3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation**	**Less Than Significant Impact**	**No Impact**
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	☐	☐	☐	☒

3.4.1 Environmental Setting

The Project site is located along the southeast shore of the Carquinez Strait near the town of Port Costa, Contra Costa County, which is within the San Francisco Estuary. The Carquinez Strait is a deep, narrow passage that joins San Pablo Bay in the west to Suisun Bay and upstream watersheds in the east. The former MOT is situated at the border of aquatic and terrestrial habitats, though the predominant habitat at the Project site is aquatic. Adjacent to the Project site is the UPRR right-of-way, which includes two active rail lines for both passenger and freight transport.

Although most of the deconstruction activities would take place within the main Project site in the Carquinez Strait, there may be a need to provide other incidental temporary facilities such as parking, storage, and sanitary stations located on shore near the Project site to allow for access from onshore locations for the Applicant, its contractors, site monitors, agency representatives or others wishing to observe the operations. The two proposed locations are approximately 700 feet and 1,600 feet southwest and upland of the main Project site on the former TXI property. See Figure 3.4-1 for the in-water work area and the potential upland staging/existing parking areas.

In addition to the CEQA analysis presented below, a Biological Assessment for consultation with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) under Section 7 of the Endangered Species Act (ESA) is provided in Appendix D.

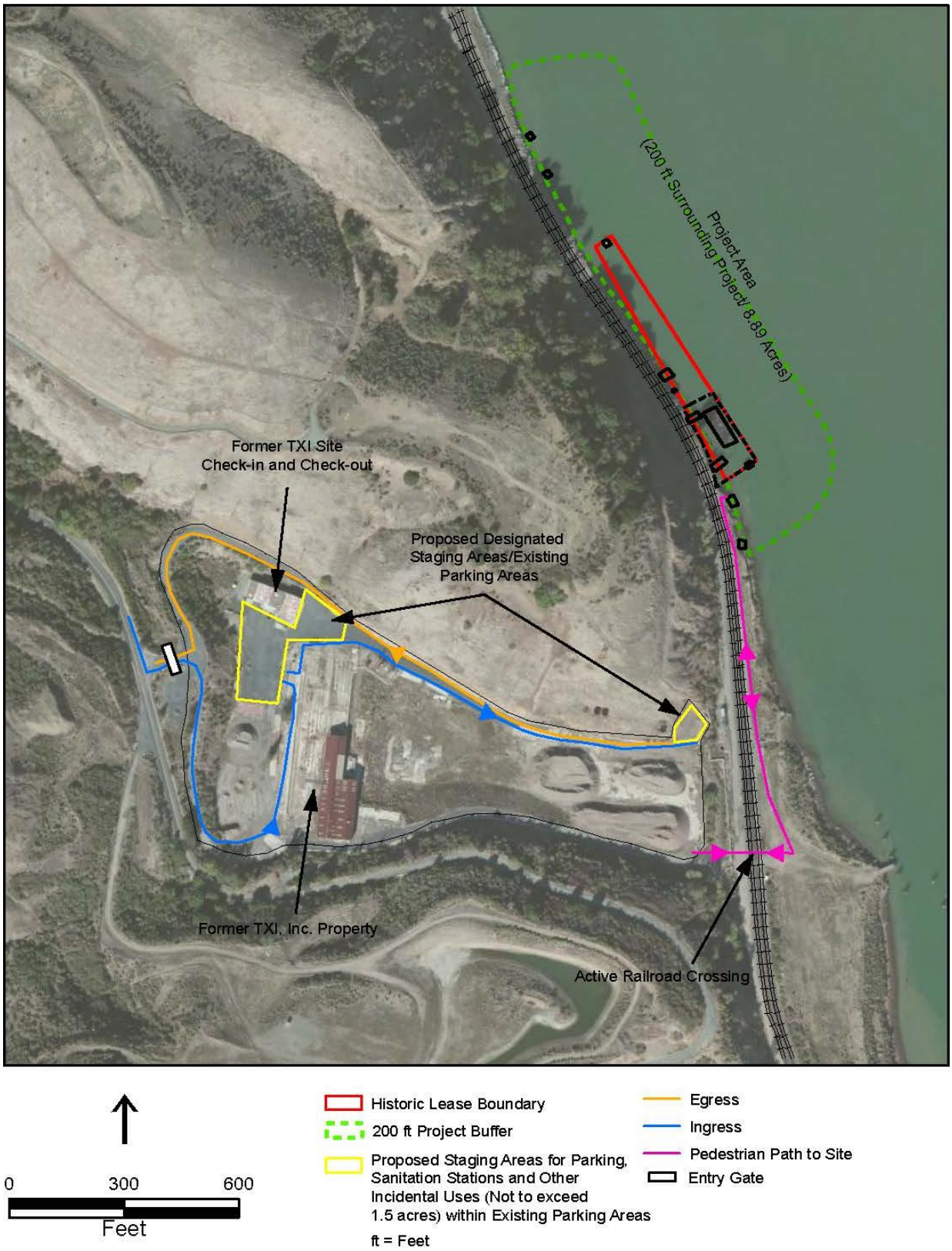
Habitats

Aquatic habitat at the Project site consists of pelagic, soft sediment and hard bottom areas. Sediment types include sand, silt, and clay (Monroe and Kelly 1992). A bathymetric survey using sonar technology revealed that depths close to the shore and within the Project site are 20 to 90 feet. No eelgrass (*Zostera marina*) was observed in or near the action area.

Terrestrial habitat adjacent to the Project site includes ruderal and barren/developed areas. AECOM biologists identified several plant species during a 2012 site reconnaissance; vegetation was dominated by non-native annual grasses (e.g., *Avena* spp. and *Bromus* spp.) and sweet fennel (*Foeniculum vulgare*) with several patches of California poppy (*Eschscholzia californica*), coyote brush (*Baccharis pilularis*), and Eucalyptus trees (*Eucalyptus spp.*).

Much of the former TXI property has been heavily disturbed in the past and is barren or paved over; this includes the two parking areas that are proposed as temporary use areas for the Project and their access roads. Within the entire former TXI property, the majority of the vegetation can be classified as Ruderal/Disturbed. The ruderal (weedy) vegetation observed included non-native Eurasian annual grasses such as wild oats (*Avena* spp.), annual brome grasses (*Bromus* spp.), ryegrass (*Lolium* spp.) and annual fescues (*Festuca* spp.). Additional weedy species commonly observed in this area include yellow star-thistle (*Centaurea solstitialis),* Russian knapweed (*Acroptilon repens*), horseweed (*Conyza bonariensis),* and smilo grass (*Piptatherum miliaceum*). There are also some remnants of ornamental plantings including several groups of beach she-oak trees (*Casuarina equisetifolia*).

Figure 3.4-1. Proposed Upland Staging Areas



The vegetation types observed in the areas surrounding the proposed temporary staging areas during the site visit included Non-Native Grassland and Northern Coastal Scrub. These vegetation types and their locations are described further below.

