# APPENDIX C

# Biological Resources Technical Report

Michael Baker
INTERNATIONAL

# Biological Resources Technical Report

## Martinez Terminal Rail Restoration Project

## Martinez, California

**December 2, 2024**

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# EXECUTIVE SUMMARY

This report contains the findings of Michael Baker International's biological resources assessment for the proposed Martinez Terminal Rail Restoration Project (project) located in the City of Martinez, California. Michael Baker biologists conducted a field survey/habitat assessment of the project site and surrounding area (study area) on March 28, 2024. The field survey was conducted to characterize existing site conditions and assess the potential for special-status biological resources to occur within the study area that could pose a constraint to implementation of the proposed project.[1] Any inaccessible areas within the study area were examined with binoculars.

The biological resources study area is approximately 26.53 acres in size and consists primarily of developed land. This study area includes the 2.7-acre project site and a buffer area of varying width surrounding the project site. A buffer was included to identify any potential sensitive biological resources within the area that may be indirectly affected by the proposed project. Four (4) vegetation communities and land cover types were observed within the study area: other waters, brackish marsh wetlands, ruderal/ornamental, and developed/disturbed.

No special-status plant species were observed during the field survey. Based on the results of the literature review and the field survey, Michael Baker determined that one special-status plant species, Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*; California Rare Plant Rank [CRPR] 1B.2) has a high potential to occur on-site. All remaining special-status plant species identified during literature reviews either have a low potential to occur or are not expected to occur within the study area based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. Species with a CRPR of 4 or 3 are generally not evaluated for potential significant impacts under the California Environmental Quality Act (CEQA) and generally do not require additional permitting or mitigation for impacts. However, species that can be shown to meet the criteria for endangered, rare, or threatened status under CEQA Section 15380(d) or that can be shown to be regionally rare or unique as defined in CEQA Section 15125(c) must be fully analyzed in a CEQA document. Impacts to any species with a CRPR rank of 1 or 2 would require mitigation.

Two special-status wildlife species were observed during the field survey, including saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) and Suisun song sparrow (*Melospiza melodia maxillaris*), both designated by California Department of Fish and Wildlife (CDFW) as Species of Special Concern. Based on the results of the literature review and the field survey and a review of specific habitat requirements, occurrence records, and known distributions of the special-status wildlife species identified in the

1 As used in this report, "special-status" refers to species that are either federally/State-listed, proposed, or candidates; species that have been designated a California Rare Plant Rank by the California Native Plant Society; species designated as Fully Protected, Species of Special Concern, or Watch List by the California Department of Fish and Wildlife; or State/locally rare vegetation communities.

literature review, Michael Baker determined that the study area has either low or not expected to occur potentials for special-status wildlife species identified by the CNDDB. Impacts to these species would require mitigation.

Three (3) potentially state or federal jurisdictional features were observed within the study area. Impacts to features potentially subject to jurisdiction by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the Clean Water Act (CWA) and the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and Section 13263 of the Porter-Cologne Act are anticipated. Impacts to CDFW jurisdiction pursuant to Section 1600 *et seq.* of the California Fish and Game Code are not anticipated. A USACE nationwide permit was previously issued for the project in July 2014 (Corps File No. 2012-00075S). In addition, a CWA Section 401 Water Quality Certification from the RWQCB is anticipated to be required for this project.

The project is not located within the boundaries of any approved natural community conservation plan or habitat conservation plan, including any multiple species conservation plan or multiple species habitat conservation plan. Although located in close proximity, the project site is not located within Critical Habitat designated by USFWS or the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) for any species listed under the federal Endangered Species Act. However, Essential Fish Habitat (EFH) for Chinook salmon under the jurisdiction of NMFS coincides with the study area. Also in close proximity, but falling outside the study area, is EFH for groundfish and coastal pelagic fish species.

# 1.0 INTRODUCTION

## 1.1 Background and Purpose

This report contains the findings of Michael Baker International's biological resources assessment for the proposed Martinez Terminal Rail Restoration Project (project). Michael Baker biologists conducted a field survey/habitat assessment of the project site and surrounding area (study area) on March 28, 2024. The field survey was conducted to characterize existing site conditions and assess the potential for special-status biological resources to occur within the study area, defined as the area within which all project-related disturbances would occur that could pose a constraint to implementation of the proposed project. Special attention was given to assessing the suitability of the habitat within the study area and its potential to support special-status biological resources that were identified as potentially occurring in the vicinity of the study area by the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database RareFind 5 (CNDDB 2024a), the California Native Plant Society's (CNPS) Online Inventory of Rare and Endangered Plants of California (CIRP; CNPS 2024), and the US Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) database (USFWS 2024a).

The submittal of this report is intended to satisfy the biological resource needs of California Environmental Quality Act (CEQA) process. The project proponent is requesting administrative and discretionary action to approve implementation of a rail restoration project in the City of Martinez (City), Contra Costa County (County), California.

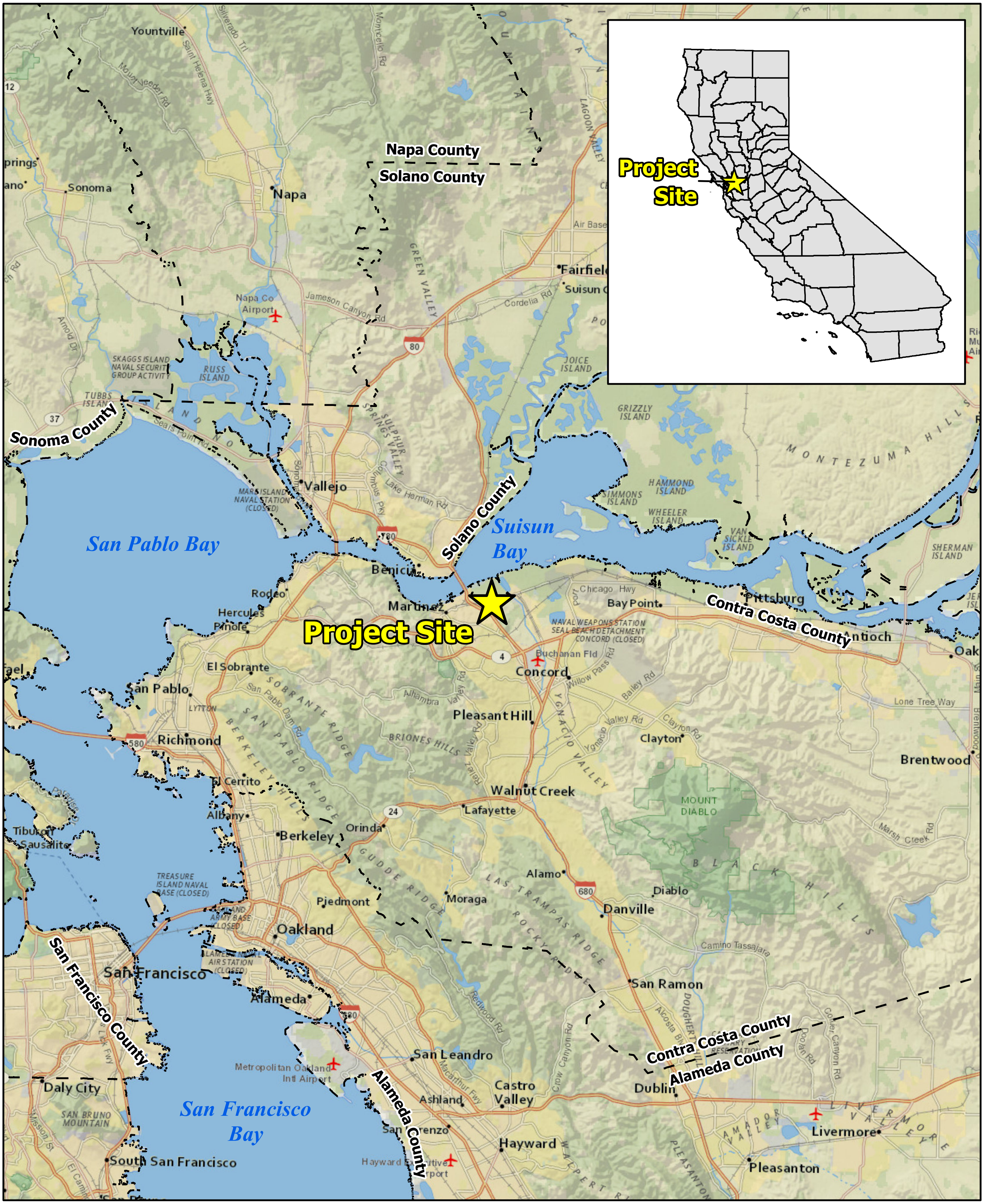
## 1.2 Project Site Location

The project site is located approximately 0.75 mile east of Interstate 680 and 2.75 mile north of State Route 4 in the City of Martinez, Contra Costa County, California (Figure 1, Regional Vicinity, in Attachment A). The study area consists of approximately 26.53 acres along the southern boundary of the existing Martinez Terminal extending south of Waterfront Road to the existing Union Pacific Railroad (UPRR) tracks. The project boundary includes the proposed rail line alignment, and adjacent areas needed for access, lay-down, and construction staging. The project site is located in Sections 8 and 9 in Township 2 North, Range 2 West of the Vine Hill, California U.S. Geological Survey 7.5-minute quadrangle (Figure 2, Site Vicinity, in Attachment A). The TransMontaigne office is located at 2801 Waterfront Road in Martinez, Contra Costa County, California.

The Martinez Terminal is located in a heavy industrial area, approximately 2.25 miles east of downtown Martinez and just north of the Waterbird Regional Preserve. The project site is bounded by the existing Martinez Terminal to the north, the UPRR right-of-way to the south, tidelands to the west, and industrial and undeveloped lands to the east. Waterfront Road bisects the project site (Figure 3, Project Site, in Attachment A).

## 1.3 Project Description

The proposed project would reestablish a former rail line on the south side of the existing Martinez Terminal in the City, connecting to the existing UPRR railroad tracks south of Waterfront Road. The proposed rail line would be located within the existing Martinez Terminal property and within UPRR right-of-way (ROW). The project would include construction of approximately 3,850 linear feet of new track, with a lead track of approximately 1,900 feet, and three operating industry tracks of approximately 650 feet each. These proposed tracks would hold train cars for the transport of a range of petroleum-based and renewable products, feed stocks, and blend stocks commodities. Currently, these products arrive at the Martinez Terminal via wharf or pipeline. Implementation of the proposed project would reestablish rail service to the project site.




MARTINEZ TERMINAL RAIL RESTORATION PROJECT

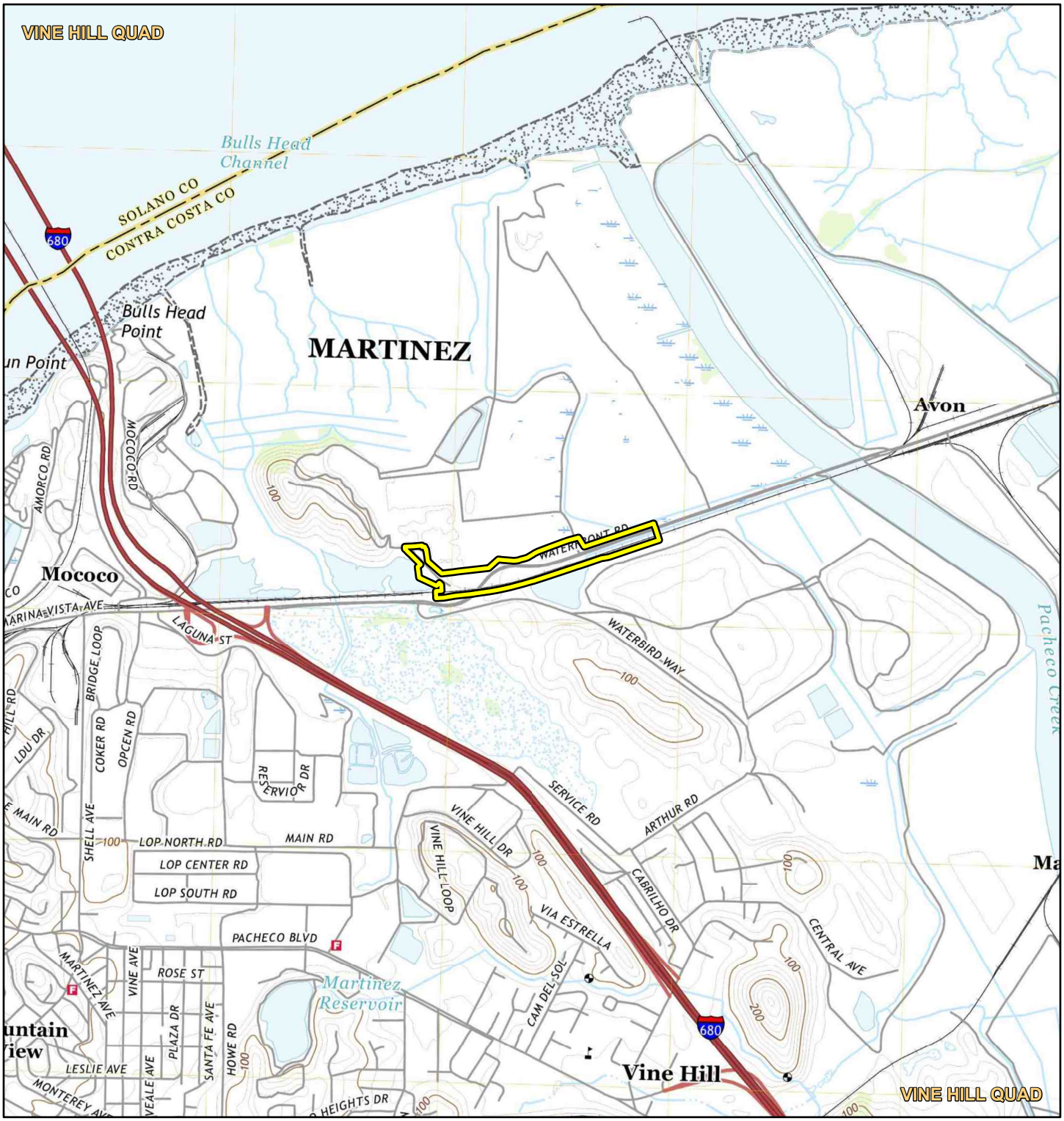
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0 2.5 5 Miles

Source: Esri National Geographic World Map, Esri USA_Counties

## Regional Vicinity

Figure 1




**Legend**

Study Area

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

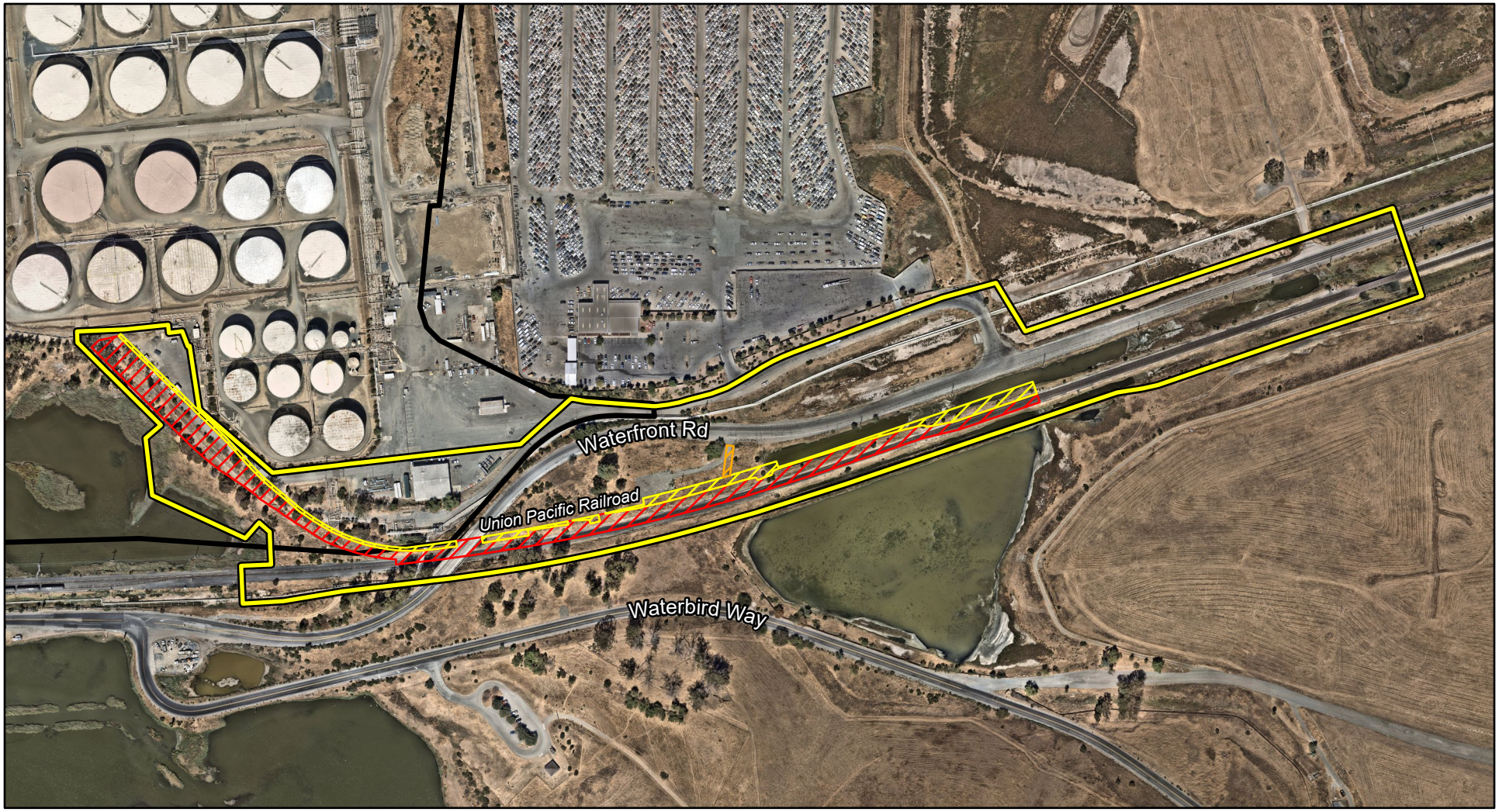
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0 1,000 2,000 US Feet

# Site Vicinity

Source: Vine Hill USGS 7.5-Minute topographic quadrangle map: *Martinez, California; Vine Hill, California*

Figure 2




**Legend**

- Study Area
- Martinez Terminal Property Boundary
- Permanent Impacts
- Temporary Impacts
- Temporary Impacts (Access)

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

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0 200 400 Feet

Source: Esri, Nearmap Imagery 2024

# Study Area

Figure 3

# 2.0 REGULATORY SETTING

## 2.1 State and/or Federally Listed Plants or Wildlife

### 2.1.2 State of California Endangered Species Act

In addition to federal laws, the State of California has its own California Endangered Species Act (CESA), enforced by the CDFW. The CESA program maintains a separate listing of species beyond the federal Endangered Species Act (ESA), although the provisions of each act are similar.

State-listed threatened and endangered species are protected under provisions of CESA. Activities that may result in "take" of individuals (defined in CESA as to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill") are regulated by the CDFW. Habitat degradation or modification is not included in the definition of "take" under CESA. Nonetheless, the CDFW has interpreted "take" to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State of California considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are fully protected against take, as defined above.

The CDFW has also produced a species of special concern list to serve as a species watch list. Species on this list are either of limited distribution or their habitats have been reduced substantially, such that a threat to their populations may be imminent. Species of special concern may receive special attention during environmental review, but they do not have formal statutory protection.

### 2.1.2 California Fish and Game Code (Sections 3503, 3503.5, 3511, and 3513)

The CDFW administers the California Fish and Game Code (CFGC). There are particular sections of the CFGC that are applicable to natural resource management. For example, Section 3503 makes it unlawful to destroy any birds' nest or any birds' eggs that are protected under the Migratory Bird Treaty Act (MBTA). Further, any birds in the orders Falconiformes or Strigiformes (birds of prey), such as hawks, eagles, and owls, are protected under Section 3503.5, which makes it unlawful to take, possess, or destroy their nest or eggs. A consultation with the CDFW may be required prior to the removal of any bird of prey nest that may occur in the study area. Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the issuance of permits or licenses to take these species. Pertinent species that are state fully protected include golden eagle (*Aquila chrysaetos*), white-tailed kite (*Elanus leucurus*), bald eagle

(*Haliaeetus leucocephalus*), California black rail (*Laterallus janaicensis coturniculus*), California Ridgway's rail (*Rallus obsoletus obsoletus*), salt-marsh harvest mouse (*Reithrodontomys raviventris*), and California least tern (*Sternula antillarum browni*). In addition, Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

### 2.1.3 Native Plant Protection Act

Sections 1900–1913 of the CFGC were developed to preserve, protect, and enhance rare and endangered plants in the State of California. The act requires all state agencies to use their authority to carry out programs to conserve endangered and rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least 10 days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

### 2.1.4 Federal Endangered Species Act

As defined within the federal ESA of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, federal law prohibits the "take" of any individuals or habitat of federally listed species. Under Section 9 of the ESA, take is defined as to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" has been clarified to include "any act which actually kills or injures fish or wildlife and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife." ESA enforcement is administered by the USFWS.

Under the ESA definition, "Critical Habitat" refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features that are essential to the survival and eventual recovery of that species and that may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated as Critical Habitat if they contain one or more of the physical or biological features that are essential to that species' conservation and if the occupied areas are inadequate to ensure the species' recovery. If a project may result in take or adverse modification to a species' designated Critical Habitat and the project has a federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a federal nexus may include projects that occur on federal lands, require federal permits [e.g., Clean Water Act Section 404 permit], or receive any federal oversight or funding. If there is a federal nexus, then the federal agency

that is responsible for providing funds or permits would be required to consult with the USFWS under the ESA.

Whenever federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with the USFWS under Section 7 of the federal ESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses federal funds, or requires federal authorization or permits (i.e., funding from the Federal Highway Administration or a permit from the US Army Corps of Engineers [USACE]).

### 2.1.5 Migratory Bird Treaty Act

Pursuant to the MBTA (16 U.S. Code 703) of 1918, as amended in 1972, federal law prohibits the taking of migratory birds or their nests or eggs (16 U.S. Code 703; 50 Code of Federal Regulations 10, 21). The statute states:

> "Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill…any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions…"

The MBTA covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 Code of Federal Regulations, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a "take." This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds, and many relatively common species.

### 2.1.6 Magnuson-Stevens Fishery Conservation and Management Act

Under the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act [MSA]) of 1996 and subsequent revisions, regional fishery management councils were established to develop fishery management plans that comply with the MSA's conservation and management requirements to prevent overfishing, rebuild overfished species, and track stock status. In a 1996 update to the MSA, these management councils were tasked with identifying and describing Essential Fish Habitat (EFH) and to protect, conserve, and enhance EFH for the benefit of fisheries. The management of EFH falls under jurisdiction of the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS). EFH is defined by NMFS as "those waters and substrate necessary to fish for spawning, breeding,

feeding, or growth to maturity".[2] Waters include aquatic areas and their associated physical, chemical, and biological properties that are used by fish and may include historic areas if appropriate. EFH substrates include sediment, hard bottom, structures underlying the waters, and associated biological communities required to support a sustainable fishery. Projects that may affect EFH are required to consult with NMFS to determine potential impacts of a project and ways to avoid, reduce, or compensate for adverse impacts to EFH. While private landowners and state agencies are not required to consult with NMFS, this project is anticipated to require regulatory permitting pursuant to Section 404 of the federal Clean Water Act and Section 10 of the Rivers and Harbors Act, under jurisdiction of the USACE. As a federal agency that is responsible for providing a federal permit, the USACE may consult with NMFS regarding EFH.

## 2.2 Jurisdictional Waters of the United States/State, Including Wetlands

There are three key agencies that regulate activities within inland lakes, streams, wetlands, and riparian areas in California. The USACE regulates activities that result in the discharge of dredged or fill material into waters of the U.S. (WoUS), including wetlands, pursuant to Section 404 of Clean Water Act and Section 10 of the Rivers and Harbors Act. Of the state agencies, the Regional Water Quality Control Board (Regional Board) regulates discharges to waters of the State, including wetlands, pursuant to Section 401 of the Clean Water Act, Section 13263 of the California Porter-Cologne Water Quality Control Act, and State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State; and, the CDFW regulates alterations to lakes, streambeds, and riparian habitats pursuant to Section 1600 et seq. of the CFGC.

## 2.3 California Environmental Quality Act

CEQA provides for the protection of the environment within the State of California by establishing state policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by state lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an initial study; if the initial study determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to prepare an environmental impact report. A finding of non-significant effects will require either a negative declaration or a mitigated negative declaration instead of an environmental impact report.

Section 15380 of the CEQA Guidelines independently defines "endangered" species as those whose survival and reproduction in the wild are in immediate jeopardy, while "rare" species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

2 Magnuson Act Provisions; Essential Fish Habitat. (EFH). 1997. National Oceanic and Atmospheric Administration. Interim Final Rule [62 Fed. Reg. 66551, Section 600.10 Definitions].

## 2.4 Local Policies and Ordinances

Title 8, Chapter 8.08, Section 8.08.044, *Tree Permit Required*, of the City of Martinez Municipal Code establishes policies, regulations, and standards to protect and to preserve existing trees and plantings. Chapter 8.08 is part of a comprehensive plan developed to regulate the planting, maintenance, and removal of protected trees within the City. The project site is zoned H-I (Heavy Industrial) in the City's zoning code. Section 8.08.044 of the City of Martinez Municipal Code identifies protected trees for any developed property within any industrial zoning district as:

a. Any tree measuring 24 inches or more in diameter, measured four and one-half feet from grade.

b. Any multi-stemmed tree where the sum of the individual trunks measures 24 inches or more in diameter measured four and one-half feet from grade.

c. Any significant grouping of trees, including groves of four or more trees.

Removal of any trees meeting these criteria requires a Tree Removal Permit from the City.

# 3.0 ENVIRONMENTAL SETTING

## 3.1 Regional Context

The study area is located within the Martinez Terminal and along the Union Pacific Railroad (UPRR) corridor within a heavy industrial area in the City of Martinez, Contra Costa County, approximately 2.25 miles east of downtown Martinez. The topography of the study area is relatively flat with elevations ranging from 2.5 to 4.2 feet above mean sea level (amsl).

## 3.2 Climate

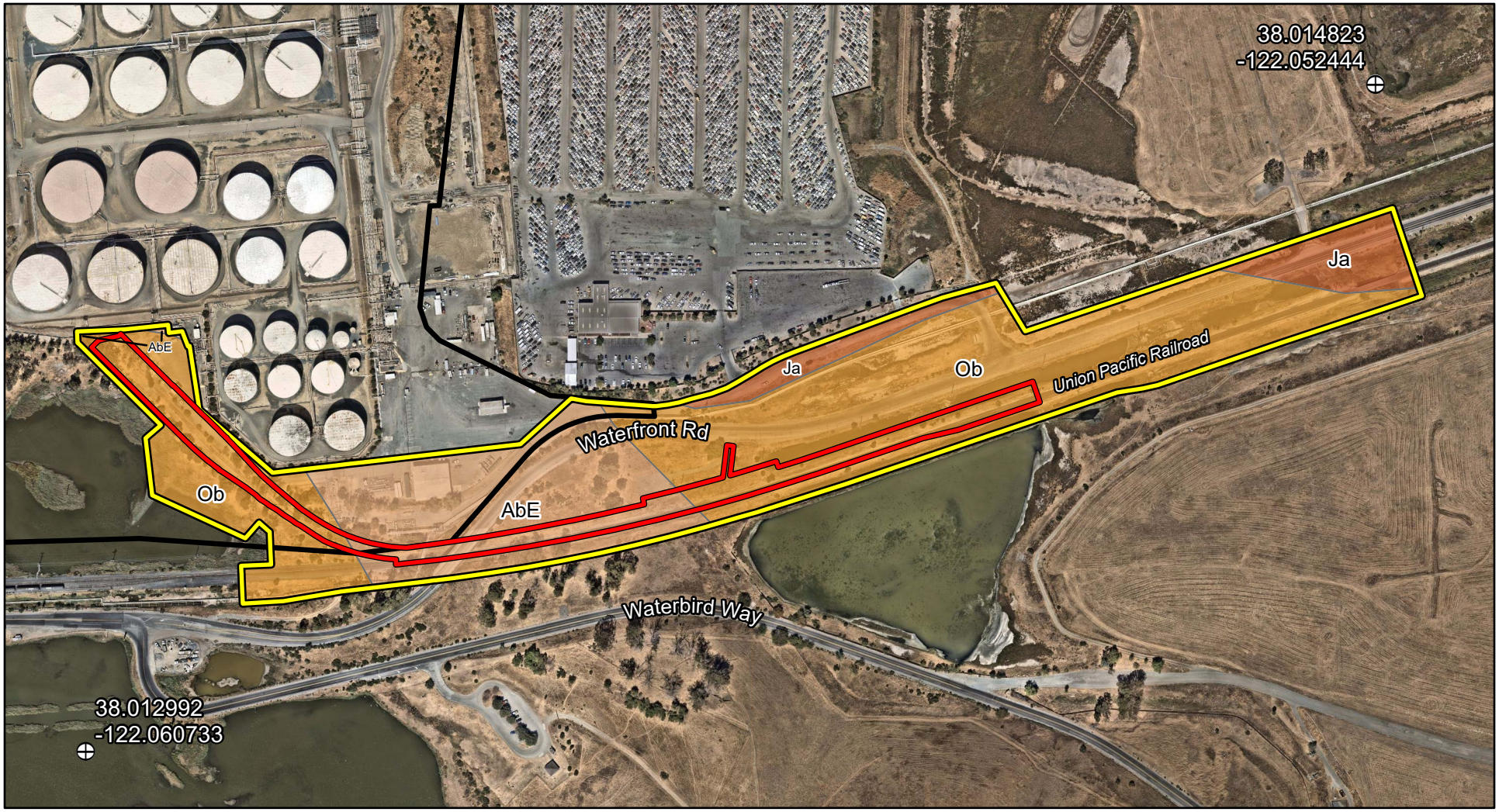
Climate of the San Francisco Bay region is characterized by a year-round Mediterranean climate, or semi-arid climate, with warm, sunny, dry summers and cool, rainy, mild winters. Most of the precipitation occurs between November and March in the form of rain. The climatological cycle of the region results in higher surface water flows in the spring and early summer and lower flows during the dry season. Winter and spring floods generated by storms are not uncommon in wet years and generally occur from December to March. Similarly, during the dry season, infrequent summer storms can cause torrential floods in local streams and usually occur from July through September.

## 3.3 Soils

According to the *Custom Soil Resource Report for Contra Costa County, California* (US Department of Agriculture [USDA] 2024a), the study area is underlain by three soil map units: Altamont clay, 15 to 30 percent slopes, MLRA 15 (AbE), Joice muck, MLRA 16 (Ja), and Omni silty clay (Ob) (refer to Figure 4: *USDA Soils*). Michael Baker also reviewed the *Hydric Soils List for California* (USDA 2024b) to preliminarily verify whether the soil map units listed above are classified as a "hydric soil." Hydric soils are those soils that have formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA 2024c). According to the list, all three subject soil map units are listed as hydric.

## 3.4 Land Uses

On-site land uses consist mainly of industrial and transportation features, including petroleum facility pipelines, railroads, and Waterfront Road. The pipelines traverse marsh land within utility corridors shared with other pipelines and an electrical powerline. Adjacent uses include a landfill, petroleum refinery, automobile storage facility, and Interstate 680 (I-680). Suisun Bay is located within a mile north/northwest of the project site.




**Legend**

- Reference Point
- Study Area
- Project Footprint
- Martinez Terminal Property Boundary

- AbE — Altamont clay, 15 to 30 percent slopes, MLRA 15
- Ja — Joice muck, MLRA 16
- Ob — Omni silty clay

MARTINEZ TERMINAL RAILROAD SPUR PROJECT

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0 200 400 US Feet

Source: USDA, Nearmap Imagery 2024, Esri Hybrid Reference Layer

# USDA Soils

Figure 4

## 3.5 Watersheds and Hydrology

The study area is located within the San Francisco Bay Delta Watershed (HUC 18050001). The study area occurs approximately 0.9 mile south of Suisun Bay, which is tributary to the San Francisco Bay and the Pacific Ocean. The San Francisco Bay Delta watershed comprises approximately 75,000 square miles and extends nearly 500 miles from the Cascade Range in the north to the Tehachapi Mountains in the south and is bounded by the Sierra Mountain Range to the east and the Coast Range to the west. The San Francisco Bay and Suisun Bay are not Designated Rivers under the National Wild and Scenic Rivers Act.

# 4.0 METHODS

Michael Baker conducted a thorough literature review and records search to determine which special-status biological resources have the potential to occur on or within the study area. Subsequently, a general field survey/habitat assessment was conducted to document existing conditions and determine the potential for special-status plant and wildlife species to occur within the study area. No focused surveys for special-status species were conducted.

## 4.1 Literature Review

Prior to conducting the field survey, literature reviews and records searches were conducted for special-status biological resources potentially occurring on or within the study area, specifically within a 5-mile radius. Previous special-status plant and wildlife species occurrence records within the USGS *Cordelia, Clayton, Briones Valley. Walnut Creek, Honker Bay, Vine Hill, Fairfield South, Benicia, and Denverton, California* 7.5-minute quadrangle maps were determined through a query of the CNDDB (CNDDB 2024a) and the CIRP (CNPS 2024), and for the project region in IPaC (USFWS 2024a). Current conservation status of species was verified through lists and resources provided by the CDFW, specifically the *Special Animals List* (CNDDB 2024b), *State and Federally Listed Endangered and Threatened Animals of California* (CNDDB 2024d), *Special Vascular Plants, Bryophytes, and Lichens List* (CNDDB 2024c), and *State and Federally Listed Endangered, Threatened, and Rare Plants of California* (CNDDB 2024e).

In addition to the databases and reports referenced above, Michael Baker reviewed available reports, survey results, and literature detailing the biological resources previously observed on or within the study area to understand existing site conditions, confirm previous species observations, and note the extent of any disturbances, if present, that have occurred in the study area that would otherwise limit the distribution of special-status biological resources. Standard field guides and texts were reviewed for specific habitat requirements of special-status and common biological resources.

On-site and adjoining soils were identified prior to conducting the field survey using the *Custom Soil Resource Report for Contra Costa County, California* (USDA 2024a). In addition, local geological conditions and historical aerial photographs were reviewed to assess the ecological changes and disturbances that may have occurred within the study area. Aerial photography was reviewed prior to the field survey to locate potential natural corridors and linkages that may support the movement of wildlife through the area using Historic Aerials (Historic Aerials 2024). The literature review provided a baseline from which to inventory the existing biological resources and evaluate the ability of the study area to support special-status biological resources. Additional occurrence records of those species that have been documented on or within the study area were derived from database queries including the Calflora database (Calflora 2024). Additionally, standard field guides, texts, and sources were used, such as species accounts provided by Birds of the World (Billerman et al. 2020) and the USFWS Critical Habitat Mapper

and Environmental Conservation Online System (USFWS 2024b). The CNDDB was used, in conjunction with Geographic Information Systems (GIS) ArcView software, to identify special-status species occurrence records within the USGS *Cordelia, Clayton, Briones Valley. Walnut Creek, Honker Bay, Vine Hill, Fairfield South, Benicia, and Denverton, California* 7.5-minute quadrangle maps. Refer to Section 9 for a complete list of technical references that were reviewed by Michael Baker.

## 4.2 Field Investigations

Michael Baker biologists John Parent, Anna Jullie, and Stephen Anderson conducted a field survey/habitat assessment on March 28, 2024, to document the extent and conditions of the vegetation communities occurring within the boundaries of the study area. Vegetation communities preliminarily identified on aerial photographs during the literature review were verified in the field by walking along established roads, rights-of-ways, and off-trail areas when accessible, and noting conditions within the limits of disturbance. Binoculars were used to observe conditions where access was not possible due to steep slopes or other safety concerns. All plant and wildlife species observed during the field survey, as well as dominant plant species within each vegetation community, were recorded in a field notebook.

In addition, site characteristics such as soil condition, topography, hydrology, anthropogenic disturbances, indicator species, the overall condition of on-site vegetation, and the presence of potentially regulated jurisdictional features (e.g., streams, flood control channels) were noted within the study area. Michael Baker used GIS ArcView software to digitize the mapped vegetation communities and then transferred these data onto an aerial photograph to further document existing conditions and quantify the acreage of each vegetation community. Table 1 summarizes the field surveys.

**TABLE 1. SUMMARY OF SURVEYS AND SURVEY CONDITIONS**

| Date | Survey Type | Surveyors | Survey Time (start-end) | Weather Conditions (start-end) |
|---|---|---|---|---|
| 03/28/2024 | Habitat Assessment | JP, AJ, SA | 0800–1200 | 1-5 mph, 100% cc, 52°F<br>3-4 mph, 75% cc, 68°F |
| 03/28/2024 | Jurisdictional Delineation | SA, JP, AJ | 0800-1200 | N/A |

Surveyors: JP – John Parent; AJ – Anna Jullie; SA – Stephen Anderson
Weather Conditions: Temperature (F - Fahrenheit), Skies (cc – cloud cover), Wind (mph – miles per hour)

### 4.2.1 Vegetation Community and Land Cover Mapping

Vegetation communities occurring within the study area were delineated on a 300-scale (1”=300’) aerial photograph during the field survey and later digitized using the GIS ArcView software to quantify the area of each vegetation community in acres. Vegetation communities occurring within the study area were classified in accordance with vegetation descriptions provided in the *Manual of California Vegetation*

(Sawyer, Keeler-Wolf, and Evens 2009) and cross referenced with *Preliminary Descriptions of Terrestrial Natural Communities of California* (Holland 1986).

