.
- *Building 85 VOCs in Soil Gas* – Additional characterization for the Building 85 VOCs in Soil Gas site was proposed to DTSC and the Regional Water Board in an electronic mail message dated December 13, 2022 (ERM 2022b). On December 23, 2022, DTSC transmitted two electronic mail messages in which it and the Regional Water Board proposed additional work items (DTSC 2022a, 2022b). The concrete floor slab was repaired (February 2023), and two datasets (a cold/wet event in February 2023 and a warm/dry event in July 2023) were collected that suggest significant reductions in observed indoor air concentrations of COCs. A summary of these activities and an update to the HHRA was submitted to the regulatory agencies in a report dated January 22, 2024 (ERM 2024a). Results from these data collection events indicate VI does not appear to be occurring at Building 85. Based on the results of the updated HHRA, the indoor air screening levels and RAOs have been met for the Building 85 VOCs in Soil Gas site, and implementation of the IA C1-wide Commercial/Industrial LUC, including its expected VI evaluation provisions, would be the final part of the remedy for this site.

  If cleanup at this site is determined necessary in the future, Figure 6.2-1 in the RAP presents a graduated remedy plan for the Building 85 VOCs in Soil Gas site. This remedy plan incorporates a flow chart of proposed remedies, which range from attaining cleanup goals via the primary remedy (Alternative 2 – Institutional Controls) to cleanup using a contingency remedy (Alternative 4 – Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance) via SVE. Under the primary remedy, IA C1-wide Commercial/Industrial LUC, and potentially O&M monitoring, would be implemented once cleanup goals are attained. Figure 6.2-1 also indicates that rather than requiring cleanup goals to be met, DTSC can instead apply a risk management decision as a contingency to allow use of the results of an HHRA (i.e., achieving acceptable risk levels and a hazard index at or below 1) as alternate RAOs allowing site closure, in some cases, with just the implementation of the IA C1-wide Commercial/Industrial LUC, or entering into an O&M phase when the acceptable risk levels are met (without achieving cleanup goals).

  Depending on where the risk levels are with respect to the Risk Management Range (i.e., 10^{-6} to 10^{-4}), DTSC may require one of the following in addition to the IA C1-wide Commercial/Industrial LUC: a site-specific LUC with O&M monitoring; or a site-specific LUC with VIMS, O&M, and an O&M Agreement that establishes applicable requirements, with associated financial assurance for implementing the O&M Agreement

  DTSC may also require active remedial measures (e.g., SVE) where risk levels are above what they deem acceptable based on a risk management decision. In this case, the need for a site-specific LUC, VIMS, and/or O&M would be dependent on the endpoint achieved via active remediation, as depicted on Figure 6.2-1 of the RAP. If the remediation endpoint is based on achieving cleanup goals, the IA C1-wide Commercial/Industrial LUC

would be implemented when cleanup goals are attained, similar to above. If the remediation endpoint is instead based on achieving an acceptable risk level (a risk management decision), the IA C1-wide Commercial/Industrial LUC and, if needed, site-specific LUC, VIMS, and/or O&M, would be implemented once this acceptable risk level is achieved. Based on the results of the updated HHRA, the cleanup goals and RAOs have been met for the Building 85 VOCs in Soil Gas site and implementation of the IA C1-wide Commercial/Industrial LUC as part of the remedy for this site. Potential risks from VI for future development and modified site uses will be managed via the requirements in this LUC.

- *Building 91 Mercury site* – As specified in the work plan for remediation activities at this site (Weston Solutions Inc., 2018), the remedy selected for this site addressed mercury-impacted wood flooring, loose concrete, solid concrete, soil, and dust. Remediation activities included removal of wood flooring and loose concrete, scabbling of solid concrete, and excavation of soils immediately beneath the former floor surface. These materials were removed from a large area within the building (approximately 9,600 square feet across multiple locations, representing approximately 50 percent of the floor area). In areas where potential soil impacts were identified, impacted shallow soil was excavated up to approximately 4 feet deep. Removal actions did not occur near structural features.

  Cleanup at this site involved the excavation of approximately 1,500 cubic yards of mercury-impacted concrete/debris and soil, which were placed into 20-cubic-yard bins upon generation. These wastes were profiled and properly containerized in sealed bins onsite temporarily, and off-hauled to an appropriate landfill facility. The remedy at this site also required transportation of approximately 1,500 cubic yards of imported clean fill for backfill of the excavation. Cleanup activities required approximately 40 to 50 truck trips to transport excavated materials off Mare Island and to import clean backfill. This level of Project-related traffic occurred over the course of approximately 6 to 8 weeks (offhaul and fill import combined). In total, the duration of the cleanup activities was approximately 5 months. Confirmation sampling of soil, wood, and concrete was performed; based on those sampling results, the cleanup activities achieved the cleanup goals, with the exception of one support column footing. Additional scabbling of this support column was completed in June 2021.

  Remediation of the soil beneath the wood plank floors and dust throughout Buildings 91, 89, 87, 271 and portions of Building 85 will be required to achieve closure. After mercury is removed from the buildings to achieve the commercial/industrial cleanup goal, indoor-air samples shall be collected from multiple locations to confirm that the cleanup was successful. Because a large volume of impacted materials has already been removed, the mass of material requiring removal should be less than what was previously removed. However, for the purpose of analyzing potential environmental impacts related to Building 91 Mercury cleanup actions, this Initial Study assumes that future cleanup activities will be consistent with the scope of work (e.g., removal with offsite disposal) previously performed (see above). A site-specific LUC may be developed for the site, if appropriate, after the cleanup is completed to a feasible extent.

The above-described areas would also be covered under the IA C1-wide Commercial/Industrial LUC, which would be recorded to prohibit the following land uses: residences, daycare centers for children, schools for persons under 18 years of age, and hospitals for humans.

Project Schedule

As described above, the proposed Project involves short-term construction activities, and does not involve any changes in current site operations. For the purpose of the impact evaluations, this Initial Study conservatively assumes that all the cleanup actions evaluated herein would:

- Be conducted independently and therefore occur intermittently
- Take no more than approximately 2 months of continuous work at the IR03 and IR14 sites, and approximately 5 months at the Building 91 Mercury site to complete
- Be completed before the end of 2024 (based on the current schedule)
- If feasible, be scheduled for relatively dry periods for outdoor cleanup actions (limited schedule restrictions on indoor cleanup actions)

The cleanup actions for all sites evaluated in this Initial Study were designed separately and would be implemented independently. However, some work may coincidentally occur at the same time. These actions may also coincide with other cleanup activities on the Mare Island site that were previously approved under separate CEQA actions. Actual schedules for fieldwork would be included in the site-specific remedial design work plans that would be submitted to DTSC for approval prior to remedy implementation. The LMI Project Manager will develop and review a combined

Master Schedule to ensure that independently scheduled construction activities do not result in a significant cumulative effect on any resource or element of the environment.

Project Controls

Standard project controls would be applied as needed during implementation of cleanup activities to reduce the potential for impacts to (1) site workers or nearby site tenants and residents due to impaired air or water quality, hazards, noise, and traffic; and (2) the environment in general, including air quality, surface soils (i.e., prevention of erosion), surface water, groundwater quality, and cultural resources. These project controls are summarized in the RAP and below, and would be included in more detail, as appropriate, in the site-specific remedial design work plans that would be submitted to DTSC for approval prior to implementation.

- Cleanup activities would generally be performed on standard work days (Monday through Friday) during daylight hours (but the daily work period would start no earlier than 7:00 a.m. and end no later than 8:00 p.m.). Therefore, supplemental outdoor lighting would not be used. Vehicle traffic on and off Mare Island associated with the cleanup activity may be restricted, as necessary, to hours after the morning commute peak (after 9:00 a.m.) and before the afternoon commute peak (before 3:00 p.m.). Vehicle traffic would be assessed by project proponents during the Project activities to determine if these restrictions are necessary. Vehicles associated with the work would be required to follow all applicable speed limits and traffic laws. In addition, construction activities would adhere to applicable City of Vallejo noise control requirements.
- As a Project Control, cleanup activities would employ standard Best Management Practices (BMPs) to (1) suppress dust arising from these activities (such as the use of water application, and covered storage bins for materials removed from the interior of the Building 91 Mercury site); (2) minimize the potential for accidental releases of injection reagents by closely controlling injection parameters; and (3) keeping well-stocked spill kits onsite during injection to contain any accidental releases. Construction activities would comply with applicable local, state, and federal air quality and other requirements related to the above issues.
- A Community Air Monitoring Plan would be developed in accordance with DTSC's guidance document (DTSC 2020) to assess activities that could result in fugitive air emissions (particulate and/or chemical) that may affect the surrounding community in order to protect public health and safety, properly manage long-term environmental risks, and confirm the appropriate regulations are followed.
- For reagent injections, specially trained technicians would employ tailor-made equipment to mix reagents onsite prior to injection. Reagents typically arrive onsite in bags and closed containers and require mixing onsite. Reagent mixing would be performed slowly in small batches in specialized trailers and vehicles designed to contain any fugitive dusts. A steady supply of potable water would be on-hand to prevent dust generation during mixing. Reagent wastes would be containerized appropriately. Use of potable water would be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022).
- Project Controls would also be employed to contain injection reagents within the intended treatment areas. Potential preferential pathways away from the treatment areas, such as utilities, would be blocked prior to injection. Field sampling and monitoring would be performed to verify the efficacy of the installed utility blockers. Spill kits and absorbent materials would be stocked onsite to contain any reagent that surfaces. Any wastes generated from cleanups of surfacing reagent would be properly containerized for offsite disposal. During injection, technicians would constantly monitor injection rates and pressures to detect and control any unintended distribution of the reagents. Maximum injection rates and pressures would be established to minimize the potential for surfacing and unintended distribution of reagent. As needed, splashguards and other physical containment would be employed in the injection area in the unlikely event that an equipment failure results in a release of reagent.
- For remediation equipment that will come in contact with potentially impacted subsurface soil and/or groundwater, project controls would be employed to minimize the potential for cross-contamination between injection locations, ensure that there are no obstructions to the introduction of regents in the injection equipment, and to ensure that construction equipment does not track impacted soils offsite on the wheels and undercarriage. Equipment that comes in contact with potentially impacted material would be steam-cleaned (where applicable) with fresh, potable water, in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022). This equipment rinse water would be captured using standard BMPs and containerized as a waste product.
- For the IR03 and IR14 sites, the reagents proposed for injection locations closest to the Strait (OWS-T2 and IR03 Remediation Area) react slowly to stimulate biodegradation via naturally occurring biota and are less mobile than

those that would be used farther inland (IWPS4 area). In addition, the Project Controls above would minimize the potential for these reagents to reach the Strait.

- Project activities would comply with the City of Vallejo *Climate Action Plan* (2012) construction equipment reduction strategy, Chapter 4, Measure OR-2, which states that greenhouse gas emissions should be reduced from heavy construction equipment by implementing the following measures:
    - OR-2.1. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations [CCR]), or less. Clear signage shall be provided at all access points to remind construction workers of idling restrictions.
    - OR-2.2. Construction equipment shall be maintained per manufacturer's specifications.
    - OR-2.3. City of Vallejo Planning and Building staff would work with Project applicants to limit greenhouse gas (GHG) emissions from construction equipment by selecting at least one of the following measures, at a minimum, as appropriate to the construction project:
        - Substitute electrified equipment for diesel- and gasoline-powered equipment where practical.
        - Use alternatively fueled construction equipment onsite, where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.
        - Avoid the use of onsite generators by connecting to grid electricity or utilizing solar-powered equipment.
        - Limit heavy-duty equipment idling time to a period of 3 minutes or less, exceeding California Air Resources Board (CARB) regulation minimum requirements of 5 minutes.
- Dumpsters or other closable containers would be used to contain solid and liquid waste. For Building 91 Mercury site remediation activities, these bins would be kept inside until they are scheduled for transport and disposal, at which time they would be moved outside the building for pickup. Wastes would be handled in accordance with state and federal regulations, including during offsite transport. In addition, handling of these materials would be consistent with the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001), which specifies the measures required for safe handling of impacted media generated at the site.
- Field activities would be governed by task-specific Health and Safety Plans (HASPs) specifying practices that would be employed by cleanup workers to avoid physical, chemical, and other exposures during cleanup activities, including air monitoring, as necessary.
- All activities involving subsurface disturbance would be performed in accordance with the *Archaeological Treatment Plan for Mare Island, Vallejo, Solano County, California* (ATP) (PAR Environmental Services Inc. [PAR Environmental], 2000). As required by LMI, Contractors would be made aware of the potential for encountering items of potential archaeological interest during excavation activities. LMI and its Contractors would receive Native American Cultural Resources Sensitivity Training from the Yocha Dehe Wintun Nation prior to beginning any intrusive field activities.
    - In the event of an accidental discovery of potential cultural or archaeological resources, LMI's Contractors would immediately suspend excavation or other intrusive activities and cordon off the area within a 100-foot buffer zone. LMI and its archaeological Contractor, PAR Environmental, would be consulted to determine the best course of action regarding the potentially significant items. In addition, the DTSC Project Manager would be notified. If it is determined that the objects are Native American in origin, DTSC would contact the Yocha Dehe Wintun Nation. In accordance with the Native American Cultural Resources Sensitivity Training, LMI and its Contractors would not touch or move the artifacts/remains and would not take photographs or videos of the artifacts/remains. After discussion with the Tribal contacts and or their respective Cultural Resources Managers, and in collaboration with DTSC (including the Office of Environmental Equity) and LMI, measures would be implemented as deemed necessary to record and/or protect the cultural or archaeological resources. Work in the area of any such discovery would only be allowed to continue after completion of the archaeological/tribal consultation and any measures deemed necessary.
- In the event of an accidental discovery of human remains, excavation or disturbance of the site or any nearby area would stop immediately, and the County Coroner would be notified in accordance with applicable laws and regulations (specifically California H&SC Section 7050.5). The Coroner would determine disposition within 48 hours. If the Coroner determines that the remains are Native American, the Coroner would be responsible for contacting the California Native American Heritage Commission (NAHC) within 24 hours. The California NAHC would identify and notify the person(s) who might be the most likely descendant who would make recommendations for the appropriate and dignified treatment of the remains (Public Resources Code,

Section 5097.98). The descendant(s) would complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site (CEQA Guidelines, CCR Section 15064.5(e); H&SC Section 7050.5). If Native American human remains or any associated grave goods are found, procedures would be implemented as required in accordance with Section 106 of the National Historic Preservation Act and Section 2(3) of the Native American Graves Protection and Repatriation Act Section 2(3), which requires work to be stopped in the area of the discovery (see also above bullet).

- Site controls would be implemented to prevent unauthorized persons from entering portions of a site where such entry could pose a threat to themselves or others, or where such entry could interfere with the Project investigation or remediation activities at the site. These site controls would be implemented in accordance with the *Site Control Plan, Lennar Mare Island, Update 1* (CH2M HILL 2003b).
- No materials or equipment would be stored where they could interfere with the free and safe passage of facility personnel and/or tenants. Waste drums and any material used onsite would be secured, labeled, and placed in secured area accessible by authorized personnel only.
- Trucks related to the cleanup actions would be required to enter and exit Mare Island using the north access location where Railroad Avenue meets Highway 37. No other ingress or egress locations would be allowed. Barges would not be used to remove contaminated soil or bring in materials. Truck exteriors/tires would be cleaned as needed (e.g., using potable water wash stations, in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation [SWRCB Resolution No. 2022-0002; 2022] or rumble strips) to avoid soil tracking off the site onto public roadways. The roadways in the vicinity of the job site entrance/exit would be cleaned using a street sweeper to remove any soil that is not contained by the methods listed above; the street sweeping would be performed on a scheduled interval in accordance with the requirements of the City of Vallejo. Truck inspections would be conducted to confirm (1) that the vehicle is in safe operating condition; and (2) the material being transported is secured and would not be released from the vehicle during transport (e.g., that the truck bed is properly tarped and secured).

Public Agencies Whose Approval is Required

The following public agencies are involved in approving the RAP:

- DTSC

Native American Consultation

DTSC contacted the NAHC and requested that NAHC conduct a search of the Sacred Lands File for the LMI, EETP Project Site. A search of the Sacred Lands File was conducted with negative results. DTSC sent letters to the three Tribal contacts provided and included four figures locating the Site as attachments. One request for Tribal contact consultation was received, from the Yocha Dehe Wintun Nation. The consultation between representatives of DTSC and the Yocha Dehe Wintun Nation was held in September 2017. The Tribal government initially requested that Native American Monitors be onsite during ground disturbing activities; however, the tribe instead decided that they would provide Tribal sensitivity training before field activities begin. DTSC's Office of Environmental Equity would assist with this coordination (DTSC 2019).

Note: Please see the Tribal Cultural Resources Section (Section 18) for additional information.

References

Used in the Project Description Section:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site identification (ID) links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

CH2M HILL. 2001. *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California*. November.

CH2M HILL. 2003b. *Site Control Plan, Lennar Mare Island, Update 1*. August.

CH2M HILL. 2010. *IR15 Feasibility Study/Remedial Action Plan (FS/RAP), Investigation Area C1, Lennar Mare Island, Vallejo, California*. Final. October.

City of Vallejo. 2012. *Climate Action Plan*. March.

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

Department of Toxic Substances Control (DTSC). 2019. *California Environmental Quality Act Initial Study. Investigation Area C2 Remedial Action Plan, Lennar Mare Island*. October.

DTSC. 2020. Community Air Monitoring Plan Guidance. January.

DTSC. 2022a. Electronic mail message from Allan Fone of DTSC to Neal Siler of LMI titled "Mare Island Lennar-Building 85/87/271 – Proposal for Additional Vapor Intrusion Investigation Work". December 23, received at 3:38pm.

DTSC. 2022b. Electronic mail message from Allan Fone of DTSC to Neal Siler of LMI titled "Mare Island Lennar-Building 85/87/271 – Proposal for Additional Vapor Intrusion Investigation Work". December 23, received at 8:34pm.

ERM-West, Inc. (ERM). 2019. Letter Subject: DRAFT Work Plan for Injection Pilot Test Phase II at Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, Investigation Area C1, Lennar Mare Island, Vallejo, California. April 2.

ERM. 2021. *Final Summary Report for Pilot Test Phase II, Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, Investigation Area C1, Lennar Mare Island, Vallejo, California*. March 24.

ERM. 2022a. *Revised Work Plan for Phase III Injection Pilot Test at Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, and Installation Restoration Program Site 3 Investigation Area C1 Former Mare Island Naval Shipyard, Vallejo, California.* August 9.

ERM. 2022b. Electronic mail message from Matthew Battin of ERM to Allan Fone of DTSC and Jacob Henry of the Regional Water Board titled "LMI Building 85/87/271 – Proposal for Additional Vapor Intrusion Investigation Work". December 13.

ERM. 2022c. *Addendum to Work Plan for Phase III Injection Pilot Test at Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, and Installation Restoration Program Site 3 Investigation Area C1 Former Mare Island Naval Shipyard, Vallejo, California.* December 22.

Environmental Resources Management, Inc. (ERM). 2024a. *Final Vapor Intrusion Site Characterization Report, Mare Island Building 85 Volatile Organic Compounds in Soil Gas Site.* January 22.

ERM. 2024b. *Pilot Test Phase III Summary Report, Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, and Installation Restoration Program Site 3, Investigation Area C1, Lennar Mare Island, Vallejo, California.* February 13.

ERM. 2024c. *Investigation Area C1 Remedial Action Plan, Draft for Public Review, Lennar Mare Island, Vallejo, California.* July 5.

PAR Environmental Services, Inc. (PAR). 2000. *Archaeological Treatment Plan for Mare Island, Vallejo, Solano County, California.* November.

Remedy Engineering, Inc. (Remedy). 2024. IR15 *Remedial Action Status Report and Path to Closure, Investigation Area C1, Eastern Early Transfer Parcel, Former Mare Island Naval Shipyard, Vallejo, California*. January 29.

California State Water Resources Control Board (SWRCB). 2022. State Water Resources Control Board Resolution No. 2022-002, "To Adopt An Emergency Regulation To Supplement Voluntary Water Conservation." January 4.

United States Geological Survey (USGS). 2021a. 1:24000-scale Quadrangle for Mare Island, CA 2021. Interactive topographic map. Accessed 7/31/2023 at: https://ngmdb.usgs.gov/topoview/viewer/

Weston Solutions, Inc. (Weston) 2018. *Removal Action Work Plan, Mercury Removal, Polychlorinated Biphenyl Site Building 91 UL#01, Investigation Area C1, Eastern Early Transfer Parcel, Mare Island, Vallejo, California*. September.

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ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Potentially Significant Impact," as indicated by the checklist beginning on page 6. Please see the checklist beginning on page 6 for additional information.

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

DETERMINATION

On the basis of this initial evaluation:

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

CERTIFICATION

I hereby certify that the statements furnished above and in the attached documentation, present the data and information required for this Initial Study evaluation to the best of my ability and that the facts, statements and information presented are true and correct to the best of my knowledge and belief.

Nicole Yuen	7/1/2024
Preparer's Signature	Date

Nicole Yuen	Hazardous Substances Engineer	(510) 540-3881
Preparer's Name	Preparer's Title	Phone #

	7/1/2024
Branch or Unit Chief Signature	Date

Marikka Hughes, PG	Branch Chief, Berkeley Site Mitigation and Restoration Program	(510) 540-3926
Branch or Unit Chief Name	Branch or Unit Chief Title	Phone #

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including offsite as well as onsite, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analyses," as described in (5) below, may be cross-referenced).

5) Earlier analyses may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

   a) Earlier Analysis Used. Identify and state where they are available for review.
   b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
   c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The explanation of each issue should identify:

   a) the significance criteria or threshold, if any, used to evaluate each question; and
   b) the mitigation measure identified, if any, to reduce the impact to less than significance

ENVIRONMENTAL IMPACT ANALYSIS

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

REGULATORY SETTING

California Scenic Highway Program

The Scenic Highway Program allows county and city governments to apply to the California Department of Transportation (Caltrans) to establish a scenic corridor protection program, which was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors through special conservation treatment.

Mare Island Specific Plan, Solano County General Plan, and City of Vallejo General Plan

The *Mare Island Specific Plan* as amended in 2013, the *Solano County General Plan*, and the *City of Vallejo General Plan* (City of Vallejo 2013; Solano County 2008b; City of Vallejo 2018a) identify scenic resources within the county/city and include policies and programs to protect them.

ENVIRONMENTAL SETTING

IA C1 is located in the northeastern portion of Mare Island (Figure 1). The approximately 83-acre area is bound by the Strait to the east, and by industrial areas to the north, west, and south. IA C1 is paved or developed with industrial structures constructed as part of Shipyard operations, with the following exceptions:

- An approximate 0.9-acre grass area on the northwestern corner of IA C1, located at the southeast corner of the G Street/Railroad Avenue intersection, approximately 0.1 mile west of the IR03 and IR14 injection area
- An approximate 0.2-acre area grass area known as Wichels Park, in the southern portion of IA C1, located at the northeast corner of the Ferry Street/Nimitz Avenue intersection
- A few small landscaping areas

Many of the buildings in IA C1 are currently occupied, with commercial/industrial uses. As is typical of industrial areas elsewhere, heavy equipment and other materials (wood, metal, glass, concrete, electrical equipment, paint, and other industrial supplies) are currently stored in IA C1, and truck traffic is associated with the businesses present in IA C1. Except for a few small landscaped areas, the ground surface outside most structures is paved and contains several railroad spurs (ERM 2024c).

Numerous assessments have been performed to determine which features on Mare Island are historic resources. The historic district is defined in the *Mare Island Specific Plan* (City of Vallejo 2013); two of the four active remediation project sites (Buildings 85 and 91) are located within this district (National Historic Landmark [NHL] District Area A). According to the *Mare Island Specific Plan*, Buildings 85 and 91 are considered "1854-1865 historic archaeological feature[s]," and the buildings lie within an area of "high prehistoric archaeological sensitivity" (see Figure 2.2 of that Plan, replicated in Appendix C).

As noted in the *City of Vallejo General Plan* (City of Vallejo 2018a), the Strait represents one of several scenic views within Vallejo. The other views listed in the *General Plan* (San Pablo Bay, the waterfront, Sulphur Springs Mountain, the Vaca Mountains, White Slough, the Napa River Wetlands, Sky Valley, and the city of Vallejo itself) are not within the same viewshed as IA C1. The *Solano County General Plan* discussion of scenic resources includes a map of scenic roadways throughout Solano County (Solano County 2008b). Portions of Highway 37 and Interstate 80, which pass near Mare Island, are depicted as scenic roadways on that map. However, IA C1 is approximately 0.7 mile from these roadways at its closest point. The Project sites are not within the corridor of a designated state scenic highway and are not visible from scenic highways.

Existing sources of light/glare include exterior lighting on buildings in IA C1, headlights on vehicles operating outside daylight hours, and reflection of sunlight off glass windows or other shiny surfaces.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The significance determination in this visual analysis is based on consideration of: (1) the extent of change related to visibility of the Project Site from key public vantage points; (2) the degree of visual contrast and compatibility in scale and character between Project activities and the existing surroundings; (3) conformance of the proposed Project with public policies regarding visual and urban design quality; and (4) potential adverse effects on scenic vistas and scenic resources.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

No Project-specific environmental studies related to aesthetic resources have been prepared for the proposed Project. However, the methodology employed below for assessing potential aesthetic impacts involves considering the existing viewshed and the proposed activities that have the potential to change the surrounding area's visual character.

IMPACT ANALYSES AND CONCLUSIONS

Project activities that could potentially impact aesthetics would be temporary construction activities; however, these activities would not significantly interfere with or degrade scenic views, damage scenic resources within a state scenic highway, conflict with applicable zoning and other regulations governing scenic quality, and create a new source of substantial light or glare.

Analysis as to whether or not Project activities would:

a. Have a substantial adverse effect on a scenic vista?

Impact Analysis:

The Project sites are currently developed and used for commercial and industrial purposes that include the use of large trucks and heavy equipment. Additional equipment such as excavators, trucks, trailers, drill rigs, and other construction equipment would be present during the cleanup activities in IA C1, but would be used temporarily (approximately 5 months), would be limited in number, and would not be readily distinguishable from existing equipment at the sites. Drilling/injection and borehole grouting activities at IR03 and IR14 would be visible to passersby during the short period of time when those activities are being performed (approximately 3 weeks) and would blend with the other usual industrial activities occurring on the Project Site. Remediation activities associated with the Building 91 Mercury site would primarily be conducted indoors. Storage bins would be temporarily placed outside Building 91 Mercury site for pickup and disposal.

Given the above-described conditions, the proposed remediation activities would not have an adverse effect on a designated scenic vista. Therefore, the Project would have No Impact on a scenic vista.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. *Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings and historic buildings within a state scenic highway?*

Impact Analysis:

State scenic highways are not present in the Project area. Therefore, cleanup actions would have No Impact on scenic resources within a state scenic highway.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

The Project is in an urbanized area. The Project would not conflict with the applicable policies/programs established in the *Solano County General Plan* (Solano County 2008b) and *City of Vallejo General Plan* (City of Vallejo 2018a) governing scenic quality.

The temporary construction activities and presence of construction equipment at the Project Site under the Project would not substantially affect the visual character of the Project Site and would not conflict with applicable zoning and other regulations governing scenic quality. There is No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. *Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area?*

Impact Analysis:

Field activities could create minor, temporary, new sources of light or glare due to the presence of cleanup equipment (i.e., headlights on vehicles, reflection of sunlight). Project activities would primarily be implemented during daylight hours and are not anticipated to require the use of additional lighting. Based on the temporary and short duration of field activities, any light or glare effects would not be substantial. The Project would not create new long-term sources of lighting or glare. Therefore, impacts from the Project associated with light or glare would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Aesthetics Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

City of Vallejo. 2018a. *Propel Vallejo: General Plan 2040*. Adopted August 29, 2017, last amended July 24. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=17961496

Environmental Resources Management, Inc. (ERM). 2024c. *Investigation Area C1 Remedial Action Plan, Draft for Public Review, Mare Island, Vallejo, California.* July 5.

Solano County. 2008b. *Solano County General Plan*. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494

2. AGRICULTURE AND FORESTRY RESOURCES				
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

REGULATORY SETTING

CEQA requires the review of projects that would convert Williamson Act contract land to non-agricultural uses. The main purposes of the Williamson Act are to preserve agricultural land and to encourage open space preservation and efficient urban growth. The Williamson Act provides incentives to landowners through reduced property taxes to discourage the early conversion of agricultural and open space lands to other uses.

ENVIRONMENTAL SETTING

The Project remediation sites are developed with existing buildings/structures and paved areas. As specified in the Mare Island Specific Plan, the City of Vallejo zoned the developed portion of Mare Island, in which IA C1 falls, as "Mixed Use Planned Development" (City of Vallejo 2013). There are no existing agricultural uses, forest lands, timberland, or timberland zoned for timberland production in IA C1. Under the California Department of Conservation (CDOC) Division of Land Resource Protection's Farmland Mapping and Monitoring Program, maps have been prepared to depict locations of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance throughout the state. These maps indicate that Prime Farmland, Unique Farmland, or Farmland of Statewide Importance are not present on Mare Island, which is classified as Urban and Built-up Land (CDOC 2020). In addition, no lands on Mare Island are subject to a Williamson Act contract.

Consequently, the Project would have No Impact on agriculture and forest resources, and no further analysis of impacts is deemed necessary.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of agriculture or forestry resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the lack of agricultural or forestry resources on or near the Project Site, no environmental studies relating to agriculture or forestry resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Analysis as to whether or not project activities would:

a. *Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

Impact Analysis:

The closest designated Farmland (Grazing Land) is approximately 5 miles from the proposed Project Site (CDOC 2020). Project-related activities would remain within the proposed Project Site boundaries. Therefore, No Impact to designated Farmland would occur.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. *Conflict with existing zoning or agriculture use, or Williamson Act contract?*

Impact Analysis:

Project-related activities would not conflict with any Williamson Act contracts (Solano County 2008b). The *Solano County General Plan*, Chapter 3, Agriculture (Solano County 2008a), also discusses Important Farmland zoning of the site as Urban and Built-up Land and would not conflict with any existing agricultural zoning. No Impact would occur.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. *Conflict with existing zoning for, or cause rezoning of, forest lands (as defined in Public Resources Code section 12220(g)), Timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

Impact Analysis:

The proposed Project Site does not include land with existing zoning of forest land or timberland. Proposed Project-related activities would not conflict with existing zoning or cause rezoning of forest land or timberland, as none exists within the proposed Project Site boundaries. Therefore, there would be No Impact to forest land or timberland.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. *Result in the loss of forest land or conversion of forest land to non-forest use?*

Impact Analysis:

There are no forests or timberland on or near the proposed Project Site and the proposed Project would not convert any land to forest or timberland. Therefore, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. *Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?*

Impact Analysis:

The proposed Project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or agricultural land. Therefore, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Agriculture and Forest Resources Impact Analysis:

California Department of Conservation (CDOC). 2020. Farmland Mapping and Monitoring Program website. Interactive California Important Farmland Finder. Accessed 1/26/24 at: https://maps.conservation.ca.gov/DLRP/CIFF/

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

Solano County. 2008a. Solano County General Plan. Chapter 3 – Agriculture. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6493

Solano County. 2008b. Solano County General Plan. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494

3. AIR QUALITY				
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations.				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

REGULATORY SETTING

Federal Regulations

Clean Air Act (1970) - The United States Environmental Protection Agency (USEPA) is responsible for implementing most aspects of the Clean Air Act, including setting National Ambient Air Quality Standards (NAAQS) for major air pollutants; setting hazardous air pollutant (HAP) standards; approving state attainment plans; setting motor vehicle emission standards; issuing stationary source emission standards and permits; and establishing acid rain control measures, stratospheric ozone (O_3) protection measures, and enforcement provisions. Under the Clean Air Act, NAAQS are established for the following criteria pollutants: O_3, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter smaller than 10 micrometers in diameter (PM_{10}), particulate matter smaller than 2.5 micrometers in diameter ($PM_{2.5}$), and lead. The NAAQS describe acceptable air quality conditions designed to protect the health and welfare of the citizens of the nation. States with areas that exceed the NAAQS must prepare a state implementation plan that demonstrates how those areas will attain the standards within mandated time frames.

Hazardous Air Pollutants - The 1977 federal Clean Air Act amendments required the USEPA to identify national emission standards for HAPs to protect public health and welfare. HAPs include certain volatile organic chemicals, pesticides, herbicides, and radionuclides that present a tangible hazard, based on scientific studies of exposure to humans and other mammals.

State Regulations

California Clean Air Act - The federal Clean Air Act delegates the regulation of air pollution control and the enforcement of the NAAQS to the states. In California, the task of air quality management and regulation has been legislatively granted to CARB, with subsidiary responsibilities assigned to air quality management districts and air pollution control districts at the regional and county levels. CARB has established California Ambient Air Quality Standards (CAAQS), which are generally more restrictive than the NAAQS. Air quality is considered “in attainment” if pollutant levels are continuously below the CAAQS and violate the standards no more than once each year. The NAAQS and CAAQS are presented below in Table 3-1, “Ambient Air Quality Standards and Designations.”

Air Toxics Program - The California toxic air contaminant (TAC) list identifies more than 700 pollutants, of which carcinogenic and non-carcinogenic toxicity criteria have been established for a subset of these pollutants pursuant to the California H&SC. The legislature enacted the Air Toxics “Hot Spots” Information and Assessment Act of 1987 (California Assembly Bill [AB] 2588) to address public concern over the release of TACs into the atmosphere. AB 2588 law requires facilities emitting toxic substances to provide local air pollution control districts with information that will

allow an assessment of the air toxics problem, identification of air toxics emissions sources, location of resulting hotspots, notification of the public exposed to significant risk, and development of effective strategies to reduce potential risks to the public over 5 years.

Local Regulations

Bay Area Air Quality Management District - At the Project Site, the Bay Area Air Quality Management District (BAAQMD) enforces local air quality rules and conducts local air quality planning. The BAAQMD is the agency responsible for implementing emissions standards and other air quality requirements of federal and state laws in Solano County.