- Non-Native Grassland: Non-Native Grassland was observed in the hills to the north and west of the former TXI property and in some of the less disturbed areas within the property as well. This vegetation type is characterized by non-native Eurasian annual grasses such as wild oats, annual brome grasses, ryegrass and annual fescues. These grasses are interspersed with non-native forbs such as black mustard (*Brassica nigra*), cardoon (*Cynara cardunculus*), and filaree (*Erodium* spp.). Native wildflowers, such as California poppy may also be present, particularly in years of higher rainfall. The species in the community are predominantly annual and so active plant growth and flowering typically occur in the rainy season; during the summer dry season the plants set seed and die.
- Northern Coastal Scrub: Northern Coastal Scrub primarily occurs on the north facing slope just to the south of the former TXI property, though small patches of it also occur on the slopes at the west end of the property as well. This community is characterized by native shrubs and sub-shrubs including coyote brush, California sagebrush (*Artemisia californica*), poison oak (*Toxicodendron diversilobum*), toyon (*Heteromeles arbutifolia*), and bush monkeyflower (*Mimulus aurantiacus*). Native perennial forbs, such as California bee plant (*Scrophularia californica*) and California soap root (*Chlorogalum pomeridianum*) were also observed.

A small area of wetland/riparian-type vegetation was observed in a small ditch on the eastern end of the former TXI property approximately 100 feet south of the eastern proposed staging area. Vegetation in this area included cattail (*Typha latifolia*), cocklebur (*Xanthium strumarium)*, tall nutsedge (*Cyperus eragrostis*), and willow (*Salix* spp.). Further investigation into the history of the site indicates that TXI constructed the ditch for use as a sediment basin in 2001 to comply with Clean Water Act (CWA) stormwater regulations (Regional Water Quality Control Board [RWQCB] 2001). The basin receives stormwater flows via two storm drains located at the downstream ends of two concrete v-ditches that run along the north and south edges of the property. According to the definition of waters of the U.S. from 40 Code of Federal Regulations (CFR) 230.3(s), “waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA…are not waters of the United States.” If the sediment basin can be considered a treatment measure constructed to meet CWA requirements, it would not be considered a jurisdictional water of the U.S. However, since it appears that the basin has not been maintained since TXI ceased operations and hydrophytic vegetation has naturalized in the basin, the U.S. Army Corps of Engineers (USACE) could exert jurisdiction over the basin as a water of the U.S. A preliminary jurisdictional delineation conducted by AECOM biologists found indicators of

an ordinary high water mark and hydrophytic vegetation, hydric soils, and hydrology, which indicate that the basin could be considered a water of the U.S. if it does not qualify as a waste treatment system under 40 CFR 230.3(s). If the USACE does not exert jurisdiction over the channel, it would likely qualify as a water of the State subject to regulation by the RWQCB and California Department of Fish and Wildlife (CDFW).

AECOM biologists also observed a concrete basin located between the eastern proposed temporary parking area and the UPRR tracks. Based on RWQCB records, this basin receives flows from Little Bull Valley Creek, which is considered a water of the U.S. and the State and was placed into an underground culvert in 1965 (RWQCB 2001). (The concrete basin also currently receives flows from the adjacent pump-and-treat system for the former Tosco Port Costa site [URS, 2002] and likely receives the overflow from the sediment basin described above.)

Carquinez Strait and Suisun Bay

The Carquinez Strait and Suisun Bay are unique because of their varying salinities among seasons and years, and this creates a dynamic fish assemblage within them. During normal hydrologic years, the Carquinez Strait and Suisun Bay generally support a mesohaline community (NMFS 2007). Species typical of mesohaline/oligohaline waters with soft sediment substrate in the San Francisco Bay include white sturgeon (*Acipenser transmontanus*), green sturgeon (*Acipenser medirostris*), Sacramento splittail (*Pogonichthys macrolepidotus*), longfin smelt (*Spirinchus thaleichthys*), and starry flounder (*Platichthys stellatus*). Mesohaline/oligohaline hard bottom taxa include prickly sculpin (*Cottus asper*).

The Carquinez Strait is an important migration corridor for many species of fish including striped bass (*Morone saxatilis*), Chinook salmon (*Oncorhynchus tshawytscha*), steelhead trout (*Oncorhynchus mykiss*) and northern anchovy (*Engraulis mordax*). During wet years, when salinities are lower, distributions of freshwater, estuarine and anadromous species can extend downstream into San Pablo Bay (Armor and Herrgesell 1985), although it is unclear whether marine species are found more upstream during dry years when salinities are higher.

Special-status Species

Several special-status species have the potential to occur in the Project vicinity. For the purposes of this report, special-status species include those listed as endangered or threatened under the ESA or California Endangered Species Act (CESA), candidate species and species proposed for listing under the ESA or CESA, and species otherwise protected by the State of California and included in the CDFW's California Natural Diversity Database (CNDDB). A CNDDB search was conducted to obtain

recorded occurrences of special-status plant and animal species in the Project vicinity. The search included the U.S. Geological Survey (USGS) 7.5-minute quadrangle that the Project area occurs in, and the eight surrounding quadrangles. Spatial distribution of CNDDB records within 5 miles of the Project is shown in Figure 3.4-2 (fauna) and Figure 3.4-3 (flora).

Because CNDDB is limited to recorded observations, additional information on species that may occur in the Project vicinity was obtained from NMFS (2012b). Additionally, designated Critical Habitat within 5 miles of the Project is shown in Figure 3.4-4.

The Project is not expected to result in adverse impacts to special-status mammals, reptiles, amphibians, invertebrates, or plants, which are unlikely to occur in the Project vicinity. Reconnaissance-level site surveys of the Project site and the proposed temporary staging areas were conducted in May 2012 and February 2013, respectively, by AECOM biologists to identify the presence of sensitive habitats or special-status species. Results of the surveys are described below.

Mammals

Marine mammals are rarely observed in the Carquinez Strait or Suisun Bay; however, California sea lions (*Zalophus californianus*) and humpback whales (*Megaptera novaeangliae*) have been seen upstream from Carquinez Strait. These species are protected under the Federal Marine Mammal Protection Act.

Fish

The following special-status species are known to occur in the Carquinez Strait and Suisun Bay:

- Delta smelt (*Hypomesus transpacificus*), Federal and State Threatened
- green sturgeon *(*southern Distinct Population Segment), Federal Threatened, Species of Special Concern
- steelhead trout (*Oncorhynchus mykiss irideus*; California Central Valley and Central California Coast Evolutionarily Significant Units), Federal Threatened
- longfin smelt, State Threatened, Species of Special Concern
- river lamprey (*Lampetra ayresi*), Species of Special Concern
- Sacramento splittail (*Pogonichthys macrolepidotus*), Species of Special Concern

The Carquinez Strait is federally designated critical habitat for the delta smelt, green sturgeon, and steelhead trout (see Figure 3.4-4).