### 4.2.2 General Plant Inventory

Plant species observed during the field survey were identified by visual characteristics and morphology in the field and recorded in a field notebook. Unfamiliar plants were photographed in the field and later identified using taxonomic guides. Plant nomenclature used in this report follows the *Jepson Manual: Vascular Plants of California, Second Edition* (Baldwin et al. 2012). In this report, scientific names are provided immediately following common names of plant species (first reference only). All plant species observed are included in Appendix D, Species Observed List. Special-status plant species are discussed below in Section 5.3.1.

### 4.2.3 General Wildlife Inventory

Wildlife species detected during the field surveys by sight, calls, tracks, scat, or other types of sign were recorded in a field notebook. Field guides used to assist with identification of species during the field surveys included *The Sibley Guide to Birds* (Sibley 2014) for birds, *A Field Guide to Western Reptiles and Amphibians* (Stebbins 2018) for herpetofauna, and *A Field Guide to Mammals of North America* (Reid 2006). Although common names of wildlife species are well standardized, scientific names are provided immediately following common names of wildlife species in this report (first reference only). To the extent possible, nomenclature of birds follows the most recent annual supplement of the American Ornithological Union's *Checklist of North American Birds* (Chesser et al. 2023); nomenclature of amphibians and reptiles follows *Scientific and Standard English Names of Amphibians and Reptiles of North America North of Mexico, with Comments Regarding Confidence in Our Understanding* (Crother 2017); and nomenclature of mammals follows the *Bats of the United States and Canada* (Harvey et al. 2011) and *Revised Checklist of North American Mammals North of Mexico* (Bradley et al. 2014).

*Amphibian Surveys*

General surveys for amphibians were conducted in appropriate habitat only during diurnal activity periods. The intent of these surveys was not to extensively search for individual amphibians, but to ascertain the presence of potential amphibian habitat and the location of amphibians within the study area. The discussions in this document of amphibians potentially present within the study area are based on the habitats used by the species and their geographic ranges. Surveys were conducted on foot in suitable habitat types concurrently with all other surveys within the study area. Habitats were examined for diagnostic amphibian sign such as egg masses, larvae, vocalizations, and direct observations. Surface litter, stones, fallen bark, tree branches, and cracks in mud were examined. Observed amphibian species, as well as diagnostic sign, were recorded in field notes.

*Reptile Surveys*

General surveys for reptiles were conducted in appropriate habitat only during diurnal activity periods. The intent of these surveys was not to extensively search for individual reptiles, but to ascertain the presence of potential reptile habitat and the location of reptiles within the study area. The discussions in this document of reptiles potentially present within the study area are based on the habitats used by the species and their geographic ranges. Surveys were conducted on foot in suitable habitat types concurrently with all other surveys within the study area. Habitats were examined for diagnostic reptile sign such as eggs, shed skins, scat, tracks, snake prints, lizard tail drag marks, and direct observations. All areas containing potentially suitable habitat were surveyed. While searching for resting reptiles, surface litter, stones, fallen bark, tree branches, and cracks in mud were examined. Observed reptile species, as well as diagnostic sign, were recorded in field notes.

*Avian Surveys*

General surveys for birds were conducted in appropriate habitat only during diurnal activity periods. The intent of these surveys was not to extensively search for individual birds, but to ascertain the presence of potential bird habitat and the location of birds within the study area. The discussions in this document of birds potentially present within the study area are based on the habitats used by the species and their geographic ranges. Surveys were conducted on foot in suitable habitat types concurrently with all other surveys within the study area. Birds were detected both by direct observations and by vocalizations. All areas containing potentially suitable habitat were surveyed. Bird species observed were recorded in field notes. Special attention was made to identify any bands or markings on avian species. Surveys for the presence of nesting raptors (birds of prey) within the study area were conducted simultaneously with other field surveys. Such efforts included directed and incidental observation of raptor nests and owl pellets, and the identification of raptor species flying over the study area. Observed raptor species, as well as diagnostic sign, were recorded in field notes.

*Mammal Surveys*

General surveys for mammals were conducted in appropriate habitat only during diurnal activity periods. The intent of these surveys was not to extensively search for individual mammals, but to ascertain the presence of potential mammal habitat and the location of mammals within the study area. The discussions in this document of mammals potentially present within the study area are based on the habitats used by the species and their geographic ranges. Surveys were conducted on foot in suitable habitat types concurrently with all other surveys within the study area. Many mammals are nocturnal and secretive, making daytime observations difficult. Therefore, the majority of the information on mammals within the study area comes from diagnostic sign. Habitats were examined for diagnostic mammal sign such as scat, burrows, tracks, dens, browsed vegetation or other feeding sign, hair, nests, bones, vocalizations, and direct observations. All areas containing potentially suitable habitat were surveyed. Methods employed while searching for mammals included searching the ground and adjacent vegetation, locating and

following mammal trails, surveying muddy banks of small streams and pools, and noting roadkill while traveling to and from the study area. Observed or expected mammal species, as well as diagnostic sign, were recorded in field notes.

### 4.2.4 Special-Status/Regulated Resources

Special-status resources typically require a more in-depth analysis to determine whether a species has the potential to occur within the study area, and what any potential impacts to that species may be. If a special-status species is determined to have a moderate or high potential to occur within the study area, then additional surveys and/or coordination with the appropriate resource agencies (CDFW, USFWS, etc.) may be required. The determination is done after surveying the study area and identifying all biological resources within the site, and using the literature review results to determine if a species has the potential to occur within the site based on the existing site conditions and known occurrences of a species in the area.

### 4.2.5 Special-Status Plant Surveys

Special-status plant species surveys are typically done on sites that have the potential to impact listed plant species, in particular species on the CNPS lists with a California Rare Plant Rank (CRPR) 1A, 1B, 2B, 3, and 4 ranking. CRPR 1A consists of plant species that are presumed extirpated in California and either rare or extinct elsewhere; CRPR 1B consists of plant that are rare, threatened, or endangered in California and elsewhere; and CRPR 2 consists of plants that are rare, threatened, or endangered in California but more common elsewhere. Plants with a CRPR 3 rank require more information to determine their status, while plants with a CRPR 4 rank are determined to have a limited distribution. Based on the results of the literature review and the field surveys, and a review of specific habitat requirements, occurrence records, and known distributions of the special-status plant species identified in the literature review, Michael Baker determined that the study area has a moderate or high potential to support one special-status plant species: Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*; CRPR 1B.2). Focused surveys were not conducted for these species due to the field surveys being conducted outside of their typical blooming period(s).

### 4.2.6 Special-Status Wildlife Surveys

As with special-status plant species, some special-status wildlife species require focused surveys to determine if a species is present or absent from the study area. Two special-status wildlife species were observed during the field survey: saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*; SSC) and Suisun song sparrow (*Melospiza melodia maxillaris*; SSC). Based on the results of the literature review and the field surveys, and a review of specific habitat requirements, occurrence records, and known distributions of the special-status wildlife species identified in the literature review, Michael Baker determined that the study area has a moderate or high potential to support two additional special-status wildlife species: northern harrier (*Circus hudsonius*; SSC) and osprey (*Pandion haliaetus*; CDFW Watchlist

Species [WL]), . However, these species do not require focused surveys to be conducted; therefore, special-status species surveys were not conducted for this project.

### 4.2.7 Jurisdictional Aquatic Resources

Michael Baker wetland delineators Stephen Anderson, John Parent, and Anna Jullie conducted a jurisdictional delineation/field survey of the study area on March 28, 2024, using the most recent, agency approved methodology, to confirm the extent of state and federal jurisdictional features previously mapped by LSA in March 2021 (i.e., wetland and non-wetland WoUS, WoS, streambed, and associated riparian vegetation). Based on the project's location, potential state and federal wetlands were delineated in accordance with the methods and guidance provided in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Arid West Regional Supplement; USACE 2008), and the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2019b).

While in the field, jurisdictional features were recorded on an aerial photograph at a scale of 1" = 400' using topographic contours and visible landmarks as guidelines. Data points were recorded in the field using a Garmin GPS Map 64sx Global Positioning System (GPS) to identify specific widths and length of jurisdictional features and the location of any ordinary high-water mark (OHWM) indicators, photograph points, soil pits, and other pertinent site characteristics. These data were then uploaded as a .shp file and confirmed/refined to ensure accuracy and consistency with hardcopy notes and aerial mapping completed in the field. Michael Baker then used ESRI ArcGIS Pro software to calculate the total acreage of jurisdictional features and prepare final project figures. An Aquatic Resource Delineation Report (ARDR) has been prepared by Michael Baker (2024) under separate cover (included as Appendix F to this Report).

### 4.2.8 Survey Limitations

Survey limitations consisted mainly of access limitations to portions of the study area due to property rights. Areas that were inaccessible were thoroughly surveyed at a distance with the assistance of binoculars. Additionally, the field survey was conducted in the early spring, which only coincides with a portion of the typical blooming periods for many plant species found in the area.

### 4.2.9 Regional Connectivity/Wildlife Movement Corridor Assessment

The analysis of wildlife movement corridors associated with the study area is based on information compiled from the literature, analysis of aerial photographs and topographic maps, and direct observations made in the field during survey work. A literature review was conducted that included documents on island biogeography (studies of fragmented and isolated habitat "islands"), reports on wildlife home range sizes and migration patterns, and studies on wildlife dispersal. Wildlife movement studies conducted in San Francisco Bay and Suisun Bay were also reviewed. The relationship of the study

area to large open space areas in the immediate vicinity (i.e., McNabney Marsh, Waterbird Regional Preserve, and the Point Edith Wildlife Area) was also evaluated in terms of connectivity and habitat linkages. Relative to corridor issues, the discussions in this report are intended to focus on wildlife movement associated with the study area.

The focus of this study Is to determine if the alteration of current land use on the subject property will have significant impacts on the regional movement of wildlife. This study did not include the use of track plates, camera stations, scent stations, or snares. Instead, notation was made during all site visits of the locations of animal sign to determine the species potentially utilizing the study area. The results of the literature review and site visits were used to draw conclusions about the wildlife potentially utilizing the study area.

# 5.0 RESULTS

## 5.1 Vegetation Communities, Land Cover, and Floral Diversity

Four vegetation communities and land cover types were identified on-site during the field survey. Vegetation communities and land cover types mapped in the study area are depicted on Figure 5: *Vegetation Communities and Other Land Uses* and described in further detail below. Refer to Appendix D for a complete list of plant species that were observed within the study area during the field survey. Refer to Table 2 below for a summary of the acreage of each vegetation community and land cover type within the study area.

**TABLE 2. VEGETATION COMMUNITIES AND LAND COVER TYPES WITHIN THE STUDY AREA**

| Vegetation Community/ Land Cover Type | Acreage within Study Area |
|---|---|
| Other Open Water (unvegetated open water embayment area) | 2.35 |
| Wetlands (Brackish Marsh) | 4.2 |
| Ruderal/Ornamental/Uplands | 10.72 |
| Developed/Disturbed | 9.26 |
| **Total** | **26.53** |

### 5.1.1 Other Open Waters

Approximately 2.35 acres of Other Waters are located within the study area. Other waters include ponded basins within the study area and the open water embayment. These waters are non-vegetated and subject to muted tidal action. The ponded basins appear to be permanently inundated with depths ranging from 2 to 5 feet at low tide and/or during the dry season. The embayment waters adjacent to the mitigation site are mostly inundated on a permanent basis with depths in excess of 2 feet at mean low tide. This community is concentrated in the eastern portion of the study area south of Waterfront Road and north and south of the existing UPRR railroad tracks.

### 5.1.2 Wetlands - Brackish Marsh

Approximately 4.2 acres of brackish marsh wetland are located within the study area. This community consists of a variety of vegetation associations depending on the amount and frequency of inundation. Areas that experience frequent inundation are dominated by cordgrass (*Spartina* sp.), bulrush (*Bolboschoenus* spp. and *Schoenoplectus* spp.), and common reed (*Phragmites australis*). Gumplant (*Grindelia* sp.), jaumea (*Jaumea* sp.), povertyweed (*Iva axillaris*), saltgrass, pickleweed, alkali heath, and

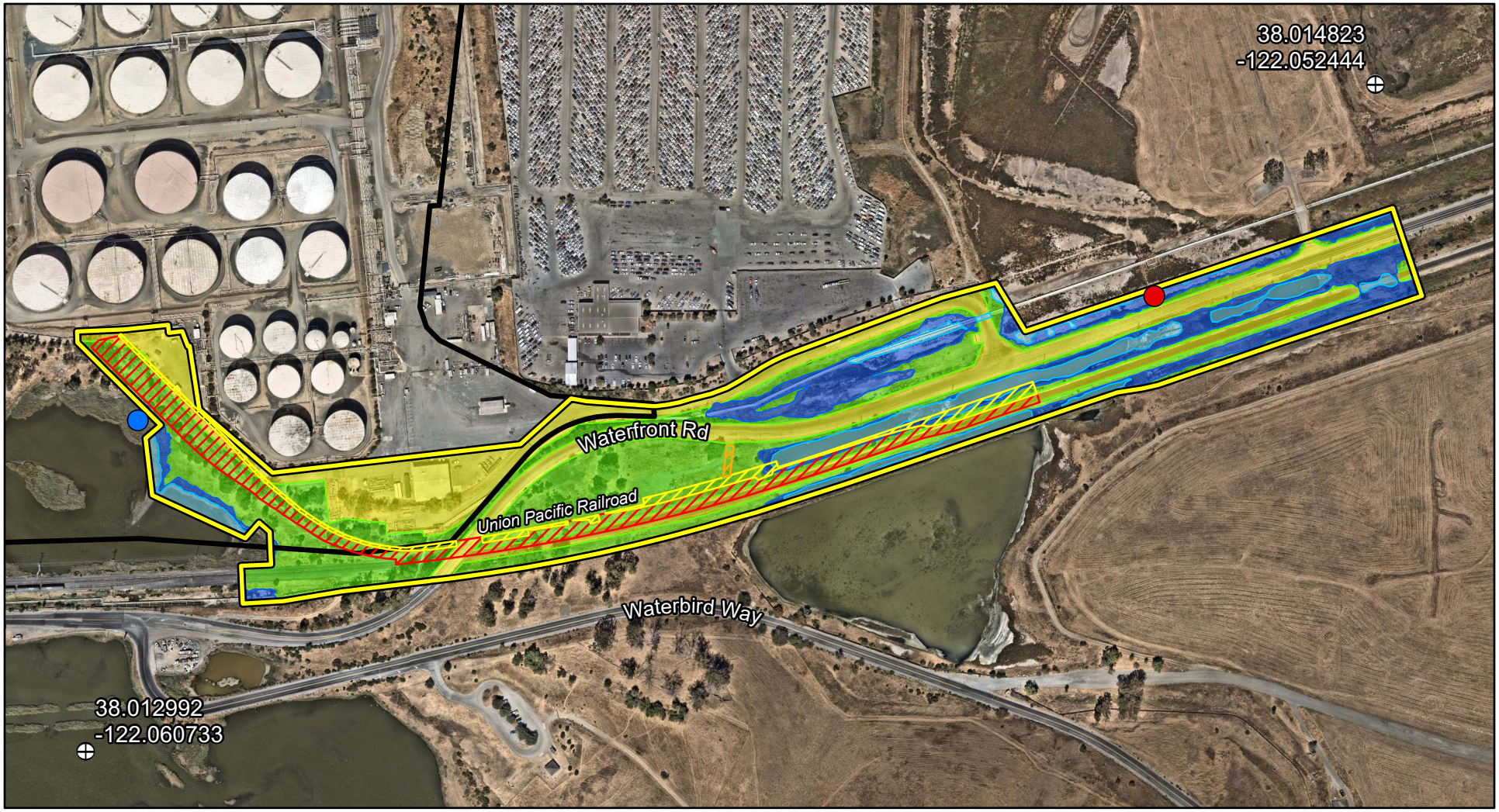
perennial pepperweed occur in very dense patches beside this brackish marsh vegetation on areas that are slightly elevated topographically or are not inundated as frequently. Non-native species present within this community include *Erodium sp.*, *Bromus sp.,* and fennel (*Foeniculum vulgare*). The presence of non-native vegetation has likely been brought on by human visitation within the study area. Brackish marsh habitat on-site consists of a small area along the western edge of the study area and along the borders of the embayments in the eastern portion of the study area, along Waterfront Road.

### 5.1.3 Ruderal/Ornamental/Uplands

Approximately 10.72 acres of Ruderal/Ornamental/Uplands are located within the study area. The study area contains uplands that have been modified from the original conditions and are characterized by ruderal vegetation including stands of non-native forbs and non-native grasslands with Tasmanian blue gum (*Eucalyptus globulus*), acacia (*Acacia* spp.), Peruvian pepper tree (*Schinus molle*), cotoneaster (*Cotoneaster* sp.), and other ornamental plants. The vegetated uplands in the study area are dominated by ruderal vegetation. The term "ruderal vegetation" is used to describe vegetation growing on disturbed land where native plant communities have been eliminated or substantially degraded. Ruderal vegetation is typically dominated by non-native species, but some native plants are also found in ruderal vegetation as well. Plant species diversity in this cover type is low and dominated by various non-native species typical of disturbed lands in the Bay Area and Delta regions. Typical ruderal non-native species present in upland within the study area include wild oat (*Avena fatua*), rip-gut brome (*Bromus diandrus*), prickly lettuce (*Lactuca serriola*), vetch (*Vicia* sp.), and wild radish (*Raphanus sativus*). Native coyote brush and toyon (*Heteromeles arbutifolia*) shrubs were also present in some areas. This vegetation community occurs primarily within the western portion of the study area with a small portion at the southeastern end of the site.

### 5.1.4 Developed/Disturbed

Approximately 9.26 acres of disturbed/developed land cover are located within the study area. Disturbed/developed areas include areas with petroleum pipelines, areas utilized to access and maintenance utilities crossing the study area, and areas that have been disturbed in the past and are devoid of vegetation.




**Legend**

- Reference Point
- Study Area
- Martinez Terminal Property Boundary
- Developed/Disturbed (9.26 ac)
- Ruderal/Ornamental/Uplands (10.72 ac)
- Brackish Marsh Wetlands (4.2 ac)
- Other Open Water (2.35 ac)
- Permanent Impacts (2.72 ac)
- Temporary Impacts (0.81 ac)
- Temporary Impacts Access (0.03 ac)
- Saltmarsh Common Yellowthroat (*Geothlypis trichas sinuosa*)
- Suisun Song Sparrow (*Melospiza melodia maxillaris*)

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

Michael Baker INTERNATIONAL

0 200 400 US Feet

Source: Nearmap Imagery 2024, Esri Hybrid Reference Layer

## Vegetation Communities, Other Land Uses, and Special-Status Species Observations

Figure 5

### 5.1.5 Floral Diversity

A total of 42 plant species were recorded in the study area, including 13 native species (31%) and 29 non-native species (69%). The survey was conducted outside of the blooming period for many plant species, and all species present on-site may not have been detectable/identifiable at the time of the survey. The study area is mostly dominated by a ruderal and disturbed vegetation types, with native vegetation communities occurring in lesser quantities. Common plant species observed within the study area are referenced in the description of the vegetation communities and land cover types above. A cumulative list of plant species observed within the study area is provided in Appendix D. Special-status plant species are discussed in Section 5.4.1.

## 5.2 Wildlife Diversity

The plant communities discussed above provide wildlife habitat. While a few wildlife species are entirely dependent on a single natural community, the entire mosaic of all the natural communities within the study area and adjoining areas constitutes a functional ecosystem for a variety of wildlife species, both within the study area and as part of the regional ecosystem. Natural vegetation communities provide foraging habitat, nesting/denning sites, and shelter from adverse weather or predation. Following are discussions of wildlife populations within the study area, segregated by taxonomic group. This section provides a general discussion of those wildlife species that were observed during the field survey or that are expected to occur based on existing site conditions. The discussion is to be used as a general reference and is limited by the season, time of day, and weather conditions during which the field survey was conducted. Wildlife detections were based on calls, songs, scat, tracks, burrows, and direct observation. Refer to Appendix D for a complete list of wildlife species observed during the field survey. Species that were outside of the study area but readily observable during the field surveys were also recorded. Special-status wildlife species occurring or potentially occurring are discussed further in Section 5.4.2.

### 5.2.1 Invertebrates

No direct surveys for common invertebrates were conducted; however, invertebrate species that were observed during the field survey were recorded. Invertebrate species observed included honeybee (*Apis mellifera*), American dog tick (*Dermacentor variabilis*), and Western black-legged tick (*Ixodes pacificus*). Special-status invertebrate species are discussed further in Section 5.4.2.

### 5.2.2 Amphibians

The potential presence of amphibians varies greatly between habitats within the study area. Terrestrial species may or may not require standing water for reproduction. Terrestrial species avoid desiccation by burrowing underground; within crevices in trees, rocks, and logs; and under stones and surface litter during the day and dry seasons. Due to their secretive nature, terrestrial amphibians are rarely observed, but may be quite abundant if conditions are favorable. Aquatic amphibians are dependent on standing or

flowing water for reproduction. Such habitats include freshwater marshes and open water (reservoirs, permanent and temporary pools and ponds, and perennial streams). Many aquatic amphibians will use temporary pools as nesting sites. These pools are temporary in duration and form following winter and spring rains common to the San Francisco Bay Area. The study area has the potential to support amphibians that do require a permanent water source; however, no amphibian species were observed during the field survey. Special-status amphibian species are discussed further in Section 5.4.2.

### 5.2.3 Reptiles

Reptilian diversity and abundance typically vary with habitat type and character. Some species prefer only one or two natural communities; however, most will forage in a variety of communities. Several reptile species prefer open habitats that allow free movement and high visibility. Most species occurring in open habitats rely on the presence of small mammal burrows for cover and escape from predators and extreme weather.

The study area has many essential reptilian habitat characteristics and possesses the potential to support several species. One reptile species was observed within the study area: coast range fence lizard (*Sceloporus occidentalis bocourtii*). A number of additional species have a potential to occur, including San Francisco alligator lizard (*Elgaria coerulea coerulea*) and Skilton's skink *(Plestidon skiltonianus skiltonianus*). Special-status reptile species are discussed in Section 5.4.2.

### 5.2.4 Birds

Much of the habitat within the study area provides foraging opportunities for avian species, including killdeer (*Charadruis vociferans*), American avocet (*Recurvirostra americana*), and Canada goose (*Branta canadensis*), which were observed during the field survey, along with 27 other bird species. The study area supports brackish marsh wetlands, which provides foraging opportunities for coastal/shoreline bird species such as American coot (*Fulcia americana*), Canada goose (*Branta canadensis*), great egret (*Ardea alba*), and black-necked stilt (*Himantopus mexicanus*). Additionally, this habitat provides foraging opportunities for small mammals, which may attract predatory bird species. Collectively, the availability of prey and vegetation and anthropogenic structures for perching would suggest that the study area is being used by a variety of avian species. All avian species observed are included in Appendix D. Special-status avian species are discussed in Section 5.4.2.

### 5.2.5 Mammals

One mammal species was observed within the study area: domestic dog (*Canis domesticus*). A number of other species are expected to be resident within the region and may use the study area to forage or for cover, including coyote (*Canis latrans*) and California ground squirrel (*Otospermophilus beecheyi*). Special-status mammal species are discussed in Section 5.4.2.

### 5.2.6 Fish

An embayment in the western portion of the study area provides habitat for fish species, including chinook salmon, leopard shark (*Triakis semifasciata*), spiny dogfish (*Squalus acanthias*), brown rockfish (*Sebastes auriculatus*), topsmelt (*Atherinops affinis*), northern anchovy (*Engraulis mordax*), and starry flounder (*Platichthys stellatus*). No fish species were observed during the field survey. Special-status fish species are discussed in Section 5.4.2.

## 5.3 Special-Status/Regulated Resources

The CNDDB, CIRP, and IPaC were queried for reported locations of special-status plant and wildlife species as well as special-status natural vegetation communities in the USGS *Cordelia, Clayton, Briones Valley. Walnut Creek, Honker Bay, Vine Hill, Fairfield South, Benicia, and Denverton, California* 7.5-minute quadrangles. The field survey was conducted to assess and evaluate the existing condition of the habitat(s) within the boundaries of the study area to determine if the existing vegetation communities, at the time of the field survey, have the potential to provide suitable habitat(s) for special-status plant and wildlife species. Additionally, the reported locations of the CNDDB and CIRP species records in relation to the study area were considered. The following categories were used to assign the potential for each species to occur within the study area:

- **Present**: the species was observed or detected within the study area during the field survey.
- **High**: Occurrence records (within 20 years) indicate that the species has been known to occur on or within 1 mile of the study area and the site is within the normal expected range of this species. Intact, suitable habitat preferred by this species occurs within the study area and/or there is viable landscape connectivity to a local known extant population(s) or sighting(s).
- **Moderate**: Occurrence records (within 20 years) indicate that the species has been known to occur within 1 mile of the study area and the site is within the normal expected range of this species. There is suitable habitat within the study area, but the site is ecologically isolated from any local known extant populations or sightings.
- **Low**: Occurrence records (within 20 years) indicate that the species has been known to occur within 5 miles of the study area, but the site is outside of the normal expected range of the species and/or there is poor quality or marginal habitat within the study area.
- **Not Expected**: There are no occurrence records of the species occurring within 5 miles of the study area, there is no suitable habitat within the study area, and/or the study area is outside of the normal expected range for the species.

Special-status plant and wildlife species were evaluated for their potential to occur within the study area based on habitat requirements, availability and quality of suitable habitat, and known distributions. Special-status biological resources identified during the literature review as having the potential to occur

within the vicinity of the study area are presented in *Table E: Potentially Occurring Special-Status Biological Resources,* in Appendix E. In addition, potential jurisdictional aquatic features occurring on-site are described in detail below.

### 5.3.1 Special-Status Plant Species

No special-status plant species were observed during the field survey. Based on the results of the literature review and the field survey, existing site conditions, and a review of specific habitat requirements, occurrence records, and known distributions, Michael Baker determined that the native vegetation communities within the study area have a moderate or high potential to support one special-status plant species: Delta tule pea (CRPR 1B.2). Because the field survey occurred outside of the blooming period for many special-status plant species, focused survey for this species was not conducted. Michael Baker determined that these vegetation communities also have a low potential to support six special-status plant species: pappose tarplant (*Centromadia parryi ssp. parryi*; CRPR 1B.2), Coulter's goldfields (*Lasthenia glabrata ssp. coulteri*; CRPR 1B.1), Mason's lilaeopis (*Lilaeopsis masonii*; CRPR 1B.1), Delta mudwort (*Limosella australis*; CRPR 2B.1), long-styled sand-spurry (*Spergularia macrotheca var. longistyla*; CRPR 1B.2), and Suisun marsh aster (*Symphyotrichum lentum*; CRPR 1B.2). However, due to the low potential to occur within the study area, these species are not anticipated to be impacted by the proposed project. Therefore, further discussion is not warranted. All remaining special-status plant species identified during the literature review are not expected to occur within the study area due to lack of suitable habitat, lack of recent extant occurrences near the study area, and/or the study area is not within the elevation range of those species. Those species that have a moderate or high potential to occur within the study area, including Delta Tule pea, are described in more detail below. All special-status plant species identified during the literature review are included in Appendix E.

Delta Tule Pea

This species is endemic to California and has a CRPR of 1B.2. Found mainly in the Sacramento and San Joaquin Delta, it is also documented from Contra Costa, Sacramento, San Joaquin, Solano, Napa, and Alameda Counties. Delta tule pea inhabits coastal and estuarine marshes and swamps and slough edges. Commonly found with California wildrose (*Rosa californica*), cattails (*Typha* ssp.), and common tule (*Scirpus acutus*). Though not detected during field surveys, habitat potentially suitable for this species occurs on-site and this species is known from the immediate vicinity of McNabney Marsh, and numerous CNDDB records occur within 0.1 mile of the site. As a result, this species was determined to have a high potential to occur in the study area.

### 5.3.2 Special-Status Wildlife Species

Two special-status wildlife species were observed during the field survey, saltmarsh common yellowthroat (SSC) and Suisun's song sparrow (SSC). Based on the results of the literature review and the field surveys, and a review of specific habitat requirements, occurrence records, and known distributions of the special-

status wildlife species identified in the literature review, Michael Baker determined that the study area has a moderate or high potential to support two additional special-status wildlife species: northern harrier (*Circus hudsonius*; SSC) and osprey (*Pandion haliaetus*; WL). In addition, Michael Baker determined that the study area has a low potential to support eleven special-status wildlife species: pallid bat (*Antrozous pallidus*; SSC), Crotch's bumblebee (*Bombus crotchii*; State Candidate Endangered [SCE]), western bumblebee (*Bombus occidentalis*; SCE), Townsend's big-eared bat (*Corynorhinus townsendii*; SSC), yellow rail (*Coturnicops noveboracensis*; SSC), white-tailed kite (*Elanus leucurus*; Fully Protected [FP]), western red bat (*Lasiurus blossevillii*; SSC), California black rail (*Laterallus jamaicensis caturniculus*; FP, State Threatened [ST]), Sacramento splittail (*Pogonichthys macrolevidotus*; SSC), California ridgeway's rail (*Rallus obsoletus obsoletus*; FP, Federally Endangered [FE], State Endangered [SE]), and longfin smelt (*Spirinchus thaleichthys*; Proposed Federally Endangered [PFE], State Threatened [ST]). However, due to the low potential to occur within the study area, these species are not anticipated to be impacted by the proposed project. Therefore, further discussion is not warranted. All remaining special-status wildlife species identified during the literature review are not expected to occur within the study area based on existing site conditions and a review of specific habitat requirements, occurrence records, and known distributions. Those species that were observed during the field survey or have a moderate or high potential to occur within the study area, including saltmarsh common yellowthroat, Suisun's song sparrow, northern harrier, and osprey, are described in more detail below. The complete list of special-status wildlife species identified during the literature review is attached in Appendix E.

Saltmarsh common yellowthroat

Endemic to the greater San Francisco Bay region, the Saltmarsh common yellowthroat is one of thirteen commonly accepted subspecies of the common yellowthroat and is a CDFW SSC. The current range of this subspecies includes four main areas; coastal riparian and wetland areas of western Marin County, the tidal marsh system of San Pablo Bay, the tidal marsh system of southern San Francisco Bay, and coastal riparian and wetland areas in San Mateo County. Additional disjunct populations occur at; Lake Merced, San Francisco County; and wet areas on San Bruno Mountain, San Mateo County. This species occupies the ecotone between moist and upland habitats, and occasionally small and isolated patches of habitat. In brackish and saline tidal marsh habitat around San Francisco Bay, abundance is associates with a high percent cover of rushes (*Scirpus* spp.) (Shuford 2008). Yellowthroats build open-cup nests that are well concealed, typically near the ground in grasses, herbaceous vegetation, cattails, tules, and some shrubs.

This species is known from the Martinez area, suitable habitat for the species occurs within the study area, and numerous CNDDB records occur within close proximity to the site. The saltmarsh common yellowthroat is present within the study area as individuals were detected during the field survey.

Suisun's song sparrow

Endemic to California, the Suisun's song sparrow is a CDFW Species of Special Concern (SSC). This species is confined to tidal salt and brackish marshes fringing the Suisun Bay and Carquinez Strait east to Antioch,

at the confluence of the San Joaquin and Sacramento rivers. Populations vary in size, with the largest in Benicia State Park and along the Martinez shoreline. This subspecies is known to occur in the tidal marshes within Suisun Bay, requiring dense vegetation for nesting sites, song perches, and cover for refuge from predators. Suisun song sparrows use a variety of habitat types, though they are primarily associated with tidal channels dominated by pickleweed with gumplant along the channels. Song sparrows build cup nests in dense vegetation in a large variety of substrates.

Suitable habitat for this species is present within the study area. In addition, Suisun's song sparrow was observed within the study area during the field survey.

Northern harrier

Northern harrier is a medium-sized raptor that is a CDFW SSC. This species occurs year-round within its breeding range in California and occurs in greater numbers and a broader range during migration and winter months. Northern harriers forage and breed in a variety of treeless, open habitats that provide adequate prey, cover, and low perches, such as fence posts and shrubs. Within California, habitats include freshwater marshes, saltwater, marshes, brackish marshes, wet meadows, and the borders of lakes, rivers, and streams, as well as grasslands and some croplands.

This species was not observed during the field survey; however, more than 100 observations have been reported in the project vicinity in eBird since 2009 (eBird 2024). Therefore, this species is expected to be a regular visitor, and due to the number of utility poles and trees in the area, also has the potential to nest in the vicinity of the study area. This species was determined to have a high potential to occur on-site.

Osprey

Osprey is a large, fish-eating raptor that is a CDFW Watch List species. This species is typically found in and around coastal saltwater habitats, such as bays and estuaries, but they are also known to occur near inland lakes and rivers. They prefer to nest on tall, isolated trees, poles, and towers.

This species was not observed during the field survey; however, more than 100 observations have been reported in the project vicinity in eBird since 2009 (eBird 2024). Therefore, this species is expected to be a regular visitor, and due to the number of utility poles and trees in the area, also has the potential to nest in the vicinity of the study area. This species was determined to have high potential to occur within the study area.

### 5.3.3 Sensitive Natural Communities

Six special-status vegetation communities have been reported in the CNDDB within the USGS *Cordelia, Clayton, Briones Valley. Walnut Creek, Honker Bay, Vine Hill, Fairfield South, Benicia, and Denverton, California* 7.5-minute quadrangles: Coastal Brackish Marsh, Northern Claypan Vernal Pool, Northern Coastal Salt Marsh, Northern Maritime Chaparral, Serpentine Bunchgrass, and Valley Needlegrass

Grassland. Two of these special-status vegetation communities, Coastal Brackish Marsh and Northern Coastal Salt Marsh, correspond with the Brackish Marsh Wetlands identified within the study area during the field surveys.

### 5.3.4 Critical Habitat

No Critical Habitat designated by USFWS for any species listed under the ESA coincides with the study area. Critical habitat for Delta smelt (*Hypomesus transpacificus*, FT, SE) coinciding with Suisun Bay, is located approximately 0.65-mile northwest of the study area (refer to Figure 6: *Critical Habitat*). In addition, Critical Habitat for Alameda whipsnake (=striped racer) (*Masticophis lateralis euryxanthus*, FT, ST) is located approximately 4 miles southwest of the study area.

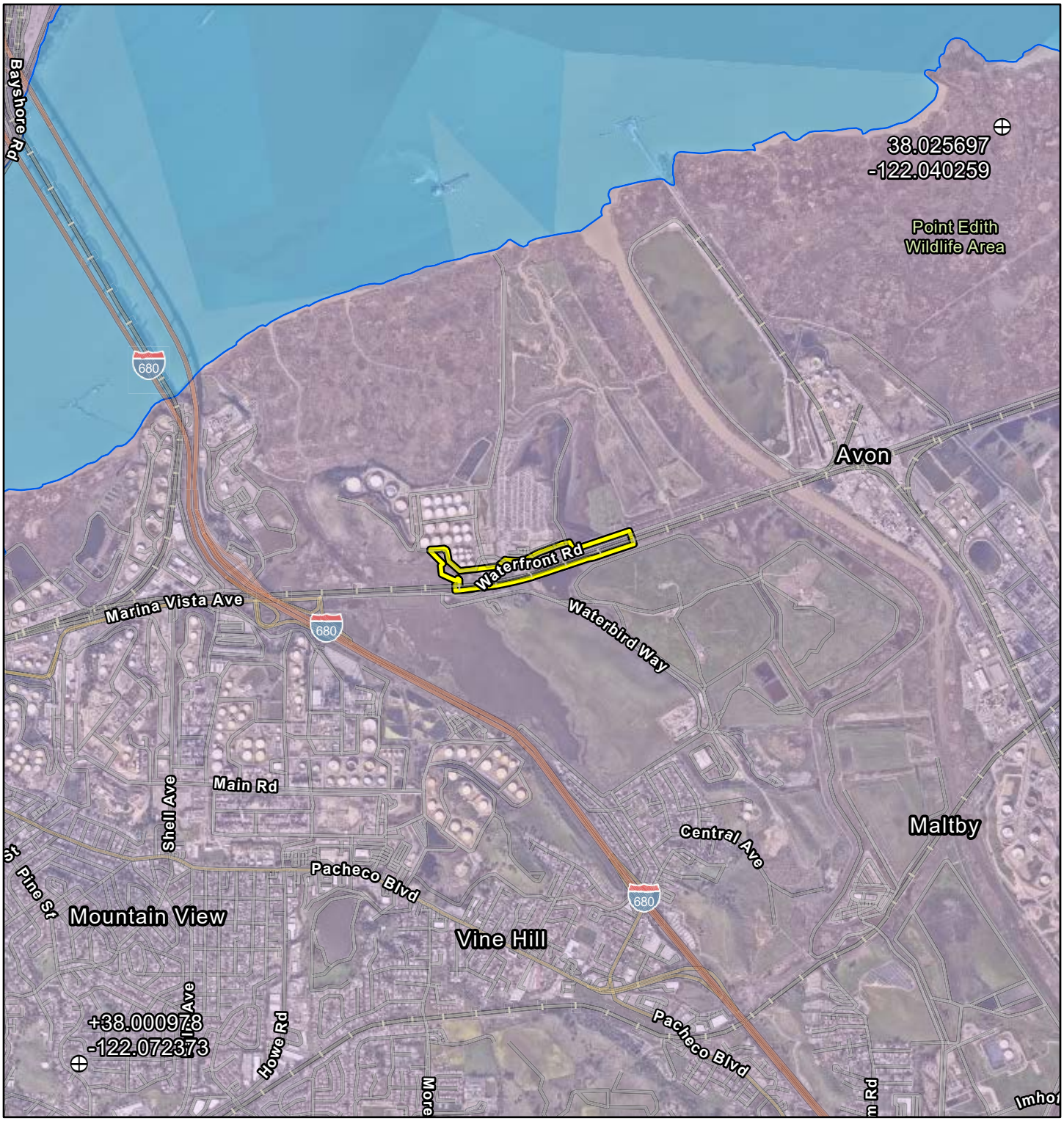
Critical Habitat designated by NMFS for species listed under the ESA is also absent from the study area, although Critical Habitat for green sturgeon (*Acipenser medirostris*, southern Distinct Population Segment [DPS], FT) lies within 0.3 mile north of the study area, on the other side of the petroleum facility.