City of Vallejo - The Climate Action Plan (City of Vallejo 2012) includes construction equipment reduction strategies (Chapter 4, Measure OR-2) meant to "reduce emissions from heavy-duty construction equipment by limiting idling and utilizing cleaner fuels, equipment, and vehicles." The City of Vallejo is required to enforce state idling restrictions for construction vehicles and equipment and requires that a percentage of vehicles and equipment are powered by alternative means such as a hybrid unit, biodiesel, or compressed natural gas. Implementation actions include:

- OR-2.1. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of CCR), or less. Clear signage shall be provided at all access points to remind construction workers of idling restrictions.
- OR-2.2. Construction equipment shall be maintained per manufacturer's specifications.
- OR-2.3. Planning and Building staff will work with project applicants to limit GHG emissions from construction equipment by selecting one of the following measures, at a minimum, as appropriate to the construction project:
    a) Substitute electrified equipment for diesel- and gasoline-powered equipment where practical.
    b) Use alternatively fueled construction equipment onsite, where feasible, such as compressed natural gas, liquefied natural gas, propane, or biodiesel.
    c) Avoid the use of onsite generators by connecting to grid electricity or utilizing solar-powered equipment.
    d) Limit heavy-duty equipment idling time to a period of 3 minutes or less, exceeding CARB regulation minimum requirements of 5 minutes.

ENVIRONMENTAL SETTING

The Project is within the Carquinez Strait Climatological Subregion. This subregion is the only sea level gap between the Bay and the Central Valley. Prevailing winds are from the west in the Carquinez Strait. During the summer and fall months, high pressure offshore coupled with low pressure in the Central Valley causes marine air to flow eastward through the Carquinez Strait. The wind is strongest in the afternoon. Afternoon wind speeds of 15 to 20 miles per hour are common throughout the region. Sometimes atmospheric conditions cause air to flow from the east. East winds usually contain more pollutants than the cleaner marine air from the west. In the summer and fall months, this can cause elevated pollutant levels to move into the central San Francisco Bay Area Air Basin through Carquinez Strait. These periods are usually accompanied by low wind speeds, shallow mixing depths, higher temperatures and little to no rainfall, all of which can have negative impacts on air quality (BAAQMD 2022a).

Summer mean maximum temperatures reach about 90 degrees Fahrenheit in the subregion. Mean minimum temperatures in the winter are in the high 30s. Temperature extremes are especially pronounced in sheltered areas farther from the moderating effects of Carquinez Strait itself, e.g., at Fairfield (BAAQMD 2022a).

Many industrial facilities with significant air pollutant emissions (e.g., chemical plants and refineries) are located within the Carquinez Strait Climatological Subregion. In the immediate vicinity of the Project Site, there are some light industrial facilities (e.g., painting, coating, milling) and auto repair shops. Receptors downwind of these facilities could experience more long-term exposure to air contaminants than individuals elsewhere. Highways in the Project area include State Route 37 to the north and Interstate 80 to the east. Across the Carquinez Strait to the south is a bulk products terminal and the Phillips 66 Refinery. The pollution potential of this area is often moderated by high wind speeds. However, upsets at industrial facilities can lead to short-term pollution episodes, and emissions of unpleasant odors may occur at any time.

Areas of the subregion traversed by major roadways (e.g., State Route 37 and Interstate 80) may also be subject to higher local concentrations of CO and particulate matter, as well as certain TACs such as benzene from on-road vehicles.

There are sensitive receptors (residences) to the east of the Project area across the Strait, approximately 0.4 mile (2,200 feet) from the closest cleanup area. In addition, a medical clinic (i.e., Veterans Administration Clinic) is 0.3 mile (1,500 feet) southwest of the closest cleanup area and a school is 0.6 mile (3,200 feet) southwest of the closest cleanup area. The closest hospital is approximately 4.4 miles southeast of the closest cleanup area.

The main pollutants of concern in the Bay Area are particulate matter and O_3. PM_{10} and $PM_{2.5}$ are detrimental to health because it can get lodged in the lungs and is not filtered out by the respiratory system. O_3 also causes problems to lung function and the respiratory system. The Bay Area as a whole does not attain ambient standards for these two pollutants. The Bay Area does not attain the federal and state O_3 standards, the federal and state $PM_{2.5}$ standards, or the state PM_{10} standards. Oxides of nitrogen (NO_x) and reactive organic gases (ROG) are precursors to O_3 formation. Ambient air quality standards at the state and federal level are shown in Table 3-1 (BAAQMD 2018).

Table 3-1: Ambient Air Quality Standards and Designations

Ambient Air Quality Standards and Designations													
Pollutant	Averaging Time	California				National Standards[a]							
		Standards (ppm)[b, c]	Standards (µg/m³)[b, c]	Standards (mg/m³)[b, c]	Attainment Status[d]	Primary (ppm)[c,e]	Primary (µg/m³)[c,e]	Primary (mg/m³)[c,e]	Secondary (ppm)[c,f]	Secondary (µg/m³)[c,f]	Secondary (mg/m³)[c,f]	Attainment Status[g]
Ozone	1-hour	0.09	180	0.18	N (serious)	-[h]	-[h]	-[h]	-	-	-	-[h]
Ozone	8-hour	0.07	137	0.137	N	0.075	147	0.147	0.075	147	0.147	N
Carbon Monoxide (CO)	1-hour	20	23000	23	A	35	40000	40	-	-	-	A
Carbon Monoxide (CO)	8-hour	9	10000	10	A	9	10000	10	-	-	-	A
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.03	57	0.057	U	0.053	100	0.1	0.053	100	0.1	A
Nitrogen Dioxide (NO_2)	1-hour	0.18	339	0.339	A	-	-	-	-	-	-	-
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	-	-	-	-	0.03	80	0.08	-	-	-	U
Sulfur Dioxide (SO_2)	24-hour	0.04	105	0.105	A	0.14	365	0.365	-	-	-	U
Sulfur Dioxide (SO_2)	3-hour	-	-	-	-	-	-	-	0.5	1300	1.3	U
Sulfur Dioxide (SO_2)	1-hour	0.25	655	0.655	A	-	-	-	-	-	-	U
Respirable Particulate Matter (PM_{10})	Annual Arithmetic Mean	-	20	0.02	N	-[h]	-[h]	-[h]	-	-	-	U
Respirable Particulate Matter (PM_{10})	24-hour	-	50	0.05	N	-	150	0.15	-	150	0.15	U
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	-	12	0.012	N	-	15	0.015	-	15	0.015	U/A[j]
Fine Particulate Matter ($PM_{2.5}$)	24-hour	-	-	-	-	-	35	0.035	-	35	0.035	N[j]
Lead[i]	30-day average	-	1.5	0.0015	A	-	-	-	-	-	-	A
Lead[i]	Calendar quarter	-	-	-	-	-	1.5	0.0015	-	1.5	0.0015	A
Sulfates	24-hour	-	25	0.025	A	-	-	-	-	-	-	-
Hydrogen Sulfide	1-hour	0.03	42	0.042	U	-	-	-	-	-	-	-
Vinyl Chloride[i]	24-hour	0.01	26	0.026	-[i]	-	-	-	-	-	-	-
Visibility-Reducing Particles	8-hour	see below[k]	see below[k]	see below[k]	U	-	-	-	-	-	-	-

[a] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The $PM_{2.5}$ 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.

[b] California standards for ozone, CO (except Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[c] Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter of air (µg/m³)]. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] Unclassified (U): a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment. Attainment (A): a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period. Nonattainment (N): a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area. Nonattainment/Transitional: is a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the standard for that pollutant.

[e] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[f] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[g] Nonattainment (N): any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant. Attainment (A): any area that meets the national primary or secondary ambient air quality standard for the pollutant. Unclassifiable (U): any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

[h] The 1-hour ozone NAAQS was revoked on June 15, 2005 and the annual PM_{10} NAAQS was revoked in 2006.

[i] CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for this pollutant.

[j] U.S EPA lowered the 24-hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$ in 2006. EPA issued attainment status designations for the 35 $\mu g/m^3$ standard on December 22, 2008. EPA has designated the Bay Area as nonattainment for the 35 $\mu g/m^3$ $PM_{2.5}$ standard. The EPA designation will be effective 90 days after publication of the regulation in the Federal Register.

[k] Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

Mare Island is located within the San Francisco Bay Area Air Basin, which includes Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara, and Napa Counties, and a portion of Solano and southern Sonoma Counties. The management of air quality in the San Francisco Bay Area is primarily the responsibility of the BAAQMD. The BAAQMD has published guidelines for analysis and mitigation of impacts from projects within its jurisdiction. The methodology from the BAAQMD 2022 CEQA Air Quality Guidelines (BAAQMD 2022a) was used to evaluate impacts from the proposed Project. The "Thresholds of Significance" from that document are presented in Table 3-2, below. In addition, these Thresholds of Significance were used to determine the significance of each impact discussed in sections (a) through (d) below.

The 2022 BAAQMD CEQA Guidelines present average daily emissions Thresholds of Significance for construction projects, such as would occur with the proposed Project. These thresholds are presented in Table 3-2, below. It should be noted that the daily emission thresholds in Table 3-2 are average daily emissions. Thus, even if certain peak days have emissions over the identified thresholds, as long as the average daily emissions are below these thresholds, the impacts are considered less than significant.

Table 3-2: Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors

Pollutant	Average Daily Emissions Threshold of Significance (pounds per day)
ROG	54
NO_x	54
PM_{10}	82 (applies to construction exhaust emissions only)
$PM_{2.5}$	54 (applies to construction exhaust emissions only)

Source: Table 3-1 from BAAQMD (2022) CEQA Guidelines.

Notes:
ROG = Reactive organic gases
NO_x = Nitrogen oxides
PM_{10} = Particles with an aerodynamic diameter less than 10 micrometers (µm)
$PM_{2.5}$ = Particles with an aerodynamic diameter less than 2.5 µm

The BAAQMD Guidelines also include standard construction BMPs that are to be employed during construction projects (BAAQMD 2022a). These BMPs include:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material offsite shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.

The 2022 BAAQMD CEQA Air Quality Guidelines Chapter 3 also discuss the appropriate way to evaluate whether a project contribution to the cumulative air quality impact is considerable in (BAAQMD. 2022a, page 3-2):

"In the cumulative context, the analysis has two parts. To evaluate cumulative impacts, the lead agency must assess (1) whether the overall cumulative impact will be significant and, (2) if the overall impact is significant, whether the project's incremental contribution will be cumulatively considerable."

"Both parts of this test must be met for a project's impact to be treated as significant under CEQA. If the overall cumulative impact does not rise to the level of a "significant" impact, or if the project's incremental contribution is not cumulatively considerable, then the project's impact is not treated as significant. Cumulatively considerable means that the incremental effect of the specific project under review will be significant when viewed in the context of the overall cumulative problem"

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

For the purposes of this Project, emissions were calculated using the California Emissions Estimation Model® version 2022.1.1.21 (CalEEMod 2022) to demonstrate that the impacts are below the 2022 CEQA Thresholds of Significance for construction impacts. The CalEEMod model (https://www.caleemod.com/) was developed for the California Air Pollution Control Officers Association (CAPCOA) and is accepted by air districts throughout the state (CAPCOA 2022).

IMPACT ANALYSES AND CONCLUSIONS

Project activities that could emit dust, fuel combustion exhaust, and/or other air pollutants could potentially impact air quality, including:

- Operation of heavy equipment during drilling/injection activities at IR03 and IR14, including grouting of borings/injection well abandonment (if any) after completion of injections to match surrounding grade and associated groundwater monitoring;
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air);
- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, operation of heavy equipment during drilling activities, including well abandonment after remediation completion to match surrounding grade and associated soil gas monitoring;
- Loading of contaminated media into storage bins and/or drums; and
- Offsite transport and disposal of storage bins and/or drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization).

The anticipated duration of active cleanup activities included in this evaluation is approximately 6 months. Less than 1 acre of land, in total, would be impacted by these activities. The sources of air emissions would include primarily exhaust from heavy construction equipment and vehicles, such as haul trucks, dust from concrete scabbling and wood floor removal, and material transfer activities. As such, these activities can be characterized as Project construction activities.

Standard BAAQMD construction BMPs (shown above) would be employed during Project-related construction activities, and Project operations will comply with the City of Vallejo Climate Action Plan construction equipment reduction strategy (City of Vallejo 2012) to reduce air emissions. Additional BMPs to be employed (see Project Controls section in Project Description) include:

- Actively suppressing dust emissions by applying water to exposed soil in work areas;
- Maintaining a steady supply of potable water on-hand to prevent dust generation during reagent mixing, and using equipment designed for reagent mixing purposes (e.g., specialized trailers and vehicles designed to contain any fugitive dusts). Use of potable water will be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022);
- Using covered storage bins for materials removed from the interior of the Building 91 Mercury site; and
- Conducting truck inspections to confirm that the material being transported is secured and will not be released from the vehicle during transport.

In addition, a Community Air Monitoring Plan would be developed in accordance with DTSC's guidance document (DTSC 2020) to assess activities that could result in fugitive air emissions (particulate and/or chemical) that may affect

the surrounding community in order to protect public health and safety, properly manage long-term environmental risks, and confirm the appropriate regulations are followed.

Analysis as to whether or not project activities would:

a. Conflict with or obstruct implementation of the applicable air quality plan?

Impact Analysis:

The applicable air quality plan for the Project area is the Bay Area 2017 Clean Air Plan (BAAQMD 2017). Project-related activities that could affect air quality are temporary in nature (anticipated 6-month duration). Construction associated with the Project would result in emissions of ozone precursors (NO_x and ROG), particulate matter, and GHG (see Section 8 of this checklist). However, the Project would be implemented consistently with the control strategies contained in the Clean Air Plan.

Furthermore, the Project has been designed to reduce air emissions (NO_x, ROG, and particulate matter among other pollutants) during construction as much as possible. BMPs specified in the RAP would include:

- All on- and off-road diesel equipment with a gross vehicle weight rating of greater than 10,000 pounds shall not idle for more than 5 minutes (CARB 2013).
- Suppressing dust arising from these activities (such as the use of water application and covering stockpiles).
- Dumpsters or other closable containers would be used to contain solid and liquid waste. Wastes would be handled in accordance with state and federal regulations, including during offsite transport. In addition, handling of these materials would be consistent with the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001), which specifies the measures required for safe handling of impacted media generated at the site.
- Field activities would be governed by task-specific HASPs specifying practices that would be employed by cleanup workers to avoid physical and chemical exposures during cleanup activities, including air monitoring, as necessary.
- For reagent injections, reagent mixing would be performed slowly in small batches in specialized trailers and vehicles designed to contain any fugitive dusts. A steady supply of potable water would be on-hand to prevent dust generation during mixing. Use of potable water will be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022). Reagent wastes would be containerized appropriately.

Construction activities would also be required to employ standard BMPs established by BAAQMD to reduce emissions (shown above). Project-related emissions from construction equipment, haul truck trips, and fugitive dust from earthmoving were estimated using the CalEEMod emissions estimation model (output file provided in Appendix B). However, the CalEEMod estimation was conservative and did not assume any BMPs were in place to reduce emissions from construction activities (i.e., unmitigated). Material removal activities would be conducted inside the Building 91 Mercury site, which would likely limit the amount of fugitive dust emissions during remedial actions performed at that site. However, the CalEEMod estimation was conservative and did not assume any decrease in emissions from containment due to the presence of the building. As shown in Table 3-3, Project emissions would be less than the BAAQMD CEQA significance thresholds.

Table 3-3: Comparison of Construction-Related Emissions of Criteria Pollutants and Precursors to BAAQMD's Thresholds of Significance

Criteria Pollutant or Precursor	Average Daily Construction Emissions	BAAQMD CEQA Thresholds
NO_x (lb/day)	2.15	54
PM_{10} Exhaust (lb/day)	0.87	82
$PM_{2.5}$ Exhaust (lb/day)	0.43	54
ROG (lb/day)	0.20	54

Note: Emissions calculated using the CalEEMod 2022 emissions estimation model. The BAAQMD CEQA Thresholds shown are those listed in the BAAQMD CEQA Guidelines (2022), Table 2-4 "Thresholds of Significance for Construction-Related Criteria Air Pollutants and Precursors."

The construction emissions for off-road heavy equipment, haul trucks, and construction employee commute trips were estimated using the CalEEMod emissions estimation model, which incorporates emission factors from CARB's

OFFROAD program for heavy equipment and from CARB's EMFAC2021 program for on-road vehicles. The Project was assumed to be underway in 2024 for the purposes of the CalEEMod analysis, and CalEEMod was run for one representative year (2024). This approach is suitable for comparison to the BAAQMD CEQA Thresholds since they are based on average daily emissions.

Inputs to CalEEMod for both off-road and on-road vehicles, such as miles traveled and number of round trips, were based on the description of the equipment and vehicle schedule for the proposed Project (included in Appendix B).

The recommended measure for determining Project support of the goals of the Clean Air Plan is to evaluate consistency with District-approved CEQA thresholds of significance (Chapter 3 of the BAAQMD [2022] CEQA Air Quality Guidelines). Therefore, since Project emissions would be less than the District-approved CEQA thresholds of significance, the Project would be consistent with the Clean Air Plan (BAAQMD 2017).

As noted above, a Community Air Monitoring Plan would be developed to protect public health and safety, properly manage long-term environmental risks, and confirm the appropriate regulations are followed.

Additionally, during fieldwork, air monitoring would be conducted (if appropriate based on the site-specific HASP developed in accordance with 29 Code of Federal Regulations (CFR) 1926 Subpart D and the Occupational Safety and Health Administration requirements) to confirm that there is no unacceptable exposure of potentially hazardous particulates to site workers and the public. Prior to Project implementation, a qualified health and safety professional would evaluate available data to identify known site contaminants and select proper air monitoring equipment that would be used during cleanup activities. Air monitoring will alert cleanup workers if emissions exceed levels protective of human health, and work would cease until controls were implemented to reduce those emissions to appropriate levels.

In summary, Project activities would be unlikely to conflict with or obstruct implementation of the applicable air quality plan for the following reasons:

- Project-related emissions would be less than the BAAQMD CEQA significance thresholds.
- Construction activities would incorporate pollution suppression measures and would employ standard BMPs established by BAAQMD to further reduce emissions below less than significant thresholds.
- When conducted (based on potential for airborne hazardous particulates), if air monitoring during construction indicates that emissions are higher than thresholds, work would cease.

Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan and the impact would be Less Than Significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

The Project region is non-attainment for ozone, PM_{10}, and $PM_{2.5}$ (BAAQMD 2018). NO_x and ROGs are ozone precursors. Thus, the pollutants to be addressed here—ROGs, NO_x, PM_{10}, and $PM_{2.5}$—are the same criteria pollutants and precursors discussed above in the Environmental Setting discussion.

As shown above in Table 3-3, Project-related emissions of these non-attainment pollutants would be less than significant under BAAQMD's Thresholds of Significance. Thus, the Project would not result in a cumulatively considerable net increase.

Fugitive Dust (PM_{10} and $PM_{2.5}$)
Construction emissions of fugitive dust (PM_{10}) can vary greatly depending on the level of activity, the specific operations taking place, the equipment being operated, local soils, weather conditions, and other factors. Despite this variability, multiple feasible control measures can be reasonably implemented to reduce fugitive PM_{10} emissions, as specified in the BAAQMD CEQA Guidelines. The BAAQMD (2022) CEQA Guidelines (in Chapter 3, Table 3-1 of that document) state that a project's fugitive dust impact would be less than significant with implementation of BMPs described in the guidelines for dust control.

Reagent mixing could lead to some particulate emissions. However, this would be minimized by the method used to handle and mix the reagent, which includes the use of specially trained technicians to mix reagents onsite prior to injection. Reagent mixing would be performed slowly in small batches in specialized trailers and vehicles designed to contain any fugitive dusts. A steady supply of potable water would be on-hand to prevent dust generation during mixing. Reagent wastes would be containerized appropriately. Use of potable water will be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022).

Soils from the borings installed for injection purposes could contain volatile constituents, but these would be limited in volume and immediately placed into covered containers, limiting the potential for volatilization into the atmosphere.

The BMPs noted above and in the BAAQMD Guidelines are standard industry practice and would be implemented to reduce fugitive dust and vehicle/construction equipment exhaust impacts, consistent with the requirements from the BAAQMD (2022) CEQA Guidelines. Implementation of particulate matter control measures recommended by BAAQMD would confirm that the net cumulative increase associated with fugitive dust emissions would be reduced to a less than significant level. Therefore, Project emissions would not be cumulatively considerable and cumulative impacts would be Less Than Significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Expose sensitive receptors to substantial pollutant concentrations?

Impact Analysis:

The BAAQMD defines sensitive receptors as the elderly, children, infirm, or persons with particular sensitivity to air pollutants. The sensitive receptors in the Project vicinity are the occupants of the housing across the Strait and the school and the outpatient medical clinic (Veterans Administration Clinic) on Mare Island. Below is a list of the distances to the nearest sensitive receptors to any of the sites evaluated by this Initial Study:

- Residences: located approximately 0.4 mile (2,200 feet) to the south-southeast from the closest cleanup site
- School: located approximately 0.6 mile (3,200 feet) to the south-southeast from the closest cleanup site
- Outpatient medical clinic facility: located approximately 0.3 mile (1,500 feet) to the southeast from the closest cleanup site

The Project is not expected to expose these sensitive receptors to substantial pollutant concentrations for the following reasons:

- Project-related emissions would not lead to substantial pollutant concentrations, as demonstrated using the CalEEMod emissions estimation model, which found the emissions to be less than the BAAQMD CEQA significance thresholds, even though BMPs were not incorporated in the estimation (Table 3-3).
- Excavation would only occur inside a building.
- The borings advanced for injection purposes would produce limited cuttings and would have a minimal potential to result in volatilization of constituents into the atmosphere.
- A limited number of construction vehicles or equipment would operate simultaneously.
- The Project activities assessed in this evaluation are short-term and would be completed in a 6-month period.
- Standard construction practices and BMPs, such as the reagent handling method described above, would be used for dust suppression.

Therefore, impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

d. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact Analysis:

In general, odors from construction activities are those associated with diesel exhaust from heavy equipment and are difficult to assess as the identification and degree of perceived odor is subjective. The majority of Project activities would be conducted at a substantial distance (more than 1,500 feet) from any sensitive receptors, as mentioned above, and would be short in duration (approximately 2 months for injection scopes and 5 months for excavation scopes). Property uses adjacent to the site are commercial/industrial and activities at these properties are likely to generate similar types of diesel exhaust. In addition, the measures taken to control emissions may also help control odors, if present.

Due to the nature of the Project scope of work and the Project controls that would be implemented, the odor impacts related to construction activities would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in Air Quality Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
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4. BIOLOGICAL RESOURCES				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife, U.S. Fish and Wildlife Service, or NOAA Fisheries?	☐	☐	☐	☒
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

REGULATORY SETTING

Federal Regulations

Federal Endangered Species Act (ESA): (16 United States Code (U.S.C.) §§ 1531-1544, 50 CFR Part 17) - The Federal ESA provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found.

Federal Migratory Bird Treaty Act (MBTA): (16 U.S.C. §§ 703-712, 50 CFR Part 21). - The MBTA makes it illegal to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid federal permit.

State Regulations

California Endangered Species Act (CESA): (Fish and Game Code (FGC) chapter 1.5, sections 2050-2115.5, CCR, title 14, chapter 6, §§ 783.0-787.9) - CESA protects or preserves all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation. CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, and plants, and their habitats, threatened with extinction

and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved.

Additionally, the California FGC § 3503 prohibits the take, possession, or needless destruction of the nest or eggs of any bird; and FGC § 3513 prohibits the take or possession of any migratory nongame bird or part thereof as designated in the MBTA. Any birds in the orders Falconiformes or Strigiformes (birds of prey, such as hawks and owls) are protected under FGC § 3503.5, which makes it unlawful to take, posses, or destroy their nest or eggs.

Local Regulations

The following discussion of local policies or ordinances pertains to the Project area.

The City of Vallejo Tree Ordinance requires a tree removal permit to remove trees within city limits; this ordinance would apply to the Project area (City of Vallejo 2018b).

A Memorandum of Understanding (MOU) has been established with the United States Fish and Wildlife Service (USFWS) to promote the conservation of the salt-marsh harvest mouse within the confines of the MINS (USFWS 1988).

The General Plan for the City of Vallejo (City of Vallejo 2018a) has two policies relating to biological resources:

- **Policy NBE-1.1 Natural Resources**. Protect and enhance hillsides, waterways, wetlands, occurrences of special-status species and sensitive natural communities, and aquatic and important wildlife habitat through land use decisions that avoid and mitigate potential environmental impacts on these resources to the extent feasible.
- **Policy NBE-1.2 Sensitive Resources**. Ensure that adverse impacts on sensitive biological resources, including special-status species, sensitive natural communities, and wetlands are avoided and mitigated to the greatest extent feasible as development takes place.

As discussed in the *Solano County General Plan* (Solano County 2008b), habitat types throughout Solano County support rare or endangered animal and plant species. Solano County has developed the *Solano Multi-Species Habitat Conservation Plan* (HCP) to protect these species. The HCP identifies priority and nonpriority habitat areas; the General Plan focuses on priority habitat areas for conservation and preservation. As illustrated in maps provided in the General Plan, none of these priority habitat areas fall within Mare Island. According to the Draft HCP, the Project area falls within the Zone 1 – Urban Zone designation (Solano County Water Agency [SCWA], 2012). The *Solano County General Plan* also outlines the various plans and programs that have been established to protect marshes and the Sacramento-San Joaquin Delta area. The closest protection area to the Project sites (White Slough Planning Area) is located across the Strait from Mare Island (Solano County 2008b). No protected areas are located on Mare Island based on the map provided in the General Plan.

ENVIRONMENTAL SETTING

The dominant habitat types found at or around Mare Island include intertidal mudflats, open water, tidal wetlands, nontidal wetlands, the inactive former dredge ponds, and uplands. These habitat types are described in the ecological risk assessments for onshore and offshore areas of Mare Island (Tetra Tech Environmental Management, Inc. [TtEMI] 2002a,b). All onsite Project activities would be conducted on developed or paved areas with commercial or industrial uses, and no riparian habitat or other sensitive natural communities are present within the Project boundaries (USFWS 2009).

Terrestrial Habitats

The terrestrial areas of IA C1 are composed entirely of developed (urban) habitat type (California Department of Fish and Game [CDFG], currently referred to as the California Department of Fish and Wildlife [CDFW] 1988). A few scattered ornamental trees and patches of non-native annual grasses exist within the IA C1 footprint; however, the Project area is almost entirely covered with asphalt and buildings. Due to the completely developed nature of the Project area, it is not considered a wildlife corridor that would be used for terrestrial wildlife migration.

The Mare Island Shoreline Heritage Preserve (Preserve) and Mare Island Golf Course, approximately 5,000 feet to the southwest of IA C1, contain open spaces with mainly non-native, ornamental grasses and forbs (herbaceous flowering plants), as well as areas vegetated with mature ornamental trees. Additionally, River Park is located approximately 1,500 feet to the northeast of IA C1, and it contains similar habitat to the Preserve. These areas are far more attractive to wildlife for foraging, breeding, and living in than the paved areas with scattered ornamental trees. It is likely that wildlife only use the IA C1 area for limited foraging opportunities. Common urban species such as rat (*Rattus* spp.), raccoon (*Procyon lotor*), opossum (*Didelphis virginiana*), black-tailed jackrabbit (*Lepus californicus*), and mouse (*Peromyscus* spp.) have the potential to use IA C1 for foraging and possibly living in portions of buildings not used by humans. Common urban bird species such as Mourning Dove (*Zenaida macroura*) or Brewer's Blackbird (*Euphagus cyanocephalus*) might potentially use an ornamental tree within IA C1 to nest in, and barn owls (*Tyto alba*) or other bird

species could use an abandoned building to nest. Common urban wildlife species are accustomed to humans and human interaction and are not typically distressed by human activity; therefore, species found at IA C1 would not be likely to alter breeding or foraging habits based on human activity associated with Project activities. Within IA C1, no viable habitat for species beyond those normally found in urban habitats exists in the onshore area because the Project area is almost entirely covered with asphalt and buildings, except for small portions of maintained landscape or areas covered with imported rock material, and more attractive living and foraging options exist nearby.

The entirety of the shoreline area at IA C1 is paved, rock covered, or built-up in some manner. No riparian or marsh habitat exists along the shoreline of the Project area and, therefore, wildlife species who rely on this type of habitat are not using the Project area for breeding, living, or foraging except occasionally in a transient manner as a passerby.

State or federally protected wetlands have not been identified in IA C1. The Project area is paved and therefore not supportive of wetland habitats. Additionally, according to the USFWS National Wetlands Inventory (NWI), there are no mapped wetlands overlapping with IA C1 (USFWS 2009). The closest NWI mapped wetland to the Project area is located directly adjacent to the north boundary of the Project area.

Offshore Habitats

The offshore areas at Mare Island consist of habitat below the mean high-tide line, which generally includes intertidal mudflats (located west of Mare Island), as well as open water (the Strait to east, San Pablo Bay to west, Carquinez Strait to south). The eastern portion of IA C1 is adjacent to the Strait, which is the closest surface waterbody to the Project area. The NWI classifies this area of the Strait as estuarine and marine deepwater habitat. The Strait is characterized as deep water habitat without adjacent nearshore wetland habitat because the shoreline in the area has been reinforced with engineered structures and determined to not be a major habitat (TtEMI 2002b). The shoreline, therefore, does not support wetland or marsh species in this area. The Project does not involve activities within the Strait.

Species of Special Concern

Information was obtained regarding species of concern in the Project area from numerous previous reports for the site as well as a nine-quad search of the California Natural Diversity Database (CNDDB) for the Sears Point, Cuttings Wharf, Cordelia, Benicia, Mare Island, Briones Valley, Richmond, San Quentin, and Petaluma Point quadrants (CDFW 2021). Species of special concern that have historically been observed nearby or have potential to be present at IA C1 are discussed below.

Threatened, Endangered, and California State Fully Protected Species. The following flora and fauna listed as threatened or endangered or fully protected by the state or federal government have been historically observed in the general vicinity or have been recorded as overlapping with IA C1:

- Federal- and state-listed raptors, such as the peregrine falcon (*Falco peregrinus anatum*), white-tailed kite (*Elanus leucurus*), and Swainson's hawk (*Buteo swainsoni*) have been sighted near Mare Island. These raptors could use the Project area as foraging grounds.
- According to a search of the CNDDB, undeveloped areas located to the west and north of the Project area are mapped as salt-marsh harvest mouse (*Reithrodontomys raviventris*) habitat range. The salt-marsh harvest mouse is designated as a federally endangered and state fully protected species. Salt-marsh harvest mice require salt-marsh habitat and prefer a marsh that supports dense stands of pickleweed and is adjacent to upland, salt-tolerant vegetation, so they can escape during high tides (USEPA 2010).
- Longfin smelt (*Spirinchus thaleichthys*) are a state-listed threatened species. According to the CNDDB, longfin smelt occur in the Strait adjacent to the Project area.

Other Species of Value. Many migrating birds use the vicinity of Mare Island and fish-eating birds, such as pelicans, cormorants, and terns, may feed in the Strait. These and most other bird species are protected by the MBTA, which includes provisions against toxic contamination, among other protections.

According to the CNDDB, some observed species of special concern such as monarch butterfly (*Danaus plexippus*) are presumed to be present near IA C1. The plants fragrant fritillary (*Fritillaria liliacea*) and soft salty bird's-beak (*Chloropyron molle* ssp. *molle*) are presumed to no longer be present on Mare Island (local extinction).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of biological resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Reconnaissance-level biological resources surveys were not conducted because of the urban nature of the Project Site and nearby areas. Previous studies regarding Mare Island biological resources are described and referenced in the Environmental Setting section above.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact to Biological Resources:

Project activities that could directly and/or indirectly impact biological resources in IA C1 and the surrounding area include the following construction-related activities:

- Operation of heavy equipment during drilling/injection activities at IR03, including grouting of borings/ injection well abandonment (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Operation of heavy equipment during drilling/injection activities at IR14, including grouting of borings / injection well abandonment (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, wood and dust from inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), and loading the contaminated media into storage bins
- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, operation of heavy equipment during drilling activities, including well abandonment after remediation completion to match surrounding grade and associated soil gas monitoring
- Offsite transport and disposal of storage bins and/or drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization)

Analysis as to whether or not project activities would:

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

   Impact Analysis:

   As described above, all onsite Project activities would be conducted on developed areas with existing commercial or industrial uses. The only habitat that currently exists within IA C1 is urban habitat, with sparse ornamental landscaping. Candidate, sensitive, or special-status species are not likely to be present in the cleanup locations and would not be impacted by Project activities including personnel, equipment use, vehicles, excavation, and noise. There is potential that bird species could nest inside Buildings 85 and 91; however, species nesting in urban areas are typically accustomed to human activity and unlikely to be bothered by Project activities. Additionally, a biologist experienced in nesting birds will visit Building 91 prior to excavation activities to survey for birds within the building. If nesting birds are discovered, the biologist will remain onsite through the duration of the interior excavation activities to monitor the nests, and will pause the work if birds become visibly agitated or vacate the nest. If special-status nesting bird species are discovered, work will be paused until the chicks have fledged the nest.

   Similar bird survey and monitoring measures would be implemented for the Building 85 VOCs in Soil Gas site if a VIMS and/or SVE system were deemed necessary based on the results of the updated HHRA (e.g., if Alternative 4 [Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance] is implemented), and if such systems require work inside Building 85.

   State and federally listed raptors have potential to use the Project area as a foraging ground; foraging opportunities would remain during Project activities, so a substantial adverse effect would not occur for these species. According to a search of the CNDDB, salt-marsh harvest mouse habitat range is present in undeveloped areas to the west and north of the Project area; no suitable habitat for this species is present at or directly adjacent to the Project area; therefore, no impacts are anticipated. Monarch butterflies have reportedly been observed adjacent west of the Project Site; no suitable habitat or foraging ground exists at IA C1 for this species.

   Ecological risk assessments that included IA C1 were presented in the *Final Onshore Ecological Risk Assessment, Mare Island, Vallejo, California*, and *Revised Final Offshore Areas Ecological Risk Assessment, Mare Island,*

Vallejo, California (TtEMI 2002a,b). The overall conclusions and recommendations of these assessments are that: (1) there are no risks to terrestrial receptors because no viable habitat for plants or animals is within this area, and (2) potential impacts of groundwater discharge on aquatic organisms in the Strait were considered low. Because general site conditions have not changed substantially, these risk assessments are still applicable.