Figure 3.4-2. CNDDB Fauna Records within 5 miles of the Project Area

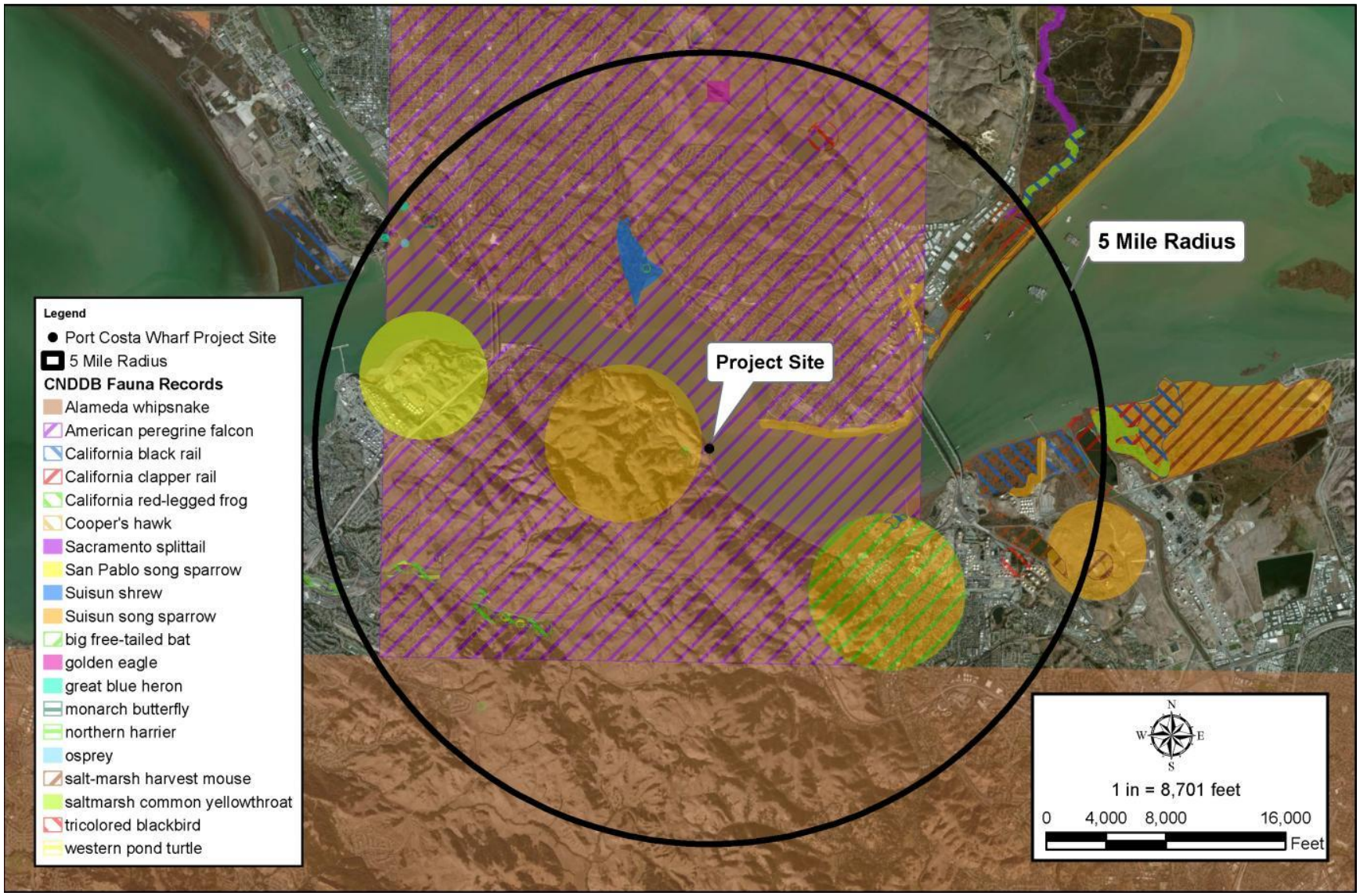


Figure 3.4-3. CNDDB Flora Records within 5 miles of the Project Area

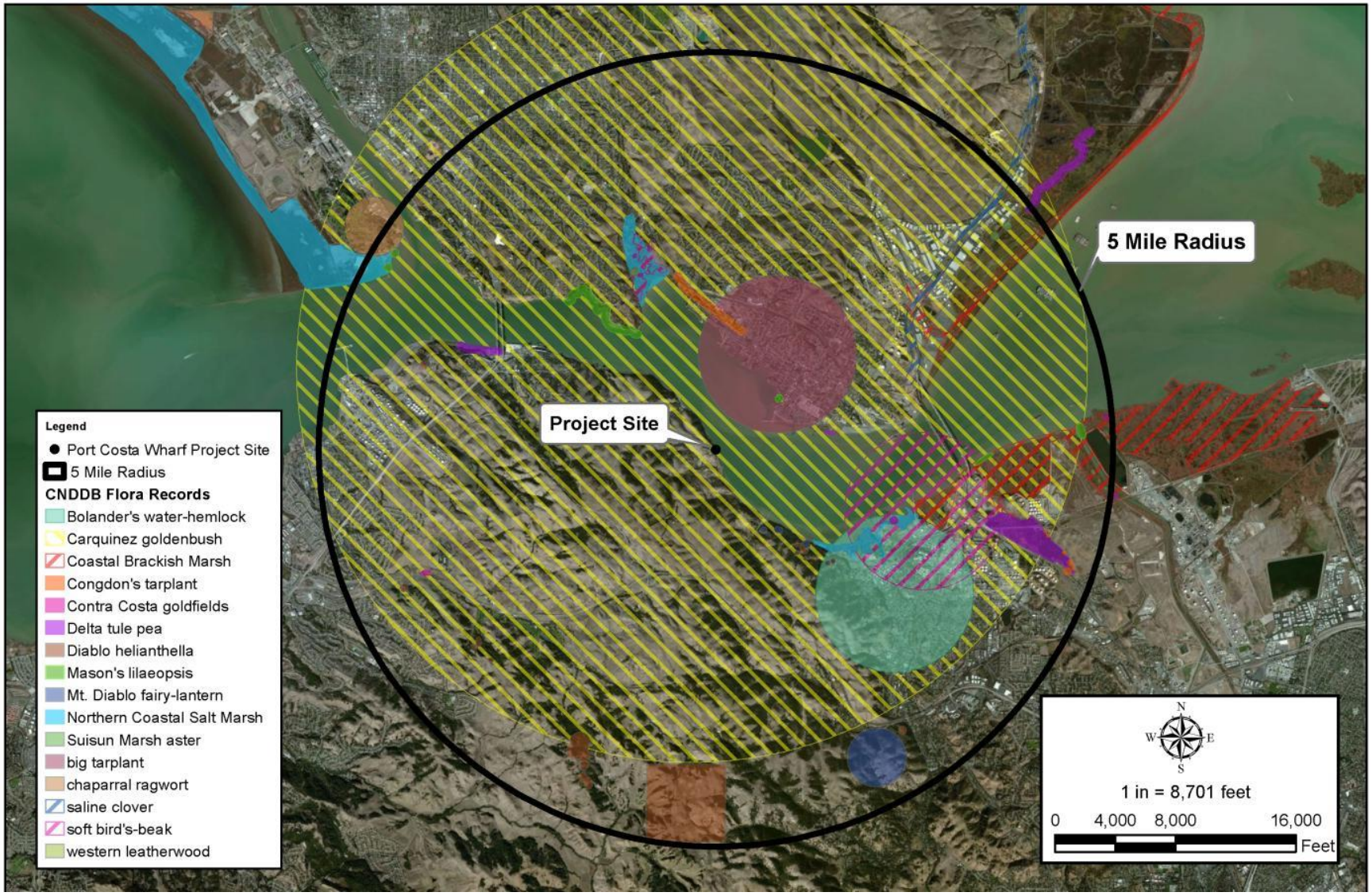
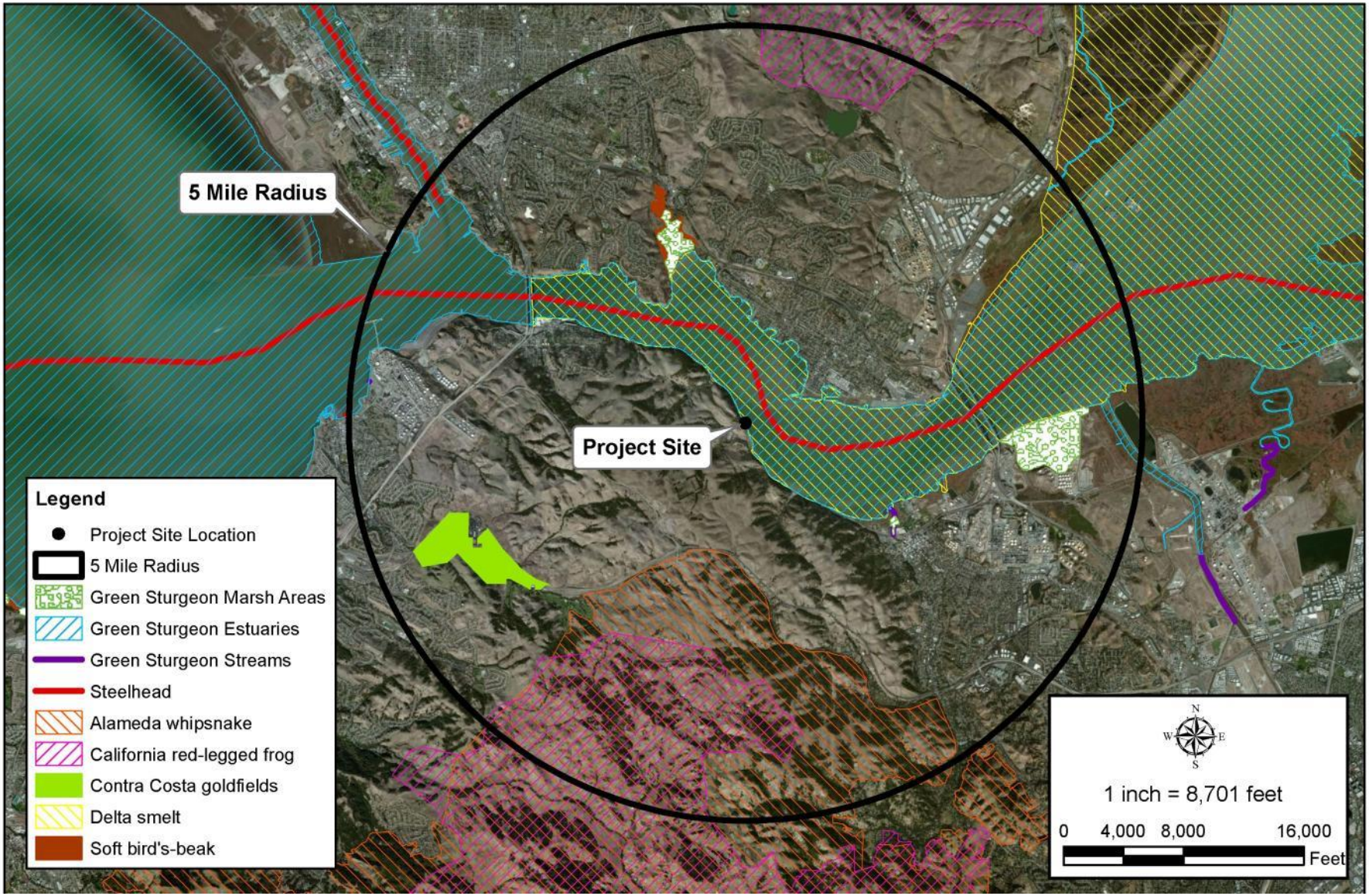