### 5.3.4 Essential Fish Habitat

EFH for chinook salmon (*Oncorhynchus tshawfscha*) coincides with the study area and extends across upland areas in the project vicinity (refer to Figure 6). Additionally, EFH for groundfish and coastal pelagic species coincide with Suisun Bay, just north/northwest of the study area.

### 5.3.5 Jurisdictional Aquatic Resources

Three potentially state or federal jurisdictional features were recorded and mapped within the study area by Michael Baker (2024). These features exhibit a perennial system; exhibit relatively permanent waters (RPW); and exhibit a continuous surface connection to a downstream traditional navigable water (TNW). Accordingly, these features would be considered subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act. In addition, these features would be considered subject to the jurisdiction of the RWQCB. However, these aquatic features are not classified as streambeds or lakes, and do not contain any associated riparian habitat, and are therefore not considered jurisdiction to CDFW under Section 1600 *et seq.* of CFGC. The jurisdiction of the USACE totals approximately 4.20 acres of wetland WoUS and 2.35 acres of non-wetland WoUS. The jurisdiction of the RWQCB reflects that of the USACE, and totals approximately 4.20 acres of wetland WoS and 2.35 acres of non-wetland WoS. Table 3 below shows potential jurisdictional resources present within the study area.




**Legend**

- Reference Point
- Study Area
- Delta Smelt (*Hypomesus transpacificus*) - Critical Habitat
- Chinook Salmon (*Oncorhynchus tshawytscha*) - Essential Fish Habitat

Michael Baker INTERNATIONAL

0 0.25 0.5 Miles

# Critical Habitat and Essential Fish Habitat

Source: USFWS, NOAA, Nearmap Imagery 2024, Esri Hybrid Reference Layer

Figure 6

**Table 3: State and Federal Jurisdictional Resources within the Study Area**

| Feature Name | Location Lat/Long | Cowardin Type | Linear Feet | Acreage within Study Area | | | |
|---|---|---|---|---|---|---|---|
| | | | | USACE | | RWQCB | |
| | | | | Wetland WoUS | Non-Wetland WoUS | Wetland WoS | Non-Wetland WoS |
| Aquatic Feature 1 | 38.027393°/ -122.101245° | Estuarine | - | 0.30 | 0.35 | 0.30 | 0.35 |
| Aquatic Feature 2 | 38.028507°/ -122.092429° | Estuarine | - | 2.00 | 1.60 | 2.00 | 1.60 |
| Aquatic Feature 3 | 38.027815°/ -122.093542° | Estuarine | - | 1.90 | 0.40 | 1.90 | 0.40 |
| **TOTAL** | | | **-** | **4.20** | **2.35** | **4.20** | **2.35** |

# 5.4 Regional Connectivity, Wildlife Movement Corridors, and Habitat Linkages

## 5.4.1 Overview

Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated “islands” of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because they prohibit the infusion of new individuals and genetic material (MacArthur and Wilson 1967; Soulé 1987; Harris and Gallagher 1989; Bennet 1990). Corridors effectively act as links between different populations of a species. A group of smaller populations (termed “demes”) linked together via a system of corridors is termed a “metapopulation.” The long-term health of each deme within the metapopulation is dependent upon its size and the frequency of interchange of individuals (immigration versus emigration). The smaller the deme, the more important immigration becomes, because prolonged inbreeding with the same individuals can reduce genetic variability. Immigrant individuals that move into the deme from adjoining demes mate with individuals and supply that deme with new genes and gene combinations that increases overall genetic diversity. An increase in a population’s genetic variability is generally associated with an increase in a population’s health.

Corridors mitigate the effects of habitat fragmentation by: (1) allowing animals to move between remaining habitats, which allows depleted populations to be replenished and promotes genetic diversity; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events (such as fires or disease) will result in population or local species extinction; and (3)

serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and other needs (Noss 1983, Fahrig and Merriam 1985, Simberloff and Cox 1987).

Wildlife movement activities usually fall into one of three movement categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) movements related to home range activities (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). A number of terms have been used in various wildlife movement studies, such as "travel route," "wildlife corridor," and "wildlife crossing," to refer to areas in which wildlife move from one area to another. To clarify the meaning of these terms and facilitate the discussion on wildlife movement in this study, these terms are defined as follows:

- **Travel Route:** A landscape feature (such as a ridgeline, drainage, canyon, or riparian strip) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another; contains adequate food, water, and/or cover while moving between habitat areas; and provides a relatively direct link between target habitat areas.
- **Wildlife Corridor:** A piece of habitat, usually linear in nature, that connects two or more habitat patches that would otherwise be fragmented or isolated from one another. Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitate movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species.
- **Wildlife Crossing:** A small, narrow area, relatively short in length and generally constricted in nature, that allows wildlife to pass under or through an obstacle or barrier that otherwise hinders or prevents movement. Crossings typically are man-made and include culverts, underpasses, drainage pipes, and tunnels to provide access across or under roads, highways, pipelines, or other physical obstacles.

It is important to note that, within a large open space area in which there are few or no man-made or naturally occurring physical constraints to wildlife movement, wildlife corridors as defined above may not yet exist. Given an open space area that is both large enough to maintain viable populations of species and provide a variety of travel routes (canyons, ridgelines, trails, riverbeds, and others), wildlife will use these "local" routes while searching for food, water, shelter, and mates, and will not need to cross into other large open space areas. Based on their size, location, vegetative composition, and availability of food, some of these movement areas (e.g., large drainages and canyons) are used for longer lengths of time and serve as source areas for food, water, and cover, particularly for small- and medium-sized mammals. This is especially true if the travel route is within a larger open space area. However, once open space areas become constrained and/or fragmented as a result of urban development or construction of physical obstacles such as roads and highways, remaining landscape features or travel routes that connect

the larger open space areas can "become" corridors as long as they provide adequate space, cover, food, and water, and do not contain obstacles or distractions (man-made noise, lighting) that would generally hinder wildlife movement.

### 5.4.2 Wildlife Movement within the Project Site

As described in the previous section, wildlife movement activities usually fall into one of three movement categories: dispersal, seasonal migration, and movements related to home range activities. Although the nature of these movements are species specific, large open spaces will generally support a diverse wildlife community representing all types of movement. Each type of movement may also be represented at a variety of scales from non-migratory movement of amphibians, reptiles, and some birds on a "local" level to many square mile home ranges of large mammals moving at a "regional" level. The location of the study area supports all types of wildlife movement on some scale.

Movement on a smaller or "local" scale occurs throughout the surrounding vicinity as well as within the undeveloped portions of the study area. Data gathered from biological surveys indicate that the study area contains habitat that supports a variety of species of invertebrates, amphibians, reptiles, birds, and mammals. The home range and average dispersal distance of many of these species are likely larger than the study area and extend into and through the adjacent open spaces. Populations of animals such as insects, amphibians, reptiles, small mammals, and a few bird species are unlikely to find all their resource requirements within the study area, and therefore only likely to transit through the study area on an occasional basis while moving throughout their ranges and dispersing. Mammals known to occur within the study area either by direct observation or by the presence of sign include the California ground squirrel and coyote.

Movement on a larger, "regional" scale is unlikely to occur to and from the study area due to the limited availability of resources within the study area and given the proximity to large open spaces adjacent to the study area, is likely to consist primarily of transients. The study area is largely developed and borders large open space areas including the Waterbird Regional Preserve, Point Edith Wildlife Area, and Suisun Bay. The disturbed and developed nature of the study area and lack of resources provided within, likely hinder wildlife movement in the form of travel routes (as defined above).

## 5.5 Regional Resource Planning Context

The project is not located within the boundary of any approved natural community conservation plan (NCCP) or habitat conservation plan (HCP) documents, including any multiple species conservation plan or multiple species habitat conservation plan.

# 6.0 PROJECT IMPACTS

## 6.1 Definition of Impacts

### Project Description

The proposed project would reestablish a former rail line on the south side of the existing Martinez Terminal in the City, connecting to the existing UPRR railroad tracks south of Waterfront Road. The proposed rail line would be located within the existing Martinez Terminal property and within UPRR ROW. The project would include construction of approximately 3,850 linear feet of new track, with a lead track of approximately 1,900 feet, and three operating industry tracks of approximately 650 feet each. These proposed tracks would hold train cars for the transport of a range of petroleum-based and renewable products, feed stocks, and blend stocks commodities. Currently, these products arrive at the Martinez Terminal via wharf or pipeline. Implementation of the proposed project would reestablish rail service to the project site.

### Direct Impacts

Direct permanent impacts typically refer to 100 percent permanent loss of a biological resource. It is also often referred to as the "project footprint" and refers to the area where vegetation clearing, grubbing, and mass grading occurs. It may include brush management zones or fuel modification zones. Essentially, wherever the existing vegetation or land cover would be permanently affected, it is considered permanent direct impact.

Direct temporary impacts typically refer to short-term removal of a biological resource where the resource is expected to fully recover its function upon completion of the project. Areas subject to temporary disturbance may include slope remediation sites, construction access roads, staging areas, stockpiles, mowing, and dredging. Such sites would not have permanent structures.

### Indirect Impacts

Indirect impacts are reasonably foreseeable effects caused by project implementation on remaining or adjacent biological resources outside the direct construction disturbance zone. Indirect impacts may affect areas within the defined project area but outside the construction disturbance zone, including open space and areas outside the project area, such as downstream effects. Indirect impacts include short-term effects immediately related to construction activities and long-term or chronic effects related to the human occupation of developed areas (i.e., development-related long-term effects). In most cases, indirect effects are not quantified, but in some cases, quantification might be included, such as total dissolved solids released to downstream areas or using a noise contour to quantify indirect impacts to nesting birds.

## 6.2 Impacts to Vegetation Communities and Land Covers

Impacts to vegetation communities and land cover types within the project site will occur during active construction and use of staging areas. Refer to Table 4 below for permanent and temporary impacts to vegetation communities and land cover types within the project site. Based on current design, it is anticipated that project activities will result in a total of 2.72 acres of permanent and 0.85 acre of temporary impacts, as presented below in Table 4.

**TABLE 4. IMPACTS TO VEGETATION COMMUNITIES AND LAND COVER TYPES WITHIN THE PROJECT SITE**

| Vegetation Community/ Land Cover Type | Temporary Impacts within Project Site (acres) | Permanent Impacts within Project Site (acres) |
|---|---|---|
| Other Open Water (unvegetated open water embayment area) | 0.09 | 0.01 |
| Wetlands (Brackish Marsh) | 0.11 | 0.06 |
| Ruderal/Ornamental/Uplands | 0.53 | 1.74 |
| Developed/Disturbed | 0.12 | 0.91 |
| **Total** | **0.85** | **2.72** |

## 6.3 Impacts to Special-Status Plant Species

### Direct Impacts

Permanent direct impacts to special-status plant species may occur during implementation of the proposed project. As described in Section 5.4.1 above, there is a high potential for one special-status plant species to occur on the study area: Delta tule pea (CRPR 1B.2). Impacts to this species can occur through the direct loss of individuals during construction. To determine if the project will directly impact any special-status plant species, a rare plant survey will be conducted to document the presence or absence any special-status plants within the study area.

### Indirect Impacts

Indirect impacts to special-status plants may be short-term construction-related impacts or long-term development-related impacts. These impacts could include the accumulation of construction-related dust on plants, which may affect their ability to photosynthesize, or the alteration of waterways that may affect plant species that require a source of surface or groundwater to survive. In addition, the introduction of invasive species, pollutants, or hazardous materials may occur during construction and have an indirect impact on special-status plant species that may occur with or adjacent to any active construction. As previously mentioned, a rare plant survey will be conducted to document any special-status plant species that may be indirectly affected by the proposed project.

## 6.4 Impacts to Special-Status Wildlife Species

### Direct Impacts

Permanent direct impacts to special-status wildlife species may occur during implementation of the proposed project. As described in Section 5.4.2 above, two special-status wildlife species were observed during the field survey: saltmarsh common yellowthroat (SSC) and Suisun's song sparrow (SSC). There is also a moderate and high potential for two special-status wildlife species to occur within the study area: northern harrier (SSC) and osprey (WL). Impacts to these species could include the loss of individuals, loss of important resources, and/or the loss of suitable habitat. Although most adult birds are mobile and can escape direct injury or mortality by flying away from a construction site, a displaced animal may be more vulnerable to injury or mortality if its territory has been impacted.

### Indirect Impacts

Indirect impacts to special-status wildlife species may occur during implementation of the proposed project. These impacts include construction noise that may temporarily affect a bird attempting to nest in the area, or with an active nest. Construction-related noise has been documented to cause birds to abandon their nests and young, ultimately having an impact on that species' survival. Increased lighting due to night work may also potentially affect nearby sensitive species or attract predators to that area.

## 6.5 Impacts to Critical Habitat

Critical habitat for Delta Smelt (FT) is located approximately 0.65-mile northwest of the study area. In addition, critical habitat for Alameda whipsnake is located approximately 4 miles southwest of the study area. However, no critical habitat is present within the project site. Therefore, impacts to critical habitat are not anticipated and no further discussion is warranted.

## 6.6 Impacts to Essential Fish Habitat

Essential Fish Habitat (EFH) for Chinook salmon coincides with Suisun Bay and vast areas of upland areas surrounding the bay, including the project site. Permanent and temporary impacts are minor and would avoid aquatic features that are tidally influenced and provide suitable habitat and have been limited to areas where track rehabilitation is necessary. EFH for groundfish and coastal pelagic species also coincides with Suisun Bay but does not extend into the project site. Significant impacts are not anticipated to occur and the proposed project will not significantly impact NMFS' conservations goals for Chinook salmon.

## 6.7 Impacts to Jurisdictional Waters/Wetlands

Impacts to potentially jurisdictional waters are anticipated by the proposed project. Refer to Table 5 below regarding temporary and permanent impacts within the project site. The proposed project is anticipated

to result in 0.07 acre of permanent impacts and 0.20 acre of temporary impacts to jurisdictional waters/wetlands. All impacts would occur to Aquatic Feature 2, identified in the Michael Baker ARDR (2024) as an earthen perennial channel beginning in the center of the project site south of Waterfront Road and the adjacent railroad tracks, continuing east through to the eastern end of the project site.

**Table 5: Impacts to State and Federal Jurisdictional Resources within the Project Site**

| **Temporary Impacts** to USACE and RWQCB Jurisdiction | | **Permanent Impacts** to USACE and RWQCB Jurisdiction | |
|---|---|---|---|
| **Wetland WoUS and WoS** | **Non-Wetland WoUS and WoS** | **Wetland WoUS and WoS** | **Non-Wetland WoUS and WoS** |
| 0.11 | 0.09 | 0.06 | 0.01 |

# 6.8 Impacts to Wildlife Corridors and Habitat Connectivity

## Direct Impacts

The project site consists mostly of developed and disturbed land and is bisected by the UPRR right-of-way to the south and Waterfront Road, with tidelands to the west, and industrial and undeveloped lands to the east. The project site is not identified as a wildlife corridor within any NCCP, HCP, or subarea plan. The proposed project consists of the reestablishment of a former rail line on the south side of the Martinez Terminal, connecting the existing UPRR railroad tracks south of Waterfront Road. The project is not anticipated to cause any impacts to wildlife movement or connectivity within the project site or to the surrounding area.

## Indirect Impacts

The project is not anticipated to result in any impacts to wildlife corridors or connectivity within the project site or surrounding area.

# 6.9 Impacts to Regional Resource Planning

The project site is not located within any NCCP, HCP, associated subarea plan, or any other regional resources planning effort. Therefore, the project is not anticipated to impact any regional resource planning effort.

# 7.0 SIGNIFICANT IMPACTS

## 7.1 Explanation of Findings of Significance

Impacts to sensitive natural communities or riparian habitat, special-status plant species, special-status wildlife species, wildlife corridors and habitat connectivity, and regional resource planning must be analyzed to determine whether such impacts are significant. CEQA Guidelines Section 15064(b) states that an ironclad definition of "significant" effect is not possible because the significance of an activity may vary with the setting. However, CEQA Guidelines Section 15065(a) lists impacts that are helpful in defining whether a project may have a significant effect on the environment. Mandatory findings of significance, which require preparation of an environmental impact report, occur when there is substantial evidence that a project could (1) substantially degrade the quality of the environment, (2) substantially reduce the habitat of a fish or wildlife species, (3) cause a fish or wildlife population to drop below self-sustaining levels, (4) threaten to eliminate a plant or animal community, or (5) reduce the number or restrict the range of a rare or endangered plant or animal.

The following are the significance thresholds for biological resources provided in the CEQA Appendix G environmental checklist, which states that a project could potentially have a significant effect if it:

- Has 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 CDFW or USFWS.
- Has a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by CDFW or USFWS.
- Has 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.
- Interferes substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impedes the use of native wildlife nursery sites.
- Conflicts with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Conflicts with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

The evaluation of whether an impact to a particular biological resource is significant must consider both the resource itself and the role of that resource in a regional context. Substantial impacts are those that contribute to, or result in, permanent loss of an important resource, such as a population of a rare plant

or animal. Impacts may be important locally because they result in an adverse alteration of existing site conditions but considered not significant because they do not contribute substantially to the permanent loss of that resource regionally. The severity of an impact is the primary determinant of whether that impact can be mitigated to a less-than-significant level.

# 7.2 Federal and State Regulations and Protections

Impacts to federally and state-listed threatened or endangered plant and animal species and their habitats or species otherwise protected by state or federal regulations, such as state Fully Protected species or the federal Bald and Golden Eagle Protection Act, would usually have low thresholds for significance. However, unless a lead agency requires a mandatory finding of significance for impacts to listed species, not all direct, indirect, or cumulative impacts to a listed species are necessarily significant.

Other federal and State statutes that may need to be considered in the significance determination include the National Environmental Policy Act; the Clean Water Act, Sections 404 and 401 (for protection of wetlands); Rivers and Harbors Act, Section 10, and the MBTA.

# 7.3 Special-Status Plant Species

## Significant Impacts

*Impact BIO-1*

Project construction may result in direct impacts to special-status plant species considered rare, threatened, or endangered, if present on-site. Delta tule pea (CRPR 1B.2) was determined to have high potential to occur on-site and other species have low potential. Construction activities related to the reestablishment of the rail line could result in direct mortality of individuals of such species. Without the results of focused special-status plant species surveys, impacts are considered potentially significant.

# 7.4 Sensitive Natural Communities

## Significant Impacts

Two special-status vegetation communities, Coastal Brackish Marsh and Northern Coastal Salt Marsh, classified as Wetland–Brackish Marsh in this report, were identified to occur within the project site. The proposed project is anticipated to result in significant impacts to these sensitive natural communities as these habitat types are located within the project site and construction activities will cause permanent and temporary impact these areas. The Wetland-Brackish Marsh is associated with the jurisdictional wetland features present on-site.

# 7.5 Special-Status Wildlife Species

## Significant Impacts

*Impact BIO-2*

Project construction could result in direct impacts to nesting birds, causing injury or mortality. Nesting birds are protected under the MBTA; therefore, impacts are considered potentially significant.

For special-status bird species with potential to nest in the project area, direct impacts could include the loss of nests, eggs, and fledglings if vegetation clearing and ground-disturbing activities occur during the nesting season (generally between February 15 and August 31). These species include Suisun's song sparrow (SSC) and saltmarsh common yellowthroat (SSC), which were detected during the field survey, and northern harrier (SSC) and osprey (WL), both of which have a high potential to occur within the project site and surrounding areas.

This impact would be potentially significant because substantial direct impacts to individuals of designated special-status species would occur during a critical period of these species' life cycles and would result in reduced reproductive success during the construction period.

# 7.6 Jurisdictional Waters/Wetlands

## Significant Impacts

*Impact BIO-3*

The project is anticipated to result in impacts to aquatic features that are under jurisdiction of the USACE and Regional Board. These impacts would include any permanent impacts resulting from reestablishment of the rail line and any temporary impacts during construction, which includes impacts associated with temporary work areas and/or staging areas. Permanent impacts would decrease the amount of jurisdictional waters within the project site and would be considered a significant impact.

# 7.7 Wildlife Corridors and Linkages

## Significant Impacts

The proposed project is not anticipated to result in any significant impacts to wildlife corridors or linkages.

# 7.8 Regional Resource Planning/Local Policies and Ordinances

## Significant Impacts

*Impact BIO-4*

The project is anticipated to result in the removal and/or trimming of several ornamental tree species during construction. These impacts would include any permanent impacts resulting from removal of trees during reestablishment of the rail line and any temporary impacts during construction, which includes impacts associated with temporary work areas and/or staging areas. Permanent and temporary impacts would decrease the number of trees within the project site and would be considered a significant impact.

# 8.0 AVOIDANCE AND MINIMIZATION MEASURES

The purpose of this section is to identify measures that would reduce the significant impacts to less than significant. The following project-specific Avoidance and Minimization Measures (AMM) are provided to reduce potential direct and indirect impacts to biological resources.

To avoid and/or minimize impacts to special-status species and their habitats, the following AMM typical to projects where vegetation would be removed and special-status species may be present shall be implemented and will address *Bio Impacts 1 and 2,* described in sections 7.3 and 7.5.

**BIO-1:** Prior to the start of project construction a qualified biologist shall be identified and serve as the lead biological monitor to ensure that impacts to all biological resources are minimized or avoided, and shall conduct (or supervise) pre-construction field surveys for species that may be avoided, affected, or eliminated as a result of vegetation removal, grading, or any other project activities. The lead biological monitor shall ensure that all surveys are conducted by qualified personnel and that they possess all necessary permits and memoranda of understanding with the appropriate agencies for the handling of potentially occurring special-status species. The lead biological monitor shall also ensure that daily monitoring reports (e.g., survey results, protective actions, results of protective actions, adaptive measures, etc.) are prepared, and shall make these monitoring reports available upon request.

A qualified biologist shall present a Worker Environmental Awareness Program (WEAP) to all construction crews and contractors prior to starting any work on the project site. The WEAP training would include a review of the special-status species and other sensitive resources that could exist in the project area, the locations of sensitive biological resources as well as their legal status and protections, and measures to be implemented for avoidance of these sensitive resources. A record of all personnel trained shall be maintained and submitted upon request.

Project limits shall be clearly delineated with fencing or other boundary markers prior to the start of construction. During construction, construction workers shall strictly limit their activities, vehicles, equipment, and construction materials to the designated construction limits and staging areas.

The biological monitor shall be present during vegetation and ground disturbance activities to inspect and enforce mitigation requirements, conduct daily clearance surveys of work areas, and to relocate any species that may come into harm's way to an appropriate offsite location of similar habitat. The biological monitor shall be authorized to stop specific grading or construction activities if violations of mitigation measures or any local, state, or federal laws are suspected. If ongoing biological monitoring of construction activities reveals the presence of any special-status wildlife within an active work area, then work shall be temporarily halted until the animals leave on their own volition or can be collected and relocated to areas outside

of the designated work zones. Any non-listed special-status species occurring within the work area shall be collected and relocated to areas outside of the designated work zones. In the unlikely event a federal or State listed species is identified during surveys, no work will be allowed within 500 feet of the species, and the appropriate trustee agencies (CDFW or USFWS) will be consulted first to determine an appropriate course of action. Upon completion of vegetation and earth disturbance activities, the biological monitor shall be available to conduct as needed spot checks during construction and respond to requests from project personnel as they arise to remove wildlife, answer any questions, and generally provide as-needed support to confirm project measures are implemented.

During construction, all equipment maintenance, staging, and dispensing of fuel, oil, coolant, or any other such activities shall occur in designated areas within the project limits. Equipment shall be checked daily for leaks prior to operation and repaired as necessary, and secondary containment shall be implemented during equipment and vehicle staging.

During construction, the project limits shall be kept as clean of debris and trash as possible to avoid attracting predators of sensitive wildlife. Food-related trash items shall be kept in sealed containers and removed daily from the construction work zone.

As presented in this report, special-status plant species have potential to occur on-site. To determine if special-status plant species are present and their distribution on-site, a rare plant survey shall be conducted prior to construction in accordance with the following AMM to address *Bio Impact 1* identified in Section 7.3 of this report:

**BIO-2** To ensure proper compensatory mitigation for impacts to special-status plant species, prior to construction, and during the appropriate blooming periods for special-status plant species with the potential to occur within the project site, a qualified biologist shall have conducted focused rare plant surveys across the entire project site following 2018 CDFW and/or 2001 CNPS guidelines to determine presence or absence of special-status plant species. The surveys shall be floristic in nature (i.e., identifying all plant species to the taxonomic level necessary to determine rarity) and include site visits covering early, mid, and late-blooming season species.

If populations of special-status plants are found during the survey and they are located within permanent or temporary impact areas, avoidance and minimization measures shall be explored to protect the special-status plant population(s). If avoidance is not possible, consultation with CDFW will be required prior to project initiation to identify suitable compensatory mitigation for the unavoidable loss of these species. Preparation of a Habitat Mitigation and Monitoring Plan (HMMP) detailing relocation, salvage, and/or restoration of impacted species and subsequent maintenance and monitoring; payment of an in-lieu fee to an agency approved mitigation bank; or acquisition of off-site lands to be held in a restrictive

deed for perpetuity would be required to compensate for the loss of habitat occupied by any non-listed special-status plant species found on-site. In the unlikely event a State or federally listed plant species is present and avoidance is not feasible, consultation with CDFW and/or USFWS would be required prior to initiating any on-site project activities to coordinate any take permits pursuant to State and/or federal regulations and requisite compensatory mitigation. With implementation of these actions, impacts to special-status plant species would be reduced to less than significant.

Habitats and vegetation within and surrounding the project site have the potential to support breeding and nesting birds that are protected pursuant to the MBTA and CFGC. To avoid and/or minimize potential impacts to nesting birds, the following AMM is provided to address *Bio Impact 2* identified in Section 7.5 of this report:

**BIO-3** Proposed project activities (including, but not limited to, staging and disturbances to native and nonnative vegetation, structures, and substrates) should occur outside of the avian breeding season, which generally runs from February 1 – August 31 (as early as January 1 for some raptors) to avoid take of birds or their eggs. Take means to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill (CFGC Section 86), and includes take of eggs or young resulting from disturbances which cause abandonment of active nests. Depending on the avian species present, a qualified biologist may determine that a change in the breeding season dates is warranted.

If avoidance of the avian breeding season is not feasible, qualified biologist with experience in conducting breeding bird surveys shall conduct two bird surveys, fourteen (14) days and no more than three (3) days, prior to project activities to detect protected birds occurring on-site and, as access to adjacent areas allows, other suitable habitats within 500 feet of the project site. If a protected bird is found, the project proponent may delay all project activities within 300 feet of on- and off-site suitable nesting habitat (within 500 feet for suitable raptor nesting habitat) until August 31. Alternatively, the qualified biologist may continue the surveys to locate any nests. If an active nest is located, project activities within 300 feet of the nest (within 500 feet for raptor nests) or as determined by a qualified biological monitor, must be postponed until the nest is vacated and juveniles have fledged and there is no evidence of a second attempt at nesting. Flagging, stakes, or construction fencing shall be used to demarcate the inside boundary of the buffer of 300 feet (or 500 feet) between the project activities and the nest. Project personnel, including all contractors working on site, shall be instructed on the sensitivity of the area. A reduced buffer can be established if determined appropriate by the project biologist and approved by the wildlife agencies.

The biological monitor shall be present on site during all grubbing and clearing of vegetation to ensure that these activities remain within the project footprint (i.e., outside the

demarcated buffer) and that the flagging/stakes/fencing is being maintained, and to minimize the likelihood that active nests are abandoned or fail due to project activities. The biological monitor shall prepare and provide upon request monitoring reports during the grubbing and clearing of vegetation.

Implementation of these mitigation measures will reduce potentially significant impacts to special-status plant and wildlife species to less than significant because they will identify any potential special-status species that may be impacted by the project and develop a plan to mitigate impacts or avoid those species if present.

To provide compensatory mitigation for proposed permanent and temporary impacts to aquatic features under the jurisdiction of regulatory agencies, the following AMM shall be implemented and will address *Bio Impact 3 (Impacts to jurisdictional waters/wetlands)* described in Section 7.6 of this report.

**BIO-4**: Temporary and/or permanent impacts resulting from the proposed project would require a Waste Discharge Requirement pursuant to Section 401 of the CWA and Section 13263 of the Porter-Cologne Act prior to impacts occurring within jurisdictional areas. The Regional Board also requires that CEQA compliance be obtained prior to obtaining authorization. A Regional Board application fee is required with the application package and is calculated based on the acreage of jurisdictional impacts.

The USACE regulates activities that result in the discharge of dredged or fill material into waters of the U.S. (WoUS), including wetlands, pursuant to Section 404 of CWA and Section 10 of the Rivers and Harbors Act. That Nationwide Permit was previously issued by the USACE for the project in 2014 (Corps File No. 2012-000275S). Formal notification to and subsequent authorization from the USACE may be required prior to commencement of any construction activities within the USACE jurisdictional areas. This should verify with the USACE prior to construction.

Project materials will not be cast from the project site into nearby habitats; further, project-related debris, spoils, and trash will be contained and removed to a proper disposal facility.

All construction equipment will be inspected and cleaned prior to use in the project footprint to minimize the importation of non-native plant material. All mulch, topsoil, and seed mixes used during post-construction landscaping activities and erosion control BMPs will be free of invasive plant species propagules. A weed abatement program will be implemented should invasive plant species colonize the area within the project footprint post-construction.

Implementation of this mitigation measure will reduce potentially significant impacts to jurisdictional waters/wetlands to less than significant because they will identify any potential waters/wetlands that may be impacted by the project site and develop a plan to mitigate impacts or avoid these resources.

To provide compensatory mitigation for proposed impacts to protected trees under City of Martinez's *Tree Removal Permit* ordinance, the following AMM shall be implemented and will address *Bio Impact 4 (Impacts to Regional Resource Planning/Local Policies and Ordinances)* described in Section 7.8 of this report.

**BIO-5**: A permit from the City of Martinez is required for the removal of any protected trees on-site. Protected trees are identified as any tree measuring 24 inches or larger in diameter, measured 4.5 feet from ground level; any multi-stemmed tree with the sum of the diameters measuring 24 inches or larger, measured 4.5 feet from ground level; any significant grouping of trees, including groves of four or more trees.

Implementation of this AMM will reduce potentially significant impacts to protected trees to less than significant by adhering to the City's Municipal Code and permitting requirements.

## 8.1 Unavoidable Significant Impacts

The proposed project, inclusive of AMMs, will mitigate all significant adverse impacts to any special-status plant and wildlife species and jurisdictional areas.

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# APPENDIX A
# SITE PHOTOGRAPHS



**Photograph 1:** Looking west from the eastern end of the project site.



**Photograph 2:** Looking southwest from the northern boundary of the project site.



**Photograph 3:** Looking west from the middle of the project site.



**Photograph 4:** Looking west from the eastern side of the project site.



**Photograph 5:** Looking south near the middle of the project site.



**Photograph 6:** Looking north near the middle of the project site.



**Photograph 7:** Looking northwest from the western portion of the project site.



**Photograph 8:** Looking northwest from the western boundary of the project site.



**Photograph 9:** Looking east from the western portion of the project site.



**Photograph 10:** Looking south from the northwest portion of the project site.

# APPENDIX B
# LITERATURE REVIEW RESULTS

# Selected Elements by Scientific Name

## California Department of Fish and Wildlife

## California Natural Diversity Database

**Query Criteria:** Quad IS (Cordelia (3812222) OR Clayton (3712188) OR Briones Valley (3712282) OR Walnut Creek (3712281) OR Honker Bay (3812118) OR Vine Hill (3812211) OR Fairfield South (3812221) OR Benicia (3812212) OR Denverton (3812128))