In addition, Project controls would be implemented to avoid releases of soil/chemicals offsite into offshore habitat adjacent to the Project sites during cleanup actions so that candidate, sensitive, or special-status species in offshore habitats would not be impacted. For excavation activities, these controls would include standard BMPs for sediment and erosion control and dust mitigation, as necessary. The delta smelt that inhabit the Strait could have a slight chance of coming into contact with fluids that will be used for injections. As specified in the work plan for these injection activities (ERM 2019, ERM 2022a,b), the remedy selected for inland portions of this site is ISCO. For areas within 150 feet of the Strait, EISB and ISBR reagents would be injected. EISB and ISBR are proposed for these locations because they use reagents to stimulate biodegradation by promoting the growth of naturally occurring bacteria in the subsurface and are safer for sensitive ecological receptors in the Strait than reagents that rely on oxidation or other vigorous chemical processes to reduce contamination. Therefore, the cleanup activities would not be likely to affect candidate, sensitive, or special-status species in offshore habitats.

Transport of materials removed from the Project area or imported to the area during Project implementation would occur on existing roadways. There is potential for wildlife species to be struck by moving vehicles associated with the Project; however, by following speed limits and vehicle drivers keeping their eyes on the roadways, the chance of this occurring is minimal. Disposal of materials removed as part of the cleanup activities would occur at existing offsite facilities licensed for accepting waste.

As summarized above, cleanup activities, including removal of impacted media inside the Building 91 Mercury site, transportation/disposal of contaminated materials, and injection of reagents into the subsurface at IR03 and IR14 would not be likely to substantially affect identified candidate, sensitive, or special-status species. In consideration of the above, there would be No Impact.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

The Project area is paved and therefore not supportive of wetland, riparian, or other sensitive habitats. All onsite Project activities would be conducted on developed areas with commercial or industrial uses and no riparian habitat or other sensitive natural communities are present within the Project boundaries (USFWS 2009).

In addition, Project controls would be implemented to avoid releases of soil/chemicals offsite into offshore habitat adjacent to the Project sites during cleanup actions so that candidate, sensitive, or special-status species in offshore habitats would not be impacted. For excavation activities, these controls would include BMPs for sediment and erosion control and dust mitigation, as necessary. For areas within 150 feet of the Strait, EISB and ISBR reagents would be injected into the subsurface. EISB and ISBR are proposed for these locations because they stimulate biodegradation by promoting growth of naturally occurring bacteria in the subsurface and are safer for sensitive ecological receptors in the Strait than reagents that rely on oxidation or other vigorous chemical processes to reduce contamination. Therefore, neither the proposed removal of contaminated media nor injections as part of the Project would be likely to substantially affect any identified riparian habitat or other sensitive natural community, and there would be No Impact.

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

All onsite Project activities would be conducted on developed areas with existing commercial and industrial uses. The closest surface waterbody to the cleanup sites is the Strait. State or federally protected wetlands have not been identified in IA C1. The Project area is paved and, therefore, not supportive of wetland habitats. According to the NWI, there are no mapped wetlands overlapping with IA C1. There is an NWI mapped wetland located adjacent north of the Project Site (USFWS 2009); however, Project activities will not impact this area. Transport of materials removed from the site or imported to the site during Project implementation would occur on existing roadways, and disposal would occur at existing facilities licensed for accepting waste (Table PD-2). Project controls, including BMPs for sediment and erosion control and dust mitigation noted in the Project Controls section in the Project Description, would be implemented to avoid releases of soil/chemicals offsite into the wetland habitats, located adjacent to the north of the site, during cleanup actions so that no wetland would be adversely affected. Therefore, no impacts to any state or federally protected wetlands are anticipated or planned.

In addition, Project controls would be implemented to avoid releases of soil/chemicals offsite into offshore habitat adjacent to the Project sites during cleanup actions so that candidate, sensitive, or special-status species in offshore habitats would not be impacted. For excavation activities, these controls would include BMPs for sediment and erosion control and dust mitigation, as necessary. For areas within 150 feet of the Strait, EISB and ISBR reagents would be injected. EISB and ISBR are proposed for these locations because it stimulates biodegradation by promoting the growth of naturally occurring bacteria in the subsurface and is safer for sensitive ecological receptors in the Strait than reagents that rely on oxidation or other vigorous chemical processes to reduce contamination. Therefore, neither the proposed removal of contaminated media nor injections as part of the Project would be likely to affect federally protected wetlands, and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Impact Analysis:

All onsite Project activities would be conducted on developed land areas with existing commercial and industrial uses. No fish or wildlife species are known to reside or migrate within the Project boundaries. No areas within the Project boundaries are known to contain any migratory wildlife corridors (TtEMI 2002a,b; CDFW Biogeographic Information and Observation System [BIOS] 2014). Since wildlife corridors are not present at the Project area, Project activities are not anticipated to interfere substantially with wildlife movement. The Strait has the potential to be used as a wildlife corridor and some areas could contain habitat suitable for nursery sites. BMPs will be implemented to avoid soil/chemical migration adjacent to the Strait, which could interfere with movement of native resident or migratory fish or wildlife species. Therefore, neither the proposed removal of contaminated media nor injections as part of the Project would be likely to affect migratory fish or wildlife species, and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. Conflict with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Impact Analysis:

The Project sites are entirely developed and covered by roadways, railroad spurs, parking areas, or buildings. As summarized below, the Project activities would not conflict with relevant local policies or ordinances that pertain to the Project area:

- The City of Vallejo Tree Ordinance – No trees will need to be removed as part of the proposed Project activities.
- An MOU has been established with the USFWS to promote the conservation of the salt marsh harvest mouse within the confines of MINS (USFWS 1988).

- The General Plan for the City of Vallejo - The Project area is paved and supports only urban habitat that is not considered notable. The Project would not conflict with the relevant City of Vallejo policies relating to biological resources (City of Vallejo 2018a).

No notable biological resources exist within the Project sites; therefore, no aspect of the Project would conflict with local policies or ordinances protecting biological resources and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

The Project would occur within a paved, developed commercial/industrial area. The adopted conservation plan, the Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan (USFWS 1984), and the Recovery Plan for Tidal Marsh Ecosystems of Northern and Central California (USFWS 2013) generally apply to projects occurring on Mare Island. However, Project activities would not be conducted in sensitive habitats addressed under the Plans. Although some Project activities are within 100 feet of the Strait (a tributary to the San Francisco Bay), they are not subject to San Francisco Bay Conservation and Development Commission (BCDC) requirements as the San Francisco Bay Plan, specifically the Carquinez Strait Plan Map area, does not contain any requirements for the site (BCDC 2020).

Solano County has an HCP in the Draft stage of development. According to the Draft HCP, the Project area falls within the Zone 1 – Urban Zone designation (SCWA 2012). The HCP applies for projects that have threatened or endangered species and/or their habitats. Since the Project area does not support such habitats, the Project is not subject to conditions in the HCP, and Project activities would therefore not conflict with the HCP.

Because the Project sites are not subject to the above-listed conservation plans, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Biological Resources Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
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https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

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ERM. 2022a. Revised Work Plan for Phase III Injection Pilot Test at Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, and Installation Restoration Program Site 3 Investigation Area C1 Former Mare Island Naval Shipyard, Vallejo, California. August 9.

ERM. 2022b. Addendum to Work Plan for Phase III Injection Pilot Test at Industrial Wastewater Pump Station 4 and Oil/Water Separator T-2, and Installation Restoration Program Site 3 Investigation Area C1 Former Mare Island Naval Shipyard, Vallejo, California. December 22.

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TtEMI. 2002b. *Revised Final Offshore Ecological Risk Assessment, Mare Island, Vallejo, California.* August 2.

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United States Fish and Wildlife Service (USFWS). 1984. *Salt Marsh Harvest Mouse and California Clapper Rail Recovery Plan*. November 16.

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

REGULATORY SETTING

The definition of historical resources can be found in Public Resources Code (PRC) § 21084.1 and 14 CCR § 15064.5. Unique archaeological resources are defined in PRC § 21083.2 and 14 CCR § 15064.5. Tribal cultural resources are defined in PRC § 21074.

California AB 52 specifies that any project for which a Notice of Preparation, Notice of Mitigated Negative Declaration or Notice of Negative Declaration is filed on or after July 1, 2015, the lead agency must provide formal notification within 14 days of determining that an application for a project is complete or a decision to undertake a project to the designated contact or tribal representative of the affiliated California Native American Tribes. The Tribe that is traditionally and culturally affiliated to the geographic area where a project is located must have requested that the lead agency in question provide notification to the Tribe (PRC § 21080.3.1). Please refer to Section 18, Tribal Cultural Resources, of this Initial Study for additional discussion.

If remains are found onsite, the County Coroner will make the determination of origin and disposition, pursuant to PRC § 5097.98. If the remains are determined to be Native American, the Coroner would notify the NAHC (per H&SC § 7050.5(c)) The NAHC would identify and notify the person(s) who might be the most likely descendant, who would make recommendations for the appropriate and dignified treatment of the remains (PRC § 5097.98). The descendants shall complete their inspection and make recommendations for treatment within 48 hours of being granted access to the Site (CEQA Guidelines, 14 CCR § 15064.5(e); H&SC § 7050.5).

ENVIRONMENTAL SETTING

Mare Island is an NHL and contains several National Register Historic Districts (Navy 1994) and associated cultural resources (historical and archaeological), as defined by CCR § 15064.5. A significant portion of IA C1 is located in the Mare Island Historic District. The State of California recognized the historic importance of Mare Island in 1960 by officially declaring it a California Historic Landmark. It was later declared an NHL in 1975 by the Secretary of the Interior under the Historic Sites Act of 1935.

The 980-acre Mare Island Historic District is listed in the National Register of Historic Places. The Mare Island Historic District defines an area of the island that was used by the Navy between establishment of the base in 1854 and the end of World War II in 1945. The boundaries for the historic district encompass the majority of buildings, structures, and sites that potentially contribute to the area of significance (military history, industrial history, architecture and engineering, and historic archaeology) and to the period of significance (1854 to 1945).

The Mare Island Historic District includes 661 buildings and structures, 502 of which are contributing elements and 12 of which are historic landscape areas. In addition, it includes one historic archaeological site comprising a minimum of 28 discrete features, all of which contribute to the significance of the district.

The Mare Island Historic District includes all elements of the NHLs, including the 49 buildings and structures included as National Historic Landmark properties (Naval Facilities Engineering Command, Western Division [WESTDIV] and City of Vallejo 1998). To comply with the requirements of the National Historic Preservation Act, the Navy consulted with the California State Historic Preservation Officer, Advisory Council on Historic Preservation, and the City of Vallejo to identify ways to avoid or mitigate adverse effects on historic properties associated with the transfer of land from the Navy to a non-federal entity (WESTDIV and City of Vallejo 1998).

This consultation resulted in the execution of a Memorandum of Agreement (MOA) in 1997. With the transfer of historic properties from the Navy to a non-federal entity, federal control ceased and undertakings affecting the properties are subsequently administered by City codes and ordinances. As required in the MOA, the City of Vallejo amended its Architectural Heritage and Historic Preservation Ordinance (Chapter 16.38 of the Vallejo Municipal Code) to include specific protections for historical resources on Mare Island as identified in the Mare Island Specific Plan (City of Vallejo 2013).

Two of the four active remediation Project sites (Buildings 85 and 91) are located within this district (NHL District Area A). According to the Mare Island Specific Plan, Buildings 85 and 91 are considered "1854-1865 historic archaeological feature[s]" and are designated City Landmarks (see Figure 2.2 of that Plan, replicated in Appendix C).

Several studies have been performed at Mare Island to identify areas where historical and archaeological resources are located, as recorded in several reports (WESTDIV and City of Vallejo 1998; City of Vallejo 2013; PAR Environmental 2000). Several areas of both prehistoric and historic archaeological interest were identified and characterized by the discovery of pieces of obsidian and chert, a pestle/mano, and shellfish remains in the old magazine area. In addition, several other midden sites indicative of Native American occupation were identified. Possible sites with artifacts predating written records that may lie below some developed portions of Mare Island were also identified (Navy 1994).

The locations of the prehistoric archaeological sites of medium and high sensitivity and historic archaeological features are shown on a figure included in the ATP (PAR Environmental 2000) (replicated in Appendix C). As seen on that figure, Buildings 85 and 91 lie within an area of "high prehistoric archaeological sensitivity" (see Figure 2.2 of that Plan, replicated in Appendix C). No archaeological features are known to be present in the area within IR03 or IR14 where injections are proposed (Appendix C).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria (14 CCR § 4852):

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

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

References to previous Mare Island historical and archaeological resources studies and the 2013 Mare Island Specific Plan are provided in the Environmental Setting section above. No additional environmental studies relating to cultural resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact to Cultural Resources:

Project activities that could potentially impact cultural resources include the following construction activities that could disturb soils containing cultural resources:

- Drilling/injection activities at IR03 and IR14
- Excavation/removal of contaminated soil up to approximately 4 feet in depth beneath the former floor inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader)

Analysis as to whether or not project activities would:

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

Impact Analysis:

Project activities evaluated in this Initial Study are limited to two localized areas and do not involve modifications to the exteriors of structures identified to be historically significant in the Mare Island Specific Plan (City of Vallejo 2013). Project activities would not conflict with the Architectural Heritage and Historic Preservation Ordinance (Chapter 16.38 of the Vallejo Municipal Code). The Vallejo Municipal Code requires modification to historic buildings be made in conformance with the Secretary of the Interior's standards for rehabilitation and guidelines for rehabilitating historic buildings. Chapter 16.38 requires issuance of a certificate of appropriateness for alteration of a contributing resource in a manner that affects the exterior architectural appearance of a building or structure. A certificate of appropriateness is also required for construction or alteration within the Project Site of a contributing resource of site features including, but not limited to, landscaping, fencing, walls, paving, and grading. Remediation activities inside the Building 91 Mercury site would not involve alteration of the building in a way that would affect the exterior architectural appearance or the structural integrity of the building; injection activities at IR03 and IR14 would not affect any buildings. Therefore, a certificate of appropriateness is not required for this Project.

Construction activities that disturb surface and subsurface soils have the potential to encounter and/or impact historical resources. PAR Environmental currently provides archaeological expert oversight of activities on Mare Island and would be consulted if suspected archaeologically significant objects were uncovered during the cleanup actions. As noted in the Project Controls section, as part of Project activities, the field crew will be notified of the potential for encountering items of archaeological interest during subsurface activities, and the appropriate procedures to follow in the event that artifacts or large deposits are encountered (i.e., immediately stop work, notify LMI of the discovery, and leave the potential artifacts in place). LMI will consult with their archaeological Contractor, who will determine if the materials represent protected historical resources under CCR Section 15064.5 and what actions are to be taken before work can resume.

Based on the above considerations, because Project activities would not affect the exterior architectural appearance or structural integrity of any historic structures, and procedures are in place to minimize impacts on unknown buried archaeological resources should they occur, Project impacts on historical resources would be Less than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

The proposed cleanup activities could involve removal of impacted concrete, wood, soil, and/or dust from within the Building 91 Mercury site, and subsurface injections at IR03 and IR14. IR03 and IR14 are located in a developed area where the ground is comprised mainly of fill material or has been disturbed by previous activities. Given the degree of previous disturbance, impacts on intact archaeological remains are unlikely. Furthermore, little or no artifacts have been found during previous soil-disturbing activities conducted near the proposed injection area, so proposed activities are not expected to encounter artifacts. Buildings 85 and 91 are located in an area defined as having high prehistoric archaeological sensitivity. The area of soil excavation in the Building 91 Mercury site is limited in depth (up to approximately 4 feet). If SVE or VIMS were needed at the Building 85 VOCs in Soil Gas site, the soil disturbance activities would be minimal (installation of vertical or horizontal extraction wells, piping, and a vault); the piping, wells, and vaults for such systems would be limited in depth (up to approximately 5 feet for the vertical wells and up to approximately 3 feet for the remaining components).

If archaeological resources or features are identified during Project activities, work in the immediate vicinity would stop, the DTSC Project Manager would be notified, and archaeological experts at PAR Environmental would be consulted for an appropriate course of action, in accordance with the PAR Environmental ATP (PAR Environmental 2000). PAR Environmental, in consultation with DTSC and the California State Historic Preservation Officer, will determine whether encountered archaeological sites or contributing features are potentially significant under National Register Criteria. If the encountered features are potentially significant, the area will be avoided and/or impacts mitigated. Work can resume if PAR Environmental determines that encountered archaeological sites or contributing features are not significant or once appropriate mitigation under California guidelines is implemented.

Given the limited nature of proposed cleanup activities, as well as the previously disturbed nature of the remediation areas, cleanup activities are not likely to have an adverse effect on significant archaeological resources, and the impact would be Less than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. Disturb any human remains, including those interred outside of formal cemeteries?

Impact Analysis:

Based on the PAR Environmental ATP, no known human burials are located in areas of Project activities, and the presence of unrecorded interments are also unlikely in these areas. In the event that human remains are encountered during the execution of the proposed Project, work within a 100-foot buffer of the discovery would stop immediately, and in accordance with applicable laws and regulations outlined within the California HSC § 7050.5 and PRC § 5097.98, field staff would contact LMI and DTSC personnel. DTSC personnel would notify the County Coroner. Human remains and associated soils would be left untouched. If the Coroner determines that the remains are potentially Native American, the NAHC would be contacted. If human remains are noted to be Native American in origin and/or historical in nature or any associated grave goods are found, procedures would be implemented as required in accordance with Section 106 of the National Historic Preservation Act. Therefore, the impact would be Less than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Cultural Resources Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

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Naval Facilities Engineering Command, Western Division and City of Vallejo and City of Vallejo (WESTDIV). 1998. *Final Environmental Impact Statement/Environmental Impact Report for the Disposal and Reuse of Mare Island Naval Shipyard, Vallejo, California.* April.

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

REGULATORY SETTING

State Regulations

Assembly Bill (AB) 32. AB 32, also known as the California Global Warming Solutions Act of 2006, requires a reduction of GHG emissions to 1990 levels by 2020. This target has been increased by Executive Order B-30-15 signed by Governor Brown in 2015 to a level 80 percent below 1990 levels by 2050 and increased again by AB 1279 signed by Governor Newsom in 2022 to a level 85 percent below 1990 levels by 2045. CARB is required to adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emissions.

Senate Bill (SB) 350. SB 350, also known as the 2015 Clean Energy and Pollution Reduction Act, established clean energy, clean air, and GHG reduction goals including reducing GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050. Additionally, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. The regulations focus on generating energy through renewable sources and increasing the energy efficiency of buildings.

Local Regulations

Solano County General Plan. The *Solano County General Plan* includes various policies and implementation programs related to the conservation and efficient use of energy (Solano County 2008b).

Solano County Climate Action Plan. Solano County adopted its Climate Action Plan (CAP) in June 2011 (Solano County 2011a). The CAP sets forth measures for reducing countywide GHG emissions to 20 percent below 2005 levels by 2020. The CAP includes a series of measures related to reducing energy use and increasing the supply of renewable energy.

ENVIRONMENTAL SETTING

The sites evaluated in this Initial Study are currently limited in electrical usage; no operations using electricity or fuel currently occur at these sites. Building 85 is used for storage and is only occupied intermittently, and Building 91 is currently vacant. The IR03 and IR14 injection area is an outdoor location.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of energy resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the lack of significant increase in energy demand from the proposed Project, no environmental studies relating to energy resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact:

Project activities that could potentially impact energy consumption are construction and transportation activities that involve the use of fuel or electricity. Those activities include:

- Operation of heavy equipment during drilling/injection activities at IR03 and IR14, including grouting of borings/ injection well abandonment (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), or loading the contaminated media into storage bins and/or drums
- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, operation of heavy equipment during drilling activities, including well abandonment after remediation completion to match surrounding grade and associated soil gas monitoring
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, and dust removed from the Building 91 Mercury site and investigation-derived waste to appropriate facilities (based on waste characterization)

For the purpose of the impact evaluations, this Initial Study conservatively assumes that all the cleanup actions evaluated herein would:

- Be conducted independently and therefore occur intermittently
- Take no more than approximately 2 months of continuous work at the IR03 and IR14 sites, and approximately 6 months at the Building 91 Mercury site to complete
- Be substantially completed in 2025 (based on the current schedule)

Analysis as to whether or not project activities would:

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

Impact Analysis*:*

The proposed cleanup activities involve short-term construction activities and do not involve any changes in current site operations. The energy demand associated with these activities would primarily involve fuel usage by construction equipment and waste transportation vehicles. There would be a limited demand for electrical power for lighting inside the Building 91 Mercury site; if needed, these electrical needs would be supplied by generators. Several of the Project Controls presented earlier in this document would reduce unnecessary or wasteful consumption of energy resources. Those practices include:

- Minimizing idling time for all equipment, either by shutting off equipment when not in use or limiting the maximum idling time for all equipment to 5 minutes;
- Properly maintaining Contractor construction equipment and tuning it in accordance with manufacturer specifications; and
- Conducting routine inspections of Project vehicles that would identify any wasteful leakage of fuel or oil.

Therefore, the Project would not have a significant environmental impact related to energy resources and there would be a Less Than Significant impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Impact Analysis:

The Project involves remediation of a contaminated site located on private property and does not involve any new demand for or long-term energy consumption. Therefore, the Project would not conflict with a state or local plan for renewable energy or energy efficiency and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Energy Impact Analysis:

Solano County. 2008b. *Solano County General Plan*. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494

Solano County. 2011a. *Solano County Climate Action Plan*. June 7.

7. GEOLOGY AND SOILS				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☐	☒
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iv) Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

REGULATORY SETTING

No laws, ordinances, regulations, or standards protecting geological and soil resources are applicable to the proposed Project.

ENVIRONMENTAL SETTING

The topography of IA C1 is generally flat, with elevations of about 6 to 8 feet above mean sea level (USGS 2021a). The geology of Mare Island can be characterized as an eroded bedrock surface that is exposed in the southern part of the peninsula, overlain by a blanket of unconsolidated Quaternary sediments and fill material from various sources at most other locations. The bedrock surface is irregular and deeply incised in some areas, and up to 160 feet of unconsolidated materials overlies the bedrock at some locations on the peninsula. The eroded bedrock forms a subsurface ridge, estimated to be the original extent of Mare Island in 1859 (prior to being filled) that extends northwest along the axis of

the Mare Island peninsula, with the approximate center of the ridge roughly coinciding with Azuar Drive. Portions of IA C1, as described below, are located on this bedrock ridge. The northern extent of the subsurface bedrock ridge is not known, but the ridge is present at least as far north as A Street (CH2M HILL 2006). Buildings 85 and 91 appear to be on the northern tip of the ridge; the IR03 and IR14 injection area appears to be north of the ridge.

Three principal geologic units have been identified at Mare Island. From top to bottom, stratigraphically, these include: (1) fill material, (2) unconsolidated natural deposits, and (3) bedrock. The fill material is a heterogeneous unit consisting of clay, silt, sand, gravel, and debris in varying proportions. The unconsolidated natural deposits consist primarily of a thick sequence of silty clays commonly referred to as “Bay Mud.” The bedrock consists of sandstone, siltstone, and shale. These three units are described in more detail below.

Fill Material

As a result of extensive land reclamation activities at Mare Island, a highly heterogeneous surficial layer of fill material is prevalent at locations outside the original outline of the island. The fill material consists of silty clays, sands, gravels, organic debris, debris including concrete, asphalt, brick, metal, timber, paint chips, fiberglass, and other solid refuse, and is characterized by abrupt and unpredictable changes in material in short lateral and vertical distances. Fill thickness ranges between 5 and 15 feet within IA C1 (CH2M HILL 2006).

IA C1 is located both inside and outside the original (pre-1859) Mare Island boundary; the three remediation sites lie outside the original boundary within the fill material. Because much of the fill material is dredged silty clays (Bay Mud), the boundary between the fill and the silty clay in the natural deposits below often is not well defined (CH2M Hill 2006).

Unconsolidated Natural Deposits

Unconsolidated natural deposits overlie the eroded bedrock surface on much of Mare Island. In the area east of the bedrock ridge, unconsolidated natural deposits primarily consist of silty clay and clay, with occasional discontinuous lenses of silty sand and sandy clay. Thin (up to 3 feet) intervals of peat and/or organic clay have been noted at various borings. The thickness of unconsolidated materials varies from as little as 0 feet thick near the top of the bedrock ridge to more than 160 feet. The northern half of IA C1 and its easternmost edge along the Strait fall north and east of the bedrock ridge, respectively (CH2M Hill 2006). The southern half of IA C1 lies on the ridge, with the exception of the thin strip along the Strait.

Bedrock

The bedrock at Mare Island consists of steeply dipping brown, orange, and tan arkosic sandstone, siltstone, and micaceous shale. Bedrock outcrops exist in the hilly area at the southern end of the peninsula that is now occupied by the golf course, ammunition bunkers, and a residential area along the former Mesa Road with the closest current road being Coral Sea Circle. The exposed bedrock at Mare Island is assigned to the undifferentiated Great Valley Sequence on Wagner and Bortungo’s regional geologic map (1982). A more detailed map prepared by Dibblee (1981) identifies the bedrock as arkosic sandstone and micaceous shale of the Cretaceous Panoche Formation (CH2M Hill 2006).

The United States Department of Agriculture (USDA) Natural Resources Conservation Service operates a website containing soil data across the country. Using this national database (USDA 2021a), soil surveys for Solano County indicate that soils in IA C1 are classified as Made Land. Made Land comprises lands that have been filled with “mixed materials” including sandstone, shale, concrete, and asphalt; soils in this mixture range from clays to sandy loam (USDA 1977). Clayey soils in this mixture would tend to be expansive in nature and could be susceptible to appreciable volume changes (swelling or shrinkage related to changes in water content). The fill materials are typically well-drained but are commonly underlain by poorly drained tidal marsh or sediments (USDA 1977). The USDA also evaluates the suitability of soils for building site development, construction materials, waste management, and water management purposes; however, soils in the IA C1 area have not been evaluated with respect to these issues (USDA 2021b).

The Solano County Emergency Operation Plan includes a map showing the potential for liquefaction in areas across Solano County (Solano County Office of Emergency Services 2017); the area containing IA C1 is classified on that map as having a very high potential for liquefaction. A liquefaction susceptibility map available online on the Association of Bay Area Governments (ABAG) Resilience Program website (ABAG 2021d) also indicates that liquefaction susceptibility hazard within the northern half of IA C1 and its easternmost edge along the Strait is very high. Based on this online information, the four Project cleanup sites would be classified as having a very high liquefaction potential. A geotechnical study conducted immediately north of IA C1 within Mare Island indicated that soils in areas not previously developed by the Navy would have an increased potential for soil instability due to the low strength of the Bay Mud present in the area (AMEC Foster Wheeler 2017). Historically, landslides and mudslides have not occurred within IA C1 and no rainfall-induced landslide hazard zones have been identified within IA C1 based on ABAG Resilience Program maps of these hazard zones (ABAG 2021a,b).

At the four cleanup sites, soils are completely covered with existing pavement and/or buildings/structures; no topsoil is exposed.

Seismic Characteristics

Mare Island is located within a seismically active area. Seismically, the area is dominated by the San Andreas Fault system, which is composed of a branched network of generally northwest-trending strike-slip faults. Geologic, seismologic, and geodetic evidence indicate that this fault system partially accommodates the relative motion between the North American and Pacific tectonic plates. Published geologic maps indicate that no known or inferred active fault traces pass through IA C1; no Alquist-Priolo Fault Zones are defined within Mare Island (CDOC 2021). The nearby active faults in the Project area are summarized in Table 7-1.

Table 7-1: Regional Faults and Seismicity

Fault	Approximate Distance (miles) and Direction from Mare Island	Maximum Moment Magnitude
Healdsburg-Rodgers Creek	3—northwest	7.0
West Napa	6—northeast	6.5
Hayward	7—southwest	7.1
Green Valley	9—east	6.9
Concord	11—southeast	6.0
Greenville	20—southeast	6.9
Calaveras	21—south	7.1
San Andreas	25—west	7.9
San Gregario	25—southwest	7.3

These faults have caused severe ground shaking at Mare Island in the geologic past and have the potential to do so in the future. The ABAG Resilience Program website includes maps illustrating shaking potential associated with specific faults (ABAG 2021e and 2021f, for the Concord and Hayward faults, respectively), and a map depicting earthquake shaking potential is also provided in the Solano County Emergency Operation Plan (Solano County Office of Emergency Services [OES] 2017). Based on these maps, Mare Island has a high earthquake shaking potential (strong to very strong shaking severity, or 7 to 8 Modified Mercalli Intensity).

The USGS Fact Sheet (2008-3027) estimates that the probability of a magnitude 6.7 or greater earthquake occurring on any fault within the Bay Area from 2000 to 2030 to be 63 percent (USGS 2008). There has not been an earthquake recorded with a magnitude of 6.7 or greater between the year 2000 and the present (USGS 2021b). The USGS estimates the following probabilities of one or more magnitude 6.7 or greater earthquakes by 2037: 21 percent on the San Andreas Fault, 32 percent on the Hayward Fault, and 31 percent on the Rodgers Creek Fault.

In August 2014, the South Napa Earthquake caused significant damage in the Napa Valley as well as Mare Island. The earthquake registered at a magnitude of 6.0 (USGS 2015), and damage was caused through ground shaking and surface rupture along the West Napa fault. Minor damage at Mare Island was sustained at Buildings 106, 144, and 114A, and major damage was sustained at Building 118.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of geology and soils resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

References to previous geology and soils studies pertaining to Mare Island are provided in the Environmental Setting section above. No additional environmental studies relating to geology and soils were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact Associated with Geology and Soils:

Project activities that could potentially impact geology and soil conditions are construction activities that could alter the nature of ground surface conditions / topography or subsurface conditions, and thus could affect erosion rates or effects of geologic hazards. Those activities include:

- Drilling/injection activities at IR03 and IR14
- Excavation/removal of flooring materials and underlying contaminated soil (up to approximately 4 feet in depth beneath the former floor) inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader)
- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, drilling and subsurface piping installation activities at the site

Analysis as to whether or not project activities would:

a. *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

i. *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to Division of Mines and Geology Special Publication 42).*

Impact Analysis:

No Alquist-Priolo fault zones have been identified within IA C1. Therefore, there would be No Impact due to rupture of a known earthquake fault.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

ii. *Strong seismic ground shaking?*

Impact Analysis:

Nearby faults have caused severe ground shaking at Mare Island in the past and could do so again in the future. The proposed remediation activities would result in limited subsurface disturbance—soil borings/injections at IR03 and IR14 (maximum depth of 20 feet below grade) and excavation of shallow soils inside the Building 91 Mercury site (up to approximately 4 feet). Upon completion of injection activities, the IR03 and IR14 borings would be backfilled with grout, and injection wells (if any) would be properly abandoned (removed from the ground and the remaining holes backfilled with grout). Given the small diameter and shallow depth of the borings/wells and the solidified nature of the grout, the presence of the grout would not significantly affect subsurface conditions, and would not increase the magnitude of ground shaking in that area. The proposed removal of contaminated, non-loadbearing flooring materials within the Building 91 Mercury site would affect multiple areas comprising approximately 50 percent of the floor area, and would not affect the overall Building 91 Mercury site integrity. The proposed soil excavation within the Building 91 Mercury site would be of limited depth, and would similarly not affect the integrity of the Building 91 Mercury site in the event of strong seismic ground shaking. If additional remedial activities are proposed for the Building 85 VOCs in Soil Gas site in the future (e.g., implementation of Alternative 4 – Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance), the work would be localized to a few areas, and any proposed removals would not affect the Building 85 integrity. Therefore, the Project would have No Impact related to strong seismic ground shaking.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

iii. *Seismic-related ground failure, including liquefaction?*

Impact Analysis:

Seismic-related ground failure, including liquefaction, is potentially an issue in areas with susceptible soils, especially backfill materials sourced from dredge spoils. Seismic-related ground failure, including liquefaction, is the rapid loss of soil cohesion due to substantial ground shaking. As noted in the existing conditions discussion, the three sites evaluated in this Initial Study are likely underlain, at least partially, by such backfill material. The proposed remediation activities would result in limited subsurface disturbance—soil borings/injections at IR03 and IR14 (maximum depth of 20 feet below grade) and excavation of flooring materials and shallow soils (up to approximately 4 feet) within the Building 91 Mercury site. Upon completion of injection activities, the IR03 and IR14 borings would be backfilled with grout, and injection wells (if any) would be properly abandoned (removed from the ground and the remaining holes backfilled with grout). Given the small diameter and shallow depth of the borings/wells and the solidified nature of the grout, the presence of the grout would not significantly affect subsurface conditions, and would not increase the potential for ground failure/liquefaction in that area. The proposed removal of contaminated flooring materials within the Building 91 Mercury site would affect multiple areas comprising approximately 50 percent of the floor area and would not affect the overall integrity of the Building 91 Mercury site or its susceptibility to seismic-related ground failure. The proposed soil excavation within the Building 91 Mercury site would be of limited depth and would similarly not affect the integrity of the Building 91 Mercury site in the event of seismic-related ground failure/liquefaction.

Therefore, the Project would have No Impact related to seismic-related ground failure.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

iv. Landslides?

Impact Analysis:

The Project vicinity is relatively flat; there is no history of landslides and no known rainfall-induced landslide hazard zones have been identified in IA C1 (ABAG 2021a,b). The Project would not introduce long-term topographic alterations. Therefore, the Project would have No Impact related to adverse effects due to landslides.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Result in substantial soil erosion or the loss of topsoil?

Impact Analysis:

None of the Project sites have exposed topsoil; the sites are covered with existing buildings (in the case of the Building 91 Mercury site) or pavement (IR03 and IR14). Project-related activities proposed within the Building 91 Mercury site involve removal of impacted wood and concrete flooring and soil. For these proposed indoor activities, soil surfaces are protected by the overlying structure and there is no exposure to weather conditions, such as rain or wind, that could cause erosion or topsoil loss.