Figure 3.4-4. Designated Critical Habitat within 5 Miles of the Project Area



According to the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), essential fish habitat (EFH) for species regulated under a Federal fisheries management plan must be identified, conserved, and enhanced. The following federally managed species are known to occur in the Carquinez Strait and have designated EFH there: English sole (*Parophrys vetulus*); starry flounder; brown rockfish (*Sebastes auricultus*); northern anchovy; Chinook salmon, both the Central Valley Spring-Run evolutionarily significant unit (ESU) (Federal Threatened) and Sacramento River Winter-Run ESU (Federal and State Endangered); and Coho salmon (*Oncorhynchus kisutch*) (Central California Coast ESU [Federal and State Endangered])

Birds

One special-status species was potentially observed during the 2013 site visit. Several song sparrows (likely the Suisun subspecies *Melospiza melodia maxillaries*, which is endemic to the Carquinez Strait/Suisun Bay area and is considered a Species of Special Concern by the CDFW) were observed in the vicinity of the proposed staging areas on the eastern end of the former TXI property. The birds were flushed from coyote brush and may be nesting in the near vicinity.

Figure 3.4-2 shows that an American peregrine falcon (*Falco peregrines anatum*) was observed in the vicinity of the proposed staging areas in the Benicia USGS quadrangle. This species is fully protected by the CDFW; therefore, the exact location of the observed occurrence was not disclosed by CNDDB. Although the presence of this species is presumed extant by the CNDDB, it is not likely to occur in or use areas within or adjacent to the site. American peregrine falcon nesting and wintering habitats include wetlands, woodlands, other forested habitats, cities, agricultural area, and coastal habitats. This species is known to use cliffs, banks, dunes, mounds, and human-made structures for their nests. They feed on passerines caught in flight. There is minimal potential for this species to occur in or near the Project vicinity; it is more likely to occur in higher quality habitat away from the site.

Aside from listed and proposed species being protected under the ESA and CESA, other regulations protect various bird species. For example, the Migratory Bird Treaty Act of 1918 makes it unlawful to pursue, hunt, capture, take, kill, or sell birds listed as "migratory" species. In addition, Fish and Game Code section 3503 protects the nests and eggs of most birds. Nesting season is generally February 1st through August 15th.

Although the Project site consists of only man-made structures with adjacent ruderal/barren habitat, potential nesting and foraging habitats exist in the Project vicinity. During the May 2012 site reconnaissance, several bird species were observed in the Project vicinity, including multiple potential breeding pairs.

Additionally, although no nesting birds were observed in or near the proposed temporary staging areas during the 2013 reconnaissance, suitable nesting habitat is present. Therefore, there is potential for nesting birds to use these areas for nesting and/or foraging. Table 3.4-1 provides bird species observed during the surveys; however, it is not a complete list of potential bird species that could use the Project area for nesting and/or foraging.