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Accipiter cooperii*** | ABNKC12040 | None | None | G5 | S4 | WL |
| Cooper's hawk | | | | | | |
| ***Acipenser medirostris pop. 1*** | AFCAA01031 | Threatened | None | G2T1 | S1 | SSC |
| green sturgeon - southern DPS | | | | | | |
| ***Agelaius tricolor*** | ABPBXB0020 | None | Threatened | G1G2 | S2 | SSC |
| tricolored blackbird | | | | | | |
| ***Ambystoma californiense pop. 1*** | AAAAA01181 | Threatened | Threatened | G2G3T3 | S3 | WL |
| California tiger salamander - central California DPS | | | | | | |
| ***Amsinckia lunaris*** | PDBOR01070 | None | None | G3 | S3 | 1B.2 |
| bent-flowered fiddleneck | | | | | | |
| ***Anniella pulchra*** | ARACC01020 | None | None | G3 | S2S3 | SSC |
| Northern California legless lizard | | | | | | |
| ***Anomobryum julaceum*** | NBMUS80010 | None | None | G5? | S2 | 4.2 |
| slender silver moss | | | | | | |
| ***Antrozous pallidus*** | AMACC10010 | None | None | G4 | S3 | SSC |
| pallid bat | | | | | | |
| ***Aquila chrysaetos*** | ABNKC22010 | None | None | G5 | S3 | FP |
| golden eagle | | | | | | |
| ***Archoplites interruptus*** | AFCQB07010 | None | None | G1 | S1 | SSC |
| Sacramento perch | | | | | | |
| ***Arctostaphylos auriculata*** | PDERI04040 | None | None | G2 | S2 | 1B.3 |
| Mt. Diablo manzanita | | | | | | |
| ***Arctostaphylos manzanita ssp. laevigata*** | PDERI04273 | None | None | G5T2 | S2 | 1B.2 |
| Contra Costa manzanita | | | | | | |
| ***Arctostaphylos pallida*** | PDERI04110 | Threatened | Endangered | G1 | S1 | 1B.1 |
| pallid manzanita | | | | | | |
| ***Ardea herodias*** | ABNGA04010 | None | None | G5 | S4 | |
| great blue heron | | | | | | |
| ***Asio flammeus*** | ABNSB13040 | None | None | G5 | S2 | SSC |
| short-eared owl | | | | | | |
| ***Astragalus tener var. tener*** | PDFAB0F8R1 | None | None | G2T1 | S1 | 1B.2 |
| alkali milk-vetch | | | | | | |
| ***Athene cunicularia*** | ABNSB10010 | None | None | G4 | S2 | SSC |
| burrowing owl | | | | | | |
| ***Atriplex cordulata var. cordulata*** | PDCHE040B0 | None | None | G3T2 | S2 | 1B.2 |
| heartscale | | | | | | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Atriplex depressa*** brittlescale | PDCHE042L0 | None | None | G2 | S2 | 1B.2 |
| ***Atriplex persistens*** vernal pool smallscale | PDCHE042P0 | None | None | G2 | S2 | 1B.2 |
| ***Balsamorhiza macrolepis*** big-scale balsamroot | PDAST11061 | None | None | G2 | S2 | 1B.2 |
| ***Blepharizonia plumosa*** big tarplant | PDAST1C011 | None | None | G1G2 | S1S2 | 1B.1 |
| ***Bombus caliginosus*** obscure bumble bee | IIHYM24380 | None | None | G2G3 | S1S2 | |
| ***Bombus crotchii*** Crotch's bumble bee | IIHYM24480 | None | Candidate Endangered | G2 | S2 | |
| ***Bombus occidentalis*** western bumble bee | IIHYM24252 | None | Candidate Endangered | G3 | S1 | |
| ***Bombus pensylvanicus*** American bumble bee | IIHYM24260 | None | None | G3G4 | S2 | |
| ***Branchinecta conservatio*** Conservancy fairy shrimp | ICBRA03010 | Endangered | None | G2 | S2 | |
| ***Branchinecta lynchi*** vernal pool fairy shrimp | ICBRA03030 | Threatened | None | G3 | S3 | |
| ***Branta hutchinsii leucopareia*** cackling (=Aleutian Canada) goose | ABNJB05035 | Delisted | None | G5T3 | S3 | WL |
| ***Buteo regalis*** ferruginous hawk | ABNKC19120 | None | None | G4 | S3S4 | WL |
| ***Buteo swainsoni*** Swainson's hawk | ABNKC19070 | None | Threatened | G5 | S4 | |
| ***Calochortus pulchellus*** Mt. Diablo fairy-lantern | PMLIL0D160 | None | None | G2 | S2 | 1B.2 |
| ***Carex lyngbyei*** Lyngbye's sedge | PMCYP037Y0 | None | None | G5 | S3 | 2B.2 |
| ***Castilleja affinis var. neglecta*** Tiburon paintbrush | PDSCR0D013 | Endangered | Threatened | G4G5T1T2 | S1S2 | 1B.2 |
| ***Centromadia parryi ssp. congdonii*** Congdon's tarplant | PDAST4R0P1 | None | None | G3T2 | S2 | 1B.1 |
| ***Centromadia parryi ssp. parryi*** pappose tarplant | PDAST4R0P2 | None | None | G3T2 | S2 | 1B.2 |
| ***Charadrius nivosus nivosus*** western snowy plover | ABNNB03031 | Threatened | None | G3T3 | S3 | SSC |
| ***Chloropyron molle ssp. hispidum*** hispid salty bird's-beak | PDSCR0J0D1 | None | None | G2T1 | S1 | 1B.1 |
| ***Chloropyron molle ssp. molle*** soft salty bird's-beak | PDSCR0J0D2 | Endangered | Rare | G2T1 | S1 | 1B.2 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Cicuta maculata var. bolanderi*** Bolander's water-hemlock | PDAPI0M051 | None | None | G5T4T5 | S2? | 2B.1 |
| ***Circus hudsonius*** northern harrier | ABNKC11011 | None | None | G5 | S3 | SSC |
| ***Cirsium andrewsii*** Franciscan thistle | PDAST2E050 | None | None | G3 | S3 | 1B.2 |
| ***Cirsium hydrophilum var. hydrophilum*** Suisun thistle | PDAST2E1G1 | Endangered | None | G2T1 | S1 | 1B.1 |
| ***Coastal Brackish Marsh*** Coastal Brackish Marsh | CTT52200CA | None | None | G2 | S2.1 | |
| ***Cordylanthus nidularius*** Mt. Diablo bird's-beak | PDSCR0J0F0 | None | Rare | G1 | S1 | 1B.1 |
| ***Corynorhinus townsendii*** Townsend's big-eared bat | AMACC08010 | None | None | G4 | S2 | SSC |
| ***Coturnicops noveboracensis*** yellow rail | ABNME01010 | None | None | G4 | S2 | SSC |
| ***Danaus plexippus plexippus pop. 1*** monarch - California overwintering population | IILEPP2012 | Candidate | None | G4T1T2Q | S2 | |
| ***Delphinium californicum ssp. interius*** Hospital Canyon larkspur | PDRAN0B0A2 | None | None | G3T3 | S3 | 1B.2 |
| ***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle | IICOL48011 | Threatened | None | G3T3 | S3 | |
| ***Dipodomys heermanni berkeleyensis*** Berkeley kangaroo rat | AMAFD03061 | None | None | G4T1 | S2 | |
| ***Dirca occidentalis*** western leatherwood | PDTHY03010 | None | None | G2 | S2 | 1B.2 |
| ***Downingia pusilla*** dwarf downingia | PDCAM060C0 | None | None | GU | S2 | 2B.2 |
| ***Dumontia oregonensis*** hairy water flea | ICBRA23010 | None | None | G1G3 | S1 | |
| ***Elanus leucurus*** white-tailed kite | ABNKC06010 | None | None | G5 | S3S4 | FP |
| ***Elaphrus viridis*** Delta green ground beetle | IICOL36010 | Threatened | None | G1 | S1 | |
| ***Emys marmorata*** western pond turtle | ARAAD02030 | Proposed Threatened | None | G3G4 | S3 | SSC |
| ***Eriastrum ertterae*** Lime Ridge eriastrum | PDPLM030F0 | None | Candidate Endangered | G1 | S1 | 1B.1 |
| ***Eriogonum truncatum*** Mt. Diablo buckwheat | PDPGN085Z0 | None | None | G1 | S1 | 1B.1 |
| ***Eryngium jepsonii*** Jepson's coyote-thistle | PDAPI0Z130 | None | None | G2 | S2 | 1B.2 |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Erysimum capitatum var. angustatum*** Contra Costa wallflower | PDBRA16052 | Endangered | Endangered | G5T1 | S1 | 1B.1 |
| ***Extriplex joaquinana*** San Joaquin spearscale | PDCHE041F3 | None | None | G2 | S2 | 1B.2 |
| ***Falco peregrinus anatum*** American peregrine falcon | ABNKD06071 | Delisted | Delisted | G4T4 | S3S4 | |
| ***Fissidens pauperculus*** minute pocket moss | NBMUS2W0U0 | None | None | G3? | S2 | 1B.2 |
| ***Fritillaria liliacea*** fragrant fritillary | PMLIL0V0C0 | None | None | G2 | S2 | 1B.2 |
| ***Geothlypis trichas sinuosa*** saltmarsh common yellowthroat | ABPBX1201A | None | None | G5T3 | S3 | SSC |
| ***Grimmia torenii*** Toren's grimmia | NBMUS32330 | None | None | G2 | S2 | 1B.3 |
| ***Haliaeetus leucocephalus*** bald eagle | ABNKC10010 | Delisted | Endangered | G5 | S3 | FP |
| ***Helianthella castanea*** Diablo helianthella | PDAST4M020 | None | None | G2 | S2 | 1B.2 |
| ***Helminthoglypta nickliniana bridgesi*** Bridges' coast range shoulderband | IMGASC2362 | None | None | G3T1 | S1S2 | |
| ***Hesperolinon breweri*** Brewer's western flax | PDLIN01030 | None | None | G2 | S2 | 1B.2 |
| ***Holocarpha macradenia*** Santa Cruz tarplant | PDAST4X020 | Threatened | Endangered | G1 | S1 | 1B.1 |
| ***Isocoma arguta*** Carquinez goldenbush | PDAST57050 | None | None | G1 | S1 | 1B.1 |
| ***Lasiurus cinereus*** hoary bat | AMACC05032 | None | None | G3G4 | S4 | |
| ***Lasiurus frantzii*** western red bat | AMACC05080 | None | None | G4 | S3 | SSC |
| ***Lasthenia conjugens*** Contra Costa goldfields | PDAST5L040 | Endangered | None | G1 | S1 | 1B.1 |
| ***Lasthenia glabrata ssp. coulteri*** Coulter's goldfields | PDAST5L0A1 | None | None | G4T2 | S2 | 1B.1 |
| ***Laterallus jamaicensis coturniculus*** California black rail | ABNME03041 | None | Threatened | G3T1 | S2 | FP |
| ***Lathyrus jepsonii var. jepsonii*** Delta tule pea | PDFAB250D2 | None | None | G5T2 | S2 | 1B.2 |
| ***Legenere limosa*** legenere | PDCAM0C010 | None | None | G2 | S2 | 1B.1 |
| ***Lepidurus packardi*** vernal pool tadpole shrimp | ICBRA10010 | Endangered | None | G3 | S3 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Leptosiphon jepsonii*** Jepson's leptosiphon | PDPLM09140 | None | None | G2G3 | S2S3 | 1B.2 |
| ***Lilaeopsis masonii*** Mason's lilaeopsis | PDAPI19030 | None | Rare | G2 | S2 | 1B.1 |
| ***Limosella australis*** Delta mudwort | PDSCR10030 | None | None | G4G5 | S2 | 2B.1 |
| ***Linderiella occidentalis*** California linderiella | ICBRA06010 | None | None | G2G3 | S2S3 | |
| ***Madia radiata*** showy golden madia | PDAST650E0 | None | None | G3 | S3 | 1B.1 |
| ***Malacothamnus hallii*** Hall's bush-mallow | PDMAL0Q0F0 | None | None | G2 | S2 | 1B.2 |
| ***Masticophis lateralis euryxanthus*** Alameda whipsnake | ARADB21031 | Threatened | Threatened | G4T2 | S2 | |
| ***Meconella oregana*** Oregon meconella | PDPAP0G030 | None | None | G2G3 | S2 | 1B.1 |
| ***Melospiza melodia maxillaris*** Suisun song sparrow | ABPBXA301K | None | None | G5T3 | S2 | SSC |
| ***Melospiza melodia samuelis*** San Pablo song sparrow | ABPBXA301W | None | None | G5T2 | S2 | SSC |
| ***Microseris paludosa*** marsh microseris | PDAST6E0D0 | None | None | G2 | S2 | 1B.2 |
| ***Monolopia gracilens*** woodland woollythreads | PDAST6G010 | None | None | G3 | S3 | 1B.2 |
| ***Navarretia gowenii*** Lime Ridge navarretia | PDPLM0C120 | None | None | G1 | S1 | 1B.1 |
| ***Navarretia leucocephala ssp. bakeri*** Baker's navarretia | PDPLM0C0E1 | None | None | G4T2 | S2 | 1B.1 |
| ***Neotoma fuscipes annectens*** San Francisco dusky-footed woodrat | AMAFF08082 | None | None | G5T2T3 | S2S3 | SSC |
| ***Northern Claypan Vernal Pool*** Northern Claypan Vernal Pool | CTT44120CA | None | None | G1 | S1.1 | |
| ***Northern Coastal Salt Marsh*** Northern Coastal Salt Marsh | CTT52110CA | None | None | G3 | S3.2 | |
| ***Northern Maritime Chaparral*** Northern Maritime Chaparral | CTT37C10CA | None | None | G1 | S1.2 | |
| ***Nyctinomops macrotis*** big free-tailed bat | AMACD04020 | None | None | G5 | S3 | SSC |
| ***Oenothera deltoides ssp. howellii*** Antioch Dunes evening-primrose | PDONA0C0B4 | Endangered | Endangered | G5T1 | S1 | 1B.1 |
| ***Oncorhynchus mykiss irideus pop. 11*** steelhead - Central Valley DPS | AFCHA0209K | Threatened | None | G5T2Q | S2 | SSC |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Pandion haliaetus*** osprey | ABNKC01010 | None | None | G5 | S4 | WL |
| ***Perognathus inornatus*** San Joaquin pocket mouse | AMAFD01060 | None | None | G2G3 | S2S3 | |
| ***Phacelia phacelioides*** Mt. Diablo phacelia | PDHYD0C3Q0 | None | None | G2 | S2 | 1B.2 |
| ***Phrynosoma blainvillii*** coast horned lizard | ARACF12100 | None | None | G4 | S4 | SSC |
| ***Plagiobothrys hystriculus*** bearded popcornflower | PDBOR0V0H0 | None | None | G2 | S2 | 1B.1 |
| ***Pogonichthys macrolepidotus*** Sacramento splittail | AFCJB34020 | None | None | G3 | S3 | SSC |
| ***Polygonum marinense*** Marin knotweed | PDPGN0L1C0 | None | None | G2Q | S2 | 3.1 |
| ***Puccinellia simplex*** California alkali grass | PMPOA53110 | None | None | G2 | S2 | 1B.2 |
| ***Rallus obsoletus obsoletus*** California Ridgway's rail | ABNME05011 | Endangered | Endangered | G3T1 | S2 | FP |
| ***Rana boylii pop. 1*** foothill yellow-legged frog - north coast DPS | AAABH01051 | None | None | G3T4 | S4 | SSC |
| ***Rana boylii pop. 4*** foothill yellow-legged frog - central coast DPS | AAABH01054 | Threatened | Endangered | G3T2 | S2 | |
| ***Rana draytonii*** California red-legged frog | AAABH01022 | Threatened | None | G2G3 | S2S3 | SSC |
| ***Ravenella exigua*** chaparral harebell | PDCAM020A0 | None | None | G2 | S2 | 1B.2 |
| ***Reithrodontomys raviventris*** salt-marsh harvest mouse | AMAFF02040 | Endangered | Endangered | G1G2 | S3 | FP |
| ***Sanicula saxatilis*** rock sanicle | PDAPI1Z0H0 | None | Rare | G2 | S2 | 1B.2 |
| ***Senecio aphanactis*** chaparral ragwort | PDAST8H060 | None | None | G3 | S2 | 2B.2 |
| ***Serpentine Bunchgrass*** Serpentine Bunchgrass | CTT42130CA | None | None | G2 | S2.2 | |
| ***Sidalcea keckii*** Keck's checkerbloom | PDMAL110D0 | Endangered | None | G2 | S2 | 1B.1 |
| ***Sorex ornatus sinuosus*** Suisun shrew | AMABA01103 | None | None | G5T1T2Q | S1S2 | SSC |
| ***Spergularia macrotheca var. longistyla*** long-styled sand-spurrey | PDCAR0W062 | None | None | G5T2 | S2 | 1B.2 |
| ***Speyeria callippe callippe*** callippe silverspot butterfly | IILEPJ6091 | Endangered | None | G5T1 | S1 | |

| Species | Element Code | Federal Status | State Status | Global Rank | State Rank | Rare Plant Rank/CDFW SSC or FP |
|---|---|---|---|---|---|---|
| ***Spirinchus thaleichthys*** longfin smelt | AFCHB03010 | Proposed Endangered | Threatened | G5 | S1 | |
| ***Sternula antillarum browni*** California least tern | ABNNM08103 | Endangered | Endangered | G4T2T3Q | S2 | FP |
| ***Streptanthus albidus ssp. peramoenus*** most beautiful jewelflower | PDBRA2G012 | None | None | G2T2 | S2 | 1B.2 |
| ***Streptanthus hispidus*** Mt. Diablo jewelflower | PDBRA2G0M0 | None | None | G2 | S2 | 1B.3 |
| ***Stuckenia filiformis ssp. alpina*** northern slender pondweed | PMPOT03091 | None | None | G5T5 | S2S3 | 2B.2 |
| ***Symphyotrichum lentum*** Suisun Marsh aster | PDASTE8470 | None | None | G2 | S2 | 1B.2 |
| ***Taxidea taxus*** American badger | AMAJF04010 | None | None | G5 | S3 | SSC |
| ***Thamnophis gigas*** giant gartersnake | ARADB36150 | Threatened | Threatened | G2 | S2 | |
| ***Trifolium amoenum*** two-fork clover | PDFAB40040 | Endangered | None | G1 | S1 | 1B.1 |
| ***Trifolium hydrophilum*** saline clover | PDFAB400R5 | None | None | G2 | S2 | 1B.2 |
| ***Triquetrella californica*** coastal triquetrella | NBMUS7S010 | None | None | G2 | S2 | 1B.2 |
| ***Tropidocarpum capparideum*** caper-fruited tropidocarpum | PDBRA2R010 | None | None | G1 | S1 | 1B.1 |
| ***Valley Needlegrass Grassland*** Valley Needlegrass Grassland | CTT42110CA | None | None | G3 | S3.1 | |
| ***Viburnum ellipticum*** oval-leaved viburnum | PDCPR07080 | None | None | G4G5 | S3 | 2B.3 |
| ***Vulpes macrotis mutica*** San Joaquin kit fox | AMAJA03041 | Endangered | Threatened | G4T2 | S3 | |

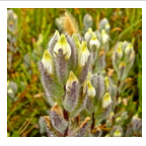
**Record Count: 138**

California Native Plant Society

## Search Results

**14** matches found. Click on scientific name for details

Search Criteria: Fed List is one of [**FE:FT:FC**] **or** State List is one of [**CE:CT:CR:CC**] , Quad is one of [**3812222:3712188:3712282:3712281:3812118:3812211:3812221:3812212:3812128**]

| ▲ SCIENTIFIC NAME | COMMON NAME | FAMILY | LIFEFORM | BLOOMING PERIOD | FED LIST | STATE LIST | GLOBAL RANK | STATE RANK | CA RARE PLANT RANK | CA ENDEMIC | DATE ADDED | PHOTO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Arctostaphylos pallida* | pallid manzanita | Ericaceae | perennial evergreen shrub | Dec-Mar | FT | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Castilleja affinis* var. *neglecta* | Tiburon paintbrush | Orobanchaceae | perennial herb (hemiparasitic) | Apr-Jun | FE | CT | G4G5T1T2 | S1S2 | 1B.2 | Yes | 1974-01-01 | No Photo Available |
| *Chloropyron molle* ssp. *molle* | soft salty bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | Jun-Nov | FE | CR | G2T1 | S1 | 1B.2 | Yes | 1974-01-01 |  © 2014 John Doyen |
| *Cirsium hydrophilum* var. *hydrophilum* | Suisun thistle | Asteraceae | perennial herb | Jun-Sep | FE | None | G2T1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Cordylanthus nidularius* | Mt. Diablo bird's-beak | Orobanchaceae | annual herb (hemiparasitic) | Jun-Aug | None | CR | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Eriastrum ertterae* | Lime Ridge eriastrum | Polemoniaceae | annual herb | Jun-Jul | None | CC | G1 | S1 | 1B.1 | Yes | 2013-12-19 |  © 2013 John Doyen |
| *Erysimum capitatum* var. *angustatum* | Contra Costa wallflower | Brassicaceae | perennial herb | Mar-Jul | FE | CE | G5T1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Holocarpha macradenia* | Santa Cruz tarplant | Asteraceae | annual herb | Jun-Oct | FT | CE | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2011 Dylan Neubauer |
| *Lasthenia conjugens* | Contra Costa goldfields | Asteraceae | annual herb | Mar-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 |  © 2013 Neal Kramer |
| *Lilaeopsis masonii* | Mason's lilaeopsis | Apiaceae | perennial rhizomatous herb | Apr-Nov | None | CR | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Oenothera deltoides* ssp. *howellii* | Antioch Dunes evening-primrose | Onagraceae | perennial herb | Mar-Sep | FE | CE | G5T1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Sanicula saxatilis* | rock sanicle | Apiaceae | perennial herb | Apr-May | None | CR | G2 | S2 | 1B.2 | Yes | 1974-01-01 |  © 1998 John Game |
| *Sidalcea keckii* | Keck's checkerbloom | Malvaceae | annual herb | Apr-May(Jun) | FE | None | G2 | S2 | 1B.1 | Yes | 1974-01-01 | No Photo Available |
| *Trifolium amoenum* | two-fork clover | Fabaceae | annual herb | Apr-Jun | FE | None | G1 | S1 | 1B.1 | Yes | 1974-01-01 | No Photo Available |

Showing 1 to 14 of 14 entries

**Suggested Citation:**

California Native Plant Society, Rare Plant Program. 2024. Rare Plant Inventory (online edition, v9.5). Website https://www.rareplants.cnps.org [accessed 13 May 2024].

**IPaC** **U.S. Fish & Wildlife Service**

# IPaC resource list

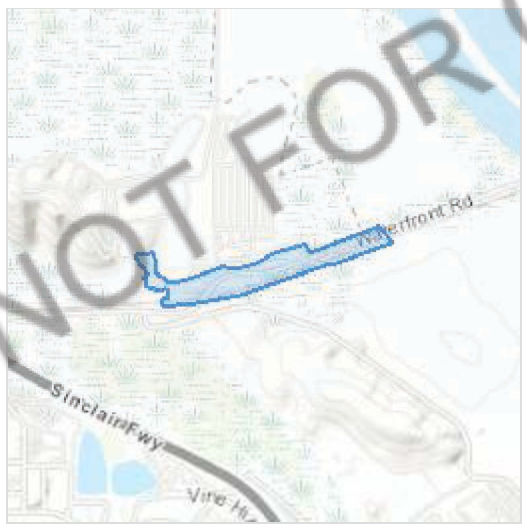
This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

## Location

Contra Costa County, California




## Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building

2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

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# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

# Mammals

| NAME | STATUS |
|---|---|
| **Salt Marsh Harvest Mouse** *Reithrodontomys raviventris*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/613 | Endangered |

# Birds

| NAME | STATUS |
|---|---|
| **California Least Tern** *Sternula antillarum browni*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/8104 | Endangered |
| **California Ridgway''s Rail** *Rallus obsoletus obsoletus*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/4240 | Endangered |

# Reptiles

| NAME | STATUS |
|---|---|
| **Alameda Whipsnake (=striped Racer)** *Masticophis lateralis euryxanthus*<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/5524 | Threatened |
| **Northwestern Pond Turtle** *Actinemys marmorata*<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/1111 | Proposed Threatened |

# Amphibians

NOT FOR CONSULTATION

| NAME | STATUS |
|---|---|
| California Red-legged Frog Rana draytonii<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/2891 | Threatened |
| California Tiger Salamander Ambystoma californiense<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/2076 | Threatened |
| Foothill Yellow-legged Frog Rana boylii<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/5133 | Threatened |
| Western Spadefoot Spea hammondii<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/5425 | Proposed Threatened |

# Insects

| NAME | STATUS |
|---|---|
| Monarch Butterfly Danaus plexippus<br>Wherever found<br>No critical habitat has been designated for this species.<br>https://ecos.fws.gov/ecp/species/9743 | Candidate |

# Crustaceans

| NAME | STATUS |
|---|---|
| Vernal Pool Fairy Shrimp Branchinecta lynchi<br>Wherever found<br>There is **final** critical habitat for this species. Your location does not overlap the critical habitat.<br>https://ecos.fws.gov/ecp/species/498 | Threatened |

# Flowering Plants

| NAME | STATUS |
|---|---|

NOT FOR CONSULTATION

Soft Bird's-beak Cordylanthus mollis ssp. mollis Endangered

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.
https://ecos.fws.gov/ecp/species/8541

# Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

There are no critical habitats at this location.

You are still required to determine if your project(s) may have effects on all above listed species.

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# Bald & Golden Eagles

Bald and golden eagles are protected under the Bald and Golden Eagle Protection Act[1] and the Migratory Bird Treaty Act[2].

Any person or organization who plans or conducts activities that may result in impacts to bald or golden eagles, or their habitats[3], should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

There are likely bald eagles present in your project area. For additional information on bald eagles, refer to Bald Eagle Nesting and Sensitivity to Human Activity

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

| NAME | BREEDING SEASON |
|---|---|
| **Bald Eagle** *Haliaeetus leucocephalus*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |
| **Golden Eagle** *Aquila chrysaetos*<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1680 | Breeds Jan 1 to Aug 31 |

NOT FOR CONSULTATION

# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted

Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

**Breeding Season** ( )
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

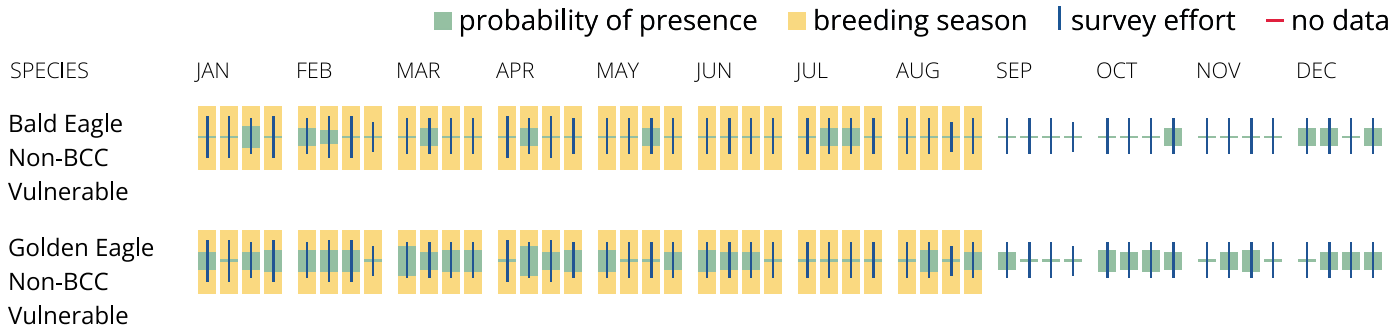
**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.

NOT FOR CONSULTATION




**What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?**

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?**

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

NOT FOR CONSULTATION

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats[3] should follow appropriate regulations and consider implementing appropriate conservation measures, as described in the links below. Specifically, please review the "Supplemental Information on Migratory Birds and Eagles".

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management

- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

**The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location.** To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the PROBABILITY OF PRESENCE SUMMARY below to see when these birds are most likely to be present and breeding in your project area.

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| NAME | BREEDING SEASON |
|---|---|
| Allen's Hummingbird Selasphorus sasin<br>This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.<br>https://ecos.fws.gov/ecp/species/9637 | Breeds Feb 1 to Jul 15 |
| Bald Eagle Haliaeetus leucocephalus<br>This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.<br>https://ecos.fws.gov/ecp/species/1626 | Breeds Jan 1 to Aug 31 |

Belding's Savannah Sparrow Passerculus sandwichensis beldingi — Breeds Apr 1 to Aug 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Turnstone Arenaria melanocephala — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Bullock's Oriole Icterus bullockii — Breeds Mar 21 to Jul 25

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

California Gull Larus californicus — Breeds Mar 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Elegant Tern Thalasseus elegans — Breeds Apr 5 to Aug 5

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8561

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Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Marbled Godwit Limosa fedoa — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Northern Harrier Circus hudsonius — Breeds Apr 1 to Sep 15

This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/8350

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Olive-sided Flycatcher Contopus cooperi — Breeds May 20 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3914

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Western Grebe aechmophorus occidentalis — Breeds Jun 1 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/6743

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Western Gull Larus occidentalis — Breeds Apr 21 to Aug 25
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

# Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

**Probability of Presence** (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the

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probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

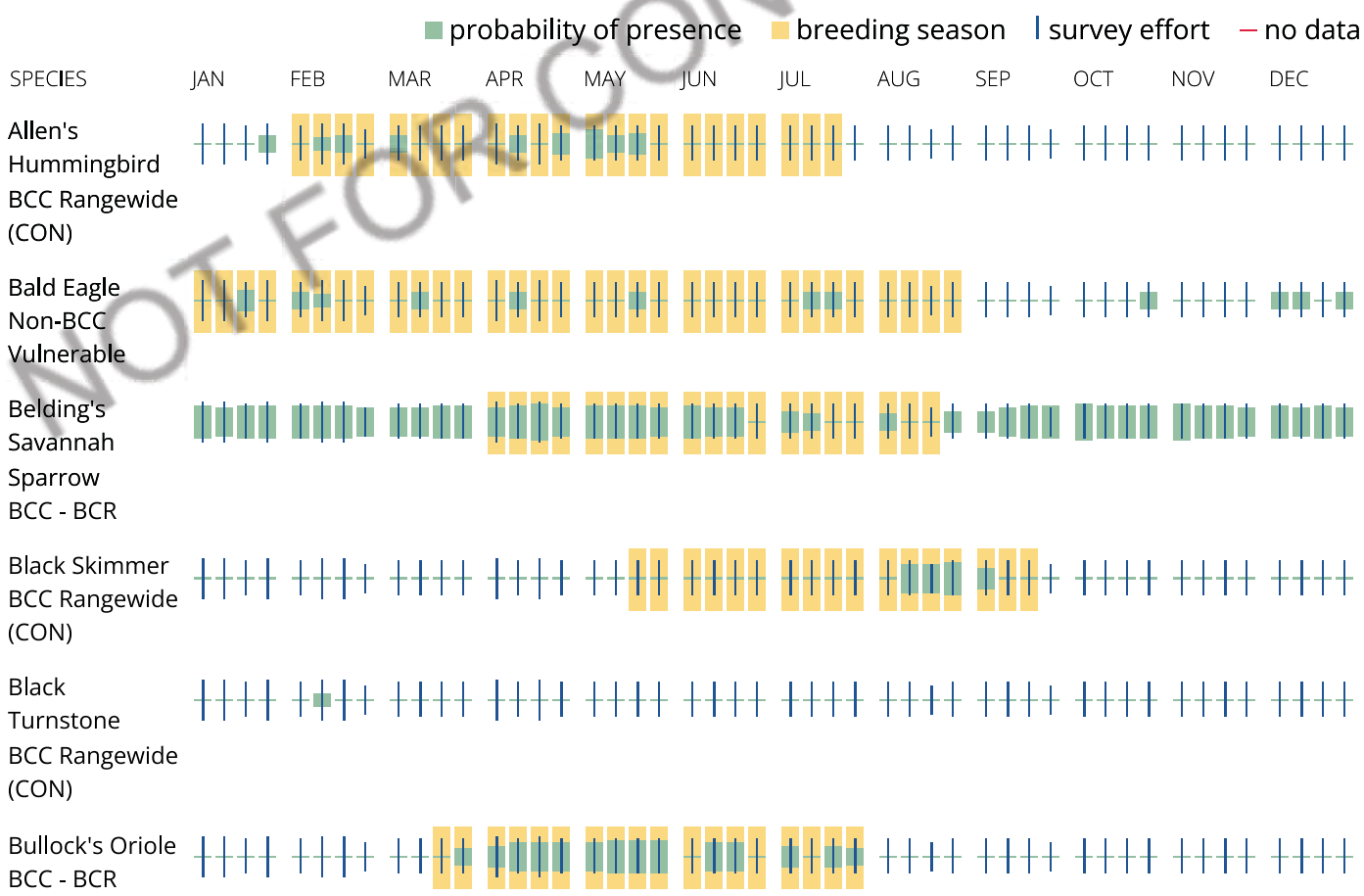
**Breeding Season** (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

**Survey Effort** (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

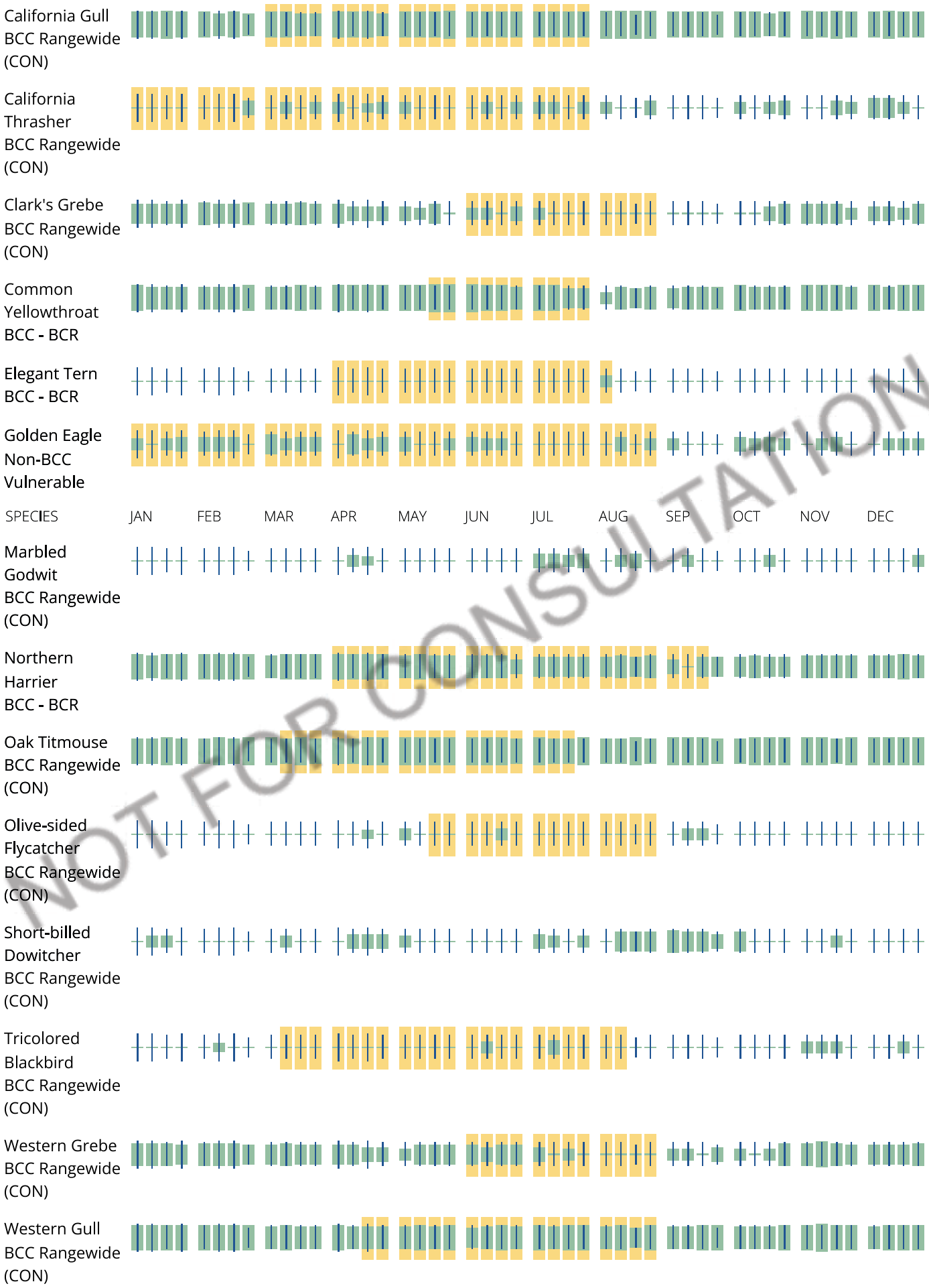
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

**No Data** (–)
A week is marked as having no data if there were no survey events for that week.

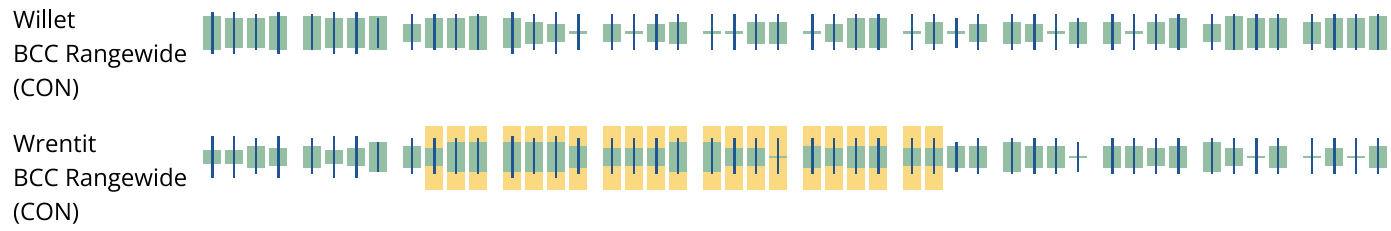
**Survey Timeframe**
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.




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**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?**

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering or migrating in my area?**

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To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

**Details about birds that are potentially affected by offshore projects**

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

**What if I have eagles on my list?**

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

**Proper Interpretation and Use of Your Migratory Bird Report**

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of

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presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

# Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

## Fish hatcheries

There are no fish hatcheries at this location.

# Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

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Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

ESTUARINE AND MARINE WETLAND

E2EM1N

E2USMh

FRESHWATER EMERGENT WETLAND

PEM1Ch

FRESHWATER POND

PUBHh

RIVERINE

R4SBAx

A full description for each wetland code can be found at the National Wetlands Inventory website

**NOTE:** This initial screening does **not** replace an on-site delineation to determine whether wetlands occur. Additional information on the NWI data is provided below.