Proposed activities at the outdoor sites involve the advancement of soil borings/wells; and groundwater extraction, reagent mixing, and injection of reagents into those borings/wells. After the injections are complete, the borings would be grouted to match the surrounding surface, and injection wells (if any) would be properly abandoned (removed from the ground and the remaining holes backfilled with grout). Therefore, no soil would be exposed. None of these activities would significantly increase the potential for soil erosion or loss of topsoil. Therefore, Project-related impacts would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

IA C1 has been developed with constructed structures for several decades; no issues related to soil instability have been observed. As noted in the existing conditions discussion, the sites included in this Initial Study are located in areas underlain by backfill materials that could be susceptible to liquefaction. However, given the relatively flat current terrain on the Project sites and the fact that the outdoor Project activities would not change the site topography, there would be no risk of offsite landslides associated with the Project. The remedial actions proposed for the Building 91 Mercury site involve soil excavation, but the anticipated depth of excavation is limited (up to approximately 4 feet), and would not affect the stability of the adjacent soils. No subsurface disturbance of soil is proposed for Building 85. As such, the proposed remedies would have No Impact on the likelihood for landslide, lateral spreading, subsidence, liquefaction, or collapse.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

As noted in the baseline conditions discussion, expansive soils (such as clays in fill material and the underlying Bay Mud) are likely present in IA C1. The proposed remediation activities would result in limited subsurface disturbance soil borings/injection well installation/injections at IR03 and IR14 and excavation of shallow soils (up to approximately 4 feet) within the Building 91 Mercury site. Upon completion of injection activities, the IR03 and IR14 borings would be backfilled with grout, and injection wells (if any) would be properly abandoned (removed from the ground and the remaining holes backfilled with grout). Given the small diameter and shallow depth of the borings/wells and the solidified nature of the grout, the presence of the grout would not significantly affect subsurface conditions, and would not increase the potential for soil expansion in that area. The proposed removal of contaminated flooring materials within the Building 91 Mercury site would affect multiple areas comprising approximately 50 percent of the floor area, and would not affect the overall building integrity or susceptibility to impacts from expansive soil. The proposed soil excavation within the Building 91 Mercury site would be of limited depth (up to 4 feet), and would similarly not affect the potential for soil shrinkage/swelling or the integrity of the Building 91 Mercury site in the event of soil expansion. Furthermore, the Project does not involve the construction of any structures that could be affected by expansive soils in the fill material. Therefore, the Project would have No Impact related to soil expansion.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. *Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?*

Impact Analysis:

As noted in the existing conditions discussion, it is unknown whether soils at the Project sites would be capable of supporting the use of septic tanks or other wastewater disposal systems. No septic tanks or other underground wastewater disposal systems are proposed to be constructed or modified as part of the Project activities. All wastewater within the Project area is currently disposed of via a sanitary sewer system that is operated and maintained by the VFWD). Limited changes would be made to subsurface conditions at the IR03 and IR14 injection area. Injection of reagents would not affect use of the site soils. Upon completion of injection activities, the IR03 and IR14 borings would be backfilled with grout, and injection wells (if any) would be properly abandoned (removed from the ground and the remaining holes backfilled with grout). Given the small diameter and shallow depth of the borings/wells, the presence of the grout would not significantly affect subsurface conditions. Other than scraping of surface soil beneath flooring in the Building 91 Mercury site, no changes would be made to the subsurface soils at

that remediation site. Therefore, there would be no associated change to the onsite soil's capability of supporting the use of septic tanks or other wastewater disposal systems. Therefore, the Project would have No Impact related to the use of site soils for septic tanks or other wastewater systems.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Impact Analysis:

Project activities involve the disturbance of soils, which could affect paleontological resources, if present. However, the disturbance would be limited to either anthropogenic fill or soil previously modified during building construction, neither of which would be likely to contain paleontological resources or unique geologic features. Thus, there are no unique geologic features at the Project Site and the presence of a unique paleontological or geologic resource in the proposed Project work area is unlikely. The proposed Project is not expected to encounter or destroy any unique paleontological resources or geological features. Therefore, the Project's impact related to destroying a unique paleontological resource or geologic feature would be Less than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Geology and Soils Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

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Wagner, D.L., and E.J. Bortungo. 1982. *Geologic Map of the Santa Rosa Quadrangle, California*. Scale: 1:250,000. California Division of Mines.

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

REGULATORY SETTING

State Regulations

CARB creates GHG inventories for California, in accordance with the Global Warming Solutions Act (AB 32/SB 32). In 2006, the California legislature passed AB 32 (H&SC § 38500 et seq). AB 32 required CARB to design and implement feasible and cost-effective emission limits, regulations, and other measures, such that statewide GHG emissions are reduced to 1990 levels by 2020 (representing a 25 percent reduction in emissions). Pursuant to AB 32, CARB adopted a Scoping Plan in December 2008, which outlined measures to meet the 2020 GHG reduction goals. California exceeded the target of reducing GHG emissions to 1990 levels by the year 2017.

The Scoping Plan is required by AB 32 to be updated at least every 5 years. The latest update, the 2022 Scoping Plan Update, lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279 signed into law in 2022. The 2022 Scoping Plan Update focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the State's long-term climate objectives and support a range of economic, environmental energy security, environmental justice, and public health priorities. CARB tracks historical emission trends and monitors California's progress in achieving GHG targets and mandatory caps on emissions.

Executive Order (EO) S-3-05 – EO S-3-05, signed by Governor Schwarzenegger in 2005, aims to reduce GHGs with outlines for a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels
- By 2020, reduce GHG emissions to 1990 levels
- By 2050, reduce GHG emissions to 80 percent below 1990 levels

The lead agency is directed to quantify and disclose GHG emissions that would occur as a result of a project, and to make a determination on the significance of project-generated GHG emission impacts in relation to meeting AB 32 and EO S-3-05 GHG reduction goals, as required by PRC § 21082.2.

ENVIRONMENTAL SETTING

GHGs are pollutants with impacts causing global concern; unlike criteria air pollutants or TACs that are pollutants of regional and/or local concern. GHGs contribute to climate change by allowing ultraviolet radiation to enter the atmosphere and warm the Earth's surface, but they also prevent some of Earth's infrared radiation from escaping back into space. The largest anthropogenic source of GHGs is the combustion of fossil fuels, which results primarily in emissions of carbon dioxide (CO_2). Mitigating or reducing GHG emissions is critical to slowing climate change. In 2020, the most recent year for which data are available, GHG emissions in the State of California were about 369,200,000 metric tons of CO_2e[2] (CARB 2022). The transportation sector is the largest contributor, producing

[2] The term CO_2e is used to represent all GHG emissions, expressed as the impact of each different GHG in terms of the amount of CO_2 that would create the same amount of warming.

38 percent of the state's total emissions in 2020. Industrial sources are the second largest contributor at 23 percent (CARB 2022).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The BAAQMD does not currently have numerical significance thresholds for project-related GHG emissions. Instead, the BAAQMD uses a "fair share" approach. If the BAAQMD identified design elements are incorporated into the design and construction of a project, then the project would contribute its portion of what is necessary to achieve California's long-term climate goals – its "fair share" – and a lead agency can conclude that the project would not make a cumulatively considerable contribution to global climate change. (BAAQMD 2022a).

BAAQMD identified design elements for land use projects are:

1. Buildings
    a. The project will not include natural gas appliances or natural gas plumbing (in both residential and nonresidential development).
    b. The project will not result in any wasteful, inefficient, or unnecessary energy use as determined by the analysis required under CEQA Section 21100(b)(3) and Section 15126.2(b) of the State CEQA Guidelines.
2. Transportation
    a. The project will achieve a reduction in project-generated vehicle miles traveled (VMT) below regional average consistent with the current version of the California Climate Change Scoping Plan (currently 15 percent) or meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided in the Governor's Office of Planning and Research's Technical Advisory: Evaluating Transportation Impacts in CEQA:
        i. Residential projects: 15 percent below the existing VMT per capita
        ii. Office projects: 15 percent below the existing VMT per employee
        iii. Retail projects: no net increase in existing VMT
    b. The project will achieve compliance with off-street electric vehicle requirements in the most recently adopted version of CALGreen Tier 2.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

For the purposes of this Project, emissions were calculated using the current CalEEMod version 2022.1.1.21 (CalEEMod 2022) to quantify and disclose GHG emissions that would occur during construction, to determine the amount, types, and sources of GHG emissions resulting from the project. The CalEEMod model (https://www.caleemod.com/) was developed for the California Air Pollution Control Officers Association and is accepted by air districts throughout the state. The CalEEMod results and the model basis information are summarized in Appendix B. Complete CalEEMod Input and Output is provided in Appendix B.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact on Greenhouse Gas Emissions:

Project activities that could potentially impact GHG emissions are construction activities involving the use of hydrocarbon-fueled remediation equipment or transport vehicles, and passenger vehicles transporting remediation workers to the site. These remediation activities include:

- Operation of heavy equipment during drilling/injection activities at IR03, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Operation of heavy equipment during drilling/injection activities at IR14, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air); loading the contaminated media into storage bins and/or drums

- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, operation of heavy equipment during drilling activities, including well abandonment after remediation completion to match surrounding grade and associated soil gas monitoring
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization)

The major category of GHG emissions resulting from human activities is CO_2 from fossil fuel combustion. There are several other gases that contribute to global warming, including methane, nitrous oxide, sulfur hexafluoride, perfluorocarbons, and hydrofluorocarbons. However, the majority of GHG emissions associated with the Project would be CO_2 from diesel-fueled heavy equipment and trucks; therefore, the discussion in this section focuses on CO_2.

Standard construction BMPs would be employed to reduce CO_2 emissions during Project-related construction activities. Typical BMPs that would be used include those noted in the Air Quality section. In addition, operations would comply with the City of Vallejo Climate Action Plan construction equipment reduction strategy, Chapter 4, Measure OR-2 (See Project Controls section of Project Description) to reduce GHG emissions (City of Vallejo 2012).

Analysis as to whether or not project activities would:

a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

During construction, the Project would contribute GHG emissions through direct CO_2 emissions from vehicles and heavy equipment. Calculations of CO_2 emission estimates for the Project can be found in Appendix B.

Based on the CalEEMod modeling discussed in the Air Quality section, maximum annual CO_2 emissions for the Project's construction phase are estimated to be 89.1 metric tons. BAAQMD has not established Thresholds of Significance for construction-related GHG emissions that would apply to the Project. Nevertheless, BAAQMD's (2022a,b) CEQA Guidelines (at Section 6.3) prescribes that the lead agency "should quantify and disclose GHG emissions that would occur during construction."

The Project would not create a new permanent stationary or non-stationary sources of emission, including GHG emissions as defined by BAAQMD guidelines. There will be no new buildings as a result of this Project; therefore, the Project will meet a locally adopted Senate Bill 743 VMT target that reflects the recommendations provided by the Governor's Office of Planning and Research's Technical Advisory. Therefore, the Project will comply with the climate impacts threshold of significance and Project impacts related to GHG emissions would be Less than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

As noted in the Air Quality section, construction activities would comply with the measures specified in the City of *Vallejo Climate Action Plan* (2012) construction equipment reduction strategy, Chapter 4, Measure OR-2, which includes minimizing idling times, proper maintenance of construction equipment, and preferential use of electric or alternate-fueled equipment over gasoline/diesel-powered equipment. All Project activities would be performed consistent with BAAQMD rules and policies, and the Project's BMPs include these measures, in addition to other measures that would reduce GHG emissions.

As such, this Project would not conflict with the local GHG reduction plan, and there would be a Less than Significant Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Greenhouse Gas Emissions Impact Analysis:

Bay Area Air Quality Management District (BAAQMD). 2017. Bay Area Clean Air Plan, Final 2017 Clean Air Plan Volume 1, adopted April 19, 2017. Accessed 7/12/2023 at: 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.

BAAQMD. 2022a. 2022 CEQA Air Quality Guidelines. Accessed 7/12/2023 at: https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines

BAAQMD. 2022b. 2022 CEQA Air Quality Guidelines, Appendix B, *CEQA Thresholds for Evaluating the Significance of Climate Impacts.* Accessed 7/12/2023 at: https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/appendix-b-thresholds-for-evaluating-significance-of-climate-impacts_final-pdf.pdf?la=en

California Air Resources Board (CARB). 2022. *California Greenhouse Gas Emissions Inventory - 2022 Edition*. Accessed 7/14/23 at: https://ww2.arb.ca.gov/ghg-inventory-data

City of Vallejo. 2012. Climate Action Plan, Final. Accessed 7/12/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=17964927

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

REGULATORY SETTING

Federal Regulations

Resource Conservation and Recovery Act (RCRA) Title 42 U.S.C. and 40 CFR Parts 260–279 - More specifically, hazardous waste generators are governed by 40 CFR Part 262, Subpart E and transporters of hazardous waste are governed by 40 CFR Part 263. RCRA gives the USEPA the authority to control hazardous waste from the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA also sets forth a framework for the management of non-hazardous solid waste. The U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration regulates the transport of hazardous materials through 49 CFR Subchapter C.

State Regulations

Hazardous Waste Control Law (H&SC Chapter 6.5) and 22 CCR. The law establishes regulations and incentives that ensure that generators of hazardous waste employ technology and management practices for the safe handling, treatment, recycling, and destruction of their hazardous wastes prior to disposal. Article 6 of H&SC Chapter 6.5 discusses the transportation of hazardous waste. California Vehicle Code: Divisions 2, 6, 12, 13, 14, and 15 also apply to transportation of hazardous materials.

Local Regulations

The City of Vallejo Emergency Operations Plan establishes a framework for managing and coordinating emergency operations within in the City of Vallejo (City of Vallejo 2015). This Plan outlines the procedures that would be followed in the event of an emergency to save lives and reduce injuries, prevent/minimize property damage, and protect the environment.

Maps identifying areas posing threat of wildland fires have been prepared by state and local agencies (Solano County OES 2017; California Department of Forest and Fire Protection 2007, 2023; City of Vallejo 2013). Based on review of those maps, the area containing IA C1 would primarily be considered “Urban Unzoned” and is not located within an area classified as a fire hazard severity zone. An area classified as having a moderate fire hazard severity is located west of IA C1.

ENVIRONMENTAL SETTING

Chemical constituents within the sites that are the subject of this Initial Study are petroleum hydrocarbons, VOCs and mercury. Additional constituents in soils may include PCBs, metals, abrasive blast material, black granular material and/or pesticides.

Hazardous wastes are currently being generated and transported from various areas within IA C1 as part of the ongoing environmental cleanup of Mare Island; as such, waste handling procedures have already been developed and are being implemented to minimize potential hazards to the public and the environment. Current operations of commercial/ industrial facilities in IA C1 may also currently use hazardous materials and generate hazardous wastes on an ongoing basis regardless of the proposed Project. Waste disposal, if required for remediation, must be performed by licensed haulers and disposed of or recycled at properly licensed facilities.

Other than the potentially hazardous materials associated with the Project cleanup sites, natural hazardous conditions can occur with the presence of naturally occurring asbestos (NOA). NOA is associated with ultramafic, metamorphic rocks. As discussed above in the Geology and Soils section, the bedrock in the Project vicinity is sedimentary, i.e., arkosic sandstone, siltstone, and micaceous shale; these types of rock do not likely contain NOA. Consistent with this conclusion, no rocks likely to contain NOA are present in the Project area as illustrated on the map entitled “Reported Historic Asbestos Mines, Historic Asbestos Prospects, and Other Natural Occurrences of Asbestos in California” (USGS 2011).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of hazards and hazardous materials effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Sites of environmental concern in IA C1 were identified by the Navy and through a review of information and reports generated by the Navy and by others during more than 20 years of environmental investigation work at MINS. The following documents list the sites of environmental concern at IA C1 that were identified up through completion of the Remedial Investigation/Feasibility Study (RI/FS) process:

- Final IA C1 Site Identification Technical Memorandum (Final IA C1 Site ID Tech Memo) (CH2M HILL 2002)
- Final Investigation Area C1 Remedial Investigation / Feasibility Study Report, *Lennar Mare Island, Vallejo, California* (Final IA C1 RI/FS Report) (CH2M HILL 2006)
- Letter “Comments on the Final Investigation Area C1 Remedial Investigation and Feasibility Study Report, Dated August 2006” on January 23, 2008 (DTSC 2008)
- Letter “Response to Comments on the *Lennar Mare Island Final Investigation Area C1 Remedial Investigation and* Feasibility *Study Report*, dated August 2006 from Department of Toxic Substances Control on January 23, 2008” on September 17, 2008 (CH2M HILL 2008)

The list of hazards and hazardous materials effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact Associated with Hazards and Hazardous Materials:

Project activities that could potentially create a significant hazard to the public or the environment are construction activities, during which the presence and operation of heavy equipment could pose hazards or interfere with emergency response activities, or hazardous materials could be exposed or released. Such activities include:

- Drilling/injection activities at IR03, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Drilling/injection activities at IR14, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), and loading the contaminated media into storage bins and/or drums
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization)

Standard BMPs would be employed during Project-related activities to minimize the potential for accidental releases of hazardous materials/waste and impacts from any such releases, as noted in the Project Controls section of the Project Description. These BMPs include:

- Minimizing the potential for accidental releases of injection reagents by employing specially trained technicians to perform the injections, using equipment designed for injection purposes (e.g., specialized trailers and vehicles designed to contain any fugitive dusts), closely controlling injection parameters, and blocking potential preferential pathways away from the treatment areas, such as utilities, prior to injection;
- Employing splashguards and other physical containment in injection areas in the unlikely event that an equipment failure results in a release of reagent;
- Maintaining well-stocked spill kits onsite to contain any accidental releases (e.g., reagent or fuel/oil from construction vehicles);
- Following applicable state and federal regulations and the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001), which specifies the measures required for safe handling of impacted media generated at the site; and
- Conducting truck inspections to confirm that the vehicle is in safe operating condition, and that the material being transported is secured and will not be released from the vehicle during transport.

Analysis as to whether or not project activities would:

a. Create a significant hazard to the public or the environment throughout the routine transport, use, or disposal of hazardous materials?

Impact Analysis:

The Project would not affect current operations of commercial/industrial facilities in IA C1, which may currently use hazardous materials and generate hazardous waste.

The Project could involve the excavation/removal, stockpiling, and offsite disposal of impacted wood and concrete flooring, soil, and dust from the interior of the Building 91 Mercury site, and injection of reagents into the subsurface at IR03 and IR14. These activities would occur over a period of limited duration (6 months).

At concentrations in excess of regulatory criteria, materials removed as part of cleanup activities may constitute hazardous waste. Removed materials and any construction-related waste, including wastewater generated during cleanup activities, would be managed as a potentially hazardous waste until characterization is completed. If waste characterization results indicate that excavated materials are hazardous waste, these materials would be managed and disposed of as hazardous waste as described below. Applicable site controls would be implemented to protect worker health during these activities in accordance with a site-specific HASP. During cleanup activities onsite, protection of workers (the individuals in most direct contact with the potentially hazardous waste) would also provide protection to the general public, who would be excluded from the work areas and would, therefore, not come into

direct contact with these materials. Site controls would also be consistent with BMPs, hazardous waste regulations, and other applicable regulations and permits.

Based on historical site investigations, investigation-derived wastes, such as purge water from monitoring wells and drill cuttings from borings, are not expected to be hazardous. These waste streams could still be impacted with COCs, so they will be stored as appropriate (e.g., in DOT-approved 55-gallon steel drums, covered 20-cubic-yard waste bins, or stockpiled on the ground [both on, and covered with, plastic sheeting]) pending laboratory characterization as non-hazardous material. Excavated/removed materials, and other investigation-derived wastes such as HEPA vacuum filters from the interior of the Building 91 Mercury site would be transported by truck to an appropriately licensed landfill for treatment (if required) and disposal (Table PD-2 in the Project Description). Those bins and/or drums would remain inside the buildings until scheduled for pickup, at which time they would be relocated to the building exterior. Because hazardous materials would be transported in covered bins and/or sealed drums, it is unlikely that any of these materials would be released from these trucks during transport in the form of dust or spillage. In the unlikely event of a release during transport, the public or ecological receptors could be exposed to those materials, or contamination could spread to a broader area. Most of these materials are solids, and thus would be easier to contain if spilled. The waste transport trucks would follow a designated route to limit impacts to residents and businesses. As specified in the RAP, prior to loading for transport, the excavated/removed materials would be chemically analyzed to determine appropriate disposal or treatment requirements. In this way, the waste would be transported directly to an appropriate disposal facility that is licensed to accept the waste, thus minimizing the amount of time the waste is in transit. Furthermore, by using a properly licensed facility designed for the waste in question, the potential for releases from that facility would be minimized. Potential treatment options, if necessary, would be performed at the disposal facility.

Should excavated/removed materials from the site meet the classification of hazardous wastes, they would be transported under hazardous waste manifests by registered hazardous waste haulers holding a currently valid registration issued by DTSC and meeting federal requirements imposed by the DOT and USEPA under RCRA. Haulers are also subject to California hazardous waste law requirements pertaining to hauling of hazardous wastes (HSC § 25100 et seq. and § 25163 et seq.; 22 CCR § 66263.10 et seq.; 13 CCR § 1160 et seq.; and California Vehicle Code § 12804 et seq. and § 31300 et seq.), which are implemented and enforced by DTSC, as well as the California Highway Patrol, Department of Motor Vehicles, local sheriff, and police agencies who have general oversight responsibilities for the transportation of hazardous waste on state and local roadways. As specified in the RAP, truck exteriors/tires will be cleaned as needed to avoid soil tracking off the site onto public roadways. Truck inspections will be conducted to confirm: (1) that the vehicle is in safe operating condition; and (2) the material being transported is secured and will not be released from the vehicle during transport.

Additional hazardous materials associated with cleanup activities include fuels and lubricants that would be brought onto the site periodically following standard construction practices and safety standards. Transportation of fuel and lubricants would conform to state and federal requirements for hazardous materials transportation. Site activities would be performed consistent with a site-specific HASP.

The proposed cleanup work involves injection of reagents at the IR03 and IR14 sites. The proposed reagents, prior to mixing and dilution, are classified as hazardous for a variety of properties. The reagents would be transported as solid materials in powdered, granular, and/or pellet form in appropriate, manufacturer-provided containers. When properly containerized, shipped, and handled per manufacturer’s instruction and applicable local, state, and federal requirements, these hazardous properties can be effectively mitigated. A properly licensed and trained transportation provider would be contracted to transport the reagents safely to the site. All trucks would be registered hazardous waste haulers licensed by the State of California and trained to deal with emergencies. The potential for releases during transport would also be reduced by the performance of truck inspections, which would be conducted to confirm: (1) that the vehicle is in safe operating condition; and (2) the material being transported is secured and will not be released from the vehicle during transport.

Common safety procedures and chemical BMPs would be employed during transport and receiving onsite to mitigate the reagent hazards. Reagents would be stored onsite, in appropriate, inactive, and secure areas to prevent access to the reagents prior to use. The reagents would be stored onsite only during performance of the cleanup work. Procedures for the proper receiving and storage of the reagents would be included in the site-specific HASP and the Emergency Contingency Plan within the HASP.

Project-related transport of hazardous waste would occur during a short period (6 to 8 weeks). Furthermore, as noted above, the management of potentially contaminated waste and adherence to site controls and plans and regulatory requirements related to the transport of hazardous waste would reduce the potential for a significant hazard to occur as a result of the Project.

The reagents proposed for injection to treat contamination at the IR03 and IR14 sites are classified as hazardous materials in their unmixed state. Once mixed with potable water (use of potable water will be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation [SWRCB Resolution No. 2022-0002; 2022]) or treated extracted groundwater as proposed for use as injection reagents using the proposed Project controls, these materials are not anticipated to present a significant hazard. Reagent mixing will be performed inside closed equipment to avoid the release of unmixed dusts to the air. For areas within approximately 150 feet of the Strait, EISB and ISBR reagents would be injected. EISB and ISBR are proposed for these locations because stimulating biodegradation with naturally occurring bacteria in the subsurface is a safer approach for decreasing contamination near sensitive ecological receptors in the Strait than applying reagents that rely on oxidation or other vigorous chemical processes to reduce contamination.

Therefore, the potential hazard to the public or the environment throughout the routine transport, use, or disposal of hazardous materials would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

Project activities would be conducted in accordance with the site-specific HASP and activity hazard analysis developed for the Project to minimize the potential for accidental releases of hazardous materials during cleanup activities. The HASP would provide an Emergency Contingency Plan. With the correct implementation of the Emergency Contingency Plan, in the event that a hazardous release occurs, potential impacts to the public or environment should be minimized. All hazardous waste haulers would be registered and licensed by the State of California and operated by personnel trained to deal with emergencies. The potential for releases during transport would also be reduced by the performance of truck inspections, which would be conducted to confirm (1) that the vehicle is in safe operating condition, and (2) the material being transported is secured and will not be released from the vehicle during transport.

Potential upset conditions that could occur during cleanup activities and could involve the release of hazardous materials (fuel, remediation reagents, or excavated/removed materials from the site) includes fire, fuel spills, hydraulic fluid leaks, and accidents and incidents commonly associated with construction-related activities. The hazards due to these conditions or situations would be managed through:

- Proper maintenance, operation, and inspection of the machinery and vehicles, to reduce the potential for fuel releases, or malfunctions that could result in spillage of hazardous materials excavated/removed from the site
- Use of registered hazardous waste haulers licensed by the State of California and trained to deal with emergencies for transport of hazardous materials/waste
- Proper containerizing, shipment, and handling of injection reagents per manufacturer's instruction and applicable local, state, and federal requirements, and use of a properly licensed and trained transportation provider to transport the reagents safely to the site
- Proper storage of fuels with secondary containment as appropriate, to reduce the potential for releases
- Calling 811 prior to ground disturbance activities as required by law, and marking of underground utilities to avoid unexpected encounters with utilities that could release contaminants such as oil pipelines and sewer lines
- Enforcement of safe work practices and other safety provisions as specified in the HASP

The remediation reagents proposed to reduce contamination concentrations at the IR03 and IR14 sites are classified as hazardous materials. As specified in the work plan for these injection activities (ERM 2019), the injection program was designed to minimize the potential for accidental release of the reagents to the site and to nearby the Strait. For areas within approximately 150 feet of the Strait, EISB and ISBR reagent would be injected. EISB and ISBR are proposed for these locations because stimulating biodegradation with naturally occurring bacteria in the subsurface is a safer approach for decreasing contamination near sensitive ecological receptors in the Strait than applying reagents that rely on oxidation or other vigorous chemical processes to reduce

contamination. Proposed project controls, such as limiting injection volumes, rates, and pressures and maintaining visual observation during the injections would help to minimize the potential for accidental release of reagents.

Therefore, by employing the practices noted above and by following local, state, and federal requirements related to hazardous waste management, the potential hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

c. *Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances or waste within one-quarter mile of an existing or proposed school?*

Impact Analysis:

The nearest school to the cleanup activities evaluated in the Initial Study is an elementary school (Mare Island Health & Fitness Academy) located at 400 Rickover Street (approximately 0.6 mile south from Buildings 85 and 91 and 0.8 mile from the IR03 and IR14 sites).

Excavated/removed materials associated with the Building 91 Mercury site, and soil cuttings/waste materials from installation, if warranted, of VIMS or SVE systems at the Building 85 VOCs in Soil Gas site associated with Alternative 4 (Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance) would be transported by truck by a licensed transporter to an appropriately licensed landfill for treatment (if required) and disposal. Those trucks would follow a designated route using Railroad Avenue (northbound) to limit impacts to residents and businesses; this route does not pass within 0.25 mile of the school.

If cleanup at the Building 85 VOCs in soil gas site is determined to be necessary, installation of a passive or active VIMS or an SVE system would require transport of materials in trucks. Those trucks would follow a designated route using Railroad Avenue (northbound) to limit impacts to residents and businesses; this route does not pass within 0.25 mile of the school.

Likewise, reagents for injections at the IR03 and IR14 sites would be transported to the Project sites by a licensed transporter following a designated route via Railroad Avenue (southbound) to limit impacts to residents and businesses; this route does not pass within 0.25 mile of the school.

Therefore, the Project would have No Impact related to hazardous emissions or handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. *Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

Impact Analysis:

The proposed Project is identified as an active site on the above-referenced list of hazardous materials sites complied pursuant to Government Code Section 65962.5 (Cortese List). In the long-term, the proposed cleanup activities would ultimately reduce hazards by removing contaminated material from the site and the Project area. In the short term, during cleanup activities, the potential for related hazards would increase because impacted materials are being disturbed. The adherence to Project controls and plans, as previously discussed, would minimize the potential spread of hazardous materials during performance of the cleanup activities. Common construction practices such as dust mitigation and covered containerization of wastes would be effective in containing hazardous materials to the cleanup areas. Cleanup within the Building 91 Mercury site would be performed indoors and as such, the potential spread of hazardous material during cleanup at that site is minimal. Management of potentially contaminated waste generated during cleanup activities and adherence to regulatory requirements related to transporting hazardous waste reduces the potential for significant hazard to the public or the

environment as a result of the Project. For areas within approximately 150 feet of the Strait, EISB and ISBR reagent would be injected to stimulate biodegradation with naturally occurring bacteria in the subsurface. This is proposed as a safer approach for decreasing contamination near sensitive ecological receptors in the Strait, rather than applying reagents that rely on oxidation or other vigorous chemical processes to reduce contamination.

Therefore, the potential hazard to the public or the environment as a result of the Project's location on a site listed on the Cortese List would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

The proposed Project is not located within 2 miles of a public airport or public use airport, and the Project is not located within an airport land use plan. Therefore, there would be No Impact regarding a safety hazard or excessive noise for people residing or working in the Project area.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

f. *Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan?*

Impact Analysis:

Emergency actions in the vicinity of the cleanup sites would be managed by the City of Vallejo in accordance with the Emergency Operations Plan prepared to establish a framework for managing and coordinating emergency operations within the City of Vallejo (City of Vallejo 2015). That Plan focuses on the emergency response process and does not specify emergency evacuation routes. None of the cleanup sites are located on a major roadway. In addition, the amount of vehicular traffic that would be added to the main roadways in the Project vicinity at any given time would be relatively minor. Multiple evacuation routes leading off Mare Island are available (i.e., Nimitz Avenue, Railroad Avenue, and Azuar Drive).

Based on the above considerations, Project activities would not affect (1) the ability of emergency response personnel to access areas in the vicinity of the cleanup sites, or (2) the accessibility of evacuation routes. Therefore, Project activities would have No Impact on the implementation of an adopted emergency response plan or emergency evacuation plan.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

g. *Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Impact Analysis:

IA C1 is bound by the Strait to the east, and by industrial areas to the north, south, and west. IA C1 is paved or developed with industrial structures constructed as part of Shipyard operations. As discussed further under Item 20 (Wildfire), a few relatively small (less than 1 acre) grass areas are present within IA C1. If these areas were to catch fire, they contain a limited amount of vegetative fuel and are unlikely to cause wildfire-related hazards in the area.

The proposed cleanup activities would be performed in areas separate and apart from these grass areas, and would thus not affect the likelihood of wildland fires. Furthermore, because the proposed activities do not involve a new or long-term increase in site usage or habitation, they would not increase the severity of impacts from wildland fires. Therefore, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Hazards and Hazardous Materials Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
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10. HYDROLOGY AND WATER QUALITY				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:	☐	☐	☒	☐
(i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
(iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☐	☒

REGULATORY SETTING

The SWRCB and the Regional Water Boards (collectively Regional Water Boards) share authority to implement the Federal Clean Water Act (CWA, 33 U.S.C. § 1251 et seq.) and California's Porter-Cologne Water Quality Control Act (California Water Code, Section 7). The CWA establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters.

The Water Boards enforce waste discharge requirements through National Pollutant Discharge Elimination System (NPDES) permits. The Porter-Cologne Act mandates the Regional Water Board to develop, adopt, and implement a Basin Plan for the Region. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the master policy document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives.

Agencies with primary regulatory jurisdiction over water quality and/or waste discharge requirements include the SWRCB/Regional Water Board, DTSC, USEPA, California Department of Public Health, and VFWD. A comprehensive list of the applicable water quality standards and waste discharge requirements and the associated agencies that

govern them is provided in Appendix G of the *Investigation Area C1 Remedial Action Plan, Draft for Public Review* (ERM 2024c), and provided below:

- Clean Water Act California Toxics Rule, 40 CFR § 131.38.
- Clean Water Act Water Quality Criteria, 33 U.S.C. § 1314 Quality Criteria for Water, 1986 EPA 44/5-86-001, May 1.
- Regional Water Board, Water Quality Control Plan for the San Francisco Bay Basin, Water quality objectives.
- Clean Water Act (NPDES Industrial Storm Water Permit Program), 40 CFR § 122.26.
- Clean Water Act (NPDES Construction Storm Water Permit Program), 40 CFR § 122.26.
- SWRCB and Regional Water Board, California Porter-Cologne Water Quality Act (Design, construction, monitoring, and closure requirements for classified waste management units), Calif. Water Code Section 13020 et seq. Title 23, CCR, Division 3, Chapter 15, (Section 2510 et seq).
- SWRCB and Regional Water Board, California Porter-Cologne Water Quality Act (State Water Resources Control Board “Anti-degradation Policy”), Resolution No. 68-16.
- SWRCB and Regional Water Board, California Porter-Cologne Water Quality Act (State Water Resources Control Board Policy on Investigation and Remediation of Contaminated Sites), Resolution No. 92-49.
- Regional Water Board, California Porter-Cologne Water Quality Act (San Francisco Bay Regional Water Quality Control Board Basin Plan), Water Quality Control Plan for the San Francisco Bay Basin (2013 update).
- SWRCB and Regional Water Board, General Permit for Storm Water Discharges from Construction Activities, 40 CFR Parts 122, 123, 124, NPDES, implemented by SWRCB Order No. 99-08 DWQ.
- SWRCB and Regional Water Board, General Permit for Stormwater Discharges from Industrial Activities, 40 CFR Parts 122, 123, 124, NPDES, implemented by SWRCB Order No. 97-03 DWQ.
- DTSC, California Hazardous Waste Control Law (Criteria for identification of hazardous and extremely hazardous waste), 22 CCR Division 4.5, Chapter 11.
- DTSC, California Hazardous Waste Control Law (Air emission standards for process vents), 22 CCR Division 4.5, Chapter 15, Article 27.
- DTSC, California Hazardous Waste Control Law (Air emission standards for equipment leaks), 22 CCR Division 4.5, Chapter 15, Article 28.
- DTSC, California Hazardous Waste Control Law (Land disposal restrictions), 22 CCR Division 4.5, Chapter 18.
- DTSC, California Health and Safety Code – Institutional Controls, HSC Division 20, Chapter 6.5, Article 11.1 Institutional Control.
- CDFG, California Fish and Game Code (Discharge of Pollutants to Waters of the State), Calif. Fish and Game Code Section 5650.
- OES Certified Unified Program Agency (CUPA), California Health and Safety Code (Hazardous Materials Release Response Plans and Inventory), HSC Division 20, Chapter 6.95 19 (CCR Division 2, Chapter 4, Article 4).
- BAAQMD, Stockpiling and aeration of contaminated soil, Air Quality Management District Regulation VIII, Rule 40.
- State of California, Senate Bill 1 (SB 1), Sea Level Rise Mitigation and Adaptation Act of 2021, an act to amend Sections 30001.5, 30501, and 71116 of, to add Section 30421 to, to add Article 8 (commencing with Section 30270) to Chapter 3 of Division 20 of, and to add Division 20.6.5 (commencing with Section 30970) to the Public Resources Code, relating to coastal resources.
- State Agency Sea-Level Rise Action Plan for California (California SLR Work Plan), Sea-Level Rise Leadership Team. February 2022.
- BCDC (San Francisco Bay Conservation and Development Commission). 2020. San Francisco Bay Plan, pursuant to 7.2 California Government Code § 66600 et seq. and 14 CCR § 10110 et seq. Reprinted May 5.
- California Natural Resources Agency and California Ocean Protection Council (CNRA and OPC), State of California Sea-Level Rise Guidance, March 2018 Update.