Table 3.4-1. Bird Species Observed in the Project Vicinity

Common Name	Species Name	Status	Comments
American crow	*Corvus brachyrhynchos*	-	One adult was flying over Project site.
black phoebe	*Sayornis nigricans*	-	Several adults were observed foraging on and near the wharf.
California towhee	*Melzone crissalis*		One adult was flushed from coyote brush on east end of the former TXI property
Canada goose	*Branta canadensis*	-	Breeding pair was perched on wharf.
cliff swallow	*Petrochelidon pyrrhonota*	-	Colony with multiple nests under dolphins and Anchors 1 and 2.
common raven	*Corvus corax*	-	Two adults were observed flying over Project site.
dark-eyed junco	*Junco hyemalis*	-	One adult was observed foraging near Project site.
double-crested cormorant	*Phalacrocorax auritus*	WL	Multiple individuals were perched, swimming, and flying in action area.
Forster's tern	*Sterna forsteri*	-	Breeding adults were flying over the Project site.
great egret	*Ardea alba*	-	Multiple adults were observed flying over the Project site.
killdeer	*Charadrius vociferous*		One adult was observed flying over the Project site.
mallard	*Anas platyrhynchos*	-	Potential breeding pair was swimming at the Project site.
merlin	*Falco columbarius*	WL	One adult was observed perched on a wire on the western end of the former TXI property.
osprey	*Pandio haliaetus*	WL	Potential breeding pair was flying over and foraging at the Project site.
red-tailed hawk	*Buteo jamaicensis*	-	One adult was flying over the Project site and perched on a nearby eucalyptus tree.
(Suisun) song sparrow	*Melospiza melodia (maxillaries)*	SSC	Several were flushed from coyote brush on east end of the former TXI property.
turkey vulture	*Cathartes aura*	-	Multiple individuals were flying above the Project site.
western grebe	*Aechmophorus occidentalis*	-	One adult was swimming through the Project site.

WL = Watch List; SSC = Species of Special Concern

Multiple cliff swallow (*Petrochelidon pyrrhonota)* nests were observed throughout the Project site; many were located on the two stand-alone dolphins and the decks. Several eucalyptus trees and coyote brush in the vicinity could serve as potential nesting habitat for a variety of bird species; however, the active rail lines in close proximity to the site make birds nesting in the nearby vegetation unlikely. It is more probable that the Project site is used for foraging habitat than for nesting habitat for species other than the cliff swallow. Cliff swallows are adaptable and more tolerant to disturbances. Also, their nests on the water have some distance from the rail lines that provides a buffer from the noise of trains passing by.

Reptiles and Amphibians

Figure 3.4-2 shows that the temporary upland existing parking/staging area is within an area mapped by CNDDB for the Alameda whipsnake (*Masticophis lateralis euryxanthus*), which is a Federal and State Threatened species. The CNDDB record indicates that an individual was observed on a northeast facing slope with scrub community dominated by coyote brush within the USGS 7.5-minute quadrangle of Benicia. The exact location is not disclosed by CNDDB due to the sensitivity of this species; therefore, it is uncertain whether the Alameda whipsnake was observed in the Project vicinity. It is more likely that the recorded observation occurred in designated critical habitat located approximately 2 miles south of the Project site (see Figure 3.4-4). However, Northern Coastal Scrub was identified on the north facing slope just to the south off-site of the former TXI property that could provide suitable habitat for this species. Thus, the presence of suitable Alameda whipsnake habitat in the Project vicinity indicates a minor potential for Alameda whipsnake to occur in or near the proposed temporary staging areas. However, the suitable habitat extends south away from and off the former TXI property and the Project site, and it is more likely for the Alameda whipsnake to use that area rather than the degraded, ruderal area associated with the proposed staging areas and the upland areas adjacent to the Project site.

No special-status amphibians are known to occur or were observed during the 2012 or 2013 site reconnaissance surveys in the Project vicinity.

Plants

As shown in Figure 3.4-3, Carquinez goldenbush (*Isocoma arguta),* a California Native Plant Society Ranking 1B.1 – Rare, Threatened, or Endangered in California and elsewhere; seriously Threatened in California, has been recorded in the Project vicinity. This species was not observed during the site reconnaissance surveys and suitable habitat was not present in the Project vicinity or the potential temporary staging areas.

Invasive Species

San Francisco Bay Estuary has been described as one of the most invaded ecosystems in North America (Cohen and Carlton 1995). Invasive nonindigenous aquatic species dominate many parts of the San Francisco Bay, to the extent that in some locations only introduced species can be found. In 2010, the CDFW collected 497 species from San Francisco Bay Estuary, of which 98 species were classified as introduced, including three newly detected species to San Francisco Bay Estuary that had likely been spread from other locations in California (CDFW Office of Spill Prevention and Response [OSPR] 2011). The results indicate high numbers of introduced species are found in the South Bay, San Pablo Bay, and Central Bay. Suisun Bay had the lowest number of introduced species.

Nonindigenous aquatic species have been introduced to the San Francisco Bay via a number of vectors, including the deliberate introduction of species for recreational or commercial purposes. The shipping industry has been identified as one of the major vectors of nonindigenous aquatic species, and vessel biofouling and ballast water are considered the largest contributors of nonindigenous species to the San Francisco Bay (CSLC 2013). Eighteen percent of established nonindigenous aquatic species are tied to vessel biofouling as the primary likely vector and 9 percent for ballast water; however, when considering established species with multiple possible vectors, 60 percent could have been introduced via vessel biofouling as one of several possible vectors, and 53 percent could have been introduced via ballast water as one of several possible vectors (OSPR 2011).

Invasive species may compete directly with native species for food or space, or prey upon native species. They can also change the food chain or physical environment to the detriment of native species. Approximately 42 percent of the species on the federal Threatened or Endangered species list are at risk primarily because of predation, parasitism, and competition from nonindigenous invasive species (OSPR 2011). One such currently pernicious invasive species is the overbite clam (*Corbula amurensis*), first found in the San Francisco Bay Estuary in 1986. Thought to have been introduced into the San Francisco Bay Estuary by ballast water discharge from a vessel, this planktivore is now so abundant that the current population is capable of filtering the estuary's water column several times a day. In some portions of the Suisun Bay floor, the clam accounts for the vast majority of biomass, and it has been implicated in the pelagic organism decline by severely reducing the availability of phytoplankton in Suisun Bay (San Francisco Estuary Project 2004, Greene 2011).

3.4.2 Regulatory Setting

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Tables 1-2 and 3.4-2. Local goals, policies, and/or regulations applicable to this issue area are listed below.

Table 3.4-2. Federal and/or State Laws, Regulations, and Policies Potentially Applicable to the Project (Biological Resources)

U.S.	Endangered Species Act (FESA) (7 USC 136, 16 USC 1531 et seq.)	The FESA, which is administered in California by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to species listed as threatened or endangered, or proposed for listing as threatened or endangered. Section 9 prohibits the "take" of any member of a listed species. • Take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." • Harass is "an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering." • Harm is defined as "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering." When applicants are proposing projects with a Federal nexus that "may affect" a federally listed or proposed species, the Federal agency is required to consult with the USFWS or NMFS, as appropriate, under Section 7, which provides that each Federal agency must ensure that any actions authorized, funded, or carried out by the agency are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat.
U.S.	Magnuson-Stevens Fishery Conservation and Management Act (MSA) (16 USC 1801 et seq.)	The MSA is the primary law governing marine fisheries management in U.S. Federal waters. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring Federal authorization, such as a USACE permit, is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" (16 USC 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management. Pursuant to section 305(b)(2), Federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH.
U.S.	Marine Mammal Protection Act (MMPA) (16 USC 1361 et seq.)	The MMPA is designed to protect and conserve marine mammals and their habitats. It prohibits takes of all marine mammals in the U.S. with few exceptions. The NMFS may issue a take permit under section 104 if the activities are consistent with the purposes of the MMPA and applicable regulations at 50 CFR, Part 216. The NMFS must also find that the manner of taking is "humane" as defined in the MMPA. If lethal taking of a marine mammal is requested, the applicant must demonstrate that using a non-lethal method is not feasible.