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**Data limitations**

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

**Data exclusions**

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also

been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

**Data precautions**

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

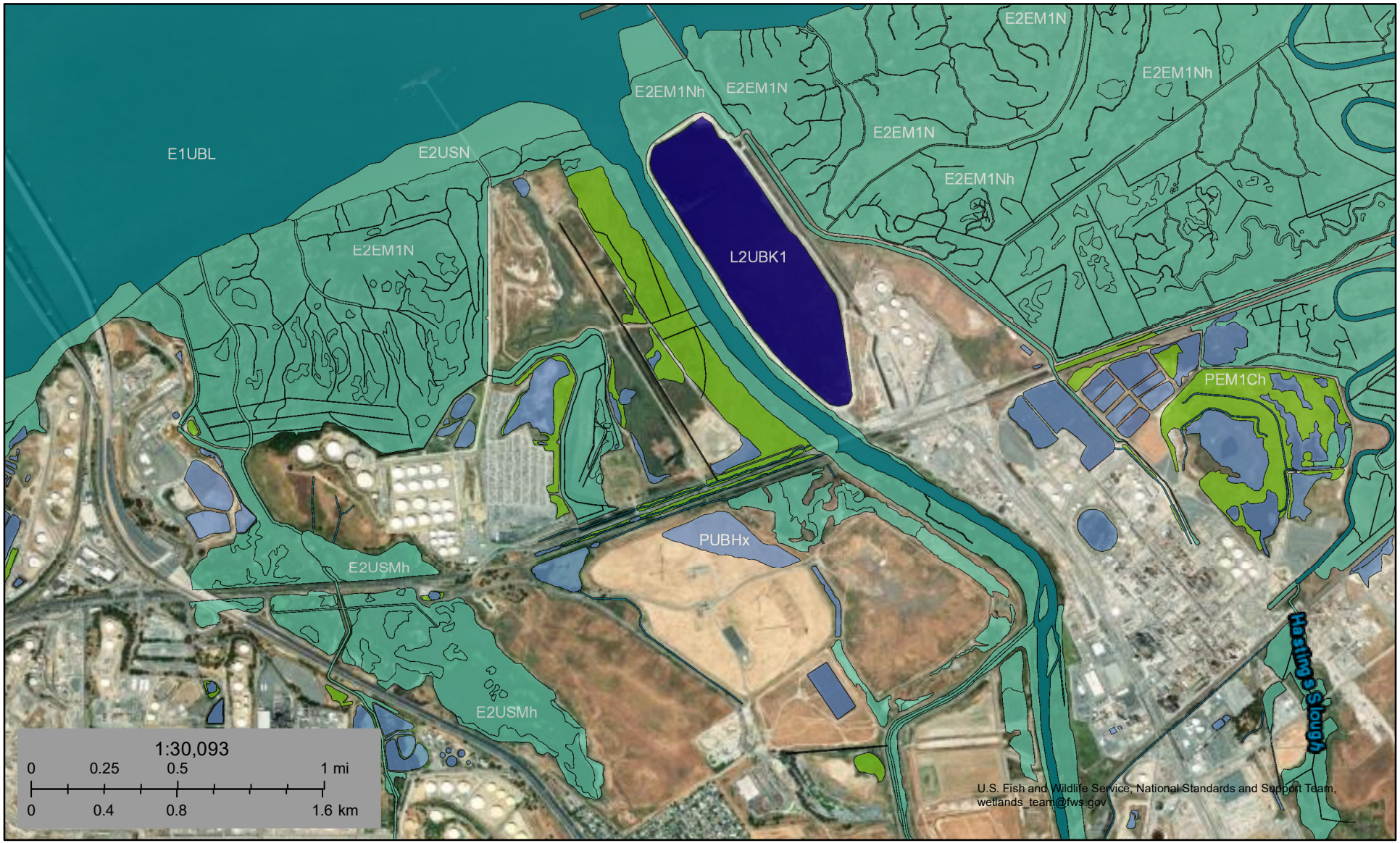
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# APPENDIX C

# USFWS NATIONAL WETLANDS INVENTORY

U.S. Fish and Wildlife Service
National Wetlands Inventory

# Martinez Rail Restoration




April 8, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

# APPENDIX D

# SPECIES OBSERVED LIST

## Table D-1: Wildlife Species Observed List

| *Scientific Name* | **Common Name** | **Special-Status Rank*** |
|---|---|---|
| **Reptiles** | | |
| ***Sceloporus occidentalis bocourtii*** | coast range fence lizard | |
| **Birds** | | |
| ***Agelaius phoeniceus*** | red-winged blackbird | |
| ***Anas carolinensis*** | green-winged teal | |
| ***Anas cyanoptera*** | cinnamon teal | |
| ***Anas platyrhynchos*** | mallard | |
| ***Anthus rubescens*** | American pipit | |
| ***Ardea alba*** | great egret | |
| ***Bombycilla cedrorum*** | cedar waxwing | |
| ***Branta canadensis*** | Canada goose | |
| ***Bucephala albeola*** | bufflehead | |
| ***Charadrius vociferans*** | killdeer | |
| ***Cistothorus palustris*** | marsh wren | |
| ***Colaptes auratus*** | northern flicker | |
| ***Columba livia*** | rock dove | |
| ***Cygnus olor*** | mute swan | |
| ***Fulica americana*** | American coot | |
| ***Geothlypis trichas sinuosa*** | saltmarsh common yellowthroat | SSC |
| ***Haemorhous mexicanus*** | house finch | |
| ***Himantopus mexicanus*** | black-necked stilt | |
| ***Hirundo rustica*** | barn swallow | |
| ***Melospiza melodia maxillaris*** | Suisun song sparrow | SSC |
| ***Mimus polyglottos*** | northern mockingbird | |
| ***Quiscalus mexicanus*** | great-tailed grackle | |
| ***Recurvirostra americana*** | American avocet | |
| ***Sayornis nigricans*** | black phoebe | |
| ***Spatula clypeata*** | Northern shoveler | |
| ***Sturnus vulgaris*** | European starling | |
| ***Tachycineta thalassina*** | violet-green swallow | |
| ***Zenaida macroura*** | mourning dove | |
| ***Zonotrichia leucophrys*** | white-crowned sparrow | |
| ***Anthus rubescens*** | American pipit | |
| **Mammals** | | |
| ***Canis domesticus*** | domestic dog | |
| **Invertebrates** | | |
| ***Apis mellifera*** | *honeybee* | |
| ***Dermacentor variabilis*** | American dog tick | |
| ***Ixodes pacificus*** | Western black-legged tick | |

* **Special-Status Rank**

**California Department of Fish and Wildlife**

SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:

- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

## Table D-2: Plant Species Observed List

| *Scientific Name* | Common Name | Cal-IPC Rank** | Special-Status Rank*** |
|---|---|---|---|
| ***Avena fatua**** | wild oat | Moderate | |
| ***Baccharis pilularis*** | coyotebrush | | |
| ***Bromus diandrus**** | ripgut brome | Moderate | |
| ***Bromus madritensis* ssp. *rubens**** | red brome | High | |
| ***Carduus pycnocephalus**** | Italian thistle | Moderate | |
| ***Casuarina cunninghamiana**** | River sheoak | | |
| ***Cotula coronopifolia**** | brass buttons | Limited | |
| ***Cynara cardunculus**** | artichoke thistle | Moderate | |
| ***Distichlis spicata*** | saltgrass | | |
| ***Erodium botrys**** | broadleaf filaree | | |
| ***Erodium cicutarium**** | redstem filaree | Limited | |
| ***Eschscholzia californica*** | California poppy | | |
| ***Eucalyptus globulus**** | blue gum eucalyptus | Limited | |
| ***Festuca perennis**** | Italian rye grass | Moderate | |
| ***Foeniculum vulgare**** | fennel | Moderate | |
| ***Frankenia hirsuta*** | alkali heath | | |
| ***Geranium dissectum**** | cutleaf geranium | Limited | |
| ***Helminthotheca echioides**** | bristly oxtongue | Limited | |
| ***Heteromeles arbutifolia*** | toyon | | |
| ***Hirschfeldia incana**** | short-podded mustard | Moderate | |
| ***Hordeum murinum**** | Foxtail barely | Moderate | |
| ***Jaumea carnosa*** | marsh jaumea | | |
| ***Lepidium latifolium**** | Perennial pepperweed | High | |
| ***Elymus triticoides*** | creeping wild rye | | |
| ***Malva parviflora**** | cheeseweed | | |
| ***Melilotus indicus**** | yellow sweetclover | | |
| ***Olea europaea**** | olive | Limited | |
| ***Pennisetum setaceum**** | fountain grass | Moderate | |
| ***Phoenix canariensis**** | Date palm | Limited | |
| ***Phragmites australis*** | common reed | | |
| ***Plantago coronopus**** | Buckhorn plantain | | |
| ***Plantago lanceolata**** | ribwort plantain | Limited | |
| ***Pseudognaphalium canescens*** | Wright's cudweed | | |
| ***Raphanus raphanistrum**** | wild radish | | |
| ***Rosa californica*** | California wild rose | | |
| ***Salicornia virginica*** | pickleweed | | |
| ***Schoenoplectus americanus*** | American bulrush | | |
| ***Schoenoplectus californicus*** | California bulrush | | |
| ***Schinus molle**** | Peruvian peppertree | Limited | |
| ***Sonchus asper**** | prickly sowthistle | | |
| ***Vicia villosa**** | hairy vetch | | |

## Table D-2: Plant Species Observed List

| *Scientific Name* | Common Name | Cal-IPC Rank** | Special-Status Rank*** |
|---|---|---|---|
| ***Washingtonia robusta**** | Mexican fan palm | Moderate | |

* Non-native species

** **California Invasive Plant Council (Cal-IPC) Ratings**

High — These species have severe ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal and establishment. Most are widely distributed ecologically.

Moderate — These species have substantial and apparent—but generally not severe—ecological impacts on physical processes, plant and animal communities, and vegetation structure. Their reproductive biology and other attributes are conducive to moderate to high rates of dispersal, though establishment is generally dependent upon ecological disturbance. Ecological amplitude and distribution may range from limited to widespread.

Limited — These species are invasive, but their ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. Their reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic.

# APPENDIX E

# POTENTIALLY OCCURRING SPECIAL-STATUS BIOLOGICAL RESOURCES

# Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| **SPECIAL-STATUS WILDLIFE SPECIES** | | | | |
| ***Accipiter cooperii*** Cooper's hawk | WL<br>G5<br>S4 | Yearlong resident of California. Generally, found in forested areas up to 3,000 feet above mean sea level (amsl) in elevation, especially near edges and rivers. Prefers hardwood stands and mature forests but can be found in urban and suburban areas where there are tall trees (25 to 50 feet high) for nesting. Prefers pines, oaks, Douglas-firs, beeches, spruces for nesting. Common in open areas during nesting season. | No | **Not Expected**: Suitable foraging and nesting habitats preferred by this species are not present within the project site. |
| ***Acipenser medirostris*** pop. 1 green sturgeon – southern DPS | FT<br>SSC<br>G2T1<br>S1 | Anadromous species. Most common north Point Conception. Spend much of their life in marine waters and often enter bays or brackish estuaries to feed. Generally found over soft bottomed estuarine and river habitats where they feed on burrowing shrimp and other invertebrates. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Actinemys marmorata*** Northwestern pond turtle | PFT | Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. | No | **Not Expected:** Suitable habitat preferred by this species is not present within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Agelaius tricolor*** tricolored blackbird | ST SSC G1G2 S2 | Range is limited to the coastal areas of the Pacific coast of North America, from Northern California to upper Baja California. Can be found in a wide variety of habitat including annual grasslands, wet and dry vernal pools and other seasonal wetlands, agricultural fields, cattle feedlots, and dairies. Occasionally forage in riparian scrub habitats along marsh borders. Basic habitat requirements for breeding include open accessible water, protected nesting substrate freshwater marsh dominated by cattails (*Typha* spp.), willows (*Salix* spp.), and bulrushes (*Schoenoplectus* spp.), and either flooded or thorny/spiny vegetation and suitable foraging space providing adequate insect prey. | No | **Not Expected:** Suitable foraging and nesting habitats preferred by this species are not present within the project site. |
| ***Ambystoma californiense*** pop. 1 California tiger salamander - central California DPS | FT ST WL G2G3T3 S3 | Nocturnal, and fossorial, spending most time underground in animal burrows. Frequents grassland, oak savanna, and edges of mixed woodland and lower elevation coniferous forest. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |

# Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Anniella pulchra*** Northern California legless lizard | SSC G3 S2S3 | Occurs from the southern edge of the San Joaquin River in northern Contra Costa County south to the Ventura County, south of which there is a wide area where the species of *Anniella* is or are unknown. Occurs in moist warm loose soil with plant cover. Moisture is essential. Occurs in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with California sycamores (*Platanus racemosa*), Fremont cottonwoods (*Populus fremontii*), or oaks (*Quercus* spp.). Leaf litter under trees and bushes in sunny areas and dunes stabilized with bush lupine *(Lupinus* sp.) and mock heather (*Ericameria ericoides*) often indicate suitable habitat. Often can be found under surface objects such as rocks, boards, driftwood, and logs. Can also be found by gently raking leaf litter under bushes and trees. Sometimes found in suburban gardens in southern California. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Antrozous pallidus*** pallid bat | SSC G4 S3 | Locally common species locally common in the Great Basin, Mojave, and Sonoran deserts (specifically Sonoran life zone) and grasslands throughout the western U.S. Also occurs in shrublands, woodlands, and forests from sea level to 8,000 ft amsl. Prefers rocky outcrops, cliffs, and crevices for roosting with access to open habitats for foraging. May also roost in caves, mines, bridges, barns, porches, and bat boxes, and even on the ground under burlap sacks, stone piles, rags, baseboards, and rocks. | No | **Low:** Although suitable foraging habitat is present within the project site, suitable roosting habitat is absent. |
| ***Aquila chrysaetos*** golden eagle | FP G5 S3 | Yearlong resident of California. Occupies nearly all terrestrial habitats of the western states except densely forested areas. Favors secluded cliffs with overhanging ledges and large trees for nesting and cover. Hilly or mountainous country where takeoff and soaring are supported by updrafts is generally preferred to flat habitats. Deeply cut canyons rising to open mountain slopes and crags are ideal habitat. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Archoplites interruptus*** Sacramento perch | SSC G1 S1 | Historically distributed throughout the Sacramento-San Joaquin Delta, Clear Lake Pajaro and Salinas Rivers, and tributaries to San Francisco and San Pablo bays. Currently persists only as introduced populations in reproductively isolated waterbodies across California and sporadic locations in other western states. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Asio flammeus*** short-eared owl | SSC G5 S2 | Breeds over much of northern North America and is a year-round resident in certain areas within California. The breeding range of the short-eared owl retracts dramatically in drought conditions and during prey reductions. Nesting short-eared owls require open country that supports concentrations of microtine rodents and herbaceous cover sufficient to conceal their ground nests from predators. Suitable habitats may include salt- and freshwater marshes, irrigated alfalfa or grain fields, and ungrazed grasslands and old pastures. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Athene cunicularia*** burrowing owl | SSC G4 S2 | Yearlong resident of California. Primarily a grassland species, but it persists and even thrives in some landscapes highly altered by human activity. Occurs in open, annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation. The overriding characteristics of suitable habitat appear to be burrows for roosting and nesting and relatively short vegetation with only sparse shrubs and taller vegetation. | No | **Not Expected:** Marginally suitable habitat is located within the project, however due to frequent anthropogenic disturbances, the species is not expected. |
| ***Bombus crotchii*** Crotch's bumble bee | SCE G2 S2 | Found from coastal California east to the Sierra-Cascade crest and south into Mexico. Primarily occurs in California, including the Mediterranean region, Pacific coast, western desert, great valley, and adjacent foothills through most of southwestern California. Has also been recorded in Baja California, Baja California Sur, and in southwest Nevada. Inhabits open grassland and scrub habitats. Primarily nests underground. Food plant genera include *Antirrhinum*, *Phacelia*, *Clarkia*, *Dendromecon*, *Eschscholzia*, and *Eriogonum*. | No | **Low:** Marginally suitable habitat for this species was found within the project site, including few specimens of one of the host plants for this species: *Eschscholzia*. Additionally, there are only two CDDDB records from within 20 miles of the site and they are both greater than 65 years old. |
| ***Bombus occidentalis*** western bumblebee | SCE G3 S1 | Found along the western United States. Historic ranges include Northern California, to Alaska, and east to North Dakota, South Dakota, and south the New Mexico. Nectar plant genera include *Melilotus*, *Cirsium*, *Trifolium*, *Centaurea*, *Chrysothamnus/Ericameria*, and *Eriogonum*. | No | **Low:** Marginally suitable habitat for this species was found within the project site, including few specimens of one of the host plants for this species: *Melilotus*. Additionally, there are several CDDDB records from within 20 miles of the site, though they are all older than 70 years. |
| ***Branchinecta conservation*** Conservancy fairy shrimp | FE G2 S2 | Inhabits large vernal pool often with turbid water; known from fewer than 15 occurrences in the Delta (Jepson Prairie) and Central Valley. | No | **Not Expected:** Suitable vernal pool habitat preferred by this species are not present within the project site. |
| ***Branchinecta lynchi*** vernal pool fairy shrimp | FT G3 S3 | Endemic to California and only found in vernal pools. Vernal pool habitats form in depressions above an impervious substrate layer, or claypan/duripan. This species does not occur in riverine, marine, or other permanent bodies of water. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (commonly called cysts) in the pool substrate until the return of winter rains and appropriate temperatures allow some of the cysts to hatch. | No | **Not Expected:** Suitable vernal pool habitat preferred by this species is not present within the project site. |
| ***Branta hutchinsii leucopareia*** cackling (=Aleutian Canada) goose | WL G5T3 S3 | Prefers lacustrine, fresh emergent wetlands, and moist grasslands, croplands, pastures, and meadows. Occurs in these habitats mainly during winter in Del Norte County, the San Francisco bay-delta, and southern Central Valley. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Buteo regalis*** ferruginous hawk | WL G4 S3S4 | Endemic to California and only found in vernal pools. Vernal pool habitats form in depressions above an impervious substrate layer, or claypan/duripan. This species does not occur in riverine, marine, or other permanent bodies of water. When the temporary pools dry, offspring persist in suspended development as desiccation-resistant embryos (commonly called cysts) in the pool substrate until the return of winter rains and appropriate temperatures allow some of the cysts to hatch. | No | **Not Expected:** Suitable habitat required by this species is not present within the project site. |
| ***Buteo swainsoni*** Swainson's hawk | ST G5 S4 | Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Charadrius nivosus nivosus*** western snowy plover | SSC G3T3 S3 | Occurs on sandy beaches, salt pond levees and along the shores of large alkali lakes. Breeding generally occurs above the high tide line on coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries. Nests typically occur in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Circus hudsonius*** northern harrier | SSC G5 S3 | Yearlong resident of California. Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded area. In general, it prefers saltwater marshes, wet meadows, sloughs, and bogs for nesting and foraging. Nests on the ground in shrubby vegetation or patches of dense vegetation, usually at the marsh edge. | No | **High:** Suitable habitat for this species exists within the project site and there are numerous recent records from within .1 mile of the project site. |
| ***Corynorhinus townsendii*** Townsend's big-eared bat | SSC G4 S2 | Details of its distribution are not well known. This species is found in all but subalpine and alpine habitats and may be found at any season throughout its range. Most abundant in mesic habitats. Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. | No | **Low:** Although suitable foraging habitat is present within the project site, there is an absence of suitable day and night roosting habitat for this species. |
| ***Coturnicops noveboracensis*** yellow rail | SSC G4 S2 | Precise breeding and wintering ranges and relative abundances difficult to discern fully because of the species' secretive behavior within its marsh habitat. This species occurs year-round in California as a very local breeder in northeastern interior and as a winter visitor (early October to mid-April). Require sedge marshes/meadows with moist soil or shallow standing water. | No | **Low (foraging):** Suitable nesting habitats preferred by this species are not present within the project site. |
| ***Danaus plexippus*** Monarch butterfly – California overwintering population | FCE G4T1T2Q S2 | Winter roost sites extend along the coast from northern Mendocino to Baja California, Mexico. Roosts are located in wind-protected tree groves (eucalyptus, Monterey pine, cypress), with nectar and water sources nearby. | No | **Not Expected: S**uitable habitat preferred by this species is not present within the project site. Furthermore, the host plant required by this species was absent from the project site. |
| ***Desmocerus californicus dimorphus*** valley elderberry longhorn beetle | FT G3T3 S3 | Native to riparian forests of the Central Valley from Redding to Bakersfield and feeds on elderberry plants. | No | **Not Expected:** The host plant required by this species was absent from the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Elanus leucurus*** white-tailed kite | FP G5 S3S4 | Yearlong resident along the coastal ranges and valleys of California. Occurs in low elevation, open grasslands, savannah-like habitats, agricultural areas, wetlands, and oak woodlands. Uses trees with dense canopies for cover. Important prey item is the California vole (*Microtus californicus*). Nests in tall (20 to 50 feet) coast live oaks (*Quercus agrifolia*). | No | **Low (foraging):** Suitable nesting habitats preferred by this species are not present within the project site. |
| ***Elaphrus viridis*** Delta green ground beetle | FT G1 S1 | Metallic-green color. Completes its lifecycle in vernal pool habitats, generally along the edges of such habitats. Currently known to only occur in Solano County. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Emys marmorata*** western pond turtle | FPT SSC G3G4 S3 | Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail mats, and exposed banks are required for basking. May enter brackish water and even seawater. Found at elevations from sea level to over 5,900 feet amsl. | No | **Not Expected:** Suitable habitat preferred by this species is not present within the project site. |
| ***Geothlypis trichas sinuosa*** saltmarsh common yellowthroat | SSC G5T3 S3S4 | Forages and nests in dense fresh and saltwater marsh habitat in the San Francisco Bay and lower Delta. | Yes | **Present:** Suitable habitat for this species is within the project area and immediate vicinity and this species was observed during field surveys. |
| ***Haliaeetus leucocephalus*** bald eagle | FP SE G5 S3 | Locally common yearlong resident of southern California. Typically prefer areas near large water bodies such as sea coasts, coastal estuaries and inland lakes and rivers, in many areas, these birds are found within two miles of a water source. Most populations, specifically those in northern regions, migrate to southern, milder climates annually. Generally, these birds nest in the canopy of tall, coniferous trees, surrounded by smaller trees. They have been reported nesting on the ground, on cliffs, on cellular phone towers, on electrical poles and in artificial nesting towers. | No | **Not Expected:** Suitable foraging and nesting habitats preferred by this species are not present within the project site. |
| ***Lasiurus frantzii*** western red bat | SSC G4 S3 | Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Feeds over a wide variety of habitats including grasslands, shrublands, open woodlands and forests, and croplands. | No | **Low:** Marginal suitable foraging habitat is present within the project site and there is very limited suitable day and night roosting habitat for this species. |
| ***Laterallus jamaicensis coturniculus*** California black rail | FP ST G3T1 S2 | Suitable habitat generally includes salt marshes, freshwater marshes, and wet meadows. Typical associated vegetation includes pickle weed (*Salicornia virginica*) in salt marshes and bulrushes in less saline habitats. | No | **Low:** Only marginally suitable habitat for this species is present within the project area. There are known populations of this species within .25 miles of the site from the north, east, and northwest, however the proximity to industrialized and urban areas minimizes the potential for this species to occur within the project site. |
| ***Lepidurus packardi*** vernal pool tadpole shrimp | FT G3 S3 | Found in ephemeral freshwater habitats, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales and other seasonal wetlands in the Central Valley, Delta and eastern San Francisco Bay areas. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| *Scientific Name*<br>Common Name | Special-Status Rank* | Habitat Preferences and Distribution Affinities | Observed On-site | Potential to Occur |
|---|---|---|---|---|
| ***Masticophis lateralis euryxanthus***<br>Alameda whipsnake | FT<br>ST<br>G4T2<br>S2 | Found in mixed chaparral, coastal scrub, annual grassland with rock piles and oak woodland habitats in the eastern San Francisco Bay area. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Melospiza melodia maxillaris***<br>Suisun song sparrow | SSC<br>G5T3<br>S2 | Forages and nests in dense marsh and scrub habitat within tidal marshes in Suisun Bay. | Yes | **Present:** Suitable habitat for this species is within the project area and immediate vicinity and this species was observed during field surveys. |
| ***Melospiza melodia samuelis***<br>San Pablo song sparrow | SSC<br>G5T2<br>S2 | Tidal, brackish or salt marshes, San Pablo Bay. | No | **Not Expected:** The project site is outside of the known geographical range of this species. |
| ***Neotoma fuscipes annectens***<br>San Francisco dusky-footed woodrat | SSC<br>G5T2T3<br>S2S3 | Found in grassland, scrub, and woodland habitats throughout the San Francisco Bay area. | No | **Not Expected:** Suitable habitat for this species is not present within the project site. |
| ***Nyctinomops macrotis***<br>big free-tailed bat | SSC<br>G5<br>S3 | Found in New Mexico, southern Arizona, and Texas. Rare in California. Records of this species are from urban areas of San Diego County. Prefers rugged, rocky terrain up to 8,000 feet amsl. Roosts in buildings, caves, and occasionally in holes in trees. Also roosts in crevices in high cliffs or rock outcrops. | No | **Not Expected:** The project site is outside of the known geographical range of this species. |
| ***Oncorhynchus mykiss irideus pop. 11***<br>steelhead – Central Valley DPS | FT<br>SSC<br>G5T2Q<br>S2 | Steelhead spawn in streams that are shallow, clear, and cold with a strong upwelling of water through the gravel. The ESU encompasses the Suisun Bay/Sacramento River Delta watersheds. Waterways currently known to support breeding/rearing habitat for steelhead in Solano County include Green Valley, Suisun Valley and American Canyon Creeks. | No | **Not Expected:** Suitable habitat for this species is absent from the project area. |
| ***Pandion haliaetus***<br>osprey | WL<br>G5<br>S4 | Winter resident of southern California. Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats. Uses large trees, snags, and dead-topped trees in open forest habitats for cover and nesting. Requires open, clear waters for foraging and uses rivers, lakes, reservoirs, bays, estuaries, and surf zones. | No | **High:** Suitable foraging and roosting habitat for this species is present within the project site, and several recent records within .1 mile of the site exist. |
| ***Phrynosoma blainvillii***<br>coast horned lizard | SSC<br>G4<br>S4 | Occurs in a wide variety of vegetation types including coastal sage scrub, annual grassland, chaparral, oak woodland, riparian woodland and coniferous forest. Its elevational range extends up to 4,000 feet in the Sierra Nevada foothills and up to 6,000 feet in the mountains of southern California. In inland areas, this species is restricted to areas with pockets of open microhabitat, created by disturbance (e.g. fire, floods, unimproved roads, grazing lands, and fire breaks). The key elements of such habitats are loose, fine soils with a high sand fraction; an abundance of native ants or other insects; and open areas with limited overstory for basking and low, but relatively dense shrubs for refuge. | No | **Not Expected:** Suitable habitat for this species is absent from the project and the project is outside of the geographical range of this species. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Pogonichthys macrolepidotus*** Sacramento splittail | SSC<br>G3<br>S3 | Adult Sacramento Splittail migrate upstream from brackish areas to spawn in freshwater areas subject to flooding, such as the lower reaches of rivers, dead end sloughs, and in larger sloughs such as Montezuma Slough. Within Solano County, splittail are year-round residents of Suisun Marsh, concentrating in the dead-end sloughs that typically have small streams feeding into them. | No | **Low:** Suitable habitat for this species is located within the project site in very small amounts within the eastern portion between Waterfront Road and the railroad. |
| ***Rallus obsoletus obsoletus*** California ridgeway's rail | FP<br>FE<br>SE<br>G3T1<br>S2 | Inhabits tidal salt marsh along larger sloughs and bays in the SF Bay and lower Delta. | No | **Low:** Although suitable habitat for this species is absent from the project site, there is the potential for it to occur as a transient immediately adjacent to the site during extreme low tides when exposed mud could provide limited suitable foraging habitat. |
| ***Rana boylii pop. 1*** foothill yellow-legged frog – north coast DPS | SSC<br>G3T4<br>S4 | Partly shaded shallow streams with riffles, with a rocky substrate in a variety of habitats; needs at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis. Frogs are usually found on stream banks, especially near riffles. | No | **Not Expected:** Suitable habitat preferred by the species is not present within the project site |
| ***Rana boylii pop. 4*** foothill yellow-legged frog – central coast DPS | FT<br>SE<br>G3T2<br>S2 | Inhabits partly shaded shallow streams with riffles, with a rocky substrate in a variety of habitats in the East Bay and south of San Francisco Bay in the Coast Ranges to San Benito and Monterey counties. Needs at least 15 weeks to attain metamorphosis. Frogs are usually found on stream banks, especially near riffles. | No | **Not Expected:** Suitable habitat preferred by the species is not present within the project site |
| ***Rana draytonii*** California red-legged frog | FT<br>SSC<br>G2G3<br>S2S3 | The species historically occurred in the San Gabriel Wilderness Area of the Angeles National Forest; there were no post-1970 observations in this area or nearby parts of the Angeles National Forest. In 1999, a population (estimated between 15 and 25 adults) was located on the Angeles National Forest in the San Francisquito drainage. Breeding sites are in a variety of aquatic habitats including streams, deep pools, backwaters within streams and creeks, ponds, marshes, sag ponds, dune ponds, lagoons, and artificial impoundments (i.e., stock ponds). Breeding adults are often associated with deep (greater than 2 feet) still or slow-moving water and dense shrubby riparian or emergent vegetation. | No | **Not Expected:** Suitable habitat preferred by the species is not present within the project site |
| ***Reithrodontomys raviventris*** Salt-marsh harvest mouse | FP<br>FE<br>SE<br>G1G2<br>S3 | Inhabits pickleweed salt marsh flats in the San Francisco Bay and lower Delta. | No | **Not Expected:** Although this species is known to occur from within the vicinity of the project site (McNabney Marsh), the potential for occurrence is extremely low given the lack of suitable habitat for this species within the project site as well as the isolation of the site from the surrounding habitat. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Sorex ornatus sinuosus*** Suisun shrew | SSC G5T1T2Q S1S2 | Inhabits tidal marshes along the northern shores of San Pablo and Suisun Bays. | No | **Not Expected:** This species is geographic range is outside of the project site. This species is only known from the north shores of Suisun and San Pablo Bays. |
| ***Spea hammondii*** Western spadefoot | PFT SSC G2G3 S3S4 | Prefers open areas with sandy or gravelly soils, in a variety of habitats including mixed woodlands, grasslands, coastal sage scrub, chaparral, sandy washes, lowlands, river floodplains, alluvial fans, playas, alkali flats, foothills, and mountains. Rain pools which do not contain American bullfrogs, predatory fish, or crayfish are necessary for breeding. Estivates in upland habitats adjacent to potential breeding sites in burrows approximating 3 feet in depth. | No | **Not Expected:** There is no suitable habitat for this species within the project site. |
| ***Speyeria callippe callippe*** calliope silverspot butterfly | FE G5T1 S1 | Restricted to the northern coastal scrub of the San Francisco Peninsula. Found exclusively on grassy hillsides near San Francisco Bay. Depends upon its host plant Johnny jump-up (Viola pedunculata). Adults feed on the nectar of a variety of native and non-native flowering plants. | No | **Not Expected:** The host plant for this species is absent from the project site and the project area is outside of the known geographical range of this sub-species. |
| ***Spirinchus thaleichthys*** longfin smelt | PFE ST G5 S1 | In California, Longfin Smelt have been commonly collected from San Francisco Bay, Eel River, Humboldt Bay and Klamath River. As they mature in the fall, adults found throughout San Francisco Bay migrate to brackish or freshwater in Suisun Bay, Montezuma Slough, and the lower reaches of the Sacramento and San Joaquin Rivers. Spawning probably takes place in freshwater. | No | **Low:** Suitable habitat for this species is located within the project site in very small amounts within the eastern portion between Waterfront Road and the railroad. |
| ***Sternula antillarum browni*** California least tern | FP FE SE G4T2T3Q S2 | Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates, including sand beaches, alkali flats, landfills, or paved areas. Prefers broad, level expanses of open sandy or gravelly beach, dredge spoil, and other open shoreline areas, and broad river valley sandbars. | No | **Not Expected:** Suitable nesting and foraging habitat for this species is absent from the project site. |
| ***Taxidea taxus*** American badger | SSC G5 S3 | Occupies a wide variety of habitats including dry, open grassland, sagebrush, and woodland habitats. Require dry, friable, often sandy soil to dig burrows for cover, food storage, and giving birth. Occasionally found in riparian zones and open chaparral with less than 50% plant cover. | No | **Not Expected:** Due to the highlight disturbed nature of the project site, this species is not expected to occur. |
| ***Thamnophis gigas*** giant gartersnake | FT ST G2 S2 | Utilizes marshes, sloughs, small lakes, low gradient streams, ponds, agricultural wetlands (irrigation and drainage canals) and adjacent uplands. | No | **Not Expected:** Suitable habitat preferred by the species is not present within the project site |
| ***Vulpes macrotis mutica*** San Joaquin kit fox | FE ST G4T2 S3 | Occurs in annual grasslands or grassy open stages, chenopod scrub, valley and foothill grassland, with scattered shrubby vegetation. Needs loose-textured sandy soils for burrowing, and suitable prey base. | No | **Not Expected:** Suitable habitat preferred by the species is not present within the project site |
| **SPECIAL-STATUS PLANT SPECIES** | | | | |
| ***Amsinckia lunaris*** bent-flowered fiddleneck | 1B.1 G3 S3 | Annual herb. Prefers coastal bluff scrub cismontane woodland, and valley and foothill grasslands. Found at elevations ranging from 10 to 1,640 feet amsl. Blooming period is March through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Anomobryum julaceum*** slender silver moss | 4.2 G5? S2 | Moss. Prefers broadleafed upland forest, lower montane coniferous forest, and North Coast coniferous forests, on damp rock and soil on outcrops, usually on roadcuts. Found at elevations ranging from 330 to 3,280 feet amsl. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Arctostaphylos auriculata*** Mt. Diablo manzanita | 1B.3 G2 S2 | Perennial evergreen shrub. Prefers sandstone within chaparral, and cismontane woodland. Found at elevations ranging from 445 to 2,135 feet amsl. Blooming period is January – March. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Arctostaphylos manzanita ssp. laevigata*** Contra Costa manzanita | 1B.2 G5T2 S2 | Perennial evergreen shrub. Prefers rocky chaparral. Found at elevations ranging from 1,410 to 3,610 feet amsl. Blooming period is January into April. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Arctostaphylos pallida*** pallid manzanita | FT ST 1B.1 G1 S1 | Perennial evergreen shrub. Prefers in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub and prefers siliceous shale that can be grevelly or sandy. Found at elevations ranging from 605 to 1,525 feet amsl. Blooming period is December through March. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Astragalus tener var. tener*** alkali milk-vetch | 1B.1 G2T1 S1 | Annual herb. Found in playas, valley and foothill grassland (alkaline, clay soils), and vernal pools. Prefers alkaline habitats. Found at elevations ranging from 5 to 195 feet amsl. Blooming period is March through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Atriplex cordulata var. cordulata*** heartscale | 1B.2 G3T2 S2 | Annual herb. Prefers chenopod scrub, meadows and seeps, and valley and foothill grassland (sandy), and sometimes alkaline habitats. Found at elevations ranging from 0 to 1,835 feet amsl. Blooming period is April through October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Atriplex depressa*** brittlescale | 1B.2 G2 S2 | Annual herb. Found in chenopod scrub, meadows and seeps, playas, valley and foothill grassland, and vernal pools. Prefers alkaline and clay soils. Found at elevations ranging from 5 to 1,050 feet amsl. Blooming period is April through October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Atriplex persistens*** vernal pool smallscale | 1B.2 G2 S2 | Annual herb. Found in alkaline vernal pools. Found at elevations ranging from 35 to 375 feet amsl. Blooming period is June to October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Balsamorhiza macrolepis*** big-scale balsamroot | 1B.2 G2 S2 | Perennial herb. Found in chaparral, cismontane woodland, and valley and foothill grassland. Sometimes found in serpentine soils. Found at elevations ranging from 150 to 5,100 feet amsl. Blooming period is March through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Blepharizonia plumosa*** big tarplant | 1B.1 G1G2 S1S2 | Annual herb. Found in valley and foothill grassland, usually prefers clay soils. Found at elevations ranging from 100 to 1,655 feet amsl. Blooming period is July through October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Calochortus pulchellus*** Mt. Diablo fairy-lantern | 1B.2 G2 S2 | Perennial bulbiferous herb. Found in chaparral, cismontaine, woodland, riparian woodland, and valley and floothill grassland habitats. Found at elevations ranging from 100 to 2,755 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Carex lyngbyei*** Lyngbye's sedge | 2B.2 G5 S3 | Perennial rhibomateous herb. Found in brackish and freshwater marshes and swamps. Found at elevations ranging from 0 to 35 feet amsl. Blooming period is April through August. | No | **Not Expected:** Although suitable habitat is present, the project site is located outside of the known geographical range of this species. |
| ***Castilleja affinis var. neglecta*** Tiburon paintbrush | FE ST 1B.2 G4G5T1T2 S1S2 | Perennial herb. Found in serpentinite valley and foothill grasslands. Found at elevations ranging from 195 to 1,310 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Centromadia parryi ssp. congdonii*** Congdon's tarplant | 1B.1 G3T2 S2 | Annual herb. Found in alkaline valley and foothill grassland. Found at elevations ranging from 0 to 755 feet amsl. Blooming period is (April) May- October (November). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Centromadia parryi ssp. parryi*** pappose tarplant | 1B.2 G3T2 S2 | Annual herb. Found in chaparral, coastal prairie, meadows and seeps, coastal salt marshes and swamps, and vernally mesic valley and foothill grassland habitats. Found at elevations ranging from 0 to 1,380 feet amsl. Blooming period is May though November. | No | **Low:** Marginally suitable habitat for this species is present and several locations of older than 10 years are within 0.1 mile of the site to the south in McNabney Marsh, however this species was not detected during any of the field surveys. |
| ***Chloropyron molle ssp. hispidum*** hispid salty bird's-beak | 1B.1 G2T1 S1 | Hemiparasitic annual herb. Found in meadows and seeps, playas, and valley and foothill grassland habitats. Found at elevations ranging from 5 to 510 feet amsl. Blooming period is June through September. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Chloropyron molle ssp. molle*** soft salty bird's-beak | FE CR 1B.2 G2T1 S1 | Annual herb. Found in coastal salt marches and swamps. Found at elevations ranging from 0 to 10 feet amsl. Blooming period is June through November. | No | **Not Expected:** Although suitable habitat for this species exists within the project site, this species was not identified during any of the field surveys. |
| **Cicuta maculata var. bolanderi** Bolander's water-hemlock | 2B.1 G5T4T5 S2? | Perennial herb. Found in brackish, coastal, and freshwater marshes and swamps. Found at elevations ranging from 0 to 655 feet amsl. Blooming period is July through September. | No | **Not Expected:** Although suitable habitat for this species exists within the project site, the closest two records are from 3 miles away and over 120 years old and over 20 miles away and over 20 years old. |
| ***Cirsium andrewsii*** Franciscan thistle | 1B.2 G3 S3 | Perenneial herb. Found in broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub. Found at elevations ranging from 0 to 490 feet amsl. Blooming period is March through July. | No | **Not expected:** Suitable habitat for this species is absent from the project site. Additionally, the only two records in the County are from greater than 10 miles away and from 2017. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Cirsium hydrophilum var. hydrophilum*** Suisun thistle | FE 1B.1 G2T1 S1 | Perennial herb. Found in salt marshes and swamps. Found at elevations ranging from 0 to 5 feet amsl. Blooming period is June through September. | No | **Not Expected:** Although suitable habitat for this species is present, the project site is outlide of the known geographical range of this species, which is restricted to the north end of Grizzly and Suisun Bays. |
| ***Collomia diversifolia*** serpentine collomia | 4.3 G4 S4 | Annual herb. Found in chaparral and cismontane woodland habitats. Found at elevations ranging from 655 to 1,970 feet amsl. Blooming period is May through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Cordylanthus mollis* ssp. *mollis*** Soft Bird's-beak | FE CR G2T1 S1 | Annual herb. Found in coastal salt marshes and swamps. Found at elevations ranging from 0 to 10 feet amsl. Blooming is June through November. | No | **Not Expected:** This species was not detected during field surveys performed by LSA in 2008, 2011, 2013 and 2021, nor was it detected during the 2024 field surveys performed by Michael Baker. |
| ***Cordylanthus nidularius*** Mt. Diablo bird's-beak | CR 1B.1 G1 S1 | Annual herb. Found in serpentinite chaparral habitat. Found at elevations ranging from 1,970 to 2,625 feet amsl. Blooming period is June through August. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Delphinium californicum ssp. interius*** Hospital Canyon larkspur | 1B.2 G3T3 S3 | Perennial herb. Found in chaparral openings, mesic cismontane woodland, and coastal scrub habitats. Found at elevations ranging from 640 to 3,595 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Dirca occidentalis*** western leatherwood | 1B.2 G2 S2 | Perennial deciduous shrub. Found in broadleafed upland forest, closed-cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland habitats. Found at elevations ranging from 80 to 1,395 feet amsl. Blooming period is January through March (April.) | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Downingia pusilla*** dwarf downingia | 2B.2 GU S2 | Annual herb. Found in mesic valley and foothill grassland and vernal pool habitats. Found at elevations ranging from 5 to 1,460 feet amsl. Blooming period is March through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Eleocharis parvula*** small spikerush | 4.3 G5 S3 | Perennial herb. Found in marshes and swamps. Found at elevations ranging from 5 to 9,910 feet amsl. Blooming period is (April) June through August (September). | No | **Not Expected:** Although suitable habitat for this species is located within the project site, the project site is located south of the known geographical range of this species. |
| ***Eriastrum ertterae*** Lime Ridge eriastrum | SCE 1B.1 G1 S1 | Annual herb. Found in chaparral openings and along edges, sometimes in semi-alkaline habitats, with sandy substrates. Found at elevations ranging from 655 to 950 feet amsl. Blooming period is June through July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Erigeron biolettii*** streamside daisy | 3 G3? S3? | Perennial herb. Found in mesic and rocky boradleafed upland forest, cismontane woodland, and North Coast coniferous forest habitats. Found at elevations ranging from 100 to 3,610 feet amsl. Blooming period is June through October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Eriogonum truncatum*** Mt. Diablo buckwheat | 1B.1 G1 S1 | Annual herb. Found in sandy chaparral, coastal scrub, and valley and foothill grassland habitats. Found at elevations ranging from 10 to 1,150 feet amsl. Blooming period is April through September (Nov-Dec). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Eriogonum umbellatum* var. *behiiforme*** bay buckwheat | 4.2 G5T3 S3 | Perennial herb. Found in cismontane woodland and lower montane coniferous forest habitats. Found at elevations ranging from 2,295 to 7,220 feet amsl. Blooming period is July through September. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Eryphyllum jepsonii*** Jepson's woolly sunflower | 4.3 G3 S3 | Perennial herb. Prefers chaparral, cismontane woodland, and coastal scrub habitats, in sometimes serpentine substrates. Found at elevations ranging from 655 to 3,365 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Eryngium jepsonii*** Jepson's coyote-thistle | 1B.2 G2 S2 | Perennial herb. Prefers valley and foothill grassland, vernal pools. Found at elevations 10 to 985 feet amsl. Blooming period is April to August. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Erysimum capitatum var. angustatum*** Contra Costa wallflower | FE SE 1B.1 G5T1 S1 | Perennial herb. Prefers inland dunes. Found at elevations 10 to 65 feet amsl. Blooming period is March to July. | No | **Not Expected**: Habitats preferred by this species are absent from the project site, furthermore, the project site is outside of the geographical range of this species. |
| ***Erythranthe inconspicua*** small-flowered monkeyflower | 4.3 G4 S4 | Annual herb. Prefers chaparral, cismontane woodland, lower montane coniferous forest. Found at elevations 900 to 2,495 feet amsl. Blooming period is May to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Erythranthe laciniata*** cut-leaved monkeyflower | 4.3 G4 S4 | Annual herb. Prefers chaparral, lower montane coniferous forest, upper montane coniferous forest. Found at elevations 1,610 to 8,695 feet amsl. Blooming period is April to July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Extriplex joaquinana*** San Joaquin spearscale | 1B.2 G2 S2 | Annual herb. Prefers chenopod scrub, meadows and seeps, playas, valley and foothill grassland. Found at elevations 5 to 2,740 feet amsl. Blooming period is April to October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Fissidens pauperculus*** minute pocket moss | 1B.2 G3? S2 | Moss. Prefers north coast coniferous forest (damp coastal soil). Found at elevations 35 to 3,360 feet amsl. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Fritillaria agrestis*** stinkbells | 4.2 G3 S3 | Perennial bulbiferous herb. Prefers chaparral, cismontane woodland, pinyon and juniper woodland, valley and foothill grassland. Found at elevations 35 to 5,100 feet amsl. Blooming period is March to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Fritillaria liliacea*** fragrant fritillary | 1B.2 G2 S2 | Perennial bulbiferous herb. Prefers cismontane woodland, coastal prairie, coastal scrub, valley and foothill grassland. Found at elevations 10 to 1,345 feet amsl. Blooming period is February to April. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Galium andrewsii* spp. *gatense*** phlox-leaf serpentine bedstraw | 4.2 G5T3 S3 | Perennial herb. Prefers chaparral, cismontane woodland, lower montane coniferous forest. Found at elevations 490 to 4,755 feet amsl. Blooming period is April to July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Grimmia torenii*** Toren's grimmia | 1B.3 G2 S2 | Moss. Prefers chaparral, cismontane woodland, lower montane coniferous forest. Found at elevations 1,065 to 3,805 feet amsl. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Helianthella castanea*** Diablo helianthella | 1B.2 G2 S2 | Perennial herb. Prefers broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. Found at elevations 195 to 4,265 feet amsl. Blooming period is March to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Hesperevax caulescens*** hogwallow starfish | 4.2 G3 S3 | Annual herb. Prefers valley and foothill grassland (mesic clay), vernal pools (shallow). Found at elevations 0 to 1,655 feet amsl. Blooming period is March to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Hesperolinon breweri*** Brewer's western flax | 1B.1 G2 S2 | Annual herb. Prefers chaparral, cismontane woodland, valley and foothill grassland. Found at elevations 100 to 3,100 feet amsl. Blooming period is May to July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Hibiscus lasiocarpus* var. *occidentalis*** woolly rose-mallow | 1B.2 G5T3 S3 | Perennial rhizomatous herb (emergent). Prefers marshes and swamps (freshwater), often found in riprap on sides of levees. Found at elevations 0 to 395 feet amsl. Blooming period is June to September. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Holocarpha macradenia*** Santa Cruz tarplant | FT SE 1B.1 G1 S1 | Annual herb. Prefers coastal prairie, coastal scrub, valley and foothill grassland. Found at elevations 35 to 720 feet amsl. Blooming period is June to October. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Iris longipetala*** coast iris | 4.2 G3 S3 | Perennial rhizomatous herb. Prefers coastal prairie, lower montane coniferous forest, meadows and seeps. Found at elevations 0 to 1,970 feet amsl. Blooming period is Marsh to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Isocoma arguta*** Carquinez goldenbush | 1B.1 G1 S1 | Perennial shrub. Prefers valley and foothill grassland (alkaline). Found at elevations 5 to 65 feet amsl. Blooming period is August to December. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Lasthenia conjugens*** Contra Costa goldfields | FE 1B.1 G1 S1 | Annual herb. Prefers cismontane woodland, playas (alkaline), valley and foothill grassland, vernal pools. Found at elevations 0 to 470 feet amsl. Blooming period March to June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Lasthenia ferrisae*** Ferris' goldfields | 4.2 G3 S3 | Annual herb. Prefers vernal pools. Found at elevations ranging from 20 to 700 feet amsl. Blooming period is February to May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Lasthenia glabrata ssp. coulteri*** Coulter's goldfields | 1B.1 G4T2 S2 | Annual herb. Prefers playas, vernal pools, and coastal salt marshes and swamps. Found at elevations ranging from 3 to 4,003 feet amsl. Blooming period is from February to June. | No | **Low:** Only marginally suitable habitats preferred by this species are found within the project site, and the closest occurrence is greater than 15 miles away to the northeast on the edge of the Grizzly Island Wildlife Area. |
| ***Lathyrus jepsonii* var. *jepsonii*** Delta tule pea | 1B.2 G5T2 S2 | Perennial herb. Prefers brackish and freshwater marshes and swamps. Found at elevations ranging from 0 to 15 feet amsl. Blooming period is May through July (Aug-Sep). | No | **High.** Habitat potentially suitable for this species is present in the project area and a 2002 record of this species was recorded in close proximity to the project site. |
| ***Legenere limosa*** legenere | 1B.1 G2 S2 | Annual herb. Found in vernal pools. Found at elevations ranging rom 5 to 2,885 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Leptosiphon jepsonii*** Jepson's leptosiphon | 1B.2 G2G3 S2S3 | Annual herb. Found in chaparral, cismontane woodland, and valley and foothill grassland habitats, usually on volcanic substrates. Found at elevations ranging from 330 to 1,640 feet amsl. Blooming period is March through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Lilaeopsis masonii*** Mason's lilaeopsis | 1B.1 G2 S2 | Perennial rhizomatous herb. Prefers brackish or freshwater marshes and swamps and riparian scrub habitats. Found at elevations ranging from 0 to 35 feet amsl. Blooming period is April through November. | No | **Low:** Only marginally suitable habitats preferred by this species are found within the project site. The closest occurrence is 1 mile away to the northwest and greater than 10 years old. |
| ***Limosella australis*** Delta mudwort | 2B.1 G4G5 S2 | Perennial stoloniferous herb. Found in brackish or freshwater marshes and swamps and riparian scrub habitats. Found at elevations ranging from 1 to 10 feet amsl. Blooming period is May through August. | No | **Low:** Only marginally suitable habitats preferred by this species are found within the project site, and the closest occurrences are greater than 15 miles away to the east and older than 20 years. |
| ***Madia radiata*** showy golden madia | 1B.1 G3 S3 | Annual herb. Found in cismontane woodland and valley and foothill grassland habitats. Found at elevations ranging from 80 to 3,985 feet amsl. Blooming period is March through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Malacothamnus hallii*** Hall's bush-mallow | 1B.2 G2 S2 | Perennial deciduous shrub. Found in chaparral and coastal scrub habitats. Found at elevations ranging from 35 to 2,495 feet amsl. Blooming period is (April) May through September (October). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |

## Table E: Potentially Occurring Special-Status Biological Resources

| *Scientific Name* Common Name | Special-Status Rank* | Habitat Preferences and Distribution Affinities | Observed On-site | Potential to Occur |
|---|---|---|---|---|
| ***Meconella oregana*** Oregon meconella | 1B.1 G2G3 S2 | Annual herb. Found in coastal prairie and scrub habitats. Found at elevations ranging from 820 to 2,035 feet amsl. Blooming period is March through April. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Microseris paludosa*** marsh microseris | 1B.2 G2 S2 | Perennial herb. Found in closed-cone coniferous forest, cismontane woodland, coastal scrub, and valley and foothill grassland habitats. Found at elevations ranging from 15 to 1,165 feet amsl. Blooming period is April through June (July). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Monolopia gracilens*** woodland woollythreads | 1B.2 G3 S3 | Annual herb. Found in openings of broadleafed upland forest, chaparral, and North Coast coniferous forests, and in cismontane woodland and valley and foothill grassland habitats. Found at elevations ranging from 330 to 3,935 feet amsl. Blooming period is (February) March through July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Navarretia gowenii*** Lime Ridge navarretia | 1B.1 G1 S1 | Annual herb. Found in chaparral habitat. Found at elevations ranging from 590 to 1,000 feet amsl. Blooming period is May through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Navarretia leucocephala ssp. bakeri*** Baker's navarretia | 1B.1 G4T2 S2 | Annual herb. Found in cismontane woodland, lower montane coniferous forest, meadow and seep, valley and foothill grassland, and vernal pool habitats. Found at elevations from 15 to 5,710 feet amsl. Blooming period is April through July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Oenothera deltoides ssp. howellii*** Antioch Dunes evening-primrose | FE SE 1B.1 G5T1 S1 | Perennial herb. Found in inland dune habitat. Found at elevations ranging from 0 to 100 feet amsl. Blooming period is March through September. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Phacelia phacelioides*** Mt. Diablo phacelia | 1B.2 G2 S2 | Annual herb. Found in chaparral and cismontane woodland habitats. Found at elevations ranging from 1,640 to 4,495 feet amsl. Blooming period is April through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Plagiobothrys hystriculus*** bearded popcornflower | 1B.1 G2 S2 | Annual herb. Found in mesic valley and foothill grassland habitat and along margines of vernal pools. Found at elevations ranging from 0 to 900 feet amsl. Blooming period is April through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Polygonum marinense*** Marin knotweed | 3.1 G2Q S2 | Annual herb. Found in brackish, coastal, and salt marshes and swamps. Found at elevations ranging from 0 to 35 feet amsl. Blooming period is (April) May through August (October). | No | **Not Expected:** Although habitats preferred by this species are present within the project site, the project site is outside of the known geographical range of this species. |
| ***Puccinellia simplex*** California alkali grass | 1B.2 G2 S2 | Annual herb. Found in chenopod scrub, meadow and seep, valley and foothill grassland, and vernal pool habitats. Prefers alkaline flats, lake margins and vernally mesic habitats. Found at elevations ranging from 5 to 3,050 feet amsl. Blooming period is March through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Ravenella exigua*** chaparral harebell | 1B.2 G2 S2 | Annual herb. Found in rocky, usually serpentinite chaparral habitat. Found at elevations ranging from 900 to 4,100 feet amsl. Blooming period is May through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Sanicula saxatilis*** rock sanicle | CR 1B.2 G2 S2 | Perennial herb. Found in broadleafed upland forest, chaparral, and valley foothill grassland habitats. Found at elevations ranging from 2,035 through 3,855 feet amsl. Blooming period is April through May. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Senecio aphanactis*** chaparral ragwort | 2B.2 G3 S2 | Annual herb. Found in chaparral, cismontane woodland, and coastal scrub habitats. Found at elevations ranging from 50 to 2,625 feet amsl. Blooming period is January through April (May). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Sidalcea keckii*** Keck's checkerbloom | 1B.1 FE G2 S2 | Annual herb. Found in cismontane woodland and valley and foothill grassland habitats. Found at elevations ranging from 245 through 2,135 feet amsl. Blooming period April through May (June). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Spergularia macrotheca var. longistyla*** long-styled sand-spurrey | 1B.2 G5T2 S2 | Perennial herb. Found in meadow and seep and marsh and swamp habitats. Found at elevations ranging from 0 to 835 feet amsl. Blooming period is February through May. | No | **Low:** Marginally suitable habitats preferred by this species are present with the closest and most recent occurrence being 5 miles away and 5 years old. |
| ***Streptanthus albidus ssp. peramoenus*** most beautiful jewelflower | 1B.2 G2T2 S2 | Annual herb. Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. Found at elevations ranging from 310 to 3,280 feet amsl. Blooming period is (March) April through September (October). | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Streptanthus hispidus*** Mt. Diablo jewelflower | 1B.3 G2 S2 | Annual herb. Found in chaparral and valley and foothill grassland habitats. Found at elevations ranging from 1,200 to 3,935 feet amsl. Blooming period is March through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Stuckenia filiformis ssp. alpina*** northern slender pondweed | 2B.2 G5T5 S2S3 | Perennial rhizomatous her (aquatic). Found in shallow marsh and swamp habitats. Found at elevations ranging from 985 through 7,055 feet amsl. Blooming period is May through July. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| ***Symphyotrichum lentum*** Suisun Marsh aster | 1B.2 G2 S2 | Perennial rhizomatous herb. Found in brackish and freshwater marsh and swamp habitats. Found at elevations ranging from 0 to 10 feet amsl. Blooming period is (April) May through November. | No | **Low:** Marginally suitable habitats preferred by this species are present with the closest and most recent occurrence being 1 mile away and 20 years old. |

## Table E: Potentially Occurring Special-Status Biological Resources

| ***Scientific Name*** Common Name | **Special-Status Rank*** | **Habitat Preferences and Distribution Affinities** | **Observed On-site** | **Potential to Occur** |
|---|---|---|---|---|
| ***Trifolium amoenum*** two-fork clover | FE 1B.1 G1 S1 | Annual herb. Found in coastal bluff scrub and valley and foothill grassland, sometimes serpentinite, habitats. Found at elevations ranging from 15 to 1,360 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Trifolium hydrophilum*** saline clover | 1B.2 G2 S2 | Annual herb. Found in marsh and swamp, mesic and alkaline valley and foothill grassland, and vernal pool habitats. Found at elevations ranging from 0 to 985 feet amsl. Blooming period is April through June. | No | **Not Expected:** Habitats preferred by this species are present within the project site, however, the project site is outside of the known geographical distribution for this species. |
| ***Triquetrella californica*** coastal triquetrella | 1B.2 G2 S2 | Moss. Found in coastal bluff scrub and coastal scrub habitats. Found at elevations ranging from 35 to 33 feet amsl. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Tropidocarpum capparideum*** caper-fruited tropidocarpum | 1B.1 G1 S1 | Annual herb. Found in alkaline valley and foothill grassland habitats in hills. Found at elevations ranging from 5 to 1,495 feet amsl. Blooming period is March through April. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. |
| ***Viburnum ellipticum*** oval-leaved viburnum | 2B.3 G4G5 S3 | Perennial deciduous shrub. Found in chaparral, cismontane woodland, and lower montane coniferous forest habitats. Found at elevations ranging from 705 to 4,595 feet amsl. Blooming period is May through June. | No | **Not Expected:** Habitats preferred by this species are not found within the project site. Additionally, the project site is outside of the elevational range preferred by this species. |
| **SPECIAL-STATUS VEGETATION COMMUNITIES** | | | | |
| **CNDDB/Holland (1986)** Coastal Brackish Marsh **MCV (1995)** N/A **NVCS (2009)** N/A | G2 S2.1 | This vegetation community is primarily associated with estuaries or coastal lagoons that are protected from wave action. These areas form with a mixture of inputs from freshwater sources into coastal saltwater. Characteristic plant species includes saltgrass (*Distichlis spicata*), marsh rosemary (*Limonium californicum*), marsh jaumea (*Jaumea carnosa*), pickleweed (*Salicornia* spp.), seablite (*Suaeda* spp.), arrowgrass (*Triglochin* spp.), alkali bulrush (*Bolboschoenus maritimus*), chairmaker's bulrush (*Schoenoplectus americanus*), Lyngbye's sedge (*Carex lyngbyei*), and seaside arrow grass (*Triglochin maritima*). | Yes | **Present.** This vegetation community occurs within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| *Scientific Name* Common Name | Special-Status Rank* | Habitat Preferences and Distribution Affinities | Observed On-site | Potential to Occur |
|---|---|---|---|---|
| **CNDDB/Holland (1986)**<br>Northern Claypan Vernal Pool<br>**MCV (1995)**<br>N/A<br>**NVCS (2009)**<br>N/A | G1<br>S1.1 | This vegetation community consists of ephemeral waterbodies found in depression (up to several hectares in size) among grasslands and open woodlands. This vegetation community includes a clay hardpan that retains water inputs throughout some portions of the spring, but typically the depression dries down entirely into early summer months. Tends to be circumneutral to alkaline and slightly saline wetlands. Characteristic plant species includes Hoover's downingia (*Downingia bella*), harlequin downingia (*Downingia insignis*), alkali weed (*Cressa truxillensis*), alkali plagiobothrys (*Plagiobothrys leptocladus*), Douglas' pogogyne (*Pogogyne douglasii*), Jepson's button celery (*Eryngium aristulatum*), neckweed (*Veronica peregrina*), alkali goldfields (*Lasthenia ferrisiae*), smooth goldfields (*Lasthenia glaberrima*), and salt sandspurry (*Spergularia marina*). Vernal pools typically form concentric rings of similar forb-rich vegetation. | No | **Absent.** This vegetation community does not occur within the project site. |
| **CNDDB/Holland (1986)**<br>Northern Coastal Salt Marsh<br>**MCV (1995)**<br>Pickleweed mats<br>**NVCS (2009)**<br>*Salicornia pacifica - Spartina foliosa - Glaux maritima* Salt Marsh Alliance | S3.2<br>G3 | This vegetation community is dominated by herbaceous, sub-shrubby, salt-tolerant hydrophytes that typically form a dense mat of vegetation up to 3 feet high. The most characteristic plant is pickleweed (*Salicornia virginica*), with California cordgrass (*Spartina foliosa*), alkali heath (*Frankenia salina*), salt grass (*Distichlis spicata*), dodder (*Cuscuta salina* var. *major*), marsh jaumea (*Jaumea carnosa*), sea lavender (*Limonium californicum*), and marsh gum-plant (*Grindelia stricta* var. *angustifolia*) occurring as well. Species are segregated vertically into more or less distinct zones defined by the degree to which they are inundated by the tides. | Yes | **Present.** This vegetation community occurs within the project site. |
| **CNDDB/Holland (1986)**<br>Northern Maritime Chaparral<br>**MCV (1995)**<br>N/A<br>**NVCS (2009)**<br>N/A | G1<br>S1.2 | This vegetation community includes chaparral in patches restricted by sands, sandstones, other marine sediments, and stabilized sand dunes within the fog belt throughout the central and northern California coast. Shrubs vary in height (up to 3 m tall) and occur in variable densities. Characteristic plant species include woolly leaf manzanita (*Arctostaphylos tomentosa*), shatterberry (*Arctostaphylos nummularia*), brittle leaf manzanita (*Arctostaphylos crustacea*), Hooker's manzanita (*Arctostaphylos hookeri*), Pajaro manzanita (*Arctostaphylos pajaroensis*), Montara manzanita (*Arctostaphylos montaraensis*), Mason's ceanothus (*Ceanothus masonii*), Carmel ceanothus (*Ceanothus thrysiflorus* var. *griseus*), white coast ceanothus (*Ceanothus verrucosus*), chamise (*Adenostoma fasciculatum*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), coffeeberry (*Frangula californica*), spiny redberry (*Rhamnus crocea*), and coast live oak (*Quercus agrifolia*). | No | **Absent.** This vegetation community does not occur within the project site. |

## Table E: Potentially Occurring Special-Status Biological Resources

| *Scientific Name* Common Name | Special-Status Rank* | Habitat Preferences and Distribution Affinities | Observed On-site | Potential to Occur |
|---|---|---|---|---|
| **CNDDB/Holland (1986)** Serpentine Bunchgrass **MCV (1995)** N/A **NVCS (2009)** N/A | S2.2 G2 | This vegetation community is of very limited distribution in California within the Coast Ranges, Sierra Nevada, and Transverse Ranges on deep soils with serpentine-rich parent material. Native bunchgrass dominates, though typically in less dense cover than other perennial bunchgrass types. Characteristic species include serpentine reed grass (*Calamagrostis ophitidis*), California poppy (*Eschscholzia californica*), eastwood fescue (*Vulpia microstachys* var. *ciliate*), one sided blue grass (*Poa secunda*), hayfield tarweed (*Hemizonia congesta* ssp. *luzulifolia*), needle grass (*Stipa cernua*), and purple needle grass (*Stipa pulchra*). | No | **Absent.** This vegetation community does not occur within the project site. |
| **CNDDB/Holland (1986)** Valley Needlegrass Grassland **MCV (1995)** N/A **NVCS (2009)** N/A | G3 S3.1 | Occurs at elevations ranging from 0 to 5,577 feet amsl on all topographic locations. Soils may be deep with high clay content, loamy, sandy, or silty derived from mudstone, sandstone, or serpentine substrates. California melicgrass (*Melica californica*), Torrey melic (*Melica torreyana*), nodding needle grass (*Stipa cernua*), foothill needle grass (*Stipa lepida*) and/or purple needle grass (*Stipa pulchra*) is dominant or characteristically present in the herbaceous layer with other perennial grasses and herbs including spidergrass (*Aristida ternipes*), milkvetch (*Astragalus* spp.), wild oat (*Avena* spp.), bromes (*Bromus* spp.), fire reedgrass (*Calamagrostis koelerioides*), mariposa (*Calochortus* spp.), morning glory (*Calystegia* spp.), amole (*Chlorogalum pomeridianum*), clarkia (*Clarkia* spp.), common sandaster (*Corethrogyne filaginifolia*), turkey-mullein (*Croton setiger*), cryptantha (*Cryptantha* spp.), American wild carrot, (*Daucus pusillus*), blue dicks (*Dichelostemma capitatum*), blue wildrye (*Elymus glaucus*), buckwheat (*Eriogonum* spp.), erodium (*Erodium* spp.), California poppy (*Eschscholzia californica*), California fescue (*Festuca californica*), shortpod mustard (*Hirschfeldia incana*), narrow tarplant (*Holocarpha virgata*), meadow barley (*Hordeum brachyantherum*), June grass (*Koeleria macrantha*), goldfields (*Lasthenia* spp.), plantain (*Plantago* spp.), one sided blue grass (*Poa secunda*), sanicle (*Sanicula* spp.), western blue eyed grass (*Sisyrinchium bellum*), clover (*Trifolium* spp.) and/or fescue (*Vulpia* spp.). Emergent trees and shrubs may be present at low cover. Herbs are less than 3 feet; cover is open to continuous. | No | **Absent.** This vegetation community does not occur within the project site. |

* **U.S. Fish and Wildlife Service (USFWS)**

FE Endangered – any species which is in danger of extinction throughout all or a significant portion of its range.

FCE Proposed Endangered - the classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the USFWS has formally noticed as being under review by the USFWS for addition to the list of endangered species, or a species for which the Service has published a notice of proposed regulation to add the species to the list of endangered species.

FT Threatened – any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FPT Federally Proposed - Threatened – The classification provided to an animal or plant that is proposed for federal listing as Threatened in the Federal Register under Section 4 of the Endangered Species Act.

**California Department of Fish and Wildlife (CDFW)**

SE Endangered – any native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease.

SCE State Candidate for Listing as Endangered – the classification provided to a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed as being under review by the Department of Fish and Wildlife for addition to the list of endangered species, or a species for which the commission has published a notice of proposed regulation to add the species to the list of endangered species.

ST Threatened – any native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts required under the California Endangered Species Act.

SCT State Candidate Threatened - any native species or subspecies of bird, mammal, fish, amphibian, reptile, or plant that has been accepted as a candidate species for listing as threatened. The species is temporarily afforded the same protections as a state-listed endangered or threatened species. The Commission must decide at a public meeting whether the species will be removed from candidacy or added to the list of threatened species.

FP Fully Protected – any native species or subspecies of bird, mammal, fish, amphibian, or reptile that were determined by the State of California to be rare or face possible extinction.

SSC Species of Special Concern – any species, subspecies, or distinct population of fish, amphibian, reptile, bird, or mammal native to California that currently satisfies one or more of the following criteria:

- is extirpated from California or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered; meets the State definition of threatened or endangered but has not formally been listed.
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status; or
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

WL Watch List - taxa that were previously designated as "Species of Special Concern" but no longer merit that status, or which do not yet meet SSC criteria, but for which there is concern and a need for additional information to clarify status.

**California Native Plant Society (CNPS) California Rare Plant Rank**

1B Plants rare, threatened, or endangered in California and elsewhere.

2B Plants rare, threatened, or endangered in California but more common elsewhere.

4 Plants of limited distribution – Watch List.

**Threat Ranks**

.1 Seriously threatened in California (over 80% of occurrences threatened/high degree any immediacy of threat).

.2 Moderately threatened in California (20 to 80 percent of occurrences threatened/moderate degree and immediacy of threat).

.3 Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known).

**NatureServe Conservation Status Rank**

The Global Rank (G#) reflects the overall condition and imperilment of a species throughout its global range. The Infraspecific Taxon Rank (T#) reflects the global situation of just the subspecies or variety. The State Rank (S#) reflects the condition and imperilment of an element throughout its range within California. (G#Q) reflects that the element is very rare but there are taxonomic questions associated with it; the calculated G rank is qualified by adding a Q after the G#). Adding a ? to a rank expresses uncertainty about the rank.

G1/T1 Critically Imperiled – At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.

G2/T2 Imperiled— At high risk of extinction due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors.

G3/T3 Vulnerable— At moderate risk of extinction due to a restricted range, relatively few populations (often 80 or fewer), recent and widespread declines, or other factors.

G4/T4 Apparently Secure— Uncommon but not rare; some cause for long-term concern due to declines or other factors.

G5/T5 Secure – Common; widespread and abundant.

GNR Unranked – Global rank not yet assessed.

S1 Critically Imperiled – Critically imperiled in the state because of extreme rarity (often 5 or fewer occurrences) or because of some factor(s) such as very steep declines making it especially vulnerable to extirpation from the State.

S2 Imperiled – Imperiled in the State because of rarity due to very restricted range, very few populations (often 20 or fewer), steep declines, or other factors making it very vulnerable to extirpation from the nation or State.

S3 Vulnerable – Vulnerable in the State due to a restricted range, relatively few populations (often 80 or fewer), recent and

widespread declines, or other factors making it vulnerable to extirpation.

S4 Apparently Secure – Uncommon but not rare; some cause for long-term concern due to declines or other factors.

SNR Unranked – National or subnational conservation status not yet assessed.

# APPENDIX F

# DELINEATION OF STATE AND FEDERAL JURISDICTIONAL WATERS FOR THE PROPOSED MARTINEZ TERMINAL RAIL RESTORATION PROJECT

Michael Baker
INTERNATIONAL

*We Make a Difference*

May 2, 2024 JN 192914

**CITY OF MARTINEZ**
Attn: *Joe Enke*
Public Works Department
525 Henrietta Street
Martinez, California 94553

**SUBJECT: Delineation of State and Federal Jurisdictional Waters for the proposed Martinez Terminal Rail Restoration Project – City of Martinez, Contra Costa County, California**

Dear Mr. Enke:

Michael Baker International (Michael Baker) has prepared this report to document the results of a literature review and formal delineation of state and federal jurisdictional waters, including wetlands, that was conducted for the proposed Martinez Terminal Railroad Spur Project (project or project site) located in the City of Martinez, Contra Costa County, California. Specifically, the delineation was conducted to confirm and update the extent of aquatic features within the project site that were previously mapped by LSA Associates, Inc. in March 2021. The delineation was conducted to confirm and update areas that potentially fall under the jurisdictional authority of the U.S. Army Corps of Engineers (USACE), the Regional Water Quality Control Board (RWQCB), and the California Department of Fish and Wildlife (CDFW). This report summarizes the methodology utilized throughout the course of the delineation, defines the jurisdictional authority of the regulatory agencies, and documents the findings made by Michael Baker. This report presents Michael Baker's determination of jurisdictional boundaries based on the most current regulations, written policy, and guidance approved by the regulatory agencies. However, please note that only the regulatory agencies can make a final determination of jurisdictional limits.

## PROJECT LOCATION

The project site is located approximately 0.75 mile east of Interstate 680 and 2.75 mile north of State Route 4 in the City of Martinez, Contra Costa County, California (Figure 1, *Regional Vicinity*, in Attachment A). The project site consists of approximately 26.52 acres along the southern boundary of the existing Martinez Terminal extending south of Waterfront Road to the existing Union Pacific Railroad (UPRR) tracks. The project boundary includes the proposed railroad spur alignment, and adjacent areas needed for access, lay-down, and construction staging. The project site is located in Sections 8 and 9 in Township 2 North, Range 2 West of the *Vine Hill, California* U.S. Geological Survey 7.5-minute quadrangle (Figure 2, *Site Vicinity*,


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in Attachment A). The TransMontaigne office is located at 2801 Waterfront Road in Martinez, Contra Costa County, California.

The Martinez Terminal is located in a heavy industrial area approximately 2.25 miles east of downtown Martinez and just north of the Waterbird Regional Preserve. The project site is bounded by the existing Martinez Terminal to the north, the UPRR right-of-way to the south, tidelands to the west, and industrial and undeveloped lands to the east. Waterfront Road bisects the project site (Figure 3, *Project Site*, in Attachment A).

## PROJECT DESCRIPTION

The proposed project would reestablish a former rail line on the south side of the existing Martinez Terminal in the City of Martinez (City), connecting to the existing Union Pacific Railroad (UPRR) railroad tracks south of Waterfront Road. The rail spur would be located within the existing Martinez Terminal property and within UPRR right-of-way (ROW). The project would include construction of approximately 3,850 linear feet of new track, with a lead track of approximately 1,900 feet, and three operating industry tracks of approximately 650 feet each. These proposed tracks would hold train cars for the transport of a range of petroleum-based and renewable products, feed stocks, and blend stocks commodities. Currently, these products arrive at the Martinez Terminal via wharf or pipeline. Implementation of the proposed project would reestablish rail service to the project site.

## REGULATORY SETTING

There are three key agencies that regulate activities within inland lakes, streams, wetlands, and riparian areas in California. The USACE regulates activities that result in the discharge of dredged or fill material into waters of the U.S. (WoUS), including wetlands, pursuant to Section 404 of the federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. Of the state agencies, the RWQCB regulates discharges to waters of the State (WoS), including wetlands, pursuant to Section 401 of the CWA, Section 13263 of the California Porter-Cologne Water Quality Control Act (Porter-Cologne Act), and State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State; and, the CDFW regulates alterations to lakes, streambeds, and associated riparian habitats pursuant to Section 1600 *et seq*. of the California Fish and Game Code (CFGC).

## LITERATURE REVIEW

Prior to conducting the field delineation, Michael Baker conducted a review of relevant literature and materials to obtain a general understanding of the environmental setting and preliminarily identify features/areas within the project site that may fall under the jurisdiction of the regulatory agencies. Refer to the subsections below for a summary of relevant materials, databases, technical reports, and guidance documents that were obtained/reviewed by Michael Baker. In addition, a complete list of references is provided as Attachment G to this report.

## San Francisco Bay Delta Watershed

The project site is located within the San Francisco Bay Delta Watershed (HUC 18050001). The project site occurs approximately 0.9 mile south of Suisun Bay, which is tributary to the San Francisco Bay and the Pacific Ocean. The San Francisco Bay Delta watershed comprises approximately 75,000 square miles and extends nearly 500 miles from the Cascade Range in the north to the Tehachapi Mountains in the south and is bounded by the Sierra Mountain Range to the east and the Coast Range to the west. The San Francisco Bay and Suisun Bay are not Designated Rivers under the National Wild and Scenic Rivers Act.

## Soils

According to the *Custom Soil Resources Report for Contra Costa County, California* (U.S. Department of Agriculture [USDA] 2024a), the project site is underlain by three soil map units: Altamont clay, 15 to 30 percent slopes, MLRA 15 (AbE); Joice muck, MLRA 16 (Ja); and Omni silty clay (Ob). Michael Baker also reviewed the *Hydric Soils List for California* (USDA 2024b) to preliminarily verify whether the soil map units listed above was classified as a "hydric soil" in the Contra Costa County area. According to the list, all three subject soil map units are listed as hydric.

## National Wetlands Inventory

Based on a review of the U.S. Fish and Wildlife Service's (USFWS) National Wetlands Inventory (NWI) (USFWS 2024), one estuarine and marine wetland resource, three riverine resources, two freshwater emergency wetland resources, and two freshwater pond resources mapped in the NWI coincide with the project site and are shown in Attachment B. One mapped estuarine and marine wetland feature is present along the western portion of the project site. This feature is described as estuarine intertidal unconsolidated shore irregularly exposed diked/impounded (E2USMh). Three riverine features are mapped within the central and eastern portion of the project site. These features are classified as riverine intermittent streambed temporary flooded excavated (R4SBAx) and flow to the east off the project site into Pacheco Creek. The headwaters of these three riverine features are present in the central portion of the project site. Adjacent to two of these riverine features are freshwater emergent wetland features classified as palustrine emergent persistent seasonally flooded diked/impounded (PEM1Ch). In addition, two freshwater pond features are present within the middle riverine feature. These freshwater ponds are classified as palustrine unconsolidated bottom permanently flooded diked/impounded (PUBHh).

## Flood Zone

Based on a review of the Federal Emergency Management Agency's (FEMA) National Flood Hazard Layer Viewer (FEMA 2024), the project site is located within Flood Insurance Rate Map (FIRM) Panel Numbers 06013C0088H and 06013C0089H. The project site occurs within Zones X and AE as shown in Attachment C. Zone X is described as an area of minimal flood hazard and Zone AE is described as an area of base flood elevation of 10 feet.

## National Hydrography Dataset

Based on a review of the National Hydrography Dataset (NHD) Advanced Viewer (USGS 2024a), two unnamed wetland features are mapped within the project site, as shown in Attachment D. These features are tidally influenced and are connected to Suisun Bay to the north.

## FIELD METHODOLOGY

Michael Baker wetland delineators Stephen Anderson, John Parent, and Anna Jullie conducted a jurisdictional delineation/field survey of the project site on March 28, 2024, using the most recent, agency approved methodology, to confirm the extent of state and federal jurisdictional features previously mapped by LSA in March 2021 (i.e., wetland and non-wetland WoUS, WoS, streambed, and associated riparian vegetation). Based on the project's location, potential state and federal wetlands were delineated in accordance with the methods and guidance provided in the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987), the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region, Version 2.0* (Arid West Regional Supplement; USACE 2008), and the *State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State* (State Water Resources Control Board 2019b).

While in the field, jurisdictional features were recorded on an aerial photograph at a scale of 1" = 400' using topographic contours and visible landmarks as guidelines. Data points were recorded in the field using a Garmin GPS Map 64sx Global Positioning System (GPS) to identify specific widths and length of jurisdictional features and the location of any ordinary high-water mark (OHWM) indicators, photograph points, soil pits, and other pertinent site characteristics. These data were then uploaded as a .shp file and confirmed/refined to ensure accuracy and consistency with hardcopy notes and aerial mapping completed in the field. Michael Baker then used ESRI ArcGIS Pro software to calculate the total acreage of jurisdictional features and prepare final project figures.

## RESULTS

### Jurisdictional Features

Three perennial features were identified within the project site during the March 2024 site visit (refer to Attachment E, *Site Photographs*).

#### Aquatic Feature 1

Aquatic Feature 1 (AF-1) is an earthen perennial, tidally influenced marsh that that is located along the western boundary of the project site. AF-1 is a tidally influenced marsh that connects to Suisun Bay roughly 0.9 mile north of the project site. AF-1 had surface water present at the time of the survey. The banks of AF-1 are vegetated with hydrophytic plant species, transitioning to an upland plant community further away from the banks. Dominant hydrophytic plant species located along the banks included perennial pepper weed (*Lepidium latifolium*, FAC), salt grass (*Distichlis spicata*, FAC), marsh jaumea (*Jaumea carnosa*,

OBL), pickleweed (*Salicornia pacifica*, OBL). Further up the bank, the plant community is dominated by upland plant species such as ripgut (*Bromus diandrus*, UPL) and Wright's cudweed (*Pseudognaphalium canescens*, FACU). An OHWM is present within AF-1 that is defined by a clear line impressed on the bank. Four soil pits were dug along AF-1. Two of these soil pits contained hydrophytic vegetation, hydric soil, and wetland hydrology, and were therefore considered to be within a wetland. The other two soil pits did not contain hydric soils or wetland hydrology and were therefore not considered to be within a wetland. Therefore, a portion of AF-1 is considered a wetland. Soil pit data forms can be found within Attachment F. This mapping is consistent with the previous mapping done by LSA in March 2021.