- DTSC. 2023. Draft Sea Level Rise Guidance to DTSC Project Managers for Cleanup Activities. For Immediate Use and Public Comment. February.

ENVIRONMENTAL SETTING

Mare Island is located on the eastern edge of San Pablo Bay near the confluence of the Napa and Sacramento-San Joaquin rivers. The Strait (which is also the Napa River mouth) is east of Mare Island and separates Mare Island from the City of Vallejo. The Napa River drains a 230-square-mile area north of the Mare Island peninsula, and seasonal variations in flow from the Napa River can affect salinity levels in the Strait. Most often, the Strait has a salinity concentration above 5 parts per thousand and is considered estuarine (San Francisco Estuary Institute [SFEI] 2000, 2001). Higher freshwater inflows into the Strait during the wet winter months may occasionally cause the salinity levels to drop enough to classify it as freshwater. With seasonal variability in salinity, flow, and sediment deposition, the aquatic environment is highly dynamic (ERM 2021).

IA C1 is covered almost entirely by buildings and paved surfaces; therefore, surface water drainage within IA C1 is controlled primarily by an existing stormwater system (CH2M Hill 2006). Most rainwater runoff flows locally to stormwater drains that discharge to the Strait. However, precipitation also creates minor temporary ponding, evaporates, or seeps underground through the asphalt. No natural or anthropogenic surface waterbodies (lakes, creeks, streams, or rivers) are present within IA C1. IA C1 is immediately adjacent to the open water of the Strait. The closest wetland to IA C1 classified as E2EM1N (estuarine intertidal persistent emergent wetland, regularly flooded) is located immediately northwest of IA C1 (USFWS 2009).

Maps depicting flood zones in the vicinity of Mare Island are provided in the Solano County Emergency Operation Plan (Solano County OES 2017) and on the ABAG Resilience Program website (ABAG 2021g). These maps classify the area containing IA C1 as outside the 100- and 500-year flood zones. No dams or levees are present within IA C1 or on Mare Island (Solano County OES 2017; ABAG 2021g); the closest dams are located across the Strait from IA C1. Given its proximity to San Pablo Bay, there is a possibility of flooding on Mare Island due to tsunamis (tidal waves) coming through the Golden Gate Strait. However, as illustrated on a map generated for the ABAG Resilience Program (ABAG 2021c) the greatest risk for flooding associated with tsunamis would occur on the seaward (western) portion of the island. On the eastern side of the island adjacent to the Strait where IA C1 is located, potential flood areas related to tsunamis are limited to the areas immediately adjacent to the Strait. Seiches (large standing waves) occur in large inland bodies of water and can be triggered by meteorological disturbances, seismic activity, or tsunamis. Because there are no waterbodies within IA C1, seiches are not likely in this area. The San Francisco Bay Area has not been adversely impacted by seiches (U.S. Army Corps of Engineers and Port of Oakland 2000). As discussed in the Geology and Soils section, portions of Mare Island are also subject to rainfall-induced landslides (mudflows). Given the relatively flat topography in IA C1, mudflows are not likely hazards in that area, as shown on the map generated for the ABAG Resilience Program (ABAG 2021b).

Groundwater in IA C1 is present between approximately 1 and 14 feet below ground surface within heterogeneous, generally low hydraulic conductivity materials consisting of fill (sand, gravel, debris, and dredge material) and Bay Mud (natural unconsolidated deposits consisting of mainly silt and clay) (CH2M HILL 2006). Groundwater flow in IA C1 is influenced locally by variations in lithology. Some sands and gravels are interspersed within the silts and clays of the fill and dredge spoils with little lateral continuity. Typically, groundwater preferentially flows within coarse-grained materials (sands and gravels), rather than within fine-grained materials (clays and silts). Because the sands and gravels are not laterally continuous within the fill, they do not represent a continuous preferential groundwater pathway. However, backfill in utility corridors is often coarse-grained and may provide relatively continuous preferential pathways in the shallow subsurface. As a result of the mixed lithologies, groundwater flow is not uniform; flow direction and rate vary locally in response to the hydraulic properties of the heterogeneous fill (CH2M HILL 2006).

Tidal fluctuations in the Strait have a substantial influence on groundwater levels in some areas very near the Strait, but have minimal influence on groundwater flow rate and direction in areas of IA C1 set back from the Strait. For example, during a 5-day period in 1995, wells within approximately 30 feet from the Strait exhibited tidal fluctuations of greater than 5 feet, while the Strait exhibited fluctuations of 6.9 feet (PRC Environmental Management, Inc. 1996). Water levels at locations away from the Strait (greater than 50 feet from the Strait) usually show quite limited tidal effects (less than 1 foot of tidal response). Groundwater levels across most of IA C1 are not expected to be affected by tidal variations; however, some tidal influence is anticipated for the portion of the IR03 and IR14 injection area nearest to the Strait.

Groundwater levels in most wells vary seasonally, with highest levels occurring during the wet season (November to April) and lowest levels during the dry season (May to October) (ERM 2024c).

Groundwater at IA C1 is not known to have ever been used for domestic, agricultural, or industrial water supply. The technical memorandum *Assessment of the MUN Beneficial* Use *Designation for the Eastern Early Transfer Parcel, Mare Island, Vallejo, California* (CH2M HILL 2003a) evaluates the potential for groundwater beneath the Eastern Early

Transfer Parcel at Mare Island to be used for municipal and domestic water supply. Similarly, the technical memorandum *Assessment of Beneficial Uses of Groundwater* (PRC Environmental Management, Inc. 1997) evaluates the potential beneficial uses of Mare Island groundwater for industrial service supply, industrial process supply, agricultural supply, and freshwater replenishment to surface waters. The conclusions of these technical memoranda indicate that groundwater does not meet the criteria for existing or potential beneficial use for drinking water, industrial service supply, industrial process supply, agricultural supply, or freshwater replenishment to surface waters.

Due to high levels of total dissolved solids and low sustainable yield of groundwater in IA C1, the Regional Water Board has concluded that shallow groundwater within IA C1 meets the criteria under SWRCB Resolution No. 88-63 for an exception from consideration of these waters as potential sources of domestic water supply (Regional Water Board 2004).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of hydrology and water quality effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the limited potential impacts, no environmental studies relating to hydrology and water quality were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact on Hydrology or Water Quality:

Project activities that could potentially impact hydrology or water quality are construction activities that could result in releases of contaminated materials, introduce silt into surface waters, or alter ground surface topography such that surface water flow would be redirected. These activities include:

- Drilling/injection activities at IR03, including groundwater extraction and reinjection after mixing/treatment with reagents and grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Drilling/injection activities at IR14, including groundwater extraction and reinjection after mixing/treatment with reagents and grouting of borings / abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air)

Standard BMPs would be employed during Project-related activities to minimize the potential for siltation migration to sewers and waterways (e.g., installation of straw wattles, etc.). In addition, BMPs would be employed to prevent accidental releases of hazardous materials/waste and impacts from any such releases, as noted in the Project Controls section of the Project Description. These BMPs include:

- Minimizing the potential for accidental releases of injection reagents by employing specially trained technicians to perform the injections, using equipment designed for injection purposes (e.g., specialized trailers and vehicles designed to contain any fugitive dusts), closely controlling injection parameters, and blocking potential preferential pathways away from the treatment areas, such as utilities, prior to injection;
- Employing splashguards and other physical containment in injection areas in the unlikely event that an equipment failure results in a release of reagent;
- Maintaining well-stocked spill kits onsite to contain any accidental releases (e.g., reagent or fuel/oil from construction vehicles);
- Following applicable state and federal regulations and the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001), which specifies the measures required for safe handling of impacted media generated at the site;
- Storing waste removed from the Building 91 Mercury site in covered bins and/or sealed drums; and

- Conducting truck inspections to confirm that the material being transported is secured and will not be released from the vehicle during transport.

Analysis as to whether or not project activities would:

a. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Impact Analysis:

There are no waterbodies within IA C1; however, the three Project sites are relatively close to the Strait (i.e., the closest site is approximately 15 feet from the Strait). BMPs would be applied during the removal actions and injection activities to ensure that applicable water quality standards (as described in the section above) and waste discharge requirements are not violated. BMPs include:

- For reagent injections, specially trained technicians would employ tailor-made equipment to mix reagents onsite prior to injection. Reagents typically arrive onsite in bags and closed containers and require mixing onsite. Reagent mixing would be performed slowly in small batches in specialized trailers and vehicles designed to contain any fugitive dusts and spills during mixing.
- Project controls would also be employed to contain injection reagents within the intended treatment areas. Potential preferential pathways away from the treatment areas such as utilities would be blocked prior to injection. Field sampling and monitoring would be performed to verify the efficacy of the installed utility blockers. Spill kits and absorbent materials would be stocked onsite to contain any reagent that surfaces.
- During injection, technicians would constantly monitor injection rates and pressures to detect and control any unintended distribution of the reagents. Maximum injection rates and pressures would be established to minimize the potential for surfacing and unintended distribution of reagent. As needed, splashguards and other physical containment would be employed in the injection area in the unlikely event that an equipment failure results in a release of reagent.
- Management of solid wastes (such as soil, wood, sediment, concrete, asphalt, brick and dust) from construction activities would be in accordance with the *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California* (CH2M HILL 2001) to prevent contamination of stormwater runoff, and the use of covered bins and/or drums to store materials removed from the interior of the Building 91 Mercury site instead of loose stockpiles.
- Spill control measures and standard procedures for hazardous materials storage and vehicle fueling would be used to manage hazardous wastes and materials and prevent spills and decrease the potential for offsite discharge via stormwater.

These and other BMPs, as necessary, would be implemented and inspected regularly to prevent violation of any water quality standards or waste discharge requirements. If new hazards are introduced to the three Project sites, the BMPs would be reviewed and updated; therefore, it is anticipated that no water quality standards or waste discharge requirements would be violated (CH2M HILL 2001; ERM 2019).

Project activities are being proposed to address potential sources of contamination in soils and groundwater, the removal of which would ultimately improve surface and groundwater quality. Excavation, contaminated media removal, and injection activities (including groundwater extraction and mixing/reinjection with reagents) are not expected to substantially degrade surface or groundwater quality because BMPs would be employed to reduce the runoff volume and the potential for impacted media to migrate into surface water. In addition, waste handling procedures would be conducted in accordance with local, state, and federal regulations developed for protection of the environment, including water quality.

As such, Project impacts related to surface or groundwater quality would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

Remediation activities would involve removal of impacted solid media from inside the Building 91 Mercury site and injection of reagents into the subsurface at IR03 and IR14 followed by groundwater monitoring. During these injection activities, groundwater would be extracted, mixed/treated with reagents and reinjected, resulting in no net extraction of groundwater. Other groundwater extraction would not be performed as part of these activities, except for very limited amounts of extraction for groundwater monitoring. Water needed for the remediation activities, such as for mixing reagents or for dust suppression, would be potable water from the City of Vallejo's municipal system, which gets its water from a surface water source. Use of potable water would be in accordance with the State of California's January 2022 Drought Conservation Emergency Regulation (SWRCB Resolution No. 2022-0002; 2022). The Project sites are currently covered with buildings or paved, which does not allow for significant recharge from rainfall; the proposed cleanup activities do not include the addition of impervious surfaces. After completion of the injection activities, boreholes would be grouted to the surface, which would similarly prevent percolation of surface water. Therefore, the Project would have no effect on the amount of recharge to the Project sites through percolation of surface water. When possible, groundwater sampling would employ low-flow sampling techniques, which reduce the volume of water that is purged from a well during the sampling process. For these reasons, the Project would have No Impact on groundwater supplies or recharge and there would be no net deficit in aquifer volume or a drop in the water table because all extracted water will be reinjected.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. *Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:*

i. Result in substantial erosion or siltation on or offsite;

Impact Analysis:

There are no streams or rivers on Mare Island. Surface drainage within IA C1 consists of rainfall or other surface water runoff, which is directed to the storm sewers. Cleanup at the interior site (Building 91 Mercury site) has no potential to affect local drainage patterns of surface water in the area. Following injection activities at the exterior work areas, the boreholes used for that purpose would be grouted to match surrounding grade; therefore, the existing drainage pattern in the area (surface runoff to the stormwater system) would not be significantly altered. Injection activities would occur during periods of no rainfall; therefore, the boreholes used for injection would not affect surface water drainage patterns at the site during the short period of time before they are grouted. BMPs would be employed during cleanup activities to reduce the potential for migration of sediments or reagent from the work area. No new impervious surfaces would be added during the proposed activities. In consideration of the above, Project-related impacts to erosion or siltation on or offsite due to altered site drainage patterns would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or offsite;

Impact Analysis:

There are no streams or rivers on Mare Island, and the cleanup sites are located outside of the Strait. Surface drainage within IA C1 consists of rainfall or other surface water runoff, which is directed to the storm sewers. Cleanup at the interior of the Building 91 Mercury site has no potential to affect local drainage patterns of surface water in the area. BMPs employed to prevent siltation migration to sewers and waterways (e.g., straw wattles, etc.) would affect surface drainage patterns, but these elements would be removed after completion of cleanup activities. Cleanup activities are planned for the time of year when rainfall is unlikely; thus, rainfall-related flooding during Project activities is also unlikely. Following injection activities, the boreholes used for that purpose would be grouted to match surrounding grade. Furthermore, no new structures would be installed as part of the Project, and no new

impervious surfaces would be added during the proposed activities. Therefore, the existing drainage pattern in the area (surface runoff to the stormwater system) would not be altered. In summary, the Project would not alter the course of a stream or river or increase the amount of surface runoff by significantly altering site drainage patterns; however, the emplacement of BMPs to prevent siltation migration may have a minor, temporary effect on local drainage patterns. This would result in a Less Than Significant Impact related to surface runoff and flooding on or offsite.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

iii. Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;

Impact Analysis:

The proposed activities are not anticipated to generate runoff water other than what would fall naturally on the work areas, and significant site alterations that might contribute more runoff from alteration of pavement permeability are not proposed (i.e., no new impervious surfaces would be introduced). Water for dust suppression (estimated at less than 100 gallons per day) would be applied by trained staff in a contained area and would have a low potential to flow into a storm drain inlet or the site drainage system. Injection liquid spillage or surfacing out of boreholes could result in runoff liquid. As noted above, and in the RAP, BMPs would be employed to reduce or eliminate the amount and quality of runoff associated with these activities. As is standard practice, to the extent practical, rinse water would be captured using standard BMPs and containerized. Standard BMPs would also be emplaced to prevent the migration of impacted sediments via surface water runoff (e.g., uncontained rinse water or precipitation) to sewers and waterways. Dust suppression would be controlled such that the targeted materials would be moistened, but not soaked, with water applied for that purpose; the majority of this volume would soak into and remain in the material. As noted above, given the shallow depth of soil excavation at the Building 91 Mercury site, dewatering would not be performed during remediation activities at the Building 91 Mercury site.

The containerized rinse water would be sampled as required by applicable local, state, and federal laws. This waste water would then be disposed of offsite, or in select circumstances, discharged under permit to the VFWD) sewer system. The anticipated volume of wastewater to be generated would be significantly less than the 100 gallons per site per day expected to be used for dust suppression.

The volume of runoff expected from remediation activities would be limited as noted above, and outdoor remediation activities would occur during periods when no rainfall would be flowing into the storm sewers. If a backup in the sewer system were observed, remediation staff would not discharge to avoid overflow. The limited runoff from cleanup actions at the sites would likely be transported in containers offsite to a proper disposal facility. However, if the runoff were to be discharged to the storm sewer system, it would be performed in dry conditions and would therefore not exceed the capacity of the storm sewers in the vicinity of the Project sites, which are designed for storm conditions. Waste water that is disposed of offsite would be transported to a disposal facility that (1) is licensed to accept the waste, and (2) could accommodate the volume of waste water generated.

In summary, the following procedures reduce the potential Project-related impacts: (1) the use of water during remediation activities would be limited; (2) standard practices would be employed to reduce the generation of runoff, including the surfacing of injectant fluids; (3) BMPs would be put in place to reduce the volume of runoff and the potential for migration of impacted sediments into runoff; (4) injection activities would not occur during periods of rainfall; and (5) groundwater extracted for remediation activities would be reinjected following mixture/treatment with reagents. Therefore, the volume of runoff generated during the work would likely not exceed the capacity of the stormwater drainage system. Additionally, the Project would not provide substantial additional sources of polluted runoff. Therefore, the Project-related impacts regarding the potential for runoff water to exceed the capacity of existing or planned stormwater drainage systems or to provide substantial additional sources of polluted runoff would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

iv. Impede or redirect flood flows?

Impact Analysis:

As noted above, the existing drainage pattern in the area (surface runoff to the stormwater system) would not be significantly altered and no new structures that could affect flood flows would be added to the Project Site. Cleanup at the interior site (Building 91 Mercury site) has no potential to affect flood flows in the area. Following injection activities at the exterior work areas, the boreholes used for that purpose would be grouted to match surrounding grade; therefore, these injection activities would not affect flood flows. Heavy equipment, such as a paver, excavator, drill rig, backhoe, bulldozer, jack hammer, or grader, would be at the site during Project implementation, but only temporarily; this equipment would not significantly impede or redirect flood flows. Therefore, the Project would have No Impact related to impeding or redirecting flood flows.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

Appendix I of the RAP presents a Sea Level Rise Remediation Vulnerability Assessment for both mid-century (year 2050) and end-of-century (year 2100) scenarios. These scenarios equate to two water level scenarios for combined sea level rise (SLR) and storm surge (SS): 66 inches and 108 inches above mean higher high water, respectively.

Remedial Alternative 2 (Institutional Controls) consists of only implementing an LUC, which does nothing to reduce the toxicity, mobility, or volume of contamination. Remedial Alternative 2 is proposed for the Building 85 VOCs in Soil Gas Site because interim remedial actions have achieved RAOs. In this case, SLR and SS effects would have little impact on this alternative to achieve or maintain protection of human health and the environment. If Alternative 4 (Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance) were warranted for this site, this alternative would permanently remove COCs such that the site meets RAOs prior to the SLR and SS effects occurring.

Remedial Alternative 4 (Removal/Offsite Disposal Potentially with Site-Specific Land Use Covenant and Operations and Maintenance) is proposed for the Building 91 Mercury site. This alternative would permanently remove COCs such that the site meets RAOs from the site prior to the SLR and SS effects occurring.

Remedial Alternative 6 (In Situ Treatment Potentially with Site-Specific Land Use Covenant and Operation and Maintenance) is proposed for the IR03 and IR14 sites. Based on decreased COC concentrations observed during the pilot tests, this alternative is expected to treat groundwater COCs to meet RAOs within 5 years of RAP approval, which is well prior to the occurrence of SLR and SS effects. If these two sites require contingency measures (e.g., installation of a cap), these contingency measures would be leaving contamination in place and would be vulnerable to SLR and SS effects.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Impact Analysis:

As noted above, groundwater at IA C1 is not known to have ever been used for domestic, agricultural, or industrial water supply. Furthermore, due to the presence of high levels of total dissolved solids and low sustainable yield, groundwater at IA C1 is not a potential source of domestic water supply. Project activities are being proposed to address and remove potential sources of contamination in soils and groundwater, and should ultimately result in improved groundwater quality, if anything. Therefore, the proposed Project activities would not conflict with or obstruct implementation of plans related to water quality control or sustainable groundwater management and there is No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Hydrology and Water Quality Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
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11. LAND USE AND PLANNING				
Would the project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

REGULATORY SETTING

The following documents, described in the Environmental Setting section below, address land use and planning for Mare Island and therefore the Project:

- Mare Island Specific Plan (City of Vallejo 2013)
- City of Vallejo General Plan (City of Vallejo 2018a)
- City of Vallejo Zoning Ordinance (City of Vallejo 2021)
- California State Lands Commission. Mare Island Property Settlement and Exchange Agreement. February 28, 2002 (California State Lands Commission 2002)

ENVIRONMENTAL SETTING

IA C1 is bound by the Strait and industrial areas to the east, by industrial areas to the north and south, and by commercial and residential areas to the west. The portions of the Project Site in IA C1 are entirely paved or covered with buildings (SWA 2000).

In 1994, the Vallejo City Council accepted the *Mare Island Final Reuse Plan* (Reuse Plan) to guide reuse activities at Mare Island after closure of the Shipyard. The Reuse Plan was the basis for the *Mare Island Specific Plan* (City of Vallejo 2013), which was initially adopted in 1999, and subsequently amended. As specified in the *Mare Island Specific Plan*, the City of Vallejo zoned the developed portion of Mare Island, in which IA C1 falls, as “Mixed Use Planned Development” (City of Vallejo 2013). As presented in the Specific Plan, this land use includes the following:

- Office/research and development
- Light industrial
- Retail commercial
- Onsite warehousing

The Specific Plan also states that “Although its purpose is to provide primarily for employment uses, the mixed use category also allows residential uses.”

Other official planning documents related to Mare Island include the following:

- General Plan Amendment (City of Vallejo 2018a); initiated by the City of Vallejo, which amends the City of Vallejo’s General Plan to include Mare Island as presented in the Reuse Plan. The City of Vallejo found that the Specific Plan is consistent with the Vallejo General Plan (City of Vallejo 2013).
- City of Vallejo Zoning Ordinance, which specifies a Mixed Use Planned Development for the area comprising IA C1 (City of Vallejo 2013).
- Mare Island Property Settlement and Exchange Agreement of February 28, 2002, which specifies what portions of Mare Island were established as public trust lands after the closure of MINS in 1996 (California State Lands Commission 2002).

IA C1 is planned for commercial and industrial land uses (Figure 1). The IA C1-wide Commercial/Industrial LUC would limit future development to commercial and industrial use for all portions of IA C1, and would prohibit certain land uses

(e.g., residences, daycare centers for children, schools for persons under 18 years of age, and hospitals for humans) in those areas. Additionally, 15 PCB sites require recordation and implementation of site-specific LUCs to address PCB-impacted soil, concrete, and/or wood left in place at the sites (ERM 2024c).

As discussed in the Solano County General Plan (Solano County 2008b), habitat types throughout Solano County support rare or endangered animal and plant species. Solano County has developed the Solano Habitat Conservation Plan (HCP; SCWA 2012) to protect these species. The HCP identifies priority and nonpriority habitat areas; the General Plan focuses on priority habitat areas for conservation and preservation. As illustrated in maps provided in the HCP, none of the priority and nonpriority habitat areas fall within Mare Island.

The Solano County General Plan also outlines the various plans and programs that have been established to protect marshes and the Sacramento-San Joaquin Delta area. The closest protection area to the Project sites (White Slough Planning Area) is located across the Strait from Mare Island (Solano County 2008b). No protected areas are located on Mare Island based on the map provided in the General Plan.

The City of Vallejo General Plan (City of Vallejo 2018a) also establishes policies to "protect and enhance hillsides, waterways, wetlands, occurrences of special-status species and sensitive natural communities, and aquatic and important wildlife habitat." The City of Vallejo's General Plan includes an action to continue to participate in implementation of the HCP and does not establish any City-specific habitat conservation plans or natural community conservation plans that apply to IA C1.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of land use and planning effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Mare Island and City of Vallejo land use and planning documents that are relevant to the Project area are listed above and were used to evaluate impacts. No additional environmental studies relating to land use and planning were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

No Project activities are likely to create an impact on land use and planning.

Analysis as to whether or not project activities would:

a. *Physically divide an established community?*

Impact Analysis:

The current use of IA C1 is commercial and industrial, in accordance with current land use and zoning designations. Uses surrounding the Project Site are also primarily industrial as noted above. The proposed Project involves clean up and remediation and does not include any elements (such as a roadway, railroad tracks, or large building facades) that would physically divide the surrounding areas, including an establish community. There is No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

No zoning or land use changes are being proposed under the Project. The cleanup actions proposed for the Project would not conflict with the current and planned commercial/industrial land use and would not interfere with implementation of existing habitat/natural community conservation plans. Consequently, there would be No Impact regarding a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Land Use and Planning Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

California State Lands Commission. 2002. Mare Island Property Settlement and Exchange Agreement. February 28, 2002 Recorded at Solano County Recorder's Office on March 26, 2002. Document Number 02-37955.

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

City of Vallejo. 2018a. *Propel Vallejo: General Plan 2040.* Adopted August 29, 2017, last amended July 24. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=17961496

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Solano County Water Agency (SCWA). 2012. Solano Habitat Conservation Plan, Public Draft. October.

Solano County. 2008b. Solano County General Plan. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494

SWA Group (SWA). 2000. *Preliminary Land Use Plan*. May 23.

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

REGULATORY SETTING

No laws, ordinances, regulations, or standards protecting mineral resources are applicable to the proposed Project.

ENVIRONMENTAL SETTING

The following nonfuel mineral resources have been identified in Solano County: mercury, sand and gravel, clay, stone products, calcium, and sulfur (Solano County 2008b). The *Solano County General Plan* contains a map depicting the locations of mines, processing plants, and mineral resource zones; none of these are identified within Mare Island. As also noted in the *Solano County General Plan*, natural gas fields are also present in Solano County; the gas fields listed in the General Plan are not located on or near Mare Island (Solano County 2008b).

There are no known mineral resource deposits or active mining operations on the Project Site.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of mineral resources effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the lack of known mineral resources in or near the Project Site, no environmental studies relating to mineral resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

No Project activities are likely to create an impact on mineral resources.

Analysis as to whether or not project activities would:

a. *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

   Impact Analysis:

   The Project sites are currently developed with commercial or industrial land uses, and would remain in that state after Project completion. Although unknown and unlikely, if mineral resources were present on Mare Island, access to those resources would be unchanged as a result of the Project. Therefore, the Project would result in No Impact to the availability of a known mineral resource.

   Conclusion:

   ☐ Potentially Significant Impact
   ☐ Potentially Significant Unless Mitigated
   ☐ Less Than Significant Impact
   ☒ No Impact

b. Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

Impact Analysis:

As stated above, the *Solano County General Plan* does not identify any known mineral resources within Mare Island or the Project sites. The Project would therefore have No Impact with regard to effect on the availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Mineral Resources Impact Analysis:

Solano County. 2008b. *Solano County General Plan*. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494

13. NOISE				
Would the project result in:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐
b) Generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

REGULATORY SETTING

Federal Regulations

U.S. Environmental Protection Agency - In response to the requirements of the federal Noise Control Act of 1974, the USEPA identified indoor and outdoor noise limits to protect public health and welfare (e.g., prevent hearing damage, sleep disturbance, and communication disruption). Day-night average outdoor sound values of 55 decibels, A-weighted (dBA), and indoor sound values of 45 dBA are identified as desirable to protect against speech interference and sleep disturbance for residential, educational, and healthcare areas (USEPA 1974).

While these noise thresholds have been identified by the USEPA, the state and local governments generally have responsibility for regulating noise, and have established noise-related regulations and standards. Typically, noise regulations correspond with zoning ordinances for a locality. This can include not only residential areas, but also office, light industrial, and heavy use / manufacturing activities.

CAL/OSHA - The federal Occupational Safety and Health Administration (OSHA) and the Division of Occupational Safety and Health of the State of California Department of Industrial Relations (known as Cal/OSHA) both specify regulations for permissible noise exposures for employees, dependent on the duration per day of noise exposure. If noise exposure levels exceed 85 dBA over an 8-hour period, both OSHA and Cal/OSHA regulations (Title 8 Subchapter 7, Group 15, Article 105 Section 5097) require a hearing conservation program to reduce noise levels experienced by a worker (OSHA 2008).

Federal Transit Administration (FTA) - The FTA Transit Noise and Vibration Impact Assessment (FTA 2006) specifies an acceptable vibration threshold of 72 VdB (vibration decibels) for residential areas. Table 7-1 of the FTA manual states that the approximate threshold of perception for many humans is 65 VdB.

Local Regulations

City of Vallejo General Plan - As required by state law, the *City of Vallejo General Plan* uses defined noise levels to establish the City of Vallejo's land use compatibility standards for noise (City of Vallejo 2018a). That Plan specifies that Community Noise Equivalent Levels (CNEL) for industrial land uses, such as in IA C1, should not exceed 75 dBA day-night average sound level (CNEL); exterior noise levels up to 80 dBA may be allowed. The City of Vallejo General Plan also establishes actions to update City regulations to (1) limit noise-generating activities such as construction, demolition, and loading/unloading between the hours of 7:00 a.m. and 7:00 p.m. in areas that may impact noise-sensitive land uses, (2) establish quantified vibration level limits, and (3) establish noise limits for exterior areas of new

development and redevelopment. Noise level criteria to protect against hearing damage are identified as 24-hour overall noise (L_{eq}) values of 70 dBA for both indoor and outdoor (WESTDIV and City of Vallejo 1998).

City of Vallejo Municipal Code - The City of Vallejo Municipal Code (Vallejo Municipal Code) also specifies noise standards. In addition to general prohibition to unnecessary loud and unusual noise, the Vallejo Municipal Code does not allow the use of domestic power tools and loading and unloading of building materials or similar objects that would create a noise disturbance across a residential property boundary between the hours of 9:00 p.m. and 7:00 a.m. The Vallejo Municipal Code also has numerical performance standards for land uses (e.g., not exceeding 60 dBA in residential districts), but such standards do not apply to temporary construction or demolition work. Regarding vibration, the Municipal Code states that “no use shall be operated in a manner which produces vibrations discernible without instruments at any point on the property line of the lot on which the use is located” (Chapter 16.72 of the Vallejo Municipal Code).

ENVIRONMENTAL SETTING

The existing primary noise sources on Mare Island and the Project sites are engine noises from commercial shipping, vessel traffic, current onsite commercial building tenants, and occasional aircraft overflights. Wind and wildlife produce ambient noise. The Project sites include existing commercial and industrial uses for which typical noise sources include vehicle traffic, truck loading and unloading, and equipment operation and repair, among other things. A formal noise study has not been conducted for the IA C1 vicinity.

The distances to the nearest sensitive receptors from any of the Project sites evaluated in this Initial Study are:

- Residential housing: located approximately 0.4 mile (2,200 feet) from the closest cleanup site
- Elementary school: located approximately 0.6 mile (3,200 feet) from the closest cleanup site
- Veterans Administration Outpatient medical clinic facility: located approximately 0.3 mile (1,500 feet) from the closest cleanup site

APPLICABLE THRESHOLDS OF SIGNIFICANCE

As discussed above, the *City of Vallejo General Plan* CNELs for residential land uses were used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

No environmental studies relating to noise were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create Noise Impacts:

Project activities that are likely to increase noise levels are construction activities involving the use of heavy equipment, including:

- Operation of heavy equipment during drilling/injection activities at IR03 and IR14, including grouting of borings / abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside Building 91 Mercury site using appropriate equipment (e.g., manlifts, vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), and loading the contaminated media into storage bins and/or drums
- If the Building 85 VOCs in Soil Gas site were to require SVE and/or a VIMS based on the results of the HHRA, operation of heavy equipment during drilling activities, including well abandonment after remediation completion to match surrounding grade
- Use of trucks and hauling equipment for offsite transport and disposal of Project wastes and the import of backfill over the course of up to 6 to 8 weeks.

Analysis as to whether or not project activities would result in:

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

Impact Analysis:

The proposed Project would involve short-term construction-related activities that are expected to last up to 2 months per site (see the Project Description for the site-specific Project durations). The Project does not include the permanent installation of any noise-generating equipment, and once construction is complete, noise levels would return to pre-Project levels.

The primary sources of noise during construction at the site would be from the operation of heavy equipment such as loaders, backhoes, asphalt pavers, rollers, drill rigs, jack hammers, and concrete scrapers (also known as scabblers), and trucks. Sound attenuates rapidly with distance from the source. Table 13-1 below summarizes the sound levels expected to be associated with these sources at distances of 50 and 1,120 feet (the distance to the closest sensitive receptor – a medical clinic outpatient facility, Mare Island VA Clinic). At the closest sensitive receptor, sound levels due to the Project would not exceed the 70 dBA threshold for normally acceptable noise environments established in the City of Vallejo General Plan.

Table 13-1: Typical Sound Levels for Heavy Construction Equipment

Equipment	Work Area	Typical Sound Level at 50 feet (dBA)	Calculated Sound Level at Nearest Sensitive Receptor
Loader	Building 91 Mercury site	85	58
Backhoe	Building 91 Mercury site	80	53
Asphalt paver	Building 91 Mercury site	89	62
Roller	Building 91 Mercury site	74	47
Jack hammer	Building 91 Mercury site	88	61
Concrete scraper	Building 91 Mercury site	89	62
Truck	Building 91 Mercury site and Potentially Building 85 VOCs in Soil Gas	88	61
Drill rig	IR03 and IR14 and Potentially Building 85 VOCs in Soil Gas	90	55

Source: FTA 2006

Notes:
a. Drill rig noise level taken from the UK Department for Environmental Food and Rural Affairs (DEFRA) construction noise database (DEFRA 2006).
b. Sound levels calculated using the following formula: Sound Level at Sensitive Receptor = Sound Level at 50 feet + 20 log (50 / Distance to sensitive receptor).
c. Distances used in the calculation:
Building 91 Mercury site to outpatient facility: 1,120 feet
Drill rig site to outpatient facility: 2,870 feet

The sites are located in portions of IA C1 currently used for commercial and industrial activity that already currently produce elevated noise levels. The proposed Project activities would temporarily increase noise in the area, but not at significant levels. Furthermore, sound from construction equipment would be further attenuated by conditions in the work areas; specifically:

- Sound generated during the indoor cleanup actions would be muffled by the site building in which work would occur.
- The level of noise generated by the equipment would be deflected by buildings that are between the work areas and the nearest sensitive receptor buildings.