Table 3.4-2. Federal and/or State Laws, Regulations, and Policies Potentially Applicable to the Project (Biological Resources)

U.S.	Migratory Bird Treaty Act (MBTA) (16 USC 703-712)	The MBTA was enacted to ensure the protection of shared migratory bird resources. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit. The responsibilities of Federal agencies to protect migratory birds are set forth in EO 13186. The USFWS is the lead agency for migratory birds. The USFWS issues permits for takes of migratory birds for activities such as scientific research, education, and depredation control, but does not issue permits for incidental take of migratory birds.
U.S.	Other	• The Bald and Golden Eagle Protection Act makes it illegal to import, export, take (including molest or disturb), sell, purchase or barter any bald eagle or golden eagle or parts thereof. • Clean Water Act (33 USC 1251 et seq.) and Rivers and Harbors Act (33 USC 401) *(see section 3.8, Hydrology and Water Resources).* • Executive Order 13112 requires Federal agencies to use authorities to prevent introduction of invasive species, respond to and control invasions in a cost-effective and environmentally sound manner, and provide for restoration of native species and habitat conditions in invaded ecosystems. • Executive Order 13158 requires Federal agencies to identify actions that affect natural or cultural resources within a Marine Protected Area (MPA) and, in taking such actions, to avoid harm to the natural and cultural resources that are protected by a MPA.
CA	California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.)	The CESA provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the California Department of Fish and Wildlife (CDFW), and prohibits the taking of such species without its authorization. Furthermore, the CESA provides protection for those species that are designated as candidates for threatened or endangered listings. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened species and endangered species (Fish & G. Code, § 2070). The CDFW also maintains a list of candidate species, which are species that the CDFW has formally noticed as under review for addition to the threatened or endangered species lists. The CDFW also maintains lists of Species of Special Concern that serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project site and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. The CESA also requires a permit to take a State-listed species through incidental or otherwise lawful activities (§ 2081, subd. (b)).
CA	California Marine Life Protection Act (MLPA) (Fish & G. Code, §§ 2850–2863)	Passed by the State Legislature in 1999, the MLPA required the CDFW to redesign its system of MPAs to increase its coherence and effectiveness at protecting the state's marine life, habitats, and ecosystems. For the purposes of MPA planning, a public-private partnership commonly referred to as the MLPA Initiative was established, and the State was split into five distinct regions (four coastal and the San Francisco Bay) each of which had its own MPA planning process. All four coastal regions have completed these individual planning processes. As a result the coastal portion of California's MPA network is now in effect statewide. Options for a planning process in the San Francisco Bay have been developed for consideration at a future date.

Table 3.4-2. Federal and/or State Laws, Regulations, and Policies Potentially Applicable to the Project (Biological Resources)

CA	Lake and Streambed Alteration Program (Fish & G. Code, §§ 1600-1616)	The CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These regulations require notification of the CDFW for lake or stream alteration activities. If, after notification is complete, the CDFW determines that the activity may substantially adversely affect an existing fish and wildlife resource, the CDFW has authority to issue a Streambed Alteration Agreement.
CA	Other relevant California Fish and Game Code sections	• The California Native Plant Protection Act (Fish & G. Code, § 1900 et seq.) is intended to preserve, protect, and enhance endangered or rare native plants in California. This Act includes provisions that prohibit the taking of listed rare or endangered plants from the wild and a salvage requirement for landowners. The Act directs the CDFW to establish criteria for determining what native plants are rare or endangered. Under section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered. • The California Species Preservation Act (Fish & G. Code §§ 900-903) provides for the protection and enhancement of the amphibians, birds, fish, mammals, and reptiles of California. • Fish and Game Code sections 3503 & 3503.5 prohibit the taking and possession of native birds' nests and eggs from all forms of needless take. These regulations also provide that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nests or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto. • Fish and Game Code sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), & 5515 (fish) designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time without permission by the CDFW. • Fish and Game Code section 3513 does not include statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game, migratory birds.

The Contra Costa County General Plan 1995-2020 outlines conservation goals and policies that promote protection of important flora and fauna resources in the County, including important ecological habitats. the General Plan identifies the following vegetation and wildlife resource goals and policies that are applicable to the Project site:

- Goal 8-E - To protect rare, threatened and endangered species of fish, wildlife and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.

- Goal 8-F - To encourage the preservation and restoration of the natural characteristics of the San Francisco Bay/Delta estuary and adjacent lands, and recognize the role of Bay vegetation and water area in maintaining favorable climate, are and water quality, fisheries and migratory waterfowl.
- Policy 8-6 - Significant trees, natural vegetation, and wildlife populations generally shall be preserved.
- Policy 8-7 - Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.
- Policy 8-15 - Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a health balance of wildlife populations.
- Policy 8-17 - The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the county shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.
- Policy 8-24 - The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.

3.4.3 Impact Analysis

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

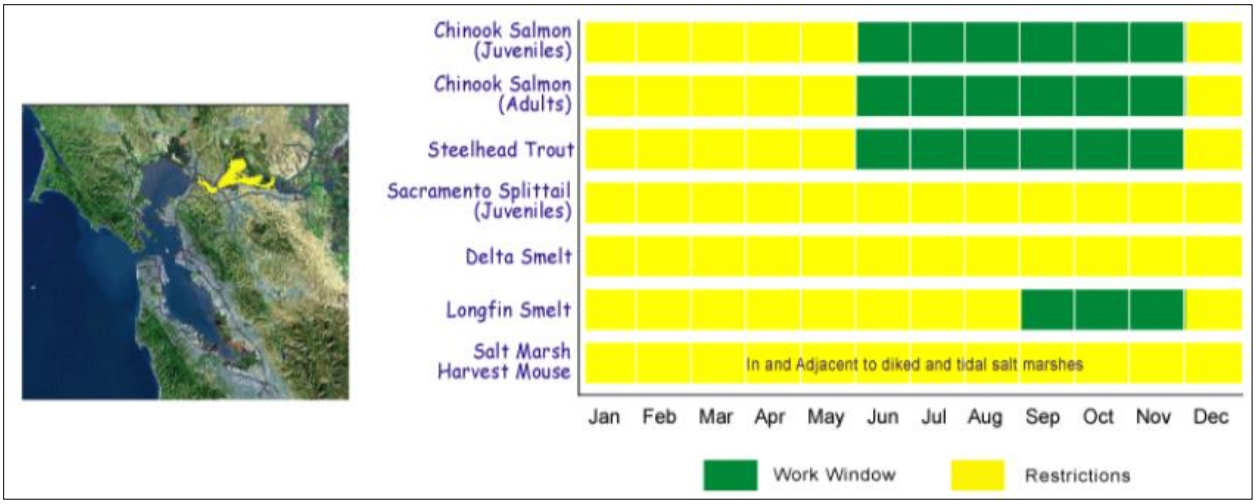
Because the majority of the Project site occurs below mean high water, the majority of potential impacts would occur to special-status and federally managed aquatic species.

Impact BIO-1: Physical displacement of fish species and disturbance of EFH due to deconstruction and removal activities.