**Aquatic Feature 2**

Aquatic Feature 2 (AF-2) is an earthen perennial channel beginning in the center of the project site south of Waterfront Road and the adjacent railroad tracks, continuing east through to the eastern end of the project site. Although a culvert connects AF-2 to the tidally influenced marsh to the north of Waterfront Road, this culvert is at an elevation that would only connect flows to the northern marsh under unusually high tidal conditions and is therefore not considered tidally influenced under normal conditions. AF-2 is a salt marsh that connects to Pacheco Creek roughly 0.5 mile east of the project site. At the time of the field survey, AF-2 had surface water present. The banks of AF-2 are dominated with hydrophytic vegetation including pickleweed, salt grass, and perennial pepper weed. The OHWM is defined by a clear line impressed on the banks. Four soil pits were dug along AF-2. Two of these soil pits contained hydrophytic vegetation, hydric soil, and wetland hydrology, and were therefore considered to be within a wetland. The other two soil pits did not contain hydric soils or wetland hydrology and were therefore not considered to be within a wetland. Therefore, a portion of AF-2 is considered a wetland. This mapping differed slightly from the LSA March 2021 mapping as more surface water was present within AF-2 during the March 2024 site visit.

**Aquatic Feature 3**

Aquatic Feature 3 (AF-3) is an earthen perennial, tidally influenced channel beginning in the center of the project site north of Waterfront Road and the adjacent railroad tracks, continuing east through to the eastern end of the project site. AF-3 is a tidally influenced salt marsh that connects to Pacheco Creek roughly 0.5 mile east of the project site, and also appears to be connected to the tidal flats to the north leading to Suisun Bay. Vegetation along the banks is similar to AF-3 and includes pickleweed, salt grass, and perennial pepper weed. At the time of the field survey, AF- 3 had surface water present. The OHWM is defined by a clear line impressed on the banks. The mapping is consistent with the previous mapping done by LSA in March 2021.

**FINDINGS**

All of the mapped aquatic features are tributaries to Suisun Bay. These features exhibit a perennial system; exhibit relatively permanent waters (RPW); and exhibit a continuous surface connection to a downstream traditional navigable water (TNW). Accordingly, these features would be considered subject to USACE jurisdiction pursuant to Section 404 of the Clean Water Act. In addition, these features would be considered

subject to the jurisdiction of the RWQCB. However, these aquatic features are not classified as streambeds or lakes, and do not contain any associated riparian habitat, and are therefore not considered jurisdiction to CDFW under Section 1600 *et seq.* of CFGC. The jurisdiction of the USACE totals approximately 4.20 acres of wetland WoUS and 2.35 acres of non-wetland WoUS. The jurisdiction of the RWQCB reflects that of the USACE, and totals approximately 4.20 acres of wetland WoS and 2.35 acres of non-wetland WoS. Refer to Table 2 below and Figures 4 and 5 provided in Attachment A.

**Table 2: State and Federal Jurisdictional Resources**

| Feature Name | Location Lat/Long | Cowardin Type | Linear Feet | Acreage within Project Site | | | |
|---|---|---|---|---|---|---|---|
| | | | | USACE | | RWQCB | |
| | | | | Wetland WoUS | Non-Wetland WoUS | Wetland WoS | Non-Wetland WoS |
| Aquatic Feature 1 | 38.027393°/ -122.101245° | Estuarine | - | 0.30 | 0.35 | 0.30 | 0.35 |
| Aquatic Feature 2 | 38.028507°/ -122.092429° | Estuarine | - | 2.00 | 1.60 | 2.00 | 1.60 |
| Aquatic Feature 3 | 38.027815°/ -122.093542° | Estuarine | - | 1.90 | 0.40 | 1.90 | 0.40 |
| **TOTAL** | | | **-** | **4.20** | **2.35** | **4.20** | **3.25** |

## CONCLUSIONS AND RECOMMENDATIONS

The USACE regulates discharge of dredged or fill material into WoUS pursuant to Section 404 of the CWA and Section 10 of the Rivers and Harbors Act. Evidence of an OHWM was noted within all aquatic features within the project site; the features exhibit perennial regime; are RPWs; and exhibit a continuous surface connection to a downstream TNW and would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. A nationwide permit was previously issued for the project in July 2014 (Corps File No. 2012-00075S).

The RWQCB regulates discharges to surface waters pursuant to Section 401 of the CWA and Section 13263 of the Porter-Cologne Act. Temporary and/or permanent impacts resulting from the proposed project would require a Waste Discharge Requirement (WDR) from the RWQCB pursuant to the Porter-Cologne Act prior to impacts occurring within jurisdictional areas. The RWQCB also requires that CEQA compliance be obtained prior to obtaining authorization. A RWQCB application fee is required with the application package and is calculated based on the acreage of jurisdictional impacts.

The CDFW regulates alterations to lakes, streambeds, and riparian habitats pursuant to Section 1600 *et seq*. of the CFGC. Since no CDFW jurisdiction is present on-site, formal notification to and subsequent authorization from CDFW would be not required prior to commencement of any construction activities.

Please do not hesitate to contact me at (949) 330-4147 or stephen.anderson@mbakerintl.com should you have any questions or require further information.

Sincerely,

*Stephen Anderson*

Stephen Anderson
Senior Biologist
Natural Resources & Environmental Services

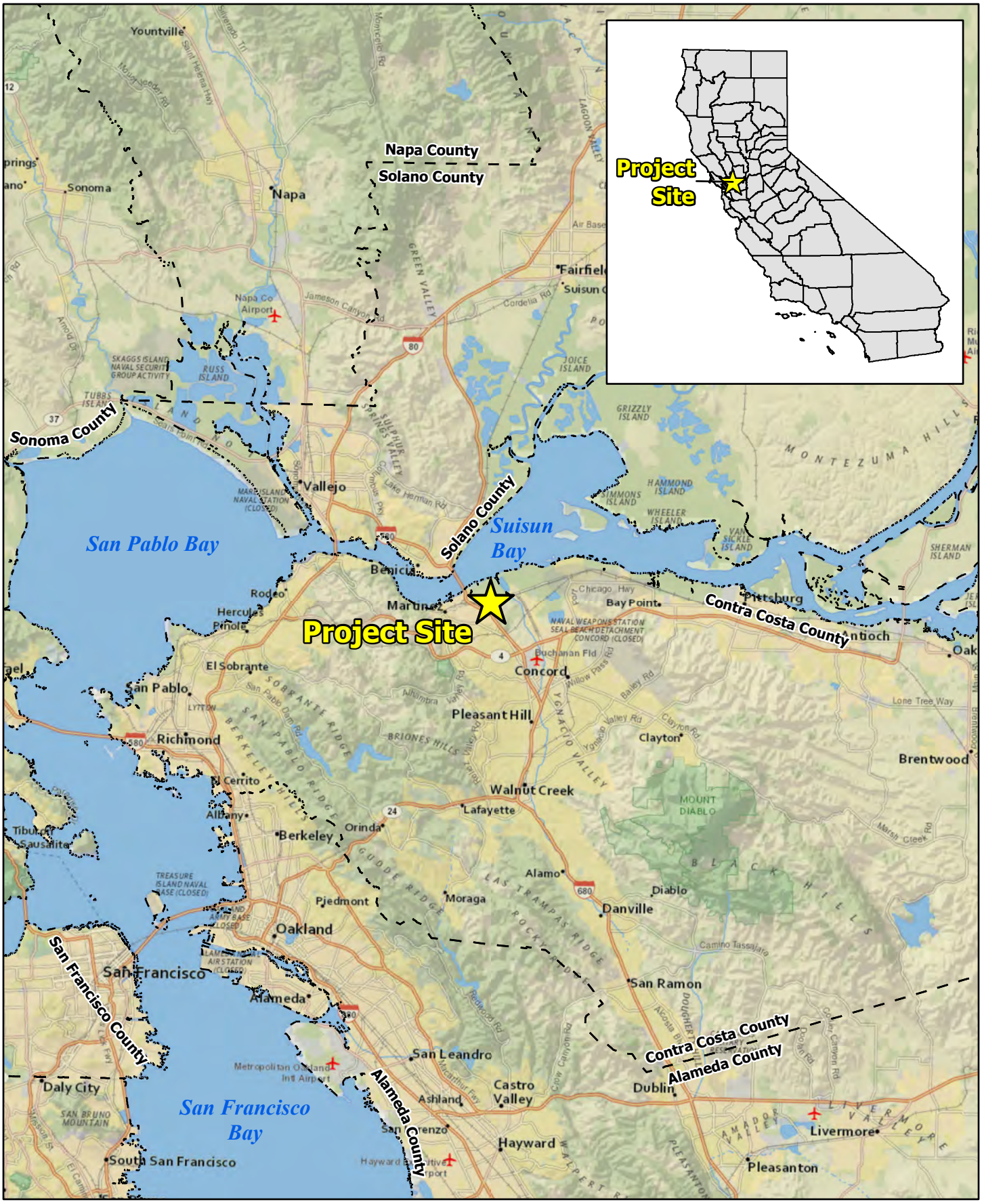
Attachments:

A. *Project Figures*
B. *USFWS National Wetlands Inventory Map*
C. *FEMA Flood Insurance Rate Map*
D. *USGS National Hydrography Dataset Advanced Viewer Map*
E. *Site Photographs*
F. *LSA Request for Verification of CWA Jurisdictional Determination*
G. *References*

**Attachment A**

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Project Figures




MARTINEZ TERMINAL RAIL RESTORATION PROJECT

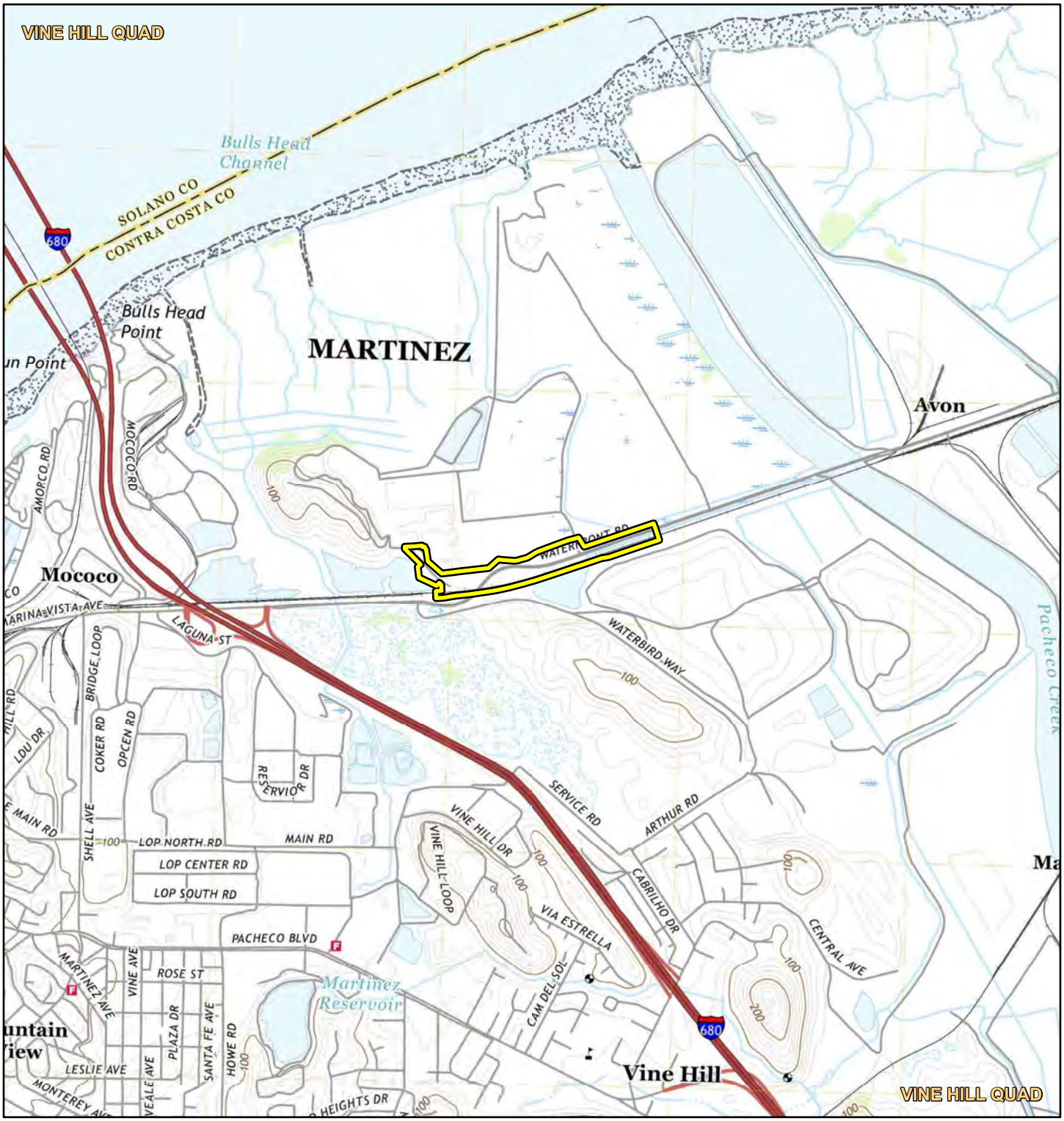
Michael Baker INTERNATIONAL

0 2.5 5 Miles

Source: Esri National Geographic World Map, Esri USA_Counties

# Regional Vicinity

Figure 1




**Legend**

Study Area

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

Michael Baker INTERNATIONAL

0 1,000 2,000 US Feet

Source: Vine Hill USGS 7.5-Minute topographic quadrangle map: *Martinez, California; Vine Hill, California*

# Site Vicinity

Figure 2




**Legend**

- Study Area
- Project Footprint
- Martinez Terminal Property Boundary

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

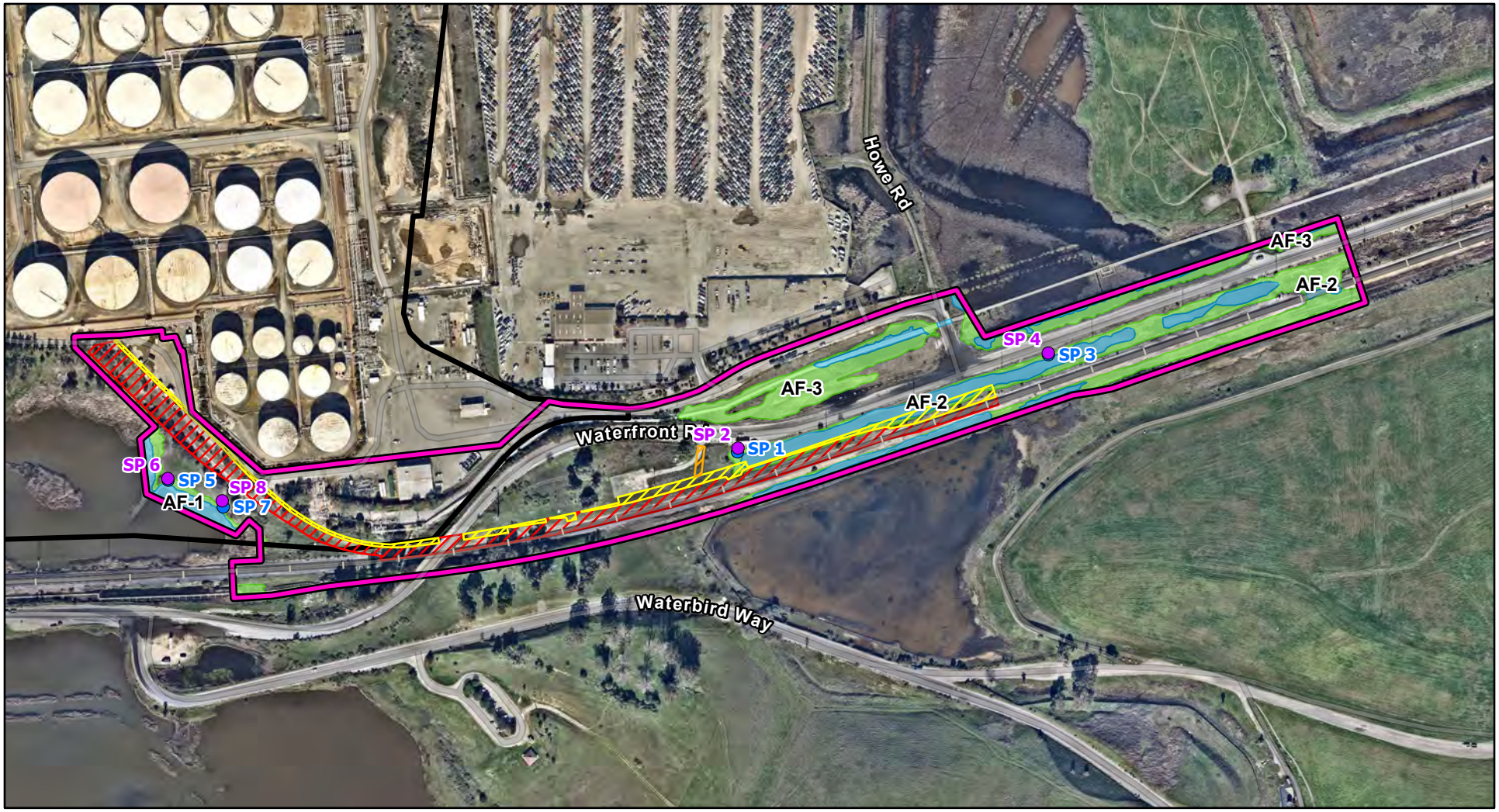
Michael Baker INTERNATIONAL

0 250 500 US Feet

Source: Nearmap Imagery 2024, Esri Hybrid Reference Layer

# Study Area

Figure 3




**Legend**

AF-1 = Aquatic Feature 1
AF-2 = Aquatic Feature 2
AF-3 = Aquatic Feature 3

- Study Area (26.53 ac)
- Martinez Terminal Property Boundary
- Wetland Waters of the United States (4.20 ac)
- Non-Wetland Waters of the United States (2.35 ac)
- Permanent Impacts (2.72 ac)
- Temporary Impacts (0.81 ac)
- Temporary Impacts Access (0.03 ac)
- Wetland Soil Pit
- Non-Wetland Soil Pit

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

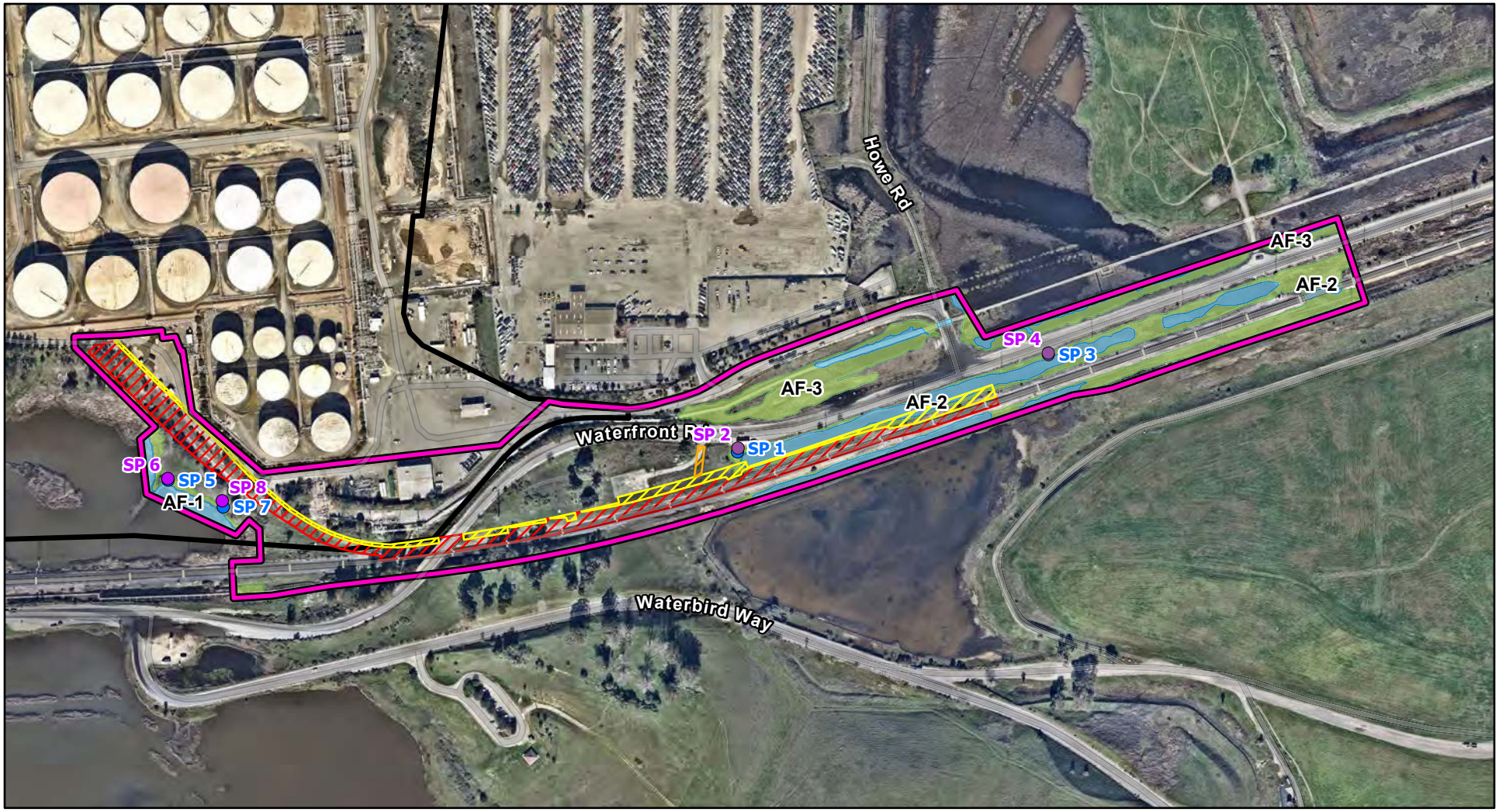
Michael Baker INTERNATIONAL

0 200 400 US Feet

Source: Nearmap Imagery 2024, Esri Hybrid Reference Layer

# USACE Jurisdictional Map

Figure 4




**Legend**

AF-1 = Aquatic Feature 1
AF-2 = Aquatic Feature 2
AF-3 = Aquatic Feature 3

- Study Area (26.53 ac)
- Martinez Terminal Property Boundary
- Wetland Waters of the United States (4.20 ac)
- Non-Wetland Waters of the United States (2.35 ac)
- Permanent Impacts (2.72 ac)
- Temporary Impacts (0.81 ac)
- Temporary Impacts Access (0.03 ac)
- Wetland Soil Pit
- Non-Wetland Soil Pit

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

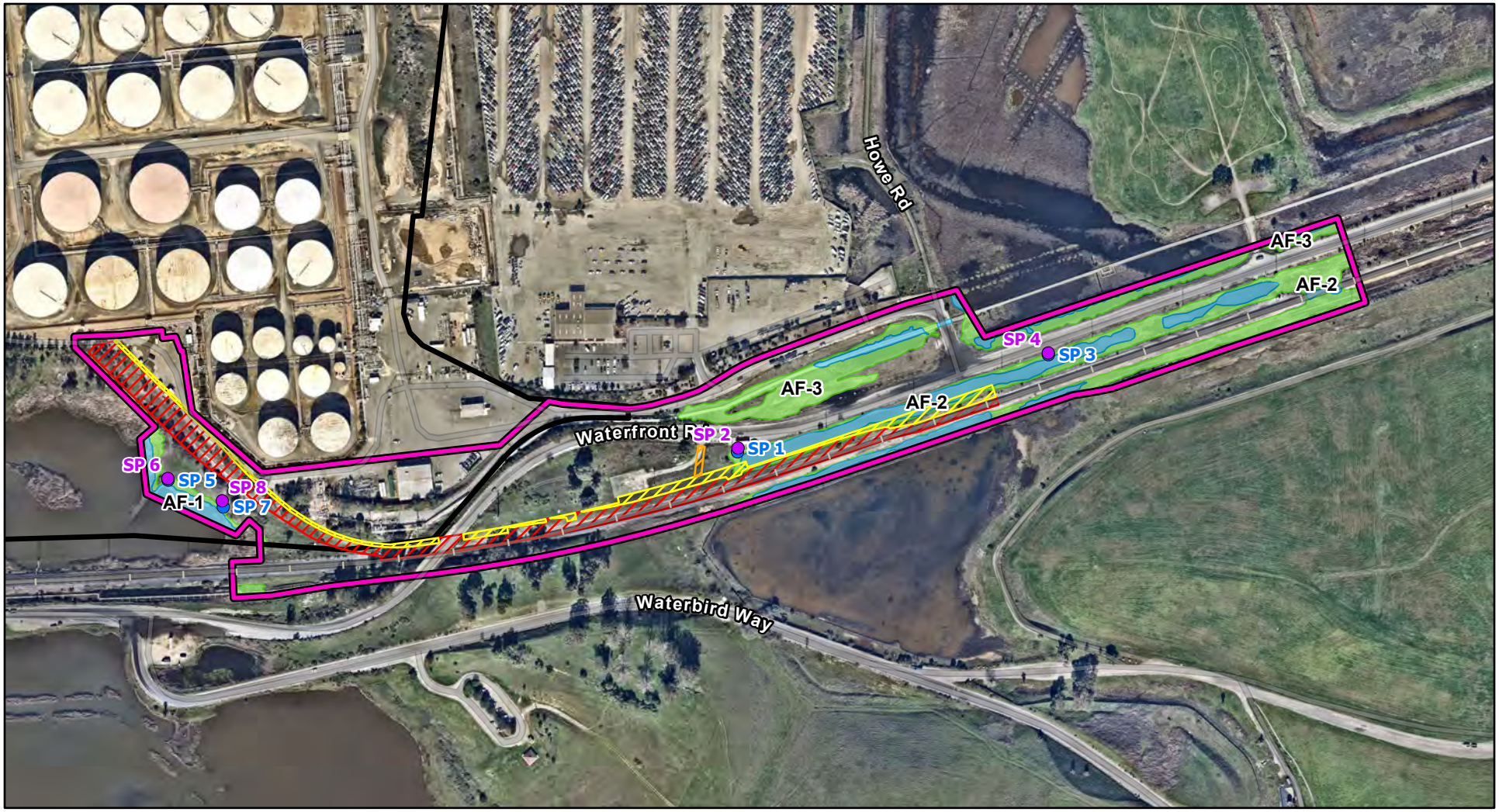
Michael Baker INTERNATIONAL

0 200 400 US Feet

Source: Nearmap Imagery 2024, Esri Hybrid Reference Layer

# USACE Jurisdictional Map

Figure 4




**Legend**

AF-1 = Aquatic Feature 1
AF-2 = Aquatic Feature 2
AF-3 = Aquatic Feature 3

Study Area (26.53 ac)
Martinez Terminal Property Boundary
Wetland Waters of the United States (4.20 ac)
Non-Wetland Waters of the United States (2.35 ac)

Permanent Impacts (2.72 ac)
Temporary Impacts (0.81 ac)
Temporary Impacts Access (0.03 ac)

Wetland Soil Pit
Non-Wetland Soil Pit

MARTINEZ TERMINAL RAIL RESTORATION PROJECT

Michael Baker INTERNATIONAL

0 200 400 US Feet

Source: Nearmap Imagery 2024, Esri Hybrid Reference Layer

# RWQCB Jurisdictional Map

Figure 5

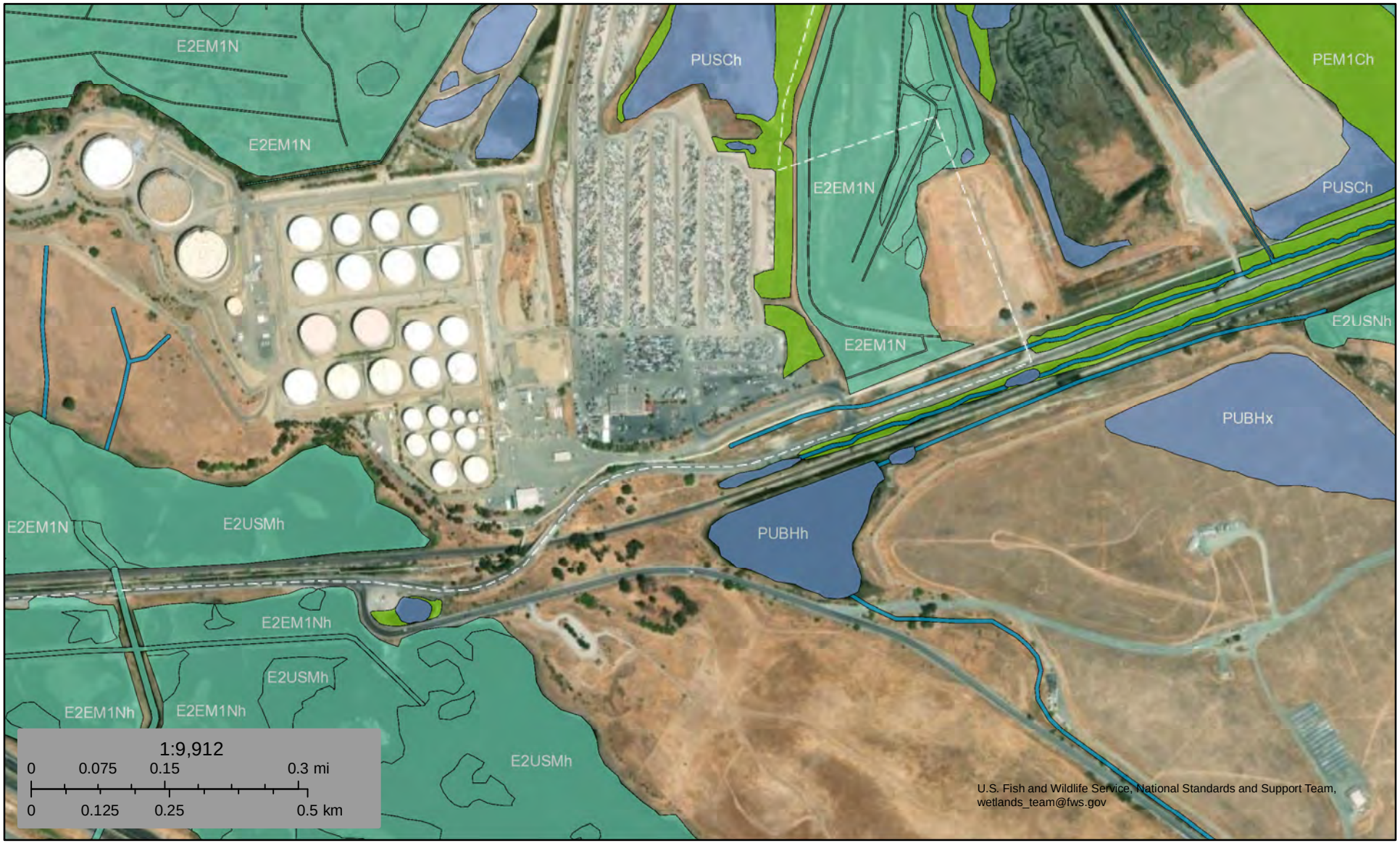
**Attachment B**

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USFWS National Wetlands Inventory Map

U.S. Fish and Wildlife Service
National Wetlands Inventory

# Martinez Rail Project




April 16, 2024

**Wetlands**

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

**Attachment C**

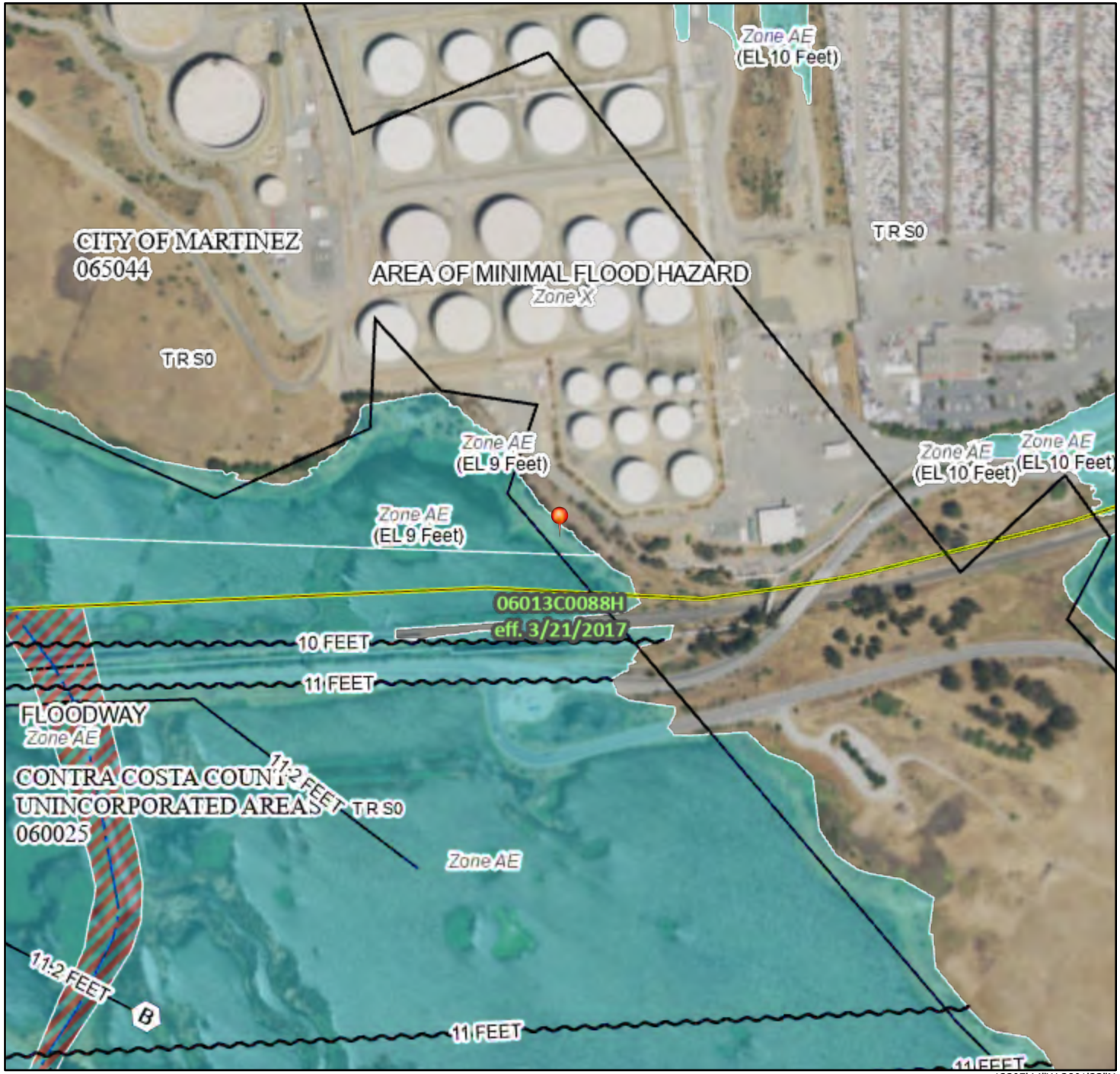
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FEMA Flood Insurance Rate Maps

# National Flood Hazard Layer FIRMette

FEMA

122°6'22"W 38°1'51"N




122°5'44"W 38°1'23"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/16/2024 at 5:49 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

# National Flood Hazard Layer FIRMette

FEMA

122°5'58"W 38°1'55"N




122°5'20"W 38°1'27"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

*Basemap Imagery Source: USGS National Map 2023*

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

**SPECIAL FLOOD HAZARD AREAS**
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

**OTHER AREAS OF FLOOD HAZARD**
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

**OTHER AREAS**
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

**GENERAL STRUCTURES**
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

**OTHER FEATURES**
- 20.2 Cross Sections with 1% Annual Chance
- 17.5 Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

**MAP PANELS**
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 4/16/2024 at 5:35 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

**Attachment D**

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USGS National Hydrography Dataset Advanced Viewer Map

# Martinez Rail



4/30/2024

Waterbodies

Wetland

Lakes, Ponds, Reservoirs, and Estuaries

Flowlines

≤100

World Imagery

Low Resolution 15m Imagery

High Resolution 60cm Imagery

High Resolution 30cm Imagery

Citations

2.4m Resolution Metadata

1:9,404

0 0.05 0.1 0.2 mi

0 0.1 0.2 0.4 km

Maxar

**Attachment E**

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Site Photographs



Photograph 1: View of Aquatic Feature 1, facing S at 38.026674°, -122.100559°.



Photograph 2: View of Aquatic Feature 1, facing NW at 38.027080°, -122.101276°.



Photograph 3: View of Aquatic Feature 2, facing SW at 38.028091°, -122.092869°.



Photograph 4: View of Aquatic Feature 2, facing SW at 38.028625°, -122.090480°.



Photograph 5: View of Aquatic Feature 2, facing SW at 38.028455°, -122.090368°.



Photograph 6: View of Aquatic Feature 2, facing SW at 38.027654°, -122.093155°



Photograph 7: View of Aquatic Feature 3, facing NE at 38.027662°, -122.095026°.



Photograph 8: View of Aquatic Feature 3, SW at 38.028925°, -122.090749°.

**Attachment F**

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LSA Request for Verification of CWA Jurisdictional Determination

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

June 21, 2021

Francis Malamud-Roam
Regulatory Division
Department of the Army
San Francisco District, Corps of Engineers
450 Golden Gate Avenue, 4th Floor
San Francisco, CA 94102-3404

Subject: Request for Verification of CWA Jurisdictional Determination

Dear Francis:

On behalf of TransMontaigne Operating Company, L.P. (TransMontaigne), LSA requests a new verification of a portion of a previously verified approved jurisdictional determination east of Martinez, California. The delineation was entitled *Clean Water Act Jurisdictional Delineation, Tesoro Waterfront Road Pipelines* and was originally submitted to the Regulatory Division in March, 2012 on behalf of Tesoro Refining and Marketing Company (Tesoro) and Plains Products Terminals LLC (Plains). The delineation was field verified by Christina Cavett-Cox on March 13, 2012. Ms. Cavett-Cox subsequently incorporated verification of the delineation in a nationwide permit that was issued to Tesoro in July, 2014 (Corps File No. 2012-00075S).