The Project work would comply with the City of Vallejo's period of restricted hours (between 9:00 p.m. and 7:00 a.m.). As discussed above, there are several restrictions on the hours noisy work can be conducted. For the Project, the more conservative restrictions are being applied, i.e., work would cease before 7:00 p.m. For onsite cleanup workers, hearing protection would be used, consistent with the site-specific HASP, to reduce the potential that appropriate noise criteria would be exceeded while working at the Project Site. Workers would wear hearing protection while working on and around heavy equipment. If necessary, engineering controls could be implemented,

including replacing defective equipment parts, tightening loose or vibrating equipment parts, and placing “noisy” equipment as far away as possible from site workers and sensitive receptors. Should engineering controls be infeasible, administrative controls would be implemented, including adjusting employee work assignments to limit their noise exposure. With appropriate hearing protection, equipment operation is not expected to result in noise exposure to employees exceeding the OSHA level of 85 dBA (8-hour, time-weighted average).

As discussed previously, the *City of Vallejo General Plan* and Municipal Code specify policies and standards related to exposure to offsite noise-sensitive receptors such as residences. However, the quantitative exposure thresholds specified in the General Plan and Municipal Code are generally not applicable to short-term construction activities. Regardless, selecting the more restrictive of the General Plan and Municipal Code standards, operation of Project construction-related equipment would be prohibited between 7:00 p.m. and 7:00 a.m. Thus the Project would be consistent with both the General Plan and Municipal Code.

Based on the above considerations, Project-related noise impacts regarding exceedance of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, would be Less Than Significant.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. Generation of, excessive groundborne vibration or groundborne noise levels?

Impact Analysis:

The Project does not involve the use of vibration-generating equipment at the IR03 and IR14 work area. Some equipment used during Project activities at the Building 91 Mercury site work area, such as jackhammers and bulldozers, could contribute to groundborne vibration or noise levels. Table 13-2 below summarizes the vibration levels expected to be associated with these sources, at distances of 25 feet, 380 feet (distance to the property line from Building 91), and 1,120 feet (distance to the sensitive receptor closest to Building 91). Construction workers would be required to wear appropriate hearing protection, and engineering controls would be used to reduce groundborne vibration or noise levels (USEPA 1971, 1980). Noise monitoring may be conducted, as needed, to confirm that workers are not exposed to hazardous noise levels.

Table 13-2: Typical Vibration Levels for Heavy Construction Equipment

Equipment	Work Area	Typical Vibration Level at 25 feet (VdB)	Calculated Vibration Level at nearest sensitive receptor (VdB)[a,b]	Calculated Vibration Level at nearest property line (VdB)[b]	Calculated Distance from source at which vibration would reduce to 65 VdB[c] (in feet)
Roller	Building 91 Mercury site	94	44	59	232
Jack hammer	Building 91 Mercury site	79	29	43	73
Small bulldozer	Building 91 Mercury site	58	8	23	15
Loaded truck	Building 91 Mercury site	86	36	51	125

Source: FTA 2006

Notes:
[a] Calculated using the following formula: Vibration Level at sensitive receptor = Vibration Level at 25 feet + 30 log (25 / Distance to sensitive receptor)
[b] Distances used in the calculation:
Building 91 site to outpatient facility: 1,120 feet
Building 91 site to nearest property line: 540 feet
[c] Calculated using the following formula: x (feet) = 10^[$\log_{10}$(25) – (65 – Vibration Level at 25 VdB)/30]
where x is the distance at which the vibration level attenuates to 65 VdB
Vibration levels expressed as root mean square velocity in decibels (VdB)

Given the type of equipment to be used and the distances to sensitive receptors, offsite noise-sensitive receptors are not expected to be exposed to excessive groundborne vibration or groundborne noise levels as a result of the

Project. Comparing vibration levels among jackhammers, rollers, bulldozers, and trucks, rollers were calculated to have the greatest potential for producing vibration that may be felt by offsite sensitive receptors. However, as shown in Table 13-2, vibration levels are not expected to reach 65 VdB within 1,120 feet of any of the vibration sources; therefore, at the closest sensitive receptor (residential homes and Mare Island Health & Fitness Academy), vibration and noise would be expected to be imperceptible.

Table 13-2 also shows the distance from each type of equipment at which vibration would be imperceptible. To comply with the Vallejo Municipal Code, vibration and noise generated by the equipment should not be perceptible at the property line of a sensitive receptor. Building 91 is approximately 540 feet from the nearest property line, which is to the west. The exact locations of equipment use will depend on the requirements of the remediation program. Based on the calculated distances presented in Table 13-2, vibrations associated with construction equipment use in that area would remain below 65 VdB and therefore, would not be perceptible at the nearest property line. In addition, any such activities will be intermittent and short-term.

Work zone delineation would be established to protect the public from heavy construction equipment, as discussed in Section 8 (Hazards and Hazardous Materials). This delineation would also reduce the potential for passersby to be exposed to vibration or noise associated with the construction equipment.

In summary, cleanup activities associated with the Project are unlikely to expose sensitive receptors to excessive groundborne vibration or groundborne noise levels for the following reasons:

- At the nearest sensitive receptors (residential homes and the Mare Island Health & Fitness Academy) to the work areas, vibrations associated with construction equipment would be imperceptible
- The remediation work involving the use of equipment that could cause groundborne vibration would occur at locations far enough away from the nearest property lines such that associated vibrations would not be perceptible at the property line
- Work zone delineation would reduce the potential for passersby to be exposed to vibration associated with construction equipment use
- Vibration-causing remediation activities would be intermittent and short-term

Therefore, the potential for the Project to result in exposure of sensitive receptors to excessive groundborne vibration or groundborne noise levels would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

The Project is not located within the vicinity of a private airstrip or within 2 miles of a public airport or public use airport, and the Project is not located within an airport land use plan. Therefore, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Noise Impact Analysis:

City of Vallejo. 2018a. *Propel Vallejo: General Plan 2040*. Adopted August 29, 2017, last amended July 24. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=17961496

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at:https://www.academia.edu/13212564/UPDATE_OF_NOISE_DATABASE_FOR_PREDICTION_OF_NOISE_ON_CONSTRUCTION_AND_OPEN_SITES

Federal Transit Administration (FTA). May 2006. *Transit Noise and Vibration Impact Assessment*. Accessed 7/31/2023 at: https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/FTA_Noise_and_Vibration_Manual.pdf

Occupational Safety and Health Administration (OSHA). 2008. *Standard 1910.95 – Occupational Noise Exposure*. Accessed 7/31/2023 at: https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.95

United States Environmental Protection Agency (USEPA). 1971. Noise from Construction Equipment and Operations, Building Equipment and Home Appliances.

USEPA. 1974. Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety. Accessed 7/31/2023 at: https://nepis.epa.gov/Exe/ZyPDF.cgi/2000L3LN.PDF?Dockey=2000L3LN.PDF

USEPA. 1980. Construction Noise Control Technology Initiatives. Office of Noise Abatement and Control.

Vallejo Municipal Code. Updated February 7, 2023. Accessed 7/31/2023 at: https://library.municode.com/ca/vallejo/codes/code_of_ordinances

Naval Facilities Engineering Command, Western Division and City of Vallejo and City of Vallejo (WESTDIV). 1998. Mare Island Naval Shipyard Disposal and Reuse Final Environmental Impact Statement/Environmental Impact Report. April.

14. POPULATION AND HOUSING				
Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

REGULATORY SETTING

Local Regulations

The Mare Island Specific Plan envisions the redevelopment of Mare Island "as a vital new place where people live and work" (City of Vallejo 2013). Specific Reuse Goals and Concepts relevant to the Project (1.3) include:

- Create jobs and other economic development opportunities to sustain and improve the economic conditions in Vallejo, the rest of Solano County, Napa County, and the greater San Francisco Bay Area into the 21st century.
- Create a self-sustaining and multi-use community that is unified under a common design theme with a balance of industrial, office, commercial, residential, educational, recreation, cultural, and open space uses that will meet the needs of future generations.

IA C1 is designated for "Mixed Use" (including office/research and development, light industrial, warehouse, retail commercial, and potential live-work/residential); educational/civic use; and developed recreation use. The environmental cleanup of IA C1 is being performed for commercial/industrial use.

ENVIRONMENTAL SETTING

According to the U.S. Census Bureau, in July 2021 the population of Vallejo was 124,886 people (U.S. Census Bureau 2022). According to ABAG, the City of Vallejo can expect to experience continued population expansion at an estimated rate of over 1 percent between 2020 and 2030 (ABAG 2018). There is currently no housing within IA C1.

Similarly, ABAG estimates that Vallejo will continue to experience job growth, from an estimated 32,325 jobs in 2020 to 33,570 in 2030 (an increase of more than 1 percent) (ABAG 2018). The current operational workforce on the Project sites in IA C1 is approximately 447 persons (LMI 2019).

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of population and housing resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

No environmental studies relating to population and housing resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

No Project activities are likely to create an impact on population and housing.

Analysis as to whether or not project activities would:

a. Induce substantial unplanned population growth in area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

Impact Analysis:

The Project involves temporary construction activities for the purpose of environmental remediation. While the Project does not propose any new structures for homes or businesses or infrastructure, clean up and remediation activities are a requirement for the realization of the City of Vallejo's eventual redevelopment goals and plans that include employment on Mare Island. As such, while Project activities could induce long-term population growth in the area, it is not unplanned growth because the Project would be consistent with the City of Vallejo's plans and goals to increase population and employment in the Project area.

For these reasons, the Project would have No Impact on inducing unplanned population growth in the Project area.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Impact Analysis:

The proposed Project would not directly displace housing because there is no existing housing on the Project sites. Therefore, the proposed Project would not directly displace existing people or housing by demolishing housing units.

Project activities would occur in vacant portions of IA C1, from which workers would not be displaced. Project activities would be performed by a small, temporary labor pool (an estimated 5 to 20 workers at any given time) that would be drawn primarily from people already living in the local area or within commuting distance. Therefore, the proposed Project would not result in displacement of people or housing such that construction of replacement housing elsewhere would be necessary. There would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Population and Housing Impact Analysis:

ABAG. 2018. *Plan Bay Area Projections 2040*. Accessed 7/31/2023 at: https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509.

Lennar Mare Island, LLC (LMI). 2019. Biannual Employment Survey, Eastern Early Transfer Parcel, Vallejo, California. June.

U.S. Census Bureau. 2022. Quick Facts, Vallejo City, CA. Accessed 7/31/2023 at: https://www.census.gov/quickfacts/vallejocitycalifornia

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

REGULATORY SETTING

No laws, ordinances, regulations, or standards regarding public services resources are applicable to the proposed Project.

ENVIRONMENTAL SETTING

The Vallejo Fire Department (VFD) provides fire protection for Mare Island. The VFD does maintain an administrative office on Mare Island, but not an active fire station. The response time for VFD to respond from its nearest fire station at 1220 Marin Street, Vallejo, California 94590-6301 (Fire Station 21) to the farthest site in IA C1 (Building 91 Mercury site) is dependent on the time of day, street traffic, police activity, and other factors. According to Google Maps (2023), it takes approximately 5 minutes to drive the 1.8 miles from the VFD 1220 Marin Street station to Building 91.

The Vallejo Police Department (VPD), the Solano County Sheriff's Department, and the California Highway Patrol service the City of Vallejo. However, the VPD has the primary responsibility for law enforcement on Mare Island. The VPD does not maintain an office or substation on Mare Island, but does conduct daily routine patrols of Mare Island. The response time for VPD to respond from its office at 111 Amador Street, Vallejo, California 94590-6301 to the farthest site in IA C1 (Building 91 Mercury site) is dependent on the time of day, street traffic, police activity and other factors. According to Google Maps (2023), it takes approximately 7 minutes to drive the 3 miles from VPD's 111 Amador Street office to Building 91 Mercury site.

The nearest school to any of the Project sites is a public elementary and junior high school (Mare Island Health and Fitness Academy) for kindergarten through eighth grade; this school is located outside IA C1, approximately 0.6 mile away from the closest Project Site (Building 91 Mercury site). Currently, enrollment at this school is 422 students (California Department of Education 2021). Some of these students come from residences on Mare Island and some of the students come from residences in Vallejo on the other side of the Strait.

Three regional parks are present in Solano County; none of these parks are located on Mare Island (Solano County 2008b). Mare Island contains the following local parks, all of which are located outside of IA C1, but near the Project sites:

- Morton Field (an approximately 4-acre field used for football and soccer) is located at the southwest corner of the G Street/Railroad Avenue intersection, approximately 0.15 mile west of the IR03 and IR14 injection area.
- Mariner Park (a neighborhood park approximately 1.25 acres) is located at the southeast corner of the Pintado Street/Azuar Drive intersection adjacent to the Mare Island Sports Center, approximately 0.3 mile west of the cleanup areas.

- Alden Park (a neighborhood park approximately 5 acres) is located at the southeast corner of the intersection of Walnut Avenue/ 8th Street and is approximately 0.5 mile south of Building 91.
- Chapel Park (a neighborhood park approximately 3.5 acres) is located at the southeast corner of the 10th Street/Azuar Drive intersection, approximately 0.7 mile south of Building 91.

Kaiser Medical Center (approximately 3.5 miles away) and Sutter-Solano Medical Center (approximately 4 miles away), both in Vallejo, provide medical services and full-service, 24-hour emergency room care for community residents. Ambulance service on Mare Island is typically provided by private ambulance services and may also be provided by VFD.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of public services resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the Less Than Significant impact of the proposed Project Site to public services resources, no environmental studies relating to public services resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact on Public Services:

Project activities that could potentially impact public services are construction activities that would increase the number of workers and equipment present onsite. These activities could increase the need for law enforcement to (1) protect these additional workers, (2) respond to accident situations, or (3) avoid or respond to willful damage or theft of construction supplies or equipment. Project-related activities could also increase the demand for fire protection. These construction activities include the following:

- Drilling/injection activities at IR03 and IR14, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside Building 91 Mercury site using appropriate equipment (e.g., vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), and loading the contaminated media into storage bins and/or drums
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization)

Analysis as to whether or not project activities would result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the following public services:

i. Fire Protection?

Project activities would be short-term (up to approximately 6 months) and would employ a relatively small, temporary workforce (an estimated 5 to 20 workers at any given time) from Bay Area locations outside Mare Island. The proposed Project would not substantially increase the need for fire protection services compared to existing conditions. In the event of a fire or hazardous material release at the Project Site, the VFD would initially respond. Proposed Project activities would be conducted in accordance with the site-specific HASP and activity hazard analysis developed for the Project, which would also include an Emergency Contingency Plan. Successful implementation of the Emergency Contingency Plan would minimize potential impacts related to fires. For injections at IR03 and IR14, appropriate Project controls would be implemented by trained personnel in controlled areas to mitigate the potential for fires to be caused by improper handling of chemicals. The reagent manufacturer's instructions and procedures for handling, containerization, and storage of the reagents would be followed. Further, the potential for fire hazards would be reduced through providing adequate training in fire safety to workers, proper maintenance and operation of the machinery and vehicles, proper storage of fuels, and enforcement of safe work practices and other safety provisions as specified in the HASP. Cleanup activities could increase the need for law enforcement to (1) protect cleanup workers, (2) respond to accident situations, or (3) avoid or respond to willful

damage or theft of construction supplies or equipment. As such, the proposed Project would not result in substantial impacts that would require the construction of new or expanded fire protection facilities in order for the VPD to meet its service requirements. Therefore, impacts on fire protection services as a result of the proposed Project would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

ii. Police Protection?

Project activities would be short-term (up to approximately 6 months) and would employ a relatively small, temporary workforce (an estimated 5 to 20 workers at any given time) from Bay Area locations outside Mare Island. Project activities would not substantially increase the need for police services compared to existing conditions. In the event of a police emergency, the VPD would initially respond. Proposed Project activities would be conducted in accordance with the site-specific HASP and activity hazard analysis developed for the Project, which would also include an Emergency Contingency Plan. Successful implementation of the Emergency Contingency Plan would minimize potential impacts related to police protection services. As such, the proposed Project would not result in substantial impacts that would require the construction of new or expanded police protection facilities in order for the VPD to meet its service requirements. Therefore, impacts on police protection services as a result of the proposed Project would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

iii. Schools?

Given the short duration of the cleanup activities, Project workers would not be likely to relocate into homes on Mare Island, or to enroll their children in Vallejo School District schools unless they already live in the district. Therefore, impacts on schools as a result of the proposed Project would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

iv. Parks?

Given the short duration of the cleanup activities and the small number of temporary Project workers, the Project would not have a significant impact on long-term park usage in the Project area. Therefore, impacts on parks as a result of the proposed Project would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

v. Other Public Facilities?

The Project itself involves cleanup activities that would not in and of itself create new infrastructure, structures, or housing that would increase the number of people working in or residing in IA C1. Accordingly, the Project conditions would have the same demand for other public facilities as under current conditions. As discussed above under 14, Population and Housing, the Project's cleanup activities are part of the City of Vallejo's larger ability to eventually redevelop Mare Island in accordance with the goals and plans of the Mare Island Specific Plan (City of Vallejo 2013). The specific environmental impacts of any such future plan(s) for new housing and businesses, which are unknown at this time, would be evaluated separately at the time of application for a specific project.

Based on the small number of cleanup workers and the short duration of the Project, there would not be a significant demand for other public facilities during Project construction. Demand for public facilities after Project completion would be the same as under current conditions. Therefore, alterations to existing or new public facilities would not be required and Project-related impacts on other public facilities would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Public Services Impact Analysis:

California Department of Education. 2023. *School Profile: Mare Island Health and Fitness Academy*. Accessed 7/31/2023 at: https://www.cde.ca.gov/sdprofile/details.aspx?cds=48705816051437

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

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Solano County. 2008a. *Solano County General Plan*. Chapter 3 – Agriculture. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6493

Solano County. 2008b. *Solano County General Plan*. Chapter 4 – Resources. Accessed 7/31/2023 at: http://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=6494.

16. RECREATION				
	Potentially Significant Impact	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

REGULATORY SETTING

No laws, ordinances, regulations, or standards regarding recreation resources are applicable to the proposed Project.

ENVIRONMENTAL SETTING

Recreational resources on Mare Island include the following:

- Mare Island Shoreline Heritage Preserve (MISHP), a 251-acre nature and historic-focused park on the south end of Mare Island (MISHP 2021).
- A hiking and wildlife viewing trail on the western side of Mare Island that offers views of San Pablo Bay, Mt. Diablo, Mt. Tamalpais, the Carquinez Strait, and the Sonoma and Napa valleys.
- Mare Island also contains several smaller parks; all are located outside IA C1. The following parks are within 1 mile of the Project sites:
    - Morton Field (an approximately 4-acre field used for football and soccer) is located at the southwest corner of the G Street/Railroad Avenue intersection, approximately 0.15 mile west of the IR03 and IR14 injection area.
    - Mariner Park (a neighborhood park approximately 1.25 acres) is located at the southeast corner of the Pintado Street/Azuar Drive intersection adjacent to the Mare Island Sports Center, approximately 0.3 mile west of the cleanup areas.
    - Alden Park (a neighborhood park approximately 5 acres) is located at the southeast corner of the intersection of Walnut Avenue/8th Street, and is approximately 0.5 mile south of Building 85.
    - Chapel Park (a neighborhood park approximately 3.5 acres) is located at the southeast corner of the 10th Street/Azuar Drive intersection, approximately 0.7 mile south of Building 85.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of recreation resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the Less Than Significant impact of the proposed Project Site to recreation resources, no environmental studies relating to recreation resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

No project activities are likely to create an impact on recreation.

Analysis as to whether or not project activities would:

a. *Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

Impact Analysis:

Project activities would be short-term (up to approximately 6 months) and would employ a relatively small, temporary workforce (an estimated 5 to 20 workers at any given time). The proposed Project would not include new housing or new permanent employees and would not otherwise directly or indirectly increase the local population or employment base. As such, the proposed Project would not result in an increase in use of existing parks or recreational facilities that would cause or accelerate the physical deterioration of such facilities. No Impact would occur.

As discussed above under 14, Population and Housing, the Project's cleanup activities are part of the City of Vallejo's larger ability to eventually redevelop Mare Island in accordance with the goals and plans of the *Mare Island Specific Plan* (City of Vallejo 2013). The specific environmental impacts of any such future plan(s) for new housing and businesses, which are unknown at this time, would be evaluated separately at the time of application for a specific project.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. *Include recreational facilities or require construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Impact Analysis:

The proposed Project would not include recreational facilities. The proposed Project would not include new housing or new permanent employees and would not otherwise directly or indirectly increase the local population. Consequently, the proposed Project would not affect recreational facilities in the Project area. Therefore, No Impact would occur as a result of the proposed Project.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Recreation Impact Analysis:

City of Vallejo. 2013. Mare Island Specific Plan. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

Mare Island Shoreline Heritage Preserve (MISHP). 2023. Facebook page. Accessed 7/31/2023 at: https://www.facebook.com/MareIslandPreserve/

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

REGULATORY SETTING

Federal Regulations

Resource Conservation and Recovery Act (RCRA) Title 42 U.S.C. Subtitle C and 40 CFR Parts 260–279 - Transporters of hazardous waste are governed by 40 CFR part 263. RCRA gives the USEPA the authority to control hazardous waste generation, transportation, treatment, storage, and disposal.

The DOT Pipeline and Hazardous Materials Safety Administration regulates the transport of hazardous materials through 49 CFR Subchapter C.

State Regulations

Hazardous Waste Control Law (H&SC Chapter 6.5 and 22 CCR) - The law establishes regulations and incentives that ensure that the generators of hazardous waste employ technology and management practices for the safe handling, treatment, recycling, and destruction of their hazardous wastes prior to disposal. Article 6 of H&SC Chapter 6.5 discusses the transportation of hazardous waste.

California Vehicle Code - Divisions 2, 6, 12, 13, 14, and 15 apply to transportation of hazardous materials. Under the Project, trucks hauling hazardous waste would follow a designated route using Railroad Avenue (northbound) to State Highway 37 to limit impacts on residents and businesses regarding accidental spill exposure.

Caltrans Transportation Permit - As part of the proposed Project, the Project's hauling Contractor would be required to obtain a Caltrans Transportation Permit for any vehicle movement that may qualify as oversized or excessive loads, or for transportation of oversized or excessive loads on state highways such as SR 37 and SR 29. This permit would determine a specific route from origin to destination. The City of Vallejo has jurisdiction over all City streets, and all City-operated traffic signals.

SB 743 and Vehicle Miles Traveled - Originally signed by the Governor in 2013, SB 743 requires the Governor's Office of Planning and Research (OPR) to identify new metrics for the identification of transportation-related impacts within CEQA. On December 28, 2018, regulatory changes to CEQA Guidelines that implement SB 743 were approved, establishing VMT as the new metric for transportation analysis. Within CEQA, a project's effect on vehicle delay must not constitute a significant transportation impact (Section 15064.3(a)). Thresholds for determining a project's significant transportation impact must be pursuant to Section 15064.3 of CEQA Guidelines. The Governor's OPR released a Technical Advisory that contains recommendations for assessing VMT, thresholds of significance, and mitigation measures (OPR 2018). On July 1, 2020, statewide implementation occurred.

Local Regulations

Regional Transportation Plan and Sustainable Communities Strategy (RTP/SCS) - The Plan Bay Area 2040 (ABAG and Metropolitan Transportation Commission 2017) is the long-range RTP/SCS for the nine-county San

Francisco Bay Area, including Solano County. The RTP/SCS is jointly prepared by ABAG and MTC to guide the development of mass transit, highway, airport, seaport, railroad, bicycle, and pedestrian facilities. In the Bay Area, ABAG and MTC are jointly responsible for adopting an SCS that integrates transportation, land use, and housing to meet GHG reduction targets set by the CARB. According to federal and California state law, the RTP/SCS must be updated at least every 4 years to reflect changes to funding opportunities and respond to growth. The Plan Bay Area 2050, an update to the RTP/SCS, was adopted in October 2021 (ABAG and MTC 2021). The City of Vallejo is within the ABAG planning area and the *City of Vallejo's General Plan* assumptions would have been considered and included in the RTP/SCS. Specifically, the RTP/SCS uses local jurisdictions' forecasted socioeconomic demographic growth (e.g., growth in population, housing, and employment). The proposed Project would be consistent with the General Plan forecasts and would be consistent with the RTP/SCS.

Solano Transportation Authority (STA) – The STA is the Congestion Management Agency for Solano County. The 1991 Congestion Management Program (CMP) legislation allows the local Congestion Management Agency to prepare, monitor, and update the CMP. The CMP is a mobility monitoring and planning tool for California counties that contain an urbanized area with a population of 200,000 or more. The *2021 Solano County Congestion Management Program* (STA 2021) outlines requirements around levels of service (LOS) on Solano County's roadways. Six LOS are historically used in transportation planning to describe roadways and have been given letter designations of A through F. LOS A represents the best level of service and LOS F represents the worst. While LOS are still referenced in the 2021 CMP, SB 743 establishes VMT as the new required metric for transportation analyses.

In 2013, LOS were removed as a standard of significance under CEQA. In 2020, it was recommended that VMT be the new measure recommended for measuring project impacts.

General Plan 2040 - The Vallejo General Plan (City of Vallejo 2018a) contains policies related to transportation and traffic in the Project area.

Mare Island Specific Plan – The *Mare Island Specific Plan* (City of Vallejo 2013) also addresses transportation policy in the Project area.

ENVIRONMENTAL SETTING

Roadways

Regional and local access routes to Mare Island are as follows:

Regional Access Routes:

- Interstate 80
- State Route 37
- Interstate 780
- State Route 29

Local Access Routes (East/West)

- Tennessee Street-Mare Island Causeway
- Curtola Parkway

Local Access Routes (North/South)

- Wilson Avenue
- Mare Island Way
- Sacramento Street

Mare Island Causeway serves as the primary east/west access road from Vallejo to Mare Island.

The Mare Island circulation system includes arterials, collectors, and residential streets (see Figure MAP MTC-3 in Appendix D). The arterials are Mare Island Causeway and the northernmost portion of Railroad Avenue. The remainder of Railroad Avenue (south of G Street), Walnut Avenue, and Azuar Drive, all of which trend north/south, are collector streets, in addition to the east/west-trending G Street (City of Vallejo 2013). These collector roads support two-way traffic with one lane in each direction. Railroad Avenue connects directly with State Route 37. The streets on Mare Island are local roads and have light, generally free-flowing traffic.

The 2021 CMP outlines that the LOS must remain above the minimum threshold of "E" for all roadway segments and intersections, except for 25 segments that have a grandfathered standard of F. Grandfathered segments are those that measured at LOS F when the first CMP was developed in 1991. Such segments are not required to be mitigated if it continues to operate at LOS F. The peak LOS for roads in the Project vicinity is shown in Table 17-1.

Table 17-1: Levels of Service for Roads in the Project Vicinity

Street	Level of Service (LOS)	Existing Daily Traffic Volume
Walnut Avenue South of State Route 37	B	2,900
Railroad Avenue South of State Route 37	B	3,500
Mare Island Causeway	C	9,300

Source: City of Vallejo 2018a

LOS B = Stable operation or minimal delays
LOS C = Stable operation or acceptable delays

These roads are currently used by passenger and commercial vehicles, including trucks. SR 37 is a busy thoroughfare with two lanes of traffic in either direction and has an LOS rating of F (stop and go traffic) (STA 2021).

Public Transit and Rail Services

SolTrans provides bus service in Vallejo to the Mare Island Ferry Terminal. The San Francisco Bay Ferry operates daily service between Mare Island, Vallejo, and Downtown San Francisco. The ferry ride between Vallejo and Mare Island is approximately 15 minutes (San Francisco Bay Ferry 2022). There is currently no bus service on Mare Island.

The proposed public transit route in the EETP is a loop system from the Mare Island Causeway to west on “G” Street, south on Walnut Avenue, west on Kansas Street, south on Azuar Drive, west on Oklahoma Street, south on Flagship Drive, northeast on Club Drive, north on Azuar Drive, east on Bagley Street, north on Railroad Avenue to “G” Street (see Figure 5.2 in Appendix D).

Being a former naval Shipyard, the Project area has a large network of connecting rail lines throughout the facility. Currently, rail service to Mare Island is only served by Tri-City Railroad (TCRY), a privately owned Class III railroad established in 1999 and headquartered in Richland, Washington. TCRY began operating on Mare Island in 2011.This rail service accesses Mare Island from Vallejo by the Mare Island Causeway to Building 509 where Alstom Train Life Services is located.

The proposed Project would not block, remove, or create barriers for transit use.

Bicycle and Pedestrian Facilities

Bicycle lanes are present in portions of Mare Island roadways; including the main roadway in areas adjacent to the three remediation sites (Nimitz Avenue), which would be one of the primary routes that would be used for Project-related traffic. No bicycle lanes have been established on Railroad Avenue, the other primary route that would be used for Project-related traffic. There are three types of designated bikeways or routes planned for Mare Island (see Figure 5-3 in Appendix D), as summarized below:

- **Class I Bikeway/Multi-Use Path: Off-Street**. The Mare Island Specific Plan (City of Vallejo 2013) proposes an off-street, multi-use Class I bikeway/path around the east and west perimeter of the developed portion of Mare Island (East Island Path and West Island Path, respectively) and along Walnut Avenue. Due to the developed nature of the Island, these bikeways/paths would not in all cases include all elements of a typical Class I multi-use path, such as a continuous route with limited interruptions, grade separations, wide intersection approaches, and signage.

  The West Island Path generally follows the alignment of Azuar Drive and Flagship Drive; an extension along Nereus at the Marine Parade Grounds is planned for a possible connection with a future pathway to the open wetlands area on the west side of the island. The East Island Path would connect along 8th Street with the Walnut Avenue bikeway/path and follow the alignment of Walnut Avenue and Club Drive southward to end at the proposed Regional Park, which is currently the Mare Island Historic Preserve.

- **Class II Bikeway: On-Street, Dedicated Lane**. This class of bikeways requires pavement markings identifying a separate, on-street lane for bicycles. The Mare Island Specific Plan (City of Vallejo 2013) proposes a Class II bikeway along Flagship Drive from Azuar Drive to approximately Nereus Street.

- **Class III Bikeway: On-Street, Shared Use Sign Designation**. This class of bikeways, or bike routes, provides for shared use between bicycles and motor vehicles. Class III bike routes are designated through the installation of bike route signs and do not require pavement markings. The Mare Island Specific Plan (City of Vallejo 2013) proposes Class III bikeways in Azuar Drive between the Kansas (formerly 5th) Street intersection and the roundabout, and in Walnut Avenue from G Street to 8th Street.

Existing sidewalks facilitate pedestrian movements and access to the Project Site. Intermittent existing sidewalks are near the Project Site along Nimitz Avenue that provide direct pedestrian access to the Project Site. The Project does not include any new or revised sidewalk improvements. The proposed Project would not block, remove, or create barriers for pedestrians or bicyclists.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of transportation effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the Less Than Significant impact of the proposed Project to transportation, no environmental studies relating to transportation were prepared for the proposed Project. The Impact Analyses and Conclusions are based on estimated VMT associated with waste transportation.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact:
Project activities that could impact traffic in the vicinity of IA C1 are construction activities that would increase the number of vehicles traveling to and from the Project sites, including:

- Drilling/injection activities at IR03 and IR14, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside Building 91 Mercury site using appropriate equipment (e.g., vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air), and loading the contaminated media into storage bins and/or drums
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, dust, and investigation-derived waste to appropriate facilities (based on waste characterization)
- Vehicular traffic from workers involved with site cleanup
- Transport of equipment and supplies
- Emplacing temporary traffic and engineering controls (i.e., fences, barricades, signs, caution marking, and/or traffic control staff/flaggers) as necessary. These measures would be implemented to protect the public from cleanup activities and cleanup equipment. Traffic controls may apply to vehicles, bicycles, and/or pedestrians. The duration of traffic and engineering controls would not exceed the duration of these related cleanup activities and no permanent alterations in the layout of fences, roads, sidewalks, or other pathways are anticipated.

Analysis as to whether or not project activities would:

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

   Impact Analysis:

   The Project would generate truck trips for delivering equipment and materials, personnel and support vehicles, and transporting materials off Mare Island. Project-related vehicles would travel on designated truck routes (Railroad Avenue) already being used by commercial vehicles and would not drive on residential streets or on streets adjacent to schools. In addition, the Project includes the use of temporary traffic and engineering controls (i.e., fences, barricades, signs, caution marking, and/or traffic control staff/flaggers) as necessary; these traffic controls may apply to vehicles, bicycles, and/or pedestrians. The Project may involve short-term blockage of streets as trucks enter/exit the work areas.

   The proposed cleanup actions would require approximately five to ten vehicle trips per day associated with remediation workers. In addition, Building 91 Mercury site cleanup actions would generate a total of 40 to 50 truck trips for disposal of the contaminated materials removed from the interior of that building and for the import of backfill over the course of up to 6 to 8 weeks.

To avoid interfering with non-Project-related traffic flow, as noted in the Project Controls section above, Project vehicle traffic on and off Mare Island may be restricted, as necessary, to hours after the morning commute peak (after 9:00 a.m.) and before the afternoon commute peak (before 3:00 p.m.). Given the low number of anticipated daily truck trips, these trips would not create substantial congestion on the adjacent roadways. As noted in the VMT Technical Advisory (OPR 2018), small projects that generate fewer than 110 trips per day are assumed to result in a less-than-significant transportation impact.

The cleanup activities at the Building 91 Mercury site are indoors, and potential cleanup activities at Building 85 would be limited to a few indoor and outdoor locations, which would not significantly impact traffic at those sites. Licensed transporters would transport the contaminated materials from the Building 91 Mercury site and Building 85, as necessary, offsite in trucks. The Project would involve temporary storage and eventual transportation of the excavated/removed materials (including soil, wood, concrete, dust, and/or waste water) offsite (ERM 2024c). Ample room is available inside the Building 91 Mercury site to store the waste bins and/or drums, and no storage would occur in public rights-of-way. The injection activities at IR03 and IR14 would not affect Waterfront Avenue, the nearest street. Also, the use of traffic controls would reduce impacts on traffic and circulation. All vehicles used at the sites would be compatible with the current street designs.