Less than Significant with Mitigation. Deconstruction activities would include the removal of decks, pilings, and debris; vessel movements and mooring; and generation of underwater noise due to equipment operation. These activities could potentially result in the following short-term effects on special-status and federally managed fish species: physical displacement, loss of foraging area and prey species, and physical injury caused by equipment.

Deconstruction activities associated with the Project could result in temporary impacts to special-status and federally managed species within the Project area. General activity may cause disturbance and displacement of fish species due to movements and noise from equipment operations. Fish would likely avoid the area during deconstruction activities. There would also be a temporary loss of foraging habitat and prey species, particularly when the piles are completely removed or removed to a depth of at least 2 feet below the sediment level. Additionally, injury or disturbance to special-status species from noise or physical injury caused by equipment operations in the water column may occur. Physical displacement of special-status and federally managed fish species and foraging habitat is considered a potentially significant impact; therefore, the Project could result in potentially significant impacts to fish species and EFH located in the Project area. The NMFS In-Water Work Windows for the Carquinez Strait and Suisun Bay are shown in Figure 3.4-5.

Figure 3.4-5. NMFS In-Water Dredging Window (Carquinez Strait/Suisun Bay)



Source: http://swr.nmfs.noaa.gov/overview/sroffice/2dredge_restriction_Suisun_carquinez.html

Implementation of the following mitigation measures would reduce potentially significant impacts to less than significant.

MM BIO-1a: Disturbance Minimization. The Applicant shall adhere to the following conditions to minimize disturbance to sensitive species:

- The Project disturbance area shall be limited to the minimum required to complete the Project.
- Vessel traffic and movements shall be minimized to reduce potential physical displacement or injury of fish.

- In-water work shall be conducted in compliance with the California Department of Fish and Wildlife and National Marine Fisheries Service work windows for fish species that occur in the Carquinez Strait and Suisun Bay to limit the deconstruction activity to times when there is no spawning and a reduced number of fish in the area.

MM BIO-1b: Worker Environmental Awareness Program (WEAP). Training for all personnel involved in deconstruction activities shall be mandated. Training materials shall be submitted to the California State Lands Commission staff for approval 2 weeks prior to deconstruction. Training shall include the importance of the marine environment to special-status species and the environmental protection measures that are being implemented to avoid and/or minimize negative impacts to Essential Fish Habitat and the species that depend on them. The WEAP shall also cover other important biological resources with potential to occur in and around the Project area, including Alameda whipsnake, nesting birds, and wetlands.

Impact BIO-2: Potential impacts of toxic materials to fish species.

Less than Significant with Mitigation. Release of toxic materials to the marine environment can result in deleterious physical impacts to special-status and federally managed fish species as well as special-status birds, mammals, and habitats. During wharf deconstruction, the piles would be completely removed or removed to a depth of at least 2 feet below the sediment level. This sediment disturbance would increase turbidity and could re-suspend contaminants, such as mercury or hydrocarbons, which may have resulted from previous spills. Additionally, the pilings contain the wood preservative creosote, a toxic substance made up of harmful chemicals such as polycyclic aromatic hydrocarbons, phenols, and creosols. Removal of the pilings may release creosote into the water, which could have negative impacts on fish species that use the Project area during migration or for foraging. However, creosote could be leaching out of the pilings as they exist; therefore, removal of the pilings would potentially reduce creosote exposure over the long-term.

LBP has been found on wharf surfaces and would be abated in accordance with Federal, State, and local regulations. Wharf structures may also contain other hazardous materials such as mercury switches, petroleum product residues, and hydraulic fluids. If detected, these substances would also be abated in accordance with Federal, State and local regulations. Removal of the wharf remnants, if they contain these contaminants, would have a beneficial, long-term effect.

There is also potential for the accidental release of oil or fuel into the Bay from equipment operation, which could smother organisms or expose them to harmful petroleum hydrocarbons. Other debris such as pilings or concrete could accidentally drop into the Bay, which could impair habitat or release toxic materials into the water.

There is minimal potential for long-term effects that could result from deconstruction and removal activity. Exposure to contaminants either re-suspended from beneath the sediment or Bay muds surface during pile removal, from oil or fuel released during equipment operation, or released from the wood pilings could have negative impacts on special-status species. Also, if the embankment is disturbed and not properly stabilized, potential erosion over time could lead to increased turbidity and increased exposure to contaminants that may have accumulated in the soil during MOT operations. These chemicals can bioaccumulate within individuals and biomagnify up the food chain. Impacts could include reproduction impairment, suppressed immune function, liver lesions, fin abnormalities, and issues with embryonic development.

Implementation of **MM WQ-1**, **MM HAZ-1b**, and the following mitigation measure would reduce potentially significant impacts to less than significant.

MM BIO-2: **Lead-Based Paint (LBP) Management Plan.** Since LBP is present on the wharf, Phillips 66 shall retain a licensed lead abatement contractor to address LBP prior to the general deconstruction of the wharf. A LBP Management Plan including health and safety procedures shall be prepared and submitted to the California State Lands Commission staff for approval 2 weeks prior to deconstruction and included as part of the Project's Work Plan.

Impact BIO-3: Potential impacts of debris on nearby habitat.

Less than Significant with Mitigation. Loss of equipment and debris into the Bay may negatively impact special-status and federally managed species and their habitats. Accidental loss of deconstruction equipment or debris into Bay waters could have a negative impact on fish species and habitat in the Project vicinity; species and habitats could be physically disturbed or smothered and there is potential for the release of contaminants from the debris. Implementation of the following mitigation measure would reduce potentially significant impacts to less than significant.

MM BIO-3: Deconstruction and Seafloor Debris Removal Plan. The Applicant shall prepare a Deconstruction and Seafloor Debris Removal Plan for approval by the California State Lands Commission staff 60 days prior to deconstruction to address the following:

- Removal methods, equipment, and timing for all Project components.
- Procedures for monitoring and recording, by the on-site contractor's supervisor and mitigation monitor of any deconstruction debris or equipment that has dropped into Bay waters. The record shall include the dropped object's description and location for recovery.
- Procedures for conducting a post-deconstruction bathymetric survey once deconstruction is complete to verify that the wharf has been completely

removed and to identify any debris items that are associated with the deconstruction process.

- Removal of sea floor debris inclusive of any equipment, tools, pilings, or other materials or debris accidentally dropped into the Bay during deconstruction activities. Large pieces of structures to be removed would have tag lines attached to facilitate recovery from the Bay in the event of an accident.
- Characterization of the content of the two steel pipe sections and alternative recovery approaches based on sampling results. The approach(s) shall be carefully designed to mitigate the potential of releasing any hazardous materials (if found inside the pipes) into the Bay.

Impact BIO-4: Potential impacts of deconstruction activities on special-status birds.

Less than Significant with Mitigation. Deconstruction activities may result in the disturbance of individuals or nests of protected bird species. If nests are present during deconstruction, they would be destroyed or potentially disturbed. This would result in not only significant impacts, but also in a violation of regulations including the Migratory Bird Treaty Act and other CDFW restrictions.

No listed or proposed species are expected to occur in or adjacent to the Project area; therefore, no effects on species protected under the ESA or CESA are expected. However, several State-protected special-status bird species are either known or have potential to occur in the Project vicinity. These species may be affected by the Project: double-crested cormorant, merlin, and osprey. In addition, song sparrows that may be considered a Species of Special Concern were observed in the vicinity of the proposed staging areas. Deconstruction activities would likely disturb State special-status bird species using the area for nesting and/or foraging habitat. Birds would likely avoid the area during deconstruction activities and these activities would likely displace potential prey species for fish-eating birds.