TransMontaigne has acquired the former Plains facility and is now proposing to construct a railroad spur within an area covered by the previous determination. Figures 1 and 2 in Attachment 1 of this letter show the regional and USGS quadrangle locations of the proposed railroad spur work site. Figure 3 in Attachment 1 contains maps depicting previously verified waters of the United States within the proposed railroad spur work site boundary, including adjacent areas that might be needed for access, lay-down, and staging. This work site represents the re-verification Study Area. TransMontaigne does not wish to re-verify the remainder of the 2014 determination at this time.

Please note that the railroad spur re-verification Study Area includes a strip of uplands and marsh shoreline that was not included in the 2014 determination. This additional area lies within and adjacent to the terminal facility just to the northwest of the RR Spur work site. It is designated as the Proposed RR Spur Mitigation Site on Figure 3.

## RE-VERIFICATION OF PREVIOUSLY MAPPED WATERS OF THE UNITED STATES

LSA wetlands delineation specialist Sean Lohmann inspected the Study Area on March 3 and 9, 2021 and determined that CWA jurisdictional limits, hydrologic conditions, and topographic constraints have not changed appreciably since 2014. We are therefore requesting re-verification of the previous CWA jurisdictional limits within the Study Area without alteration. Figure 3 depicts the verified 2014 jurisdictional limits overlain on a contemporary aerial photographic image (May, 2020).

LSA completed four new wetland data points on March 3 to document current conditions. Data sheets are included in Attachment 2 and the data point locations are shown on Figure 3 of Attachment 1. Attachment 3 contains several photographs of wetlands in the Study Area taken by LSA on March 3 and March 9.

## NEWLY DELINEATED WATERS AT PROPOSED MITIGATION SITE

LSA mapped the existing limits of waters of the United States at the proposed mitigation site adjacent to the TransMontaigne Terminal on April 19, 2021. The proposed mitigation site is shown on Figure 3. Mapping the limits of CWA jurisdiction in the mitigation site entailed mapping the strip of tidal shoreline encompassed by the mitigation site boundaries. LSA established two transects of two wetland data points each on the shoreline. These transects were oriented to straddle the apparent upper limit of CWA jurisdictional wetlands.

### Wetland Plant Cover

The shoreline is dominated by brackish emergent marsh vegetation transitioning to upland annual grass cover. Between these two cover types lies a band of facultative wetland transition species ranging in width from just a few feet to as much as 20 feet. Transition species include salt grass (*Distichlis spicata*), ryegrass (*Festuca perennis*), and pepperweed (*Lepidium latifolium*). The transition community is not always well-defined and in places these species mingle with the adjacent upland grasses and emergent marsh species.

### Soil Substrate

The shoreline features uneven topography resulting from a past history of earthwork and filling along the waterline. There is no evidence of recent disturbance, but LSA's soil excavations at the waterline revealed differing fill substrates at every location investigated. None of the substrates encountered are consistent with the typical Omni silty clay loam soil mapped at the mitigation site by the Natural Resources Conservation Service.

Soils characteristics revealed redoximorphic soil depletion and other clear evidence of hydric soil conditions at the two sample points located below the apparent waterline (i.e., Sample Points 1 and 3), and no such indicators at points located above the waterline (Sample Points 2 and 4).

### Hydrology

LSA noted indirect evidence of muted tidal fluctuation along the mitigation site shoreline in the form of tidal-borne wrack, the presence a narrow tidal mud flat lower on the bank, and evidence of recent tidal flooding above the observed water line. The emergent marsh cover along the shoreline protects the shoreline so that there is no clear high tide line impressed on the bank. An indistinct high tide elevation is still weakly evident, however, in the form of lightly-impressed wave cut benches and the indistinct, inconsistent wrack line.

The upper limit of jurisdiction is not defined by the evidence of tidal fluctuations along the mitigation site shoreline. Brackish marsh and wetland transition plant communities are sometimes

co-incident with this line, but often extend above it. In these instances the upper limit of CWA jurisdiction depicted on Figure 3 extends shoreward to the limit of the adjacent wetlands.

## LINKS TO NAVIGABLE WATERS OF THE UNITED STATES

All of the previously verified wetlands within the railroad spur work site and proposed mitigation site are adjacent or tributary to navigable waters of the United States as detailed below. Links to navigable waters are illustrated graphically on Figure 4 of Attachment 1.

### Marshes North of Waterfront Road

Marshes falling north of Waterfront Road within the re-verification Study Area are directly contiguous with tidal marshes adjacent to Suisun Bay and Pacheco Creek, both of which are traditional navigable waters of the United States. These marshes are tidal, but are located at the upper margin of the tidal prism and are only tidally flooded at extreme high tide. A narrow finger of wetland lying between Waterfront Road and the Copart/TransMontaigne driveway is separated from the adjacent tidal marsh to the east by the elevated driveway, but tidal waters from the marsh may still reach this wetland finger (and runoff from the wetland in turn flows to the marsh) through a culvert and separate pipeline underpass that allow floodwaters to pass freely underneath the driveway. The culvert and underpass are located at Location 1 on Figure 4.

### Marshes South of Waterfront Road

The pools and brackish marshes lying south of Waterfront Road are not normally tidal. LSA located one culvert linking these pools to the marsh north of Waterfront Road (at Location 2 on Figure 4), but the culvert inverts are high enough that water would only pass between the pools and marsh during abnormally high winter flooding.

While that linkage may be tenuous, there are better-defined connections linking these pools and marshes to navigable waters. The series of pools and marshes between Waterfront Road and the railroad track connects to similar marshes south of the railroad track, the northern margins of which are encompassed by the Study Area boundary. The marshes north and south of the tracks connect to each other through a gap in the railroad embankment that is crossed by a short railroad bridge. The gap can be seen on Figure 4 at Location 5, near the eastern end of the re-verification Study Area.

The marshes south of the track extend eastward to the vicinity of Pacheco Creek, but are not directly contiguous with the creek due to a raised earthen roadway at the creek bank. A culvert through this embankment connects all of the marshes south of Waterfront Road to the creek, however. That culvert is illustrated at Location 3 on Figure 4.

When tides are high, a third connection to Pacheco Creek occurs. The lower elevation marshes surrounding Waterfront Road near the Pacheco Creek bridge are completely flooded at high tide, and when tides are at or above mean high water this flooding extends across a low-lying segment of Waterfront Road (illustrated at Location 4 on Figure 4). At these times, the roadway and marshes on both sides are all connected by surface tidal flooding such that an unbroken pathway can be traced from the waters mapped in the Study Area through marshes and surface waters directly to Pacheco Creek.

## Proposed Mitigation Site

The proposed mitigation site includes the shoreline of a tidal brackish pond that is tidally linked to Peyton Slough, which directly borders the western edge of the pond. Peyton Slough is tributary to Suisun Bay, a traditional navigable water of the United States.

This letter reflects comments and corrections you requested during your verification inspection of the Study Area on May 7, 2021. Please contact LSA Project Manager George Molnar (at cell #510-376-5693 or George.Molnar@LSA.net) if you have any further requests concerning this delineation. If this delineation meets with your approval, LSA and TransMontaigne request written verification of the attached map of Waters of the United States within the Study Area.

Thank you for your assistance.

Sincerely,

**LSA ASSOCIATES, INC.**



Sean Lohmann
Wetlands Delineation Specialist/Soil Scientist

Ph.# 925-536-6368
Sean.Lohmann@LSA.net

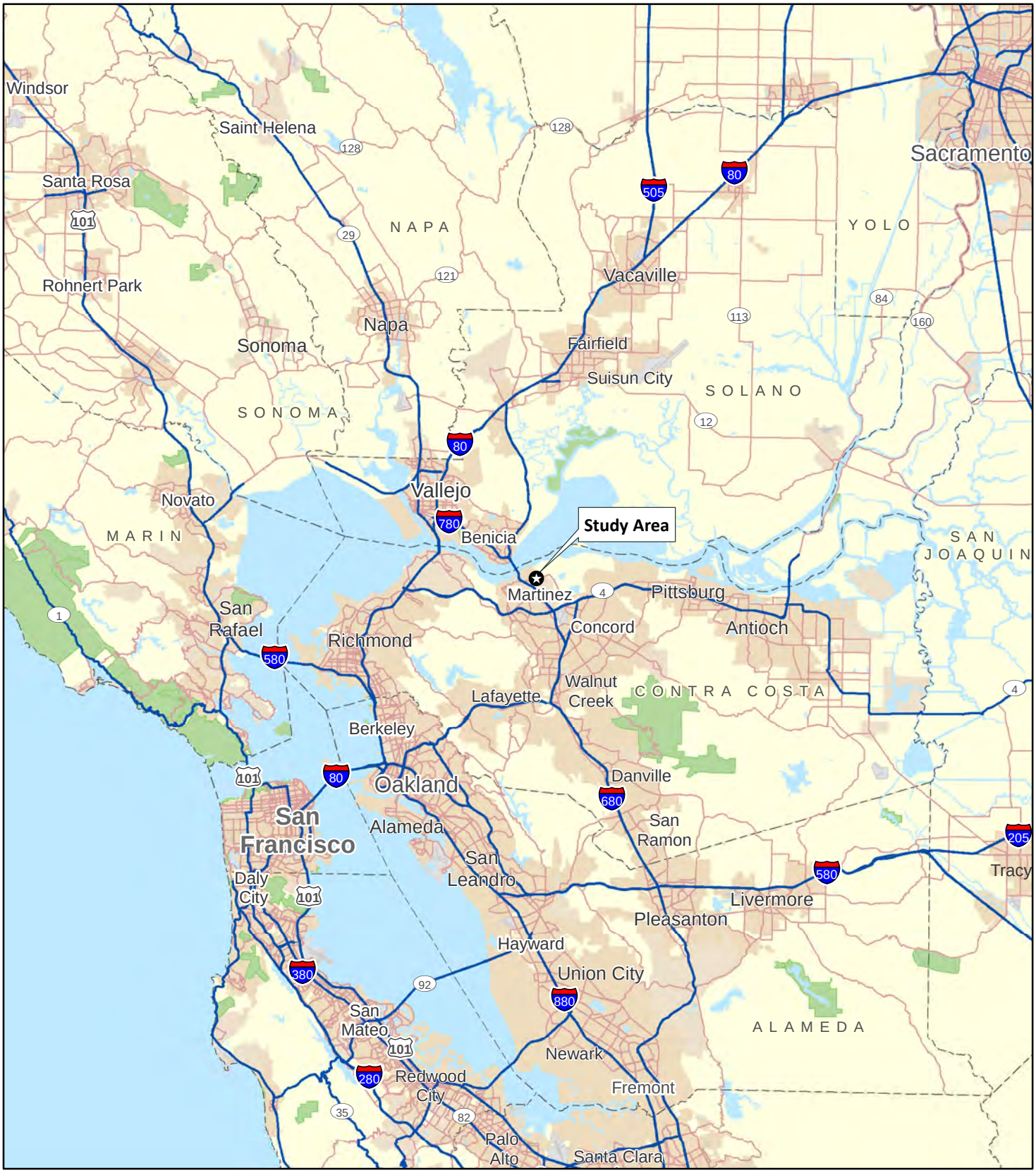
Attachments: 1. Figures 1-4

2. Wetland Data Sheets 1-8

3. Photographs of Pools at RR Spur Work Site - March 3 and March 9, 2021

# ATTACHMENT 1

Figures 1 - 4




LSA

FIGURE 1

N

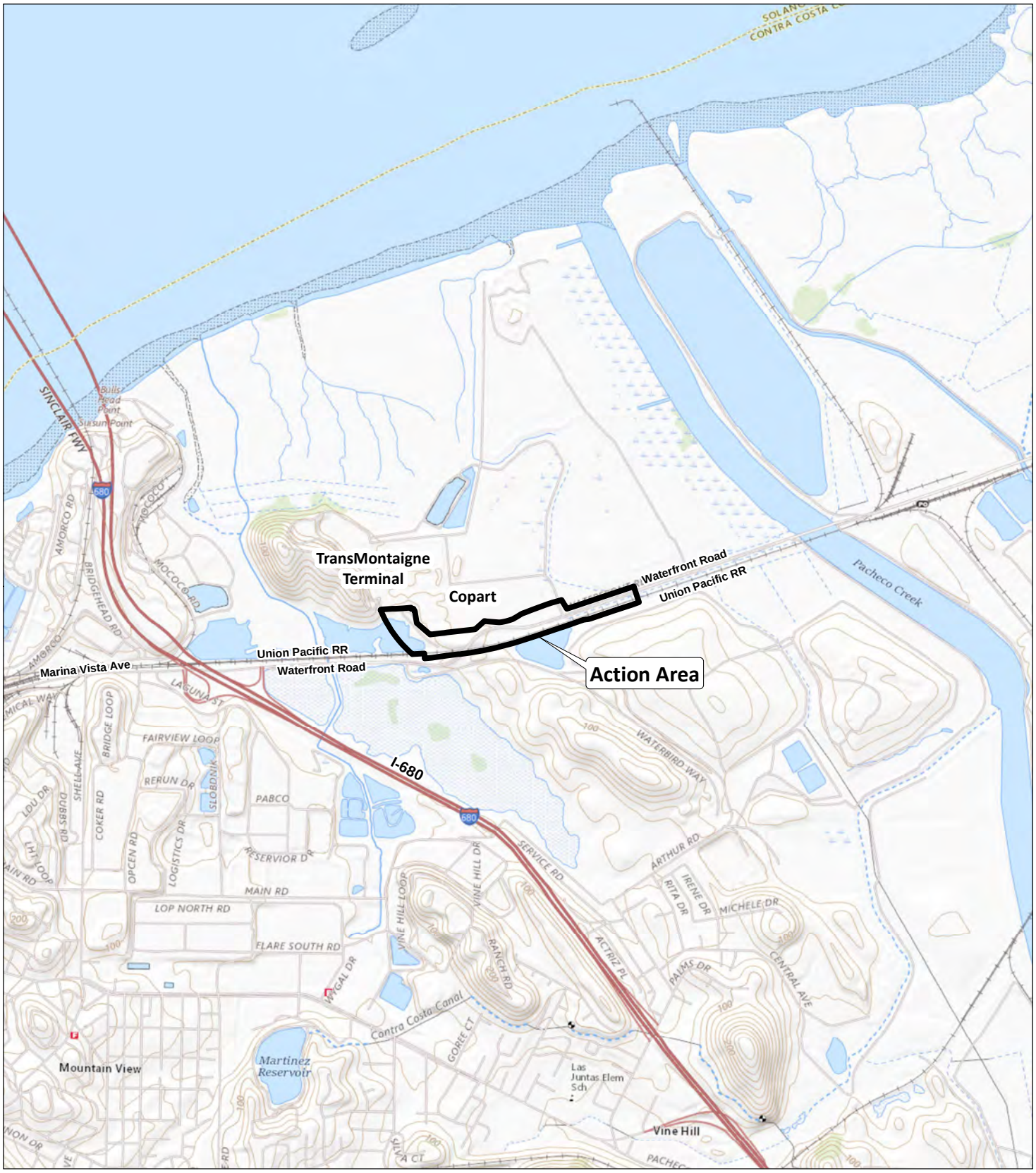
0 5 10
MILES

SOURCE: StreetMap North America (2009).

I:\TMO2101\GIS\Maps\Delineation\Figure 1_Regional Location.mxd (3/19/2021)

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Regional Location




LSA

LEGEND

Action Area

FIGURE 2

N

0 1000 2000

FEET

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Study Area Location

Source: USGS The National Map (05/2020) [USGS 7.5-minute Topo Quad: *Vine Hill, Calif.*}

I:\TMO2101\GIS\Maps\Biological Assessment\Figure 2_Action Area Location.mxd (5/13/2021)




LSA

LEGEND

- Study Area
- 2014 Jurisdictional Delineation Area
- 2021 Addition to Jurisdictional Delineation Area
- Wetland Sample Point
- Non-wetland Sample Point

Waters of the United States

Wetlands (4.849 acres)
- Brackish marsh
- Pickleweed marsh

Other Waters (1.688 acres)
- Salt panne
- Watercourse
- Other unvegetated waters
- Culvert

1 in = 100 ft

0 50 100
FEET

SOURCE: Trans Montaigne (2021); LSA (2014); Nearmap (05/2020).

I:\TMO2101\GIS\Maps\Delineation\Figure 3_Waters of the US.mxd (5/13/2021)

FIGURE 3A

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Waters of the United States

Limits of Waters of the United States field-verified by Francis Malamud-Roam of SF District USACOE on May 7, 2021




LSA

LEGEND

- Study Area
- 2014 Jurisdictional Delineation Area
- 2021 Addition to Jurisdictional Delineation Area
- Wetland Sample Point
- Non-wetland Sample Point

Waters of the United States

Wetlands (4.849 acres)
- Brackish marsh
- Pickleweed marsh

Other Waters (1.688 acres)
- Salt panne
- Watercourse
- Other unvegetated waters
- Culvert

1 in = 100 ft

0 50 100
FEET

SOURCE: Trans Montaigne (2021); LSA (2014); Nearmap (05/2020).

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FIGURE 3B

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Waters of the United States
Limits of Waters of the United States field-verified by
Francis Malamud-Roam of SF District USACOE on May 7, 2021




LSA

LEGEND

- Study Area
- 2014 Jurisdictional Delineation Area
- 2021 Addition to Jurisdictional Delineation Area
- Wetland Sample Point
- Non-wetland Sample Point

Waters of the United States

Wetlands (4.849 acres)
- Brackish marsh
- Pickleweed marsh

Other Waters (1.688 acres)
- Salt panne
- Watercourse
- Other unvegetated waters
- Culvert

1 in = 100 ft

0 50 100
FEET

SOURCE: Trans Montaigne (2021); LSA (2014); Nearmap (05/2020).

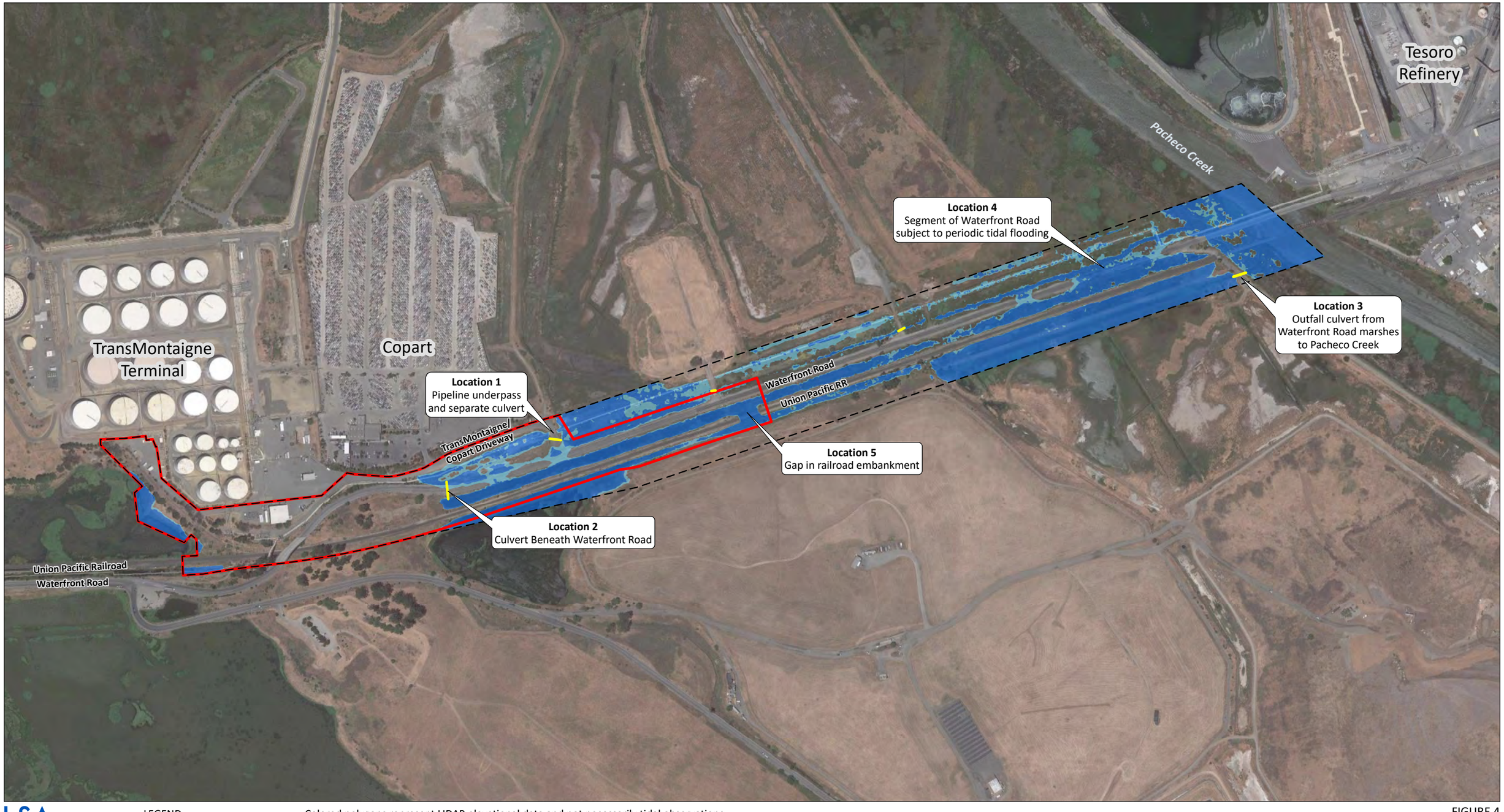
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FIGURE 3C

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Waters of the United States

Limits of Waters of the United States field-verified by Francis Malamud-Roam of SF District USACOE on May 7, 2021




LSA

LEGEND

- Extent of LIDAR
- Study Area
- Culvert

0 250 500
FEET

Colored polygons represent LIDAR elevational data and not necessarily tidal observations.

MHW (4.4' MLLW or 5.50' NAVD88) to MHHW (4.91' MLLW or 6.01' NAVD88)
Potentially Subject to Clean Water Act Section 404 Jurisdiction

Below MHW (4.4' MLLW or 5.50' NAVD88)
Potentially Subject to Both Clean Water Act Section 404 and Rivers and Harbors Act Section 10 Jurisdiction.

FIGURE 4

*TransMontaigne Railroad Spur Restoration Project*
*Martinez, Contra Costa County, California*

Illustration of Study Area Connections to Navigable Waters of the United States

SOURCE: Contra Costa County LIDAR (2008); NOAA CO-OPS for Port Chicago, CA (Tide Station # 9415144); Aerial Imagery from Google (06/2019).

I:\TMO2101\GIS\Maps\Delineation\Figure 4_Study Area Connections to Navigable Waters.mxd (5/13/2021)

LSA

# ATTACHMENT 2

Wetland Data Sheets 1-8

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Martinez RR Spur City/County: Martinez, Contra Costa County Sampling Date: March 3, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 1

Investigator(s): S. Lohmann Section, Township, Range: Section 9, Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Brackish pool Local relief (concave, convex, none): concave Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'38.06" N Long: 122°05'43.75" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes X | No ____ | **Is the Sampled Area within a Wetland?** **Yes X No ____** |
| Hydric Soil Present? | Yes X | No ____ | |
| Wetland Hydrology Present? | Yes X | No ____ | |

Remarks: Hydrology in wetlands may be affected by poor rainfall in second year of drought.

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Salicornia pacifica | 25 | Y | OBL |
| 2. Distichlis spicata | 75 | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | ____. | x 1 = | ____. |
| FACW species | ____. | x 2 = | ____. |
| FAC species | ____. | x 3 = | ____. |
| FACU species | ____. | x 4 = | ____. |
| UPL species | ____. | x 5 = | ____. |
| Column Totals: | ____. (A) | | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** **Yes X No ____.**

Remarks:

**SOIL** **Sampling Point: 1**

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 2.5Y 4/2 | 80 | | | | | L | |
| | 2.5Y 4/1 | 20 | | | D | RM | L | Depleted matrix |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** X **No** ___

Remarks: Not Omni. Sandy sidecast from road embankment. Diagnostic criteria for NTCHS Hydric Soil Indicator F3 are not quite met, however LSA investigators have directly observed flooding at this site sufficient to satisfy Criteria 2-4 of the hydric soil definition (i.e., flooded or ponded for long or very long duration during the growing season).

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes Y No ___ Depth (inches): ~6

Saturation Present? (includes capillary fringe) Yes Y No ___ Depth (inches): Surface

**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located at margin of perennial brackish pool. Saturated to surface.

# NWETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Martinez RR Spur City/County: Martinez, Contra Costa County Sampling Date: March 3, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 2

Investigator(s): S. Lohmann Section, Township, Range: Section 9, Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Road embankment Local relief (concave, convex, none): slope Slope (%): ~30

Subregion (LRR): LRR C Lat: 38°01'38.06" N Long: 122°05'43.75" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

| | | | |
|---|---|---|---|
| Hydrophytic Vegetation Present? | Yes ____ | No X | **Is the Sampled Area within a Wetland?** **Yes ____ No X** |
| Hydric Soil Present? | Yes ____ | No X | |
| Wetland Hydrology Present? | Yes ____ | No X | |

Remarks: Hydrology in wetlands may be affected by poor rainfall in second year of drought.

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Brassica sp. | 25 | Y | UPL |
| 2. Distichlis spicata (dead) | 40 | Y | FAC |
| 3. Avena sp. | 10 | N | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 75 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____. | x 1 = ____. |
| FACW species ____. | x 2 = ____. |
| FAC species ____. | x 3 = ____. |
| FACU species ____. | x 4 = ____. |
| UPL species ____. | x 5 = ____. |
| Column Totals: ____. (A) | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present?** **Yes ____ No X.**

Remarks:

**SOIL** **Sampling Point: 2**

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 10YR 3/2 | 100 | | | | | grL | Road fill |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks: Not Omni. Gravelly road fill.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): >10

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >10

**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located mid-slope on steep road embankment. Several feet above OHWM of nearby pool.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Martinez RR Spur City/County: Martinez, Contra Costa County Sampling Date: March 3, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 3

Investigator(s): S. Lohmann Section, Township, Range: Section 9, Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Brackish pool Local relief (concave, convex, none): concave Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'38.06" N Long: 122°05'43.75" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

**Is the Sampled Area within a Wetland? Yes X No ____**

Remarks: Hydrology in wetlands may be affected by poor rainfall in second year of drought.

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Salicornia pacifica | 60 | Y | OBL |
| 2. Distichlis spicata | 20 | Y | FAC |
| 3. Lepidium latifolium | 20 | Y | FAC |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | ____. | x 1 = | ____. |
| FACW species | ____. | x 2 = | ____. |
| FAC species | ____. | x 3 = | ____. |
| FACU species | ____. | x 4 = | ____. |
| UPL species | ____. | x 5 = | ____. |
| Column Totals: | ____. (A) | | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes X No ____.**

Remarks:

**SOIL** **Sampling Point: 3**

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-6 | 10 YR 3/2 | 100 | | | | | L+ | |
| 6-12 | 10 YR 3/2 | 60 | 2.5 Y 4/1 | 10 | D | M | L+ | Depleted mottles |
| | 10 YR 4/3 | 30 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** X **No** ___

Remarks: Not Omni. Sidecast from road embankment. Diagnostic criteria for NTCHS Hydric Soil Indicator F3 are not quite met, however LSA investigators have directly observed flooding at this site sufficient to satisfy Criteria 2-4 of the hydric soil definition (i.e., flooded or ponded for long or very long duration during the growing season).

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes Y No ___ Depth (inches): ~6

Saturation Present? (includes capillary fringe) Yes Y No ___ Depth (inches): Surface

**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located at margin of perennial brackish pool. Saturated to surface.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: Martinez RR Spur City/County: Martinez, Contra Costa County Sampling Date: March 3, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 4

Investigator(s): S. Lohmann Section, Township, Range: Section 9, Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Road embankment Local relief (concave, convex, none): slope Slope (%): ~30

Subregion (LRR): LRR C Lat: 38°01'38.06" N Long: 122°05'43.75" W Datum:

Soil Map Unit Name: Omni silty clay (road fill) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

**Is the Sampled Area within a Wetland? Yes ____ No X**

Remarks: Hydrology in wetlands may be affected by poor rainfall in second year of drought.

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Lepidium latifolium | 15 | Y | FAC |
| 2. Distichlis spicata | 65 | Y | FAC |
| 3. Silybum marianum | 10 | N | UPL |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 90 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | 90 | | |

% Bare Ground in Herb Stratum 10 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____. | x 1 = ____. |
| FACW species ____. | x 2 = ____. |
| FAC species ____. | x 3 = ____. |
| FACU species ____. | x 4 = ____. |
| UPL species ____. | x 5 = ____. |
| Column Totals: ____. (A) | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes X No ____.**

Remarks:

**SOIL** **Sampling Point: 4**

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 10YR 3/2 | 100 | | | | | grL | Road fill |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks: Not Omni. Gravelly road fill.

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): >10

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >10

**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located mid-slope on steep road embankment. Several feet above OHWM of nearby pool.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: RR Spur Mitigation Site City/County: Martinez, Contra Costa County Sampling Date: April 19, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 5

Investigator(s): S. Lohmann Section, Township, Range: Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Shoreline of brackish pool Local relief (concave, convex, none): none Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'36.88" N Long: 122°06'03.83" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

**Is the Sampled Area within a Wetland? Yes X No ____**

Remarks:

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Lepidium latifolium | 4 | N | FAC |
| 2. Distichlis spicata | 96 | Y | FAC |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____. | x 1 = ____. |
| FACW species ____. | x 2 = ____. |
| FAC species ____. | x 3 = ____. |
| FACU species ____. | x 4 = ____. |
| UPL species ____. | x 5 = ____. |
| Column Totals: ____. (A) | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes X No ____.**

Remarks:

**SOIL** **Sampling Point: 5**

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-3 | 10YR 4/2 | 100 | | | | | CL | |
| 3-10 | 2.5Y 3/1 | 70 | 10Y 4/2 | 10 | D | M | CL | Depleted mottles |
| | 2.5Y 3/2 | 10 | | | | | | |
| | 10YR 4/2 | 10 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** X **No** ___

Remarks: Not Omni. Mixed fill

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes Y No ___ Depth (inches): ~3

Saturation Present? (includes capillary fringe) Yes Y No ___ Depth (inches): Surface

**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located at waterline of perennial brackish pool. Saturated to surface.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: RR Spur Mitigation Site City/County: Martinez, Contra Costa County Sampling Date: April 19, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 6

Investigator(s): S. Lohmann Section, Township, Range: Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Shoreline of brackish pool Local relief (concave, convex, none): none Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'36.88" N Long: 122°06'03.83" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

**Is the Sampled Area within a Wetland? Yes ____ No X**

Remarks:

## VEGETATION

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Festuca perennis | 20 | Y | FAC |
| 2. Distichlis spicata | 57 | Y | FAC |
| 3.Bromus diandrus | 15 | N | UPL |
| 4. Avena sp. | 3 | N | UPL |
| 5. Carduus pycnocephalus | 2 | N | UPL |
| 6. Cressa truxillensis | 2 | N | FACW |
| 7. Malva parviflora | 1 | N | UPL |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | ____. | x 1 = | ____. |
| FACW species | ____. | x 2 = | ____. |
| FAC species | ____. | x 3 = | ____. |
| FACU species | ____. | x 4 = | ____. |
| UPL species | ____. | x 5 = | ____. |
| Column Totals: | ____. (A) | | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes X No ____.**

Remarks:

**SOIL** **Sampling Point: 6**

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

| Depth (inches) | Matrix Color (moist) | % | Redox Features Color (moist) | % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-10 | 10YR 4/3 | 70 | | | | | SCL | |
| | 10YR 4/2 | 30 | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks: Not Omni. Mixed fill

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): -

Water Table Present? Yes ___ No X Depth (inches): >10

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >10

**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located 4 feet from waterline of perennial brackish pool. About 12 inches above waterline elevation.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: RR Spur Mitigation Site City/County: Martinez, Contra Costa County Sampling Date: April 19, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 7

Investigator(s): S. Lohmann Section, Township, Range: Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Shoreline of brackish pool Local relief (concave, convex, none): none Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'36.88" N Long: 122°06'03.83" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes X No ____
Hydric Soil Present? Yes X No ____
Wetland Hydrology Present? Yes X No ____

**Is the Sampled Area within a Wetland? Yes X No ____**

Remarks:

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Jaumea carnosa | 50 | Y | OBL |
| 2. Distichlis spicata | 20 | Y | FAC |
| 3.Salicornia pacifica | 20 | Y | OBL |
| 4. Lepidium latifolium | 10 | Y | FAC |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | | Multiply by: | |
|---|---|---|---|
| OBL species | ____. | x 1 = | ____. |
| FACW species | ____. | x 2 = | ____. |
| FAC species | ____. | x 3 = | ____. |
| FACU species | ____. | x 4 = | ____. |
| UPL species | ____. | x 5 = | ____. |
| Column Totals: | ____. (A) | | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes X No ____.**

Remarks:

**SOIL** **Sampling Point:** 7

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Type[1] | Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-5 | 7.5YR 3/2 | 100 | | | | | C | |
| 5-12+ | 7.5YR 4/2 | 60 | 7.5YR 4/4 | 30 | C | M | C | |
| | | | 2.5Y 4/2 | 10 | D | M | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** X **No** ___

Remarks: Not Omni. Mixed fill

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): -

Water Table Present? Yes ___ No X Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): surface

**Wetland Hydrology Present?** Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located at waterline of tidal brackish pool. No groundwater due to nearly impermeable clay soil, but entire profile is moist and there is water at the ground surface.

# WETLAND DETERMINATION DATA FORM — Arid West Region

Project Site: RR Spur Mitigation Site City/County: Martinez, Contra Costa County Sampling Date: April 19, 2021

Applicant/Owner: TransMontaigne State: CA Sampling Point: 8

Investigator(s): S. Lohmann Section, Township, Range: Township 2 North, Range 2 West

Landform (hillslope, terrace, etc.): Shoreline of brackish pool Local relief (concave, convex, none): none Slope (%): -

Subregion (LRR): LRR C Lat: 38°01'36.88" N Long: 122°06'03.83" W Datum:

Soil Map Unit Name: Omni silty clay NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation ____ Soil ____ or Hydrology ____ Significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____ Soil ____ or Hydrology ____ Naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

**Is the Sampled Area within a Wetland? Yes ____ No X**

Remarks:

**VEGETATION**

| Tree Stratum (Plot size: ____) | Absolute % Cover | Dominant Species? | Indicator Status |
|---|---|---|---|
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| Total Cover: | | | |
| Sapling/Shrub Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| 3. | | | |
| 4. | | | |
| 5. | | | |
| Total Cover: | | | |
| Herb Stratum (Plot size: ____) | | | |
| 1. Bromus diandrus | 75 | Y | UPL |
| 2. Distichlis spicata | 5 | N | FAC |
| 3.Festuca perennis | 10 | N | FAC |
| 4. Pseudognaphalium canescens | 10 | N | FACU |
| 5. | | | |
| 6. | | | |
| 7. | | | |
| 8. | | | |
| Total Cover: | 100 | | |
| Woody Vine Stratum (Plot size: ____) | | | |
| 1. | | | |
| 2. | | | |
| Total Cover: | | | |

% Bare Ground in Herb Stratum 0 % Cover of Biotic Crust ____.

**Dominance Test worksheet:**

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

**Prevalence Index worksheet:**

| Total % Cover of: | Multiply by: |
|---|---|
| OBL species ____. | x 1 = ____. |
| FACW species ____. | x 2 = ____. |
| FAC species ____. | x 3 = ____. |
| FACU species ____. | x 4 = ____. |
| UPL species ____. | x 5 = ____. |
| Column Totals: ____. (A) | ____. (B) |

Prevalence Index = B/A = ____.

**Hydrophytic Vegetation Indicators:**

— Dominance Test is >50%
— Prevalence Index is ≤3.0[1]
— Morphological Adaptations1 (Provide supporting data in Remarks or on a separate sheet)
— Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

**Hydrophytic Vegetation Present? Yes ____ No X.**

Remarks:

**SOIL** **Sampling Point: 8**

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

| Depth (inches) | Matrix Color (moist) | Matrix % | Redox Features Color (moist) | Redox Features % | Redox Features Type[1] | Redox Features Loc[2] | Texture | Remarks |
|---|---|---|---|---|---|---|---|---|
| 0-12 | 5YR 2.5/5 | 100 | | | | | L | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

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

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

- ___ Histosol (Al)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (LRR C)
- ___ 1 cm Muck (A9) (LRR D)
- ___ Depleted Below Dark Surface (All)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (Sl)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (Fl)
- ___ Loamy Gleyed Matrix F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

**Indicators for Problematic Hydric Soils[3]:**

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

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

**Restrictive Layer (if present):**

Type: ___

Depth (inches): ___

**Hydric Soil Present?** **Yes** ___ **No** X

Remarks: Not Omni. Mixed fill

**HYDROLOGY**

**Wetland Hydrology Indicators:**

Primary Indicators (any one indicator is sufficient)

- ___ Surface Water (Al)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (Cl)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Plowed Soils (CS)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (Bl) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

**Field Observations:**

Surface Water Present? Yes ___ No X Depth (inches): -

Water Table Present? Yes ___ No X Depth (inches): >12

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): >12

**Wetland Hydrology Present?** Yes ___ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: Located near shoreline of tidal brackish pool.

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# ATTACHMENT 3

Photographs of Pools at RR Spur Work Site - March 3 and March 9, 2021









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# ATTACHMENT 4

Photographs of Proposed Mitigation Site May 7, 2021









**Attachment G**

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