Any impacts on pedestrian and bicycle circulation due to the Project would be temporary and limited, possibly involving short-term blockage of streets as trucks enter/exit the work areas. There are no designated bicycle pathways in the portion of Railroad Avenue adjacent to the work areas, where Project-related vehicles would travel.

In summary, operation of the proposed Project would not conflict with the General Plan, or any program, plan, ordinance, or policy addressing the circulation system. The proposed Project does not propose to amend or adjust any existing roadway classifications, roadway network, transit routes, bicycle network, or pedestrian accessway or conflict with any future conditions as identified in the General Plan. During construction, existing roadways, bicycle facilities, and pedestrian amenities in the Project area would not be significantly affected by Project-related construction activity and truck trips except for limited and temporary circumstances. Therefore, the proposed Project operations and construction would not cause a conflict with a program plan, ordinance, or policy related to the circulation system, including transit, roadway, bicycle, and pedestrian facilities and the Project would have a Less Than Significant impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

CEQA Guidelines Section 15064.3, subdivision (b) describes specific considerations for evaluating a project's transportation impacts, and states that “vehicle miles traveled,” or, the amount and distance of project-related automobile travel, is the most appropriate measure of transportation impacts. Other relevant considerations may include the effects of the project on transit and non-motorized travel; as discussed in the prior item, there would be no Project-related impacts on transit, pedestrian, or bicycle circulation.

As noted in the VMT Technical Advisory (OPR 2018), small projects that generate fewer than 110 trips per day are assumed to result in a less-than-significant transportation impact. The proposed cleanup actions would require approximately five to ten vehicle trips per day associated with remediation workers. In addition, the Building 91 Mercury site cleanup actions would generate a total of 40 to 50 truck trips over the course of up to 6 to 8 weeks. As noted above, the existing traffic volume on Railroad Avenue is estimated at 3,500 vehicles daily; Project-related traffic would represent a small incremental increase (5 to 10 vehicles per day, less than 1 percent of the current traffic load). In addition, the Project-related vehicles are consistent with the types of vehicles currently using the roads in the Project area, and the construction activities are short-term.

In consideration of the above, the Project would not conflict with or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b), and the impact would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact

☐ No Impact

c. *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Impact Analysis:

The proposed Project would not involve any physical changes to roadways or other transportation or circulation features and would not result in changes to the existing access to the Project Site. During construction, temporary traffic and engineering controls (i.e., fences, barricades, signs, caution marking, and/or traffic control staff/flaggers), would be employed to ensure the safety of roadway users in the Project Site area. There would be no incompatible uses introduced to the Project area that could cause vehicle conflicts (e.g., farm equipment).

Although no road closure or alterations are anticipated to complete the proposed cleanup, if required, an appropriate traffic control plan would be provided to the City of Vallejo for informational purposes and would adhere to all rules and regulations to protect vehicles, pedestrians, and site workers. Detours, if necessary, would be created in accordance with the traffic control plan. Impacts on-road use would be short-term, with an anticipated duration of up to 6 months per site, and there would be no permanent impacts to the road design.

Because the Project would not increase hazards due to a geometric design feature or incompatible use, there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. *Result in inadequate emergency access?*

Impact Analysis:

The proposed Project would not result in inadequate emergency access. Emergency egress routes would be established and maintained in the Project-specific HASPs. The proposed Project would not involve any physical changes to any current regional or local emergency access routes or to any emergency accessways on the Project sites or within the EETP. Direct access to the Project sites would be the same as under existing conditions and are designed to comply with turning radius requirements for emergency vehicles and would not cause hazardous driving conditions. No substantial increase in traffic levels would result from the proposed Project that could impact the adequacy of emergency access in the Project area. Therefore, the proposed Project would not result in inadequate emergency access and would have No Impact on emergency access.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Transportation Impact Analysis:

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

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Office of Planning and Research (OPR). 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December. Accessed 7/31/2023 at: https://opr.ca.gov/docs/20190122-743_Technical_Advisory.pdf

San Francisco Bay Ferry. 2023. Vallejo Ferry Route. Accessed 7/31/2023 at: https://sanfranciscobayferry.com/vallejo-ferry-route

Solano Transit Authority (STA). 2021. *2021 Solano County Congestion Management Program.* Accessed 7/31/2023 at: https://sta.ca.gov/wp-content/uploads/2020/12/CMP-2021-Redesign-Final-1.pdf

18. TRIBAL CULTURAL RESOURCES				
Conducting consultation early in the CEQA process allows tribal governments, lead agencies, and project proponents to discuss the level of environmental review, identify and address potential adverse impacts to tribal cultural resources, and reduce the potential for delay and conflict in the environmental review process. (See Public Resources Code section 21083.3.2.) Information may also be available from the California Native American Heritage Commission's Sacred Lands File per Public Resources Code section 5097.96 and the California Historical Resources Information System administered by the California Office of Historic Preservation. Please also note that Public Resources Code section 21082.3(c) contains provisions specific to confidentiality.				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	☐	☐	☒	☐
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☐	☒	☐

REGULATORY SETTING

Tribal cultural resources are defined in PRC § 21074. California AB 52 specifies that any project for which a Notice of Preparation, Notice of Mitigated Negative Declaration or Notice of Negative Declaration is filed on or after July 1, 2015, the Lead agency must provide formal notification within 14 days of determining that an application for a project is complete or of a decision to undertake a project to the designated contact or tribal representative of the affiliated California Native American Tribes. The Tribe that is traditionally and culturally affiliated to the geographic area where a project is located must have requested that the lead agency in question provide notification to the Tribe (PRC § 21080.3.1).

The California Native American Graves Protection and Repatriation Act of 2001 is the state repatriation policy for Native American remains.

If remains are found onsite, the County Coroner will make the determination of origin and disposition, pursuant to PRC § 5097.98. If the remains are determined to be Native American, the Coroner would notify the NAHC (per H&SC § 7050.5(c)). The NAHC would identify and notify the person(s) who might be the most likely descendant, who would make recommendations for the appropriate and dignified treatment of the remains (PRC § 5097.98). The descendants shall complete their inspection and make recommendations for treatment within 48 hours of being granted access to the site (CEQA Guidelines, 14 CCR § 15064.5(e); H&SC § 7050.5). The measures outlined in Section 7050.5 of the H&SC and Section 5097.98 of the Public Resources Code are considered standard measures implemented in the event of an accidental discovery of human remains during excavation activities.

ENVIRONMENTAL SETTING

Early indigenous inhabitants, including the Patwin and Carquin peoples, settled in permanent villages near Vallejo, with seasonal camps close to the locations of resources needed during those seasons (City of Vallejo 2018a). Sites were

often near fresh water sources where plant and animal life was abundant. According to the Mare Island Specific Plan (City of Vallejo 2013), no prehistoric archaeological resources retaining integrity have been found, to date, on Mare Island. The Specific Plan noted the potential for such finds in areas undisturbed by modern development. All of the Project sites have been developed.

Several areas of both prehistoric and historic archaeological interest were identified and characterized by the discovery of pieces of obsidian and chert, a pestle/mano, and shellfish remains in the old magazine area. In addition, several other midden sites indicative of Native American occupation were identified. Possible sites with artifacts predating written records that may lie below some developed portions of Mare Island were also identified (Navy 1994). The locations of the prehistoric archaeological sites of medium and high sensitivity and historic archaeological features are shown on a figure included in the ATP (PAR Environmental 2000) (replicated in Appendix C). As seen on that figure, Buildings 85 and 91 lie within an area of “high prehistoric archaeological sensitivity” (see Figure 2.2 of that Plan, replicated in Appendix C). No prehistoric archaeological features are known to be present in the area within IR03 and IR14 where injections are proposed (Appendix C).

DTSC contacted the NAHC and requested that NAHC conduct a search of the Sacred Lands File for the Mare Island Lennar, Eastern Early Transfer Parcel project (Site). A search of the Sacred Lands File was conducted with negative results. DTSC sent letters to the three Tribal contacts provided (Yocha Dehe Wintun Nation, United Auburn Indian Community of the Auburn Rancheria, and Cortina Indian Rancheria of Wintun Indians) and included four figures locating the site as attachments. One request for consultation from the Yocha Dehe Winton Nation was received. The consultation between DTSC and the tribe was held in September 2017. The Tribal government initially requested that Native American Monitors be onsite during ground disturbing activities; however, the tribe decided that they will provide Tribal sensitivity training before field activities begin. DTSC’s Office of Environmental Equity assisted with this initial coordination (DTSC 2019), but LMI coordinated the subsequent trainings. There have been 15 Cultural Resources Training sessions since the program began.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

Tribal cultural resources are defined as either (1) sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either included or determined to be eligible for inclusion in the California Register of Historical Resources (California Register) or listed in a local register of historical resources or (2) a resource determined by the lead agency, in its discretion and supported by substantial evidence, is a tribal cultural resource (OPR 2017).

To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, state, and/or federal level under one or more of the following four criteria (14 CCR § 4852):

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

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the unlikely potential for unknown tribal cultural resources to be located on the Project Site, no environmental studies relating to tribal cultural resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact on Tribal Cultural Resources:
Project activities that could potentially impact Tribal cultural resources are construction activities involving disturbance of subsurface soils where Native American artifacts are possibly present, including:

- Drilling/injection activities at IR03 and IR14

- Excavation/removal of contaminated soil inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader)

Analysis as to whether or not project activities would:
Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

a. *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or*

Impact Analysis:

The California Register of Historical Resources does not contain any known Native American tribal resources in IA C1. Due to the extent of industrial development within the Project area, potential for undisturbed tribal cultural resources is low. As noted above, DTSC has completed necessary tribal notification pursuant to Assembly Bill 52 as part of their CEQA review process for the Project. No tribal cultural resources were identified by NAHC or the Tribes. Therefore, the Project would result in a Less than Significant Impact regarding listed or eligible for listing tribal cultural resources.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

b. *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Impact Analysis:

No Native American tribal resources have been identified in IA C1. Due to the extent of industrial development within the Project area, potential for tribal cultural resources is low. As noted above, DTSC has completed necessary tribal notification pursuant to Assembly Bill 52 as part of their CEQA review process for the Project.

As required by LMI, prior to initiating any ground disturbance cleanup, workers will be made aware of the potential for encountering items of potential archaeological interest during excavation activities. To ensure that Native American cultural artifacts are treated sensitively and are not disturbed, LMI and its environmental remediation workers that perform intrusive activities on the EETP are required to undergo Cultural Resources Sensitivity Training offered by the Yocha Dehe Winton Nation. This training outlines the steps to take if artifacts/remains are encountered during environmental investigation/remediation work, as summarized in the Project Controls section of this Initial Study. The training includes contact information for individuals to be notified in the event of accidental discovery of potential cultural or archaeological resources or human remains, and instructs workers not to touch, move, or take photographs or videos of suspected artifacts or remains.

In addition, the following measures are included in the RAP:

- In the event of accidental discovery of human remains during ground disturbing activities, excavation or disturbance of the site or any nearby area shall stop immediately, and the County Coroner notified to determine their origin. The Coroner will determine disposition within 48 hours. If the remains are Native American, the Coroner will be responsible for contacting the NAHC within 24 hours. The NAHC will identify and notify the person(s) who might be the most likely descendant who will make recommendations for the appropriate and dignified treatment of the remains (PRC § 5097.98). The descendants must complete their inspection and make recommendations or preferences for treatment within 48 hours of being granted access to the site (CEQA Guidelines, CCR § 15064.5(e); HSC § 7050.5).
- In the event of accidental discovery of potential cultural or archaeological resources, excavation activities will be immediately suspended in the immediate area and surrounding 50 feet, and the Tribal contacts on the list provided will be contacted to alert them of the discovery. DTSC staff and property owner are also to be immediately notified and informed of this situation. After discussion with any of the Tribal contacts and/or their respective Cultural Resources Managers and in collaboration with DTSC (including the Office of Environmental

Equity) and the property owner, measures will be implemented as deemed necessary to record and/or protect the cultural or archaeological resources.

Based on the above considerations, the Project would result in a Less than Significant Impact regarding significant tribal cultural resources.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

References

Used in the Tribal Cultural Resources Impact Analysis:

City of Vallejo. 2013. *Mare Island Specific Plan*. Adopted March 1999, last amended August 2013. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=19272509

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

REGULATORY SETTING

Federal Regulations

Safe Drinking Water Act - The Safe Drinking Water Act, as amended in 1986 and 1996, requires the protection of drinking water and its sources (i.e., rivers, lakes, reservoirs, springs, and groundwater wells). The act authorizes the USEPA to set national standards for drinking water to protect against pollutants, and the USEPA, states, and local agencies work together to enforce these standards.

State Regulations

California Integrated Waste Management Authority - In 1989, the California legislature enacted AB 939, known as the Integrated Waste Management Act, which established the California Integrated Waste Management Board, and set forth aggressive solid waste diversion requirements. Under AB 939, every city and county in California is required to reduce its volume of waste sent to landfills by 50 percent through recycling, reuse, composting, and other means. AB 939 also requires counties to prepare a Countywide Integrated Waste Management Plan.

California Regional Water Quality Control Board, San Francisco Bay Region (Regional Water Board) Water Quality Program - When permitting new wastewater generating facilities, the Regional Water Board enforces regional as well as state and federal requirements, including the CWA, NPDES, and Porter-Cologne Act regulations. The NPDES stormwater regulations are discussed in Section 10, Hydrology and Water Quality. Wastewater discharge is regulated by the Regional Water Board, which issues discharge prohibitions, effluent limitations, pretreatment standards, and other provisions or monitoring programs deemed necessary to protect water quality.

California Public Utilities Commission - The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. CPUC is responsible for assuring that California private utility customers have safe, reliable utility service at reasonable rates;

protecting utility customers from fraud; and promoting the health of California's economy. CPUC establishes service standards and safety rules, authorizes utility rate changes, and enforces CEQA for utility construction. CPUC also regulates the relocation of power lines by public utilities under its jurisdiction, such as Pacific Gas and Electric Company. CPUC works with other state and federal agencies in promoting water quality, environmental protection, and safety.

Local Regulations

The City of Vallejo's 2040 General Plan's Chapter 4, Nature and Built Environment, includes discussion of the regulatory framework for water supply, conservation, and recycling, energy use, and solid waste within the City of Vallejo (City of Vallejo 2018a). Chapter 3, Community and People, includes discussion of the regulatory framework for wastewater.

VFWD's *Sewer System Management Plan* (West Yost Associates 2023) evaluates the system's current capacity and includes capacity enhancement measures and a capital improvement program. The District's service area is approximately 95 percent built out. The modeling of the system was based on ultimate build-out. As such, the current collection system has adequate capacity for wet and dry weather flows.

Solano County Department of Resource Management Division of Planning Services prepared the Countywide Integrated Waste Management Plan, Countywide Siting Element (Solano County 2011b) for which the principal purpose is to demonstrate a minimum of 15 years combined permitted solid waste disposal capacity for wastes generated by a county and its member jurisdictions through existing or planned facilities, or additional waste management strategies.

ENVIRONMENTAL SETTING

Water supply on Mare Island is provided by the Vallejo Water Department, which provides administrative, engineering, water treatment, and maintenance support for the City of Vallejo's potable (drinking) water treatment and distribution.

There is no wastewater treatment on Mare Island. The sanitary sewer system runs across the Strait to VFWD's processing plant in south Vallejo.

Utility services are supplied by the VFWD and the City of Vallejo (sewer and potable water, respectively), AT&T (telephone), and Island Energy (power). Table PD-2 (see Project Description) presents the licensed landfills that will potentially service the Project; as of the date of this study, these landfills have adequate capacity to serve the limited waste disposal needs of the Project.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of utilities and service systems resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the Less Than Significant impacts on utilities and service systems resources in or near the proposed Project Site, no environmental studies relating to utilities and service systems resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

Project Activities Likely to Create an Impact on Utilities and Service Systems
Project activities that could potentially impact utilities and service systems are construction activities that could increase demand on water supplies or solid waste disposal facilities, including:

- Drilling/injection activities at IR03 and IR14, including grouting of borings/abandonment of wells (if any) after completion of injections to match surrounding grade and associated groundwater monitoring
- Excavation/removal of contaminated soil, concrete, and wood inside the Building 91 Mercury site using appropriate construction equipment (may include excavator, backhoe, bulldozer, jack hammer, or grader) and removal of contaminated dust inside the Building 91 Mercury site using appropriate equipment (e.g., vacuum equipped with HEPA filters on the exhaust to prevent mercury emission into the air) and loading the contaminated media into storage bins and/or drums
- Offsite transport and disposal of storage bins and drums containing excavated soil, concrete, wood, and dust removed from the interior of the Building 91 Mercury site and of storage bins and drums containing investigation-derived waste from IR03 and IR14 to appropriate facilities (based on waste characterization).

Analysis as to whether or not project activities would:

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

Impact Analysis:

Water Demand. Project activities would involve no changes to existing water facilities. The Project activities would be limited in duration and would require relatively minor volumes of water (estimated at 1,000 to 2,000 gallons per day) for mixing reagents, vehicle and equipment decontamination, and dust control during Project implementation. Existing water supply from the City of Vallejo would be used; thus existing entitlements and resources would be sufficient and there would be no significant impact to water supply.

Wastewater Treatment Needs. Project activities would involve no changes to existing wastewater treatment facilities. Liquid waste could be generated during Project activities as part of injection activities, groundwater monitoring, equipment or vehicle rinsing/washing, or decontamination processes employed during remediation activities. When possible, this groundwater sampling would employ low-flow sampling techniques, which reduce the volume of water purged from a well during the sampling process. Project-related waste would be managed in accordance with the *Final Soil and Groundwater Management Plan* (CH2M HILL 2001). As discussed in Section 10 (Hydrology and Water Quality), groundwater would not be expected to migrate into the Building 91 Mercury site excavation area because the excavation would be limited in depth (maximum depth of approximately 4 feet) and would not extend into groundwater; therefore, a need for dewatering is not anticipated. The limited anticipated volume of water produced as a result of cleanup activities (less than 100 gallons per day) would not be a substantial load to the existing disposal systems.

Project wastewater would either be containerized and disposed appropriately offsite or would be discharged under permit to the VFWD system (if it were demonstrated to meet discharge requirements), which has adequate capacity to process current flows. Wastewater off-hauled for offsite disposal would be transported to appropriately licensed facilities (Table PD-2) with capacity for the waste. Due to the small, anticipated volume, the generated wastewater would not impact wastewater treatment and disposal facilities. The discharge permit would specify quality and quantity limitations to which the discharge would adhere; if the volume of wastewater exceeded those limits, the offsite disposal approach would be employed. Based on the limited volumes of wastewater involved, adequate capacity exists in either case to accommodate Project activities.

Stormwater Drainage. The Project activities would not involve, change, or effect any stormwater drainage facilities. Therefore, the Project would not require the construction of new stormwater drainage facilities or the relocation or expansion of existing facilities.

Electric Power Demand. Project activities would involve no changes to existing electricity facilities. The project would require a limited need for electricity, and because there is no existing electricity at the buildings, all Project-related power needs would be supplied by diesel-powered engines or generators. The Project would not require new or relocated electric power facilities.

Natural Gas Demand. Project activities would involve no changes to existing natural gas facilities. Project-related activities would not use natural gas. The Project would not require new or relocated natural gas facilities.

Telecommunications. Project activities would involve no changes to existing telecommunications facilities. The Project would not require new or relocated telecommunication lines.

Furthermore, appropriate precautions would be undertaken in accordance with local and state regulations to conduct utility clearance prior to initiating any activities involving subsurface disturbance. In this way, the risk of encountering subsurface utilities (e.g., water, wastewater, stormwater, electric, natural gas, and telecommunications lines) during Project activities would be minimized. As a result, repair or relocation of such utilities would not be required due to Project-related activities.

In consideration of the above, the Project would not require or result in the expansion, relocation, or construction of new utility facilities, including water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

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

Impact Analysis:

Relatively minor volumes of water (estimated at 1,000 to 2,000 gallons per day) would be needed for Project completion for mixing reagents, vehicle and equipment decontamination, and dust control. Existing water supply from the City of Vallejo would be used. Existing entitlements and resources would not be significantly affected by Project water use. Therefore, existing water service would have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years. The Project impact on water supply would be Less Than Significant.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☒ Less Than Significant Impact
☐ No Impact

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

Impact Analysis:

A limited volume of wastewater is expected to be generated in association with the Project (less than 100 gallons per day). This wastewater would be (1) containerized and disposed offsite at an appropriately licensed facility, after it is determined to be acceptable for management at that facility and the facility confirms it has adequate capacity for the waste, or (2) treated, if needed to meet discharge requirements, and discharged under permit to the VFWD system, which has adequate capacity to process current and future flows. The discharge permit would specify quality and quantity limitations to which the discharge would adhere; if the volume of wastewater exceeded those limits, the offsite disposal approach would be employed. Based on the limited volumes of wastewater involved, adequate capacity exists in either case to accommodate Project activities. Therefore, there would be No Impact regarding the VFWD's capacity to serve the Project in addition to its existing commitments.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Impact Analysis:

Waste associated with Project activities would be disposed of in appropriately licensed offsite facilities with sufficient permitted capacity to accept the solid waste generated from Project activities (Table PD-2 of Project Description). Therefore, Project activities would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals and there would be No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

e. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Impact Analysis:

Disposal of solid waste at the Project Site from standard daily operations would continue as under existing conditions and would continue to comply with all relevant solid waste regulations. Project activities during construction including disposal of solid waste would be conducted in accordance with the *Final Soil and Groundwater Management Plan* (CH2M HILL 2001) and would comply with all federal, state, and local statutes and regulations (ERM 2024c). Much of the waste generated during Project activities (i.e., contaminated wood, asphalt,

concrete, soil, dust, and/or wastewater) will likely not meet acceptance standards for recycling facilities, and will require disposal at an appropriately licensed disposal facility. To the extent that uncontaminated waste materials are generated (e.g., concrete or asphalt), those materials will be recycled, if possible. Recycling waste materials would be consistent with Solano County's Countywide Integrated Waste Management Plan (Environmental Science Associates, 1995; Solano County, 2011b). Therefore, Project activities are expected to have No Impact with regard to federal, state, and local statutes and regulations related to solid waste management and reduction.

Conclusion:
☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Utilities and Service Systems Impact Analysis:

CH2M HILL. 2001. *Final Soil and Groundwater Management Plan, Lennar Mare Island, Vallejo, California.* November.

City of Vallejo. 2018a. *Propel Vallejo: General Plan 2040*. Adopted August 29, 2017, last amended July 24. Accessed 7/31/2023 at: https://www.cityofvallejo.net/common/pages/DisplayFile.aspx?itemId=17961496

Environmental Resources Management, Inc. (ERM). 2024c. *Investigation Area C1 Remedial Action Plan, Draft for Public Review, Mare Island, Vallejo, California.* July 5.

Environmental Science Associates. 1995. Solano County Countywide Integrated Waste Management Plan – Summary Plan. Accessed 7/31/2023 at: https://www.solanocounty.com/documents/Depts/RM/CIWMPSummaryPlan.pdf

Solano County. 2011b. Countywide Integrated Waste Management Plan. Department of Resource Management Division. Accessed 7/31/2023 at: https://www.solanocounty.com/civicax/filebank/blobdload.aspx?blobid=11431

West Yost Associates. 2023. Vallejo Flood & Wastewater District Sewer System Management Plan, Update December 2022. Accessed 7/31/2023 at: https://www.vallejowastewater.org/DocumentCenter/View/279/Sewer-System-Management-Plan-PDF?bidId=

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

REGULATORY SETTING

State Regulations

Defensible Space for Fire Protection - State of California regulations regarding defensible space requirements are contained in PRC Section 4291 and Government Code Section 51182. The Public Resources Code primarily directs the creation of defensible space in state responsibility areas, while the California Government Code sets the fuel-treatment requirements in local responsibility areas that are designated as very high hazard severity zones. Both codes generally include a requirement to maintain defensible space of 100 feet from each side and from the front and rear of structures but not beyond the property line except under specific circumstances.

State Board of Forestry and Fire Protection (Cal Fire) - The California Board of Forestry and Fire Protection and Cal Fire developed and adopted the *2018 Strategic Fire Plan for California* (California State Board of Forestry and Fire Protection and Cal Fire 2018) pursuant to the direction provided under PRC § 4114 and § 4130 regarding fire protection plan development. The board has used this plan since the 1930s and periodically updates it to reflect current and anticipated needs. The *2018 Strategic Fire Plan* reflects Cal Fire's focus on fire prevention and suppression activities to protect lives, property, ecosystem services, and natural resources and manage the state's forests as a resilient carbon sink to meet California's climate change goals and serve as important habitat for adaptation and mitigation. Additionally, collaboration among local, state, federal, tribal, and private partners remains paramount to effectively manage for a more fire-resilient wildland-urban interface and natural environment. The following goals are intended to enhance the protection of lives, property, and natural resources from wildland fire, as well as improve environmental resilience to wildland fire, all of which would apply to the proposed Project:

- Identify and evaluate wildland fire hazards and recognize life, property, and natural resource assets at risk, including watershed, habitat, social, and other values of functioning ecosystems.
- Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.
- Promote and support local land use planning processes as they relate to (1) protection of life, property, and natural resources from risks associated with wildland fire and (2) individual landowner objectives and responsibilities.
- Support and participate in the collaborative development and implementation of local, county, and regional plans that address fire protection and landowner objectives.

- Increase fire prevention awareness, knowledge, and actions implemented by individuals and communities to reduce human loss, property damage, and impacts on natural resources from wildland fires.
- Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
- Determine the level of resources necessary to effectively identify, plan, and implement fire prevention using adaptive management strategies.
- Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
- Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

Additionally, Cal Fire, under its Fire and Resource Assessment Program (FRAP), assesses the amount and extent of California's forests and rangelands, analyzes their conditions, and identifies alternative management and policy guidelines. FRAP also provides mapping tools to show fire hazard severity zones and communities at risk from wildfire in California (Cal Fire 2007).

Local Regulations

2040 General Plan - The City of Vallejo's 2040 General Plan's Chapter 4, Nature and Built Environment (City of Vallejo 2018a), includes discussion of the regulatory framework for wildfire risk, including actions, policies, and mapped designations for wildfire risk areas within the Vallejo Local Responsibility Area and State Responsibility Area (Map NBE-4). The Project sites are within unclassified areas of Map NBE-4.

The General Plan states that grassland areas along the southern portion of Mare Island have High Fire Hazard classification, but that wildfire risk with this type of vegetative cover can be controlled through preventive weed abatement measures.

The City of Vallejo and Solano County coordinate for response in emergency situations. The City of Vallejo and Solano County have adopted separate but consistent Emergency Operations Plans used for pre-emergency planning and emergency response to natural and human made disasters. Additionally, the VFD offers Citizens Emergency Response Training (CERT) to community members for disaster preparedness.

City of Vallejo Municipal Code - Chapter 7.56, the Vegetation Management and Brush Clearance Ordinance requires the VFD to enforce requirements of the code to help reduce fire emergencies, including among other methods, outlining destruction and removal requirements to remove brush or vegetation that pose a threat of wildfire within the City.

ENVIRONMENTAL SETTING

IA C1 is located in the eastern portion of Mare Island (Figure 1). The approximately 83-acre area is bound by the Strait to the east, and by industrial areas to the north, south, and west. IA C1 is paved or developed with existing industrial structures constructed as part of Shipyard operations, with the following exceptions:

- An approximately 0.9-acre grass area on the northwestern corner of IA C1, located at the southeast corner of the G Street/Railroad Avenue intersection, approximately 0.1 mile west of the IR03 and IR14 injection area
- An approximate 0.2-acre grass area known as Wichels Park, in the southern portion of IA C1, located at the northeast corner of the Ferry Street/Nimitz Avenue intersection
- A few small landscaping areas

The immediate vicinity of the remediation sites are paved or covered by buildings.

Wildlands pose a hazard because they are susceptible to wildfire. Maps identifying areas posing threat of wildland fires have been reviewed (Cal Fire, 2022; Solano County OES, 2017). The area containing IA C1 would primarily be considered "Urban Unzoned", does not fall in a Vallejo Responsibility Area or a State Responsibility Area, and is not located within an area classified as a very high fire hazard severity zone. Moderate- and High Severity mapped areas within the Vallejo Local Responsibility Area are within 0.5 miles to the south and west of the Project sites.

APPLICABLE THRESHOLDS OF SIGNIFICANCE

The list of wildfire resource effects that may be considered significant contained in Appendix G of the CEQA Guidelines (Environmental Checklist – see the Impact Analyses and Conclusions section below) was used to establish a threshold of significance.

ENVIRONMENTAL STUDIES PERFORMED AND METHODOLOGY

Based on the Less Than Significant impacts to wildfire resources in or near the Project Site, no environmental studies relating to wildfire resources were prepared for the proposed Project.

IMPACT ANALYSES AND CONCLUSIONS

No Project activities are likely to create an impact on wildfire risk.

Analysis: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

a. *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Impact Analysis:

The Project is within 0.5 mile of Moderate and High Severity mapped areas within the Vallejo Local Responsibility Area (south and west of the Project sites). The Project would comply with the City of Vallejo's Vegetation Management and Brush Clearance Ordinance, as required. The Project Site is a remediation project that would not involve activities or practices that would directly or substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, the proposed Project would have No Impact regarding the substantial impairment of an adopted emergency response plan or emergency evacuation plan.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

b. *Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Impact Analysis:

The Project sites are generally flat, paved, and developed, and are not within an area designated as very prone to wildfire risk. The proposed Project would not change the existing low wildfire risk at the Project Site. Therefore, the proposed Project would have No Impact regarding exacerbation of wildfire risks that could thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

c. *Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Impact Analysis:

The proposed Project does not include any installation of new infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts on the environment. Therefore, there is No Impact.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

d. *Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Impact Analysis:

The Project Site is generally flat and is not within an area prone to landslides or flooding, nor is it within an area designated as very high wildfire risk. The proposed Project does not include any elements that would change the existing low wildfire risk at the Project Site. Therefore, the proposed Project would have No Impact regarding exposure of people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes.

Conclusion:

☐ Potentially Significant Impact
☐ Potentially Significant Unless Mitigated
☐ Less Than Significant Impact
☒ No Impact

References

Used in the Wildfire Impact Analysis:

California Department of Forestry and Fire Protection (Cal Fire), Office of the State Fire Marshall, Fire Assessment and Resource Program (FRAP). 2023. Solano County State Responsibility Area Fire Hazard Severity Zones. Accessed 7/31/2023 at: https://osfm.fire.ca.gov/media/qmfcm3k2/fhsz_county_sra_11x17_2022_solano_2.pdf

California State Board of Forestry and Fire Protection and Cal Fire. 2018. 2018 Strategic Fire Plan for California. Accessed 7/31/2023 at: https://osfm.fire.ca.gov/media/5590/2018-strategic-fire-plan-approved-08_22_18.pdf

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Solano County Office of Emergency Services. 2017. Emergency Operation Plan (EOP) – Solano County, California. Updated January 2017. Accessed 7/31/2023 at https://www.solanocounty.com/civicax/filebank/blobdload.aspx?BlobID=13271

21. MANDATORY FINDINGS OF SIGNIFICANCE

Based on evidence provided in this Initial Study, DTSC makes the following findings:

Based on evidence provided in this Initial Study, DTSC makes the following findings:

a. *The project does not have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.*

The Project would have a positive impact on the environment by removing potential sources of contamination in soil, wood, sediment, asphalt, brick, and concrete in IA C1, which could also reduce potential impacts on surface water at the Strait and groundwater quality. The Project areas temporarily disturbed by the cleanup activities would not impact the adjacent habitats of endangered and non-endangered species, including migratory species, or offshore habitats (Mare Island Strait, San Pablo Bay). There are no identified natural habitats, wildlife corridors, or endangered species in the Project area. Based on the evaluation presented in Section 4.0 (Biological Resources), there would be a less than significant potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, and reduce the number, or restrict the range of, a rare or endangered plant or animal. Several historical archaeological sites considered to be contributing elements of the National Register of Historic Places District are located in IA C1; the work areas do not fall within the immediate area of these sites. Therefore, Project activities would conform to requirements of the Architectural Heritage and Historic Preservation Ordinance (Chapter 16.38 of the Vallejo Municipal Code). In addition, precautions would be followed to ensure there is no damage to cultural or Tribal cultural resources in the event any are encountered in the subsurface during excavations, including consultation with cultural experts. As a result, the remediation activities should not have adverse effects to known or unknown cultural resources or to significant Native American artifacts.

b. *The project does not have impacts that are individually limited but cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.*

The proposed activities are limited in areal extent and duration, would result in the construction of no new structures/buildings, and would return the ground surface in outdoor areas to pre-project conditions. Post-cleanup Project conditions would therefore have No Impact. During construction activities, the potential exists for impacts on air quality, cultural resources, GHG emissions, hazards/hazardous materials, vehicle transportation and traffic, and noise through the operation of Project-related equipment, transport of contaminated materials, and disturbance of subsurface conditions; however, Project controls and other BMPs (including regulatory requirements) would be instituted to reduce those impacts to Less Than Significant. In addition, proper Project planning would reduce the potential for upset conditions to result in significant impacts. Air quality/GHG emissions impacts have been analyzed relative to regulatory thresholds, which were established assuming other potential sources in the region; Project-related impacts were found to be within those thresholds.

As noted in the Project Description, the remedies for two additional sites within IA C1 but not covered by the RAP – IR15 and DOM-6/Cooling Water Loop – could be implemented during the same period as the remedies for the four Project sites evaluated in this Initial Study. However, those cleanup actions are of similarly limited scope, and would occur approximately 0.5 mile south of the outdoor cleanup actions evaluated in this Initial Study. Therefore, impacts from the work occurring in the south would be separate and distinct from Project-related impacts. Traffic associated with the southern cleanup activities would likely use the same roadways as the Project, but even if traffic were to be considered cumulatively, these projects in sum would generate fewer than 110 trips per day and would thus result in a less-than-significant transportation impact, as noted in the VMT Technical Advisory (OPR 2018).