The cliff swallows that use the Project site for nesting could be negatively affected by the Project. Nesting season for this species is generally April through July, which falls within the CDFW/NMFS in-water work windows for some of the fish species that occur in the area (see Figure 3.4-4). Prior to nesting season, Phillips 66 would remove the abandoned nests and implement netting to deter the establishment of new nests, and the dolphin structures and decks would be prioritized for removal. Although this would displace the colony, as they often return to the same nesting sites year after year, this species is highly adaptable and tolerant to human activities and they would easily procure another suitable nesting site.

Implementation of **MM BIO-1b** and the following mitigation measures would reduce potentially significant impacts to less than significant.

MM BIO-4a: Bird Nesting Prevention. In consultation with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service, no less than 1 month prior to nesting season, the Applicant shall implement deterrence measures to prevent nesting birds from using any of the wharf structure slated for removal. Measures shall include, but not be limited to, the following:

- Old nests or nests under construction shall be washed down with water or knocked down using a pole.
- To minimize the likelihood of nesting birds using the mooring dolphins or decks to support nests, these structures shall be prioritized for removal.
- Netting with mesh size 0.5 to 0.75 inch shall be installed to provide a physical barrier between the birds and the nest site.

MM BIO-4b: Pre-deconstruction Nesting Bird Survey and Monitoring. No more than 14 days prior to the start of deconstruction activities, a qualified avian biologist shall conduct a nesting bird survey in the Project area to ensure that no nesting has taken place. The qualified biologist shall also monitor the site during deconstruction activity for any nesting in the Project vicinity.

MM BIO-4c: Work Zones around Active Nests. In the event that an active nest is found in the Project vicinity, appropriate no-work buffers shall be established in consultation with the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service to prevent disturbance or destruction of the nest.

Impact BIO-5: Potential impacts to Alameda whipsnake.

Less than Significant with Mitigation. CNDDB records indicate an occurrence of Alameda whipsnake, a Federal and State Threatened species, within the USGS 7.5-minute quadrangle in which the Project site occurs. The Project site is outside of the designated critical habitat for this species, but potentially suitable habitat was identified south of the TXI property approximately 300 feet from the eastern parking lot. Although it is unlikely that Alameda whipsnake would occur within the proposed temporary staging areas due to the degraded quality of the habitat, there is a slight possibility that Project vehicles or equipment could result in take of Alameda whipsnake if one were present along the access route or within the staging area.

Implementation of **MM BIO-1b** and the following mitigation measure would reduce potentially significant impacts to less than significant:

MM BIO-5: Avoidance and Reduced Speed Limits. To reduce the potential for Alameda whipsnake take to a less-than-significant level, only the roadway along the northern edge of the former TXI/Pacific Custom Materials, Inc. (TXI) property shall be used for ingress/egress so that Project vehicles are routed away from the potential habitat to the south and potential wetland areas in the eastern portion of the property. In addition, a speed limit of 10 miles per hour shall be implemented within the TXI property.

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

Results from the CNDDB search indicate that there are records of two sensitive natural communities near the Project area: northern coastal salt marsh and coastal brackish marsh. These communities were recorded approximately 2 miles southeast of the site and northern coastal salt marsh was recorded about 2 miles northwest of the site as well. These communities were not identified within the Project site during a 2012 or 2013 site reconnaissance surveys conducted by AECOM biologists. However, a small area of wetland/riparian-type vegetation was observed in a small ditch on the eastern end of the former TXI property approximately 100 feet southeast of the eastern existing proposed temporary parking lot.

Impact BIO-6: Potential impacts to a small wetland/riparian area located 100 feet southeast of the eastern proposed upland staging area.

Less than Significant with Mitigation. Use of the proposed upland staging areas for parking, incidental storage of non-hazardous materials (not used for the deconstruction work on water), and sanitary stations may impact the sensitive wetland/riparian species identified near the eastern end of the former TXI property. The two basins identified are potential waters of the U.S. and State. Accidental spills from vehicles or disturbance due to pedestrian use could impact this area. Implementation of **MM BIO-1b**, **MM BIO-5**, and **MM WQ-1** would reduce potentially significant impacts to less than significant.

Impact BIO-7: Potential spread of aquatic invasive species.

Less than Significant with Mitigation. Aquatic invasive species could be introduced to the Project area by vessels involved in deconstruction. Vectors for invasive species may include ballast water and biofouling (i.e., the accumulation of aquatic organisms) on vessel hulls or accessory structures. Introduced species have the potential to affect indigenous species through competition, predation, parasitism, genetic dilution, introduction of pathogens, and smothering and loss of habitat.

It is expected that most vessels contracted for the Project will originate from local ports, thus reducing the possibility of introducing invasive species from outside the local area; however, implementation of the following mitigation measure would further reduce potentially significant impacts to less than significant.

MM BIO-6: Best Management Practices (BMPs) for Aquatic Invasive Species. To reduce the potential for introducing aquatic invasive species to a less-than-significant level, BMPs for ballast water management and biofouling removal shall be implemented to avoid the spread of invasive species. Vessels over 300 gross tons in size are currently regulated under the State's Marine Invasive Species Program, and Project vessels of this size will comply with the State's requirements for ballast water management and biofouling removal. The deconstruction contractor shall also be required to inspect and remove biofouling from Project vessels less than 300 gross tons prior to travelling to the Project area.

c) Have a substantial adverse effect on federally protected wetlands as defined by section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Less than Significant Impact. The Carquinez Strait is subject to CWA section 404 and is regulated by the RWQCB and CDFW. Any impacts, such as degraded water quality due to piling removal, would be short-term and less than significant. There would be no alterations to the shoreline and no removal, filling, or hydrological interruption of any wetlands would occur as a result of the Project. In addition, removal of creosote or any other contaminants within the derelict wharf would be beneficial to water quality.

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

Impact BIO-8: Potential impacts of deconstruction to migratory fish.

Less than Significant with Mitigation. Deconstruction activities, such as vessel movements, mooring anchor placement, barge grounding, and piling removal, would occur in the Carquinez Strait, which is a migratory corridor for several special-status and federally managed fish species. Physical disturbance and noise could impact the migration movement of these species. Implementation of **MM BIO-1a**, **MM BIO-3**, and **MM WQ-1** reduce potentially significant impacts to less than significant.

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

No Impact. The Project is consistent with the policies and objectives of the San Francisco Bay Plan (San Francisco Bay Conservation and Development Commission [BCDC] 2007) regarding biological resources.

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

No Impact. There are currently no Habitat Conservation Plans or Natural Community Conservation Plans in or near the Project site.

3.4.4 Mitigation Summary

Implementation of the following measures would reduce Project-related impacts to biological resources to less than significant.

- MM BIO-1a: Disturbance Minimization;
- MM BIO-1b: Worker Environmental Awareness Program (WEAP);
- MM BIO-2: Lead-Based Paint (LBP) Management Plan;
- MM BIO-3: Deconstruction and Seafloor Debris Removal Plan;
- MM BIO-4a: Bird Nesting Prevention;
- MM BIO-4b: Pre-deconstruction Nesting Bird Survey and