In consideration of the above, potential impacts from Project activities would not be cumulatively considerable.

c. *The project does not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.*

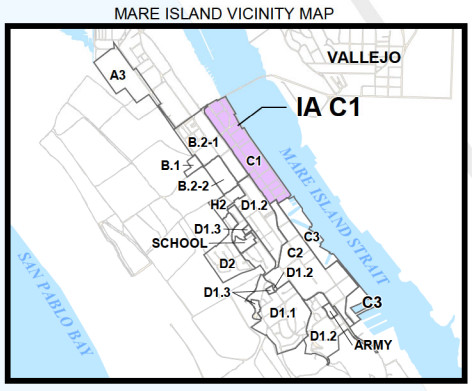
This Initial Study has concluded that there would be No Impact or Less Than Significant Impacts associated with the wide range of environmental impacts that were analyzed. These analyses considered direct and indirect impacts to humans and the environment. Project activities would be conducted in areas that are developed, and the ground surface in outdoor areas would be returned to pre-cleanup conditions after the cleanup actions are complete; the

only change would be the removal of contaminated materials from the site. Project controls would be employed to reduce potential impacts, as described in this document and the RAP. In addition, Project activities would be conducted in accordance with applicable local, state, and federal laws, many of which have been established specifically for protection of human health and the environment. Accordingly, there is no evidence before DTSC that the proposed Project would have a substantial adverse effect on human beings, either directly or indirectly.

Figures

NOTE:
1. SITES WITH REMEDIES EVALUATED IN THIS RAP ARE HIGHLIGHTED IN GREEN
2. SITES HIGHLIGHTED IN YELLOW DO NOT REQUIRE FURTHER REMEDIAL ACTION EXCEPT FOR LAND USE RESTRICTIONS, OR SOMETHING SIMILAR.
3. SPECIFIC FUEL-OIL PIPELINE SEGMENTS, UNDERGROUND STORAGE TANK SITES, AND PCB SITES ARE NOT CALLED OUT.
4. FOR EXPLANATION OF ACRONYMS AND ABBREVIATIONS, SEE GLOSSARY OF ACRONYMS AND ABBREVIATIONS, pages v-viii.
5. SEE SECTION 2.1 FOR DEFINITIONS OF GROUPS I, II AND III.

MARE ISLAND VICINITY MAP



FORMER BUILDING 987 SULFURIC ACID TANKS
PRE-TREATMENT FACILITY T-3 ACID NEUTRALIZATION PLANT
DOM-3
IR07/20
IWPS 4 A PORTION OF IR14
BUILDING 461 AREA
BUILDING 291 TORPEDO OVERHAUL AND STORAGE
IR03 BOUNDARY
BUILDING 853 ELECTRIAL REPAIR
IR03 BOUNDARY
FORMER BUILDING 191 MACHINE SHOP TOOL ROOM
BUILDING 89 BOILER SHOP STORAGE
BUILDING 87 MACHINE SHOP STORAGE
BUILDING 85 / BUILDING 271 OIL PIPES AND SUSPECT AST/UST
FORMER BUILDING 343 ROUND HOUSE BLACKSMITH'S SHOP
BUILDING 85 BGM
BUILDING 207 ORDNANCE STORAGE
BUILDING 77 ORDNANCE STORAGE
IR03 BOUNDARY
BUILDING 91 MERCURY SITE
BUILDING 91 BOILER SHOP STORAGE
BUILDING 271 ELEMENTAL MERCURY BENEATH WOOD BLOCK FLOOR AT A PORTION OF PCB SITE BUILDING 271 AL03
BUILDING 271 ORDNANCE FABRICATION
BUILDING 85 MINERAL SPIRITS
BUILDING 85 FOUNDRY, STORAGE
FORMER BUILDING 137 CHEMICAL STOREHOUSE
FORMER COKE BIN BUILDING 419
FORMER COKE SHED BUILDING 161
FORMER BUILDING 183 STORAGE, PAINT AND GAS CYLINDERS
FORMER COAL SILOS BUILDINGS 109 A, B, C, D
PCB SITE BUILDING 163 - NAVY-RETAINED CONDITION
STS-C
FORMER BUILDING 293 STOREHOUSE – EMPTY OIL CANS
PRE-TREATMENT FACILITY T-1 CYANIDE OXIDATION PLANT
IR15
BUILDING 165 AND 165A LEAD CASTINGS
DOM-6 AREA
FORMER BUILDING 51A CHEMICAL LABORATORY
IWPS 2
BUILDING 569 AREA
BUILDING 121 ROOMS 101 AND 103 PETROLEUM HYDROCARBONS
BUILDING 121 RRU
BLACK FILL LAYER AT BUILDING 971
FORMER BUILDING 105 MACHINE SHOP, PIPE SHOP
IR14
DOM-5
OIL/WATER SEPARATOR T2 A PORTION OF IR14
IR03 REMEDIATION AREA
IA K SEDIMENTS THAT UNDERLIE A PORTION OF IR03
ABM IN SOIL AT IWPS 4
BUILDING 289 TORPEDO OVERHAUL AND STORAGE
IR03 BOUNDARY
PETROLEUM HYDROCARBONS IN STORM SEWER LINE BACKFILL AT IWPS 4
BUILDING 757 BATTERY STORAGE
BUILDING 757 TORPEDO STORAGE
IR03 BOUNDARY
BUILDING 85 VOCs IN SOIL GAS
UST 693 (D09)
UST 693 (D10)
UST 693 (D07)
UST 693 (D08)
STS-A
UST 541
UST 283
UST C87
UST 193
UST 69
UST C 69A
UST 225
UST 225B
UST OH-309
UST 55
UST 53
UST 829
UST 121
UST 51
30628.690531
30628.690531
IA C1
IA B.2-1
IA B.2-2
IA D1.2
IA D1.1
IA C2
IA C3
IA D1.3
IA D1.4
IA H2
FILL SOIL
ORIGINAL SOIL
SCHOOL
BERTH 02
BERTH 03
BERTH 04
BERTH 05
BERTH 06
BERTH 07
BERTH 08
BERTH 10

LEGEND
- PCB SITE
- SHIP TO SHORE PUMP STATION
- PUMP STATION
- UNDERGROUND STORAGE TANK
- FORMER UNDERGROUND STORAGE TANK UNKNOWN
- BACKBONE SEWER PIPELINES
- SEWER SERVICE LINES
- STORMWATER BACKBONE (OTHER SITE OF POTENTIAL ENVIRONMENTAL CONCERN)
- STORMWATER SERVICE LINES (OTHER SITE OF POTENTIAL ENVIRONMENTAL CONCERN)
- INVESTIGATION AREAS
- ABANDONED FOPL SEGMENT
- FLUSHED FOPL SEGMENT
- NOT LOCATED FOPL SEGMENT
- REMOVED FOPL SEGMENT
- INDUSTRIAL WASTEWATER PIPELINE (IR14)
- MARE ISLAND 1859
- AREA SUBJECT TO AN LUC RESTRICTING SITE TO COMMERCIAL AND INDUSTRIAL USES
- GROUP I SITE
- GROUP II, III SITE
- INVESTIGATION AREA C1
- AREA OUTSIDE OF SUBJECT SITE
- ROAD
- STRUCTURE
- REMOVED STRUCTURE

N

0 350 Feet

FIGURE 1
ENVIRONMENTAL SITES IN INVESTIGATION AREA C1
INVESTIGATION AREA C1 REMEDIAL ACTION PLAN, LENNAR MARE ISLAND, VALLEJO, CALIFORNIA

ERM

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APPENDIX A
REFERENCES

APPENDIX A

REFERENCES

The site-specific documents listed in the references sections are available on DTSC's Envirostor site under one of the two site ID links below and/or in the public repository at the John F Kennedy Library in Vallejo.
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48330003
https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=48970002.

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APPENDIX B
CalEEMod EMISSIONS CALCULATION

LMI IA C1 Summary Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LMI IA C1
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	Department of Toxic Substances Control
Land Use Scale	Project/site
Analysis Level for Defaults	Air Basin
Windspeed (m/s)	3.60
Precipitation (days)	34.8
Location	Vallejo, CA 94592, USA
County	Solano-San Francisco
City	Vallejo
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	880
EDFZ	4
Electric Utility	Statewide Average
Gas Utility	Island Energy
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Manufacturing	13,000	1000sqft	0.30	13,000	13,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.70	3.01	30.8	31.0	0.06	1.33	8.28	9.62	1.22	3.33	4.55	—	7,147	7,147	0.34	0.36	0.13	7,262
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.20	2.15	2.07	< 0.005	0.09	0.78	0.87	0.09	0.35	0.43	—	526	526	0.03	0.04	0.21	538
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.39	0.38	< 0.005	0.02	0.14	0.16	0.02	0.06	0.08	—	87.1	87.1	< 0.005	0.01	0.04	89.1

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	353	322	289	3,060	7.55	5.07	681	686	4.74	173	177	14,448	789,232	803,680	1,490	43.7	2,969	856,909

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	341	309	339	2,837	7.11	5.07	681	686	4.74	173	177	14,448	745,153	759,601	1,493	46.6	80.3	810,892
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	233	212	221	1,910	4.96	3.52	462	465	3.29	117	120	14,448	526,223	540,672	1,482	35.9	891	589,301
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.6	38.7	40.4	349	0.91	0.64	84.2	84.9	0.60	21.4	22.0	2,392	87,122	89,514	245	5.94	148	97,566

6. Climate Risk Detailed Report

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

7. Health and Equity Details

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	86.0
Healthy Places Index Score for Project Location (b)	44.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

LMI IA C1 Quarterly Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LMI IA C1
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	Department of Toxic Substances Control
Land Use Scale	Project/site
Analysis Level for Defaults	Air Basin
Windspeed (m/s)	3.60
Precipitation (days)	34.8
Location	Vallejo, CA 94592, USA
County	Solano-San Francisco
City	Vallejo
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	880
EDFZ	4
Electric Utility	Statewide Average
Gas Utility	Island Energy
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Manufacturing	13,000	1000sqft	0.30	13,000	13,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions

2.1.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Q1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.39	0.38	< 0.005	0.02	0.14	0.16	0.02	0.06	0.08	—	86.9	86.9	< 0.005	0.01	< 0.005	88.8
Quarterly (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.04	0.03	0.32	0.32	< 0.005	0.02	0.11	0.11	0.01	0.06	0.06	—	45.9	45.9	< 0.005	0.01	< 0.005	46.0

2.1.2. Construction Quarters

Quarter	Start Date	End Date	Length (days)
Q1	1/1/2024	2/25/2024	56

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Quarterly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	10.6	9.66	10.1	87.1	0.23	0.16	21.1	21.2	0.15	5.34	5.49	598	21,781	22,379	61.3	1.48	36.9	24,391

LMI IA C1 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	LMI IA C1
Construction Start Date	1/1/2024
Operational Year	2025
Lead Agency	Department of Toxic Substances Control
Land Use Scale	Project/site
Analysis Level for Defaults	Air Basin
Windspeed (m/s)	3.60
Precipitation (days)	34.8
Location	Vallejo, CA 94592, USA
County	Solano-San Francisco
City	Vallejo
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	880
EDFZ	4
Electric Utility	Statewide Average
Gas Utility	Island Energy
App Version	2022.1.1.21

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description

Manufacturing	13,000	1000sqft	0.30	13,000	13,000	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.70	3.01	30.8	31.0	0.06	1.33	8.28	9.62	1.22	3.33	4.55	—	7,147	7,147	0.34	0.36	0.13	7,262
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	0.20	2.15	2.07	< 0.005	0.09	0.78	0.87	0.09	0.35	0.43	—	526	526	0.03	0.04	0.21	538
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.05	0.04	0.39	0.38	< 0.005	0.02	0.14	0.16	0.02	0.06	0.08	—	87.1	87.1	< 0.005	0.01	0.04	89.1

2.2. Construction Emissions by Year, Unmitigated

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

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

2024	3.70	3.01	30.8	31.0	0.06	1.33	8.28	9.62	1.22	3.33	4.55	—	7,147	7,147	0.34	0.36	0.13	7,262
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.26	0.20	2.15	2.07	< 0.005	0.09	0.78	0.87	0.09	0.35	0.43	—	526	526	0.03	0.04	0.21	538
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.05	0.04	0.39	0.38	< 0.005	0.02	0.14	0.16	0.02	0.06	0.08	—	87.1	87.1	< 0.005	0.01	0.04	89.1

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	353	322	289	3,060	7.55	5.07	681	686	4.74	173	177	14,448	789,232	803,680	1,490	43.7	2,969	856,909
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	341	309	339	2,837	7.11	5.07	681	686	4.74	173	177	14,448	745,153	759,601	1,493	46.6	80.3	810,892
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	233	212	221	1,910	4.96	3.52	462	465	3.29	117	120	14,448	526,223	540,672	1,482	35.9	891	589,301
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	42.6	38.7	40.4	349	0.91	0.64	84.2	84.9	0.60	21.4	22.0	2,392	87,122	89,514	245	5.94	148	97,566

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	353	322	289	3,059	7.54	5.05	681	686	4.73	173	177	—	768,491	768,491	29.1	29.5	2,966	780,967
Area	0.10	0.41	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	339	339	0.03	< 0.005	—	341
Water	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Waste	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Total	353	322	289	3,060	7.55	5.07	681	686	4.74	173	177	14,448	789,232	803,680	1,490	43.7	2,969	856,909
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	341	309	339	2,837	7.11	5.06	681	686	4.73	173	177	—	724,415	724,415	32.4	32.4	76.9	734,953
Area	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	339	339	0.03	< 0.005	—	341
Water	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Waste	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Total	341	309	339	2,837	7.11	5.07	681	686	4.74	173	177	14,448	745,153	759,601	1,493	46.6	80.3	810,892
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	233	211	221	1,909	4.96	3.51	462	465	3.28	117	120	—	505,484	505,484	21.4	21.7	888	513,361
Area	0.05	0.36	< 0.005	0.28	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.15	1.15	< 0.005	< 0.005	—	1.15
Energy	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	339	339	0.03	< 0.005	—	341
Water	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Waste	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Total	233	212	221	1,910	4.96	3.52	462	465	3.29	117	120	14,448	526,223	540,672	1,482	35.9	891	589,301

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	42.6	38.6	40.4	348	0.91	0.64	84.2	84.9	0.60	21.4	22.0	—	83,689	83,689	3.55	3.59	147	84,993
Area	0.01	0.07	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.19	0.19	< 0.005	< 0.005	—	0.19
Energy	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	56.2	56.2	< 0.005	< 0.005	—	56.4
Water	—	—	—	—	—	—	—	—	—	—	—	954	3,377	4,331	98.0	2.35	—	7,483
Waste	—	—	—	—	—	—	—	—	—	—	—	1,438	0.00	1,438	144	0.00	—	5,032
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.56	0.56
Total	42.6	38.7	40.4	349	0.91	0.64	84.2	84.9	0.60	21.4	22.0	2,392	87,122	89,514	245	5.94	148	97,566

3. Construction Emissions Details

3.1. Site Preparation (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.17	0.98	9.74	9.18	0.02	0.43	—	0.43	0.39	—	0.39	—	1,862	1,862	0.08	0.02	—	1,869
Dust From Material Movement	—	—	—	—	—	—	1.06	1.06	—	0.11	0.11	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.10	5.10	< 0.005	< 0.005	—	5.12
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.84	0.84	< 0.005	< 0.005	—	0.85
Dust From Material Movemen	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.01	83.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.23
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.04	0.04	< 0.005	< 0.005	< 0.005	0.04
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Building 91 (2024) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.02	1.70	16.1	15.9	0.02	0.77	—	0.77	0.71	—	0.71	—	2,529	2,529	0.10	0.02	—	2,538
Dust From Material Movemen	—	—	—	—	—	—	6.53	6.53	—	3.03	3.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.19	1.77	1.75	< 0.005	0.08	—	0.08	0.08	—	0.08	—	277	277	0.01	< 0.005	—	278
Dust From Material Movemen	—	—	—	—	—	—	0.72	0.72	—	0.33	0.33	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.04	0.03	0.32	0.32	< 0.005	0.02	—	0.02	0.01	—	0.01	—	45.9	45.9	< 0.005	< 0.005	—	46.0
Dust From Material Movemen	—	—	—	—	—	—	0.13	0.13	—	0.06	0.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	0.02	0.02	0.00	0.01	0.01	—	24.6	24.6	< 0.005	< 0.005	< 0.005	24.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.16	0.03	2.32	0.91	0.01	0.04	0.50	0.54	0.02	0.14	0.16	—	1,931	1,931	0.13	0.31	0.11	2,027
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.72	2.72	< 0.005	< 0.005	0.01	2.76
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	< 0.005	0.25	0.10	< 0.005	< 0.005	0.05	0.06	< 0.005	0.01	0.02	—	212	212	0.01	0.03	0.20	222
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.45	0.45	< 0.005	< 0.005	< 0.005	0.46
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.0	35.0	< 0.005	0.01	0.03	36.8

3.5. IR14 (2024) - Unmitigated

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

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

Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.22	2.48	4.07	0.01	0.10	—	0.10	0.09	—	0.09	—	636	636	0.03	0.01	—	638
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.10	0.17	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.1	26.1	< 0.005	< 0.005	—	26.2
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.33	4.33	< 0.005	< 0.005	—	4.34
Dust From Material Movemen	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.03	0.37	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	81.9	81.9	< 0.005	< 0.005	0.01	83.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.39	3.39	< 0.005	< 0.005	0.01	3.45
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.56	0.56	< 0.005	< 0.005	< 0.005	0.57
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

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

Manufact	353	322	289	3,059	7.54	5.05	681	686	4.73	173	177	—	768,491	768,491	29.1	29.5	2,966	780,967
Total	353	322	289	3,059	7.54	5.05	681	686	4.73	173	177	—	768,491	768,491	29.1	29.5	2,966	780,967
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufact uring	341	309	339	2,837	7.11	5.06	681	686	4.73	173	177	—	724,415	724,415	32.4	32.4	76.9	734,953
Total	341	309	339	2,837	7.11	5.06	681	686	4.73	173	177	—	724,415	724,415	32.4	32.4	76.9	734,953
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufact uring	42.6	38.6	40.4	348	0.91	0.64	84.2	84.9	0.60	21.4	22.0	—	83,689	83,689	3.55	3.59	147	84,993
Total	42.6	38.6	40.4	348	0.91	0.64	84.2	84.9	0.60	21.4	22.0	—	83,689	83,689	3.55	3.59	147	84,993

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufact uring	—	—	—	—	—	—	—	—	—	—	—	—	167	167	0.01	< 0.005	—	167
Total	—	—	—	—	—	—	—	—	—	—	—	—	167	167	0.01	< 0.005	—	167
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufact uring	—	—	—	—	—	—	—	—	—	—	—	—	167	167	0.01	< 0.005	—	167
Total	—	—	—	—	—	—	—	—	—	—	—	—	167	167	0.01	< 0.005	—	167
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Manufact	—	—	—	—	—	—	—	—	—	—	—	—	27.6	27.6	< 0.005	< 0.005	—	27.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	27.6	27.6	< 0.005	< 0.005	—	27.7

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	173	173	0.02	< 0.005	—	173
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	173	173	0.02	< 0.005	—	173
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	173	173	0.02	< 0.005	—	173
Total	0.02	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	173	173	0.02	< 0.005	—	173
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.6	28.6	< 0.005	< 0.005	—	28.7
Total	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	28.6	28.6	< 0.005	< 0.005	—	28.7

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.09	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Total	0.10	0.41	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.33	2.33	< 0.005	< 0.005	—	2.33
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	0.32	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.05	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.01	0.01	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.19	0.19	< 0.005	< 0.005	—	0.19
Total	0.01	0.07	< 0.005	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.19	0.19	< 0.005	< 0.005	—	0.19

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Total	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Total	—	—	—	—	—	—	—	—	—	—	—	5,761	20,399	26,159	592	14.2	—	45,200
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	954	3,377	4,331	98.0	2.35	—	7,483
Total	—	—	—	—	—	—	—	—	—	—	—	954	3,377	4,331	98.0	2.35	—	7,483

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Total	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Total	—	—	—	—	—	—	—	—	—	—	—	8,688	0.00	8,688	868	0.00	—	30,395
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	1,438	0.00	1,438	144	0.00	—	5,032
Total	—	—	—	—	—	—	—	—	—	—	—	1,438	0.00	1,438	144	0.00	—	5,032

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Manufact	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.38	3.38
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Manufacturing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.56	0.56
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.56	0.56

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2024	1/1/2024	5.00	1.00	—
Building 91	Grading	1/1/2024	2/25/2024	5.00	40.0	—
IR14	Grading	1/1/2024	1/20/2024	5.00	15.0	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Graders	Diesel	Average	1.00	8.00	187	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Site Preparation	Graders	Diesel	Average	1.00	8.00	148	0.41
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
Building 91	Graders	Diesel	Average	1.00	6.00	148	0.41
Building 91	Rubber Tired Dozers	Diesel	Average	1.00	1.00	367	0.40

Building 91	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
Building 91	Graders	Diesel	Average	1.00	6.00	148	0.41
Building 91	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
Building 91	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
IR14	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.00	84.0	0.37
IR14	Bore/Drill Rigs	Diesel	Average	1.00	8.00	83.0	0.50

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	10.0	11.7	LDA,LDT1,LDT2
Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Building 91	—	—	—	—
Building 91	Worker	3.00	11.7	LDA,LDT1,LDT2
Building 91	Vendor	0.00	8.40	HHDT,MHDT
Building 91	Hauling	2.50	216	HHDT
Building 91	Onsite truck	—	—	HHDT
IR14	—	—	—	—
IR14	Worker	10.0	11.7	LDA,LDT1,LDT2
IR14	Vendor	0.00	8.40	HHDT,MHDT
IR14	Hauling	0.00	20.0	HHDT

IR14	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	0.50	0.00	—
Building 91	—	1,500	0.00	0.00	—
IR14	—	—	0.00	0.00	—

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Manufacturing	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	453	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Manufacturing	51,090	83,460	66,170	21,122,029	590,366	964,415	764,622	244,073,765

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	19,500	6,500	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Manufacturing	134,289	453	0.0330	0.0040	538,962

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Manufacturing	3,006,250,000	135,297

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Manufacturing	16,120	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Manufacturing	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	13.9	annual days of extreme heat
Extreme Precipitation	5.10	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	10.1	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	0	0	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A

Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	N/A	N/A	N/A	N/A
Extreme Precipitation	2	1	1	3
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	14.9
AQ-PM	36.5
AQ-DPM	48.5
Drinking Water	32.8
Lead Risk Housing	28.5
Pesticides	14.8
Toxic Releases	58.8
Traffic	77.6
Effect Indicators	—
CleanUp Sites	91.7
Groundwater	97.7
Haz Waste Facilities/Generators	95.0
Impaired Water Bodies	93.4
Solid Waste	64.7
Sensitive Population	—
Asthma	99.4
Cardio-vascular	85.6
Low Birth Weights	91.6
Socioeconomic Factor Indicators	—
Education	41.9
Housing	51.8
Linguistic	28.8
Poverty	52.5

Unemployment	53.9

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	47.11920955
Employed	21.14718337
Median HI	27.43487745
Education	—
Bachelor's or higher	62.64596433
High school enrollment	100
Preschool enrollment	17.9006801
Transportation	—
Auto Access	48.80020531
Active commuting	77.13332478
Social	—
2-parent households	28.29462338
Voting	41.17798024
Neighborhood	—
Alcohol availability	60.92647248
Park access	32.28538432
Retail density	39.62530476
Supermarket access	6.416014372
Tree canopy	90.77377133
Housing	—
Homeownership	42.3200308

Housing habitability	37.77749262
Low-inc homeowner severe housing cost burden	21.27550366
Low-inc renter severe housing cost burden	44.50147568
Uncrowded housing	63.4800462
Health Outcomes	—
Insured adults	57.24368023
Arthritis	47.0
Asthma ER Admissions	0.5
High Blood Pressure	30.0
Cancer (excluding skin)	52.2
Asthma	30.0
Coronary Heart Disease	69.4
Chronic Obstructive Pulmonary Disease	56.7
Diagnosed Diabetes	57.0
Life Expectancy at Birth	44.7
Cognitively Disabled	21.0
Physically Disabled	23.7
Heart Attack ER Admissions	3.6
Mental Health Not Good	52.8
Chronic Kidney Disease	64.9
Obesity	44.4
Pedestrian Injuries	64.8
Physical Health Not Good	62.9
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	29.5
Current Smoker	51.2

No Leisure Time for Physical Activity	61.3
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	57.9
Children	19.9
Elderly	54.5
English Speaking	70.4
Foreign-born	37.9
Outdoor Workers	48.8
Climate Change Adaptive Capacity	—
Impervious Surface Cover	52.8
Traffic Density	59.5
Traffic Access	23.0
Other Indices	—
Hardship	49.6
Other Decision Support	—
2016 Voting	44.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	86.0
Healthy Places Index Score for Project Location (b)	44.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Characteristics: Project Details	Based on 2024 Input
Characteristics: Utility Information	Based on 2021 input
Land Use	Based on the 2024 input
Construction: Construction Phases	Based on 2021 input.
Construction: Off-Road Equipment	Based on 2021 input
Construction: Dust From Material Movement	Based on 2021 input
Construction: Trips and VMT	Based on 2021 input

APPENDIX C
MAP OF ARCHAEOLOGICAL RESOURCES ON MARE ISLAND

HISTORIC DISTRICT BOUNDARY

HIGH PREHISTORIC ARCHEOLOGICAL SENSITIVITY

MEDIUM PREHISTORIC ARCHEOLOGICAL SENSITIVITY

1854-1865 HISTORIC ARCHEOLOGICAL FEATURE

1866-1897 HISTORIC ARCHEOLOGICAL FEATURE

1898-1918 HISTORIC ARCHEOLOGICAL FEATURE

1919-1938 HISTORIC ARCHEOLOGICAL FEATURE

F22 MARINE CORPS SEAWALL

F21 MARINE CORPS BARRACKS

F20 MARINE CORPS OFFICERS' HOUSING

F19 MEDICAL OFFICERS' HOUSING/STABLE

F5 STABLE COMPLEX

F26 BANDSTAND

F15 LIGHTHOUSE RESERVATION

F28 BAY MODEL

P-C

F11 OFFICERS' HOUSING AREA

F18 CIVILIAN HOUSING AREA

Building 85 VOCs in Soil Gas Site

P-B

F17 YARD RESERVOIR/ TUNNEL

F16 ORDINANCE RESERVOIR

F10 CIVIL WAR BATTERY

F8 NAD RETAINING WALL

P-D

F9 NAD KEEPER'S HOUSE

IWPS 4, A Portion of IR14

Approximate Boundary of IR03

Oil/Water Separator T-2, A Portion of IR14

F14 NAD WATCHMAN'S HOUSE

F6 NAD WHARF

F7 NAD SEAWALL

F13 HOSPITAL PIER/WHARF

F24 HOSPITAL WHARF

F23 INDEPENDENCE CREW QUARTERS

F12 SECOND INDEPENDENCE BERTH

F4 SAWMILL

F3 MARINE RAILWAY

F2 FIRST INDEPENDENCE BERTH

F1 INDUSTRIAL AREA

P-A

F27 SUBMARINE REPAIR BASE

Building 91 Mercury Site

Figure 2.2

Archaeological Resources

Mare Island Specific Plan, 2002

0 400 800 1200 1600 2000 2400 2800 3200 3600

Figure replicated from Mare Island Archaeological Treatment Plan, prepared by PAR Environmental Services, Inc., dated November 2000; annotated to show the locations of the physical remediation work areas evaluated in the Initial Study

APPENDIX D
MAPS SHOWING TRANSPORTATION ROUTES IN MARE ISLAND VICINITY

BUS ROUTE AND POTENTIAL STOPS

FERRY PIER

POTENTIAL WATER TAXI DOCK

FIVE MINUTE WALK BUFFER

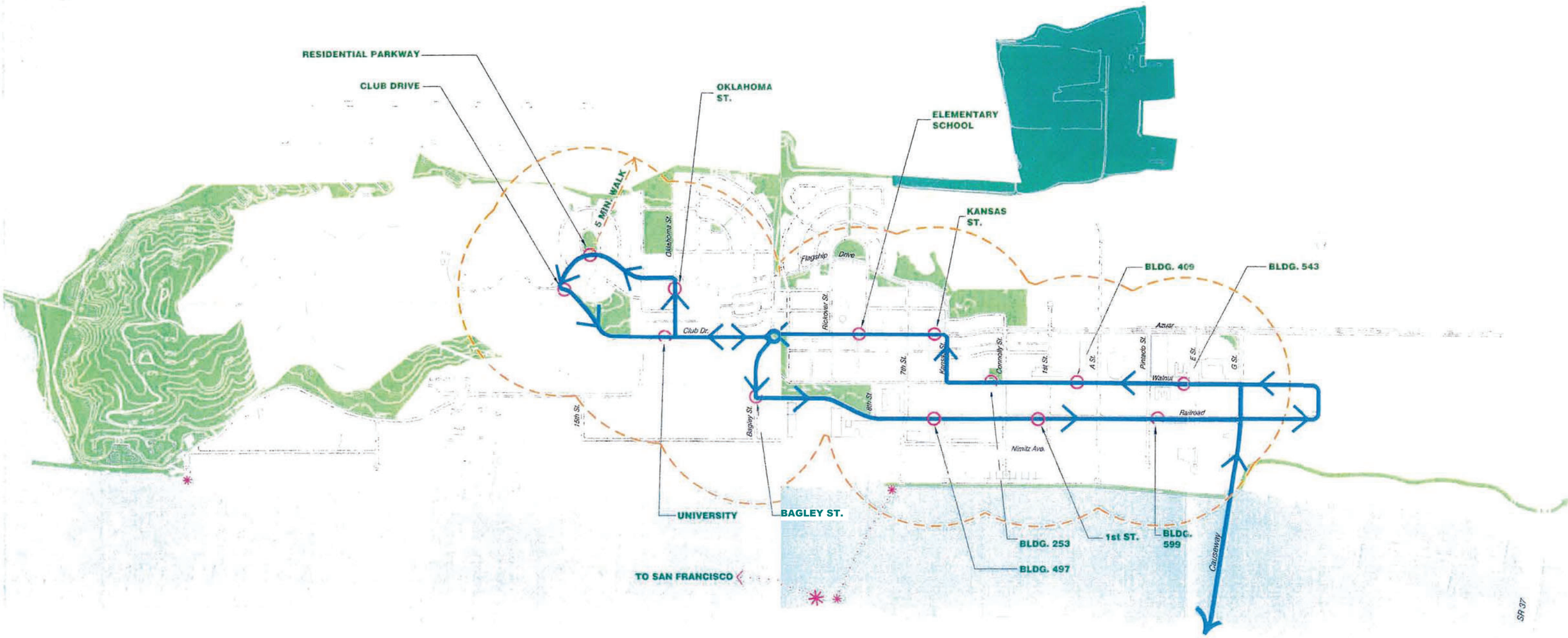

Figure 5.2

Transit Service

Mare Island Specific Plan 2005

CLASS I

CLASS II

CLASS III

EXISTING PATH LOCATION TO REMAIN

MISSING INFORMATION FROM
MARE ISLAND SPECIFIC PLAN, 2013

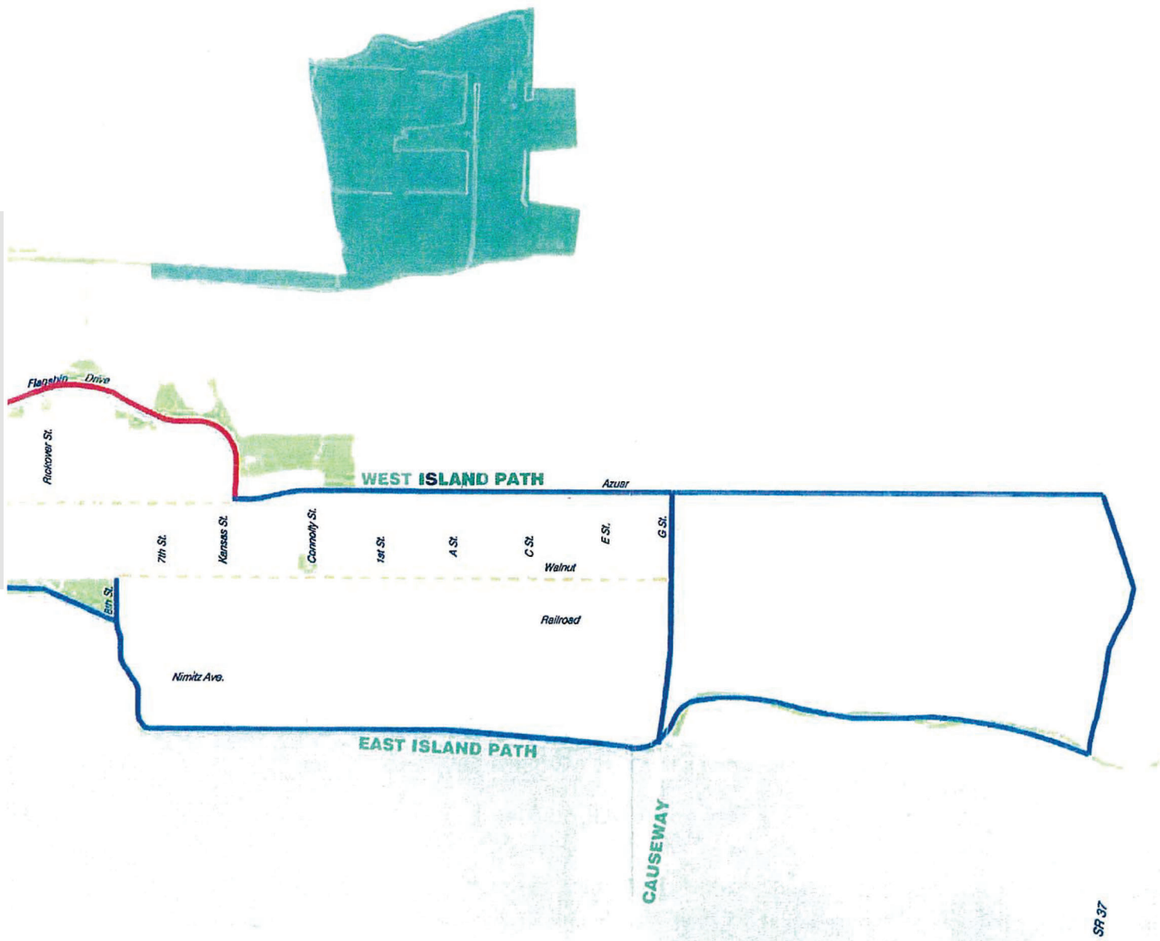

Figure 5.3

Bicycle and Pedestrian Routes

Mare Island Specific Plan SPA III, Revised June 2008

0 400 800 1200 1600 2000 2400 2800 3200 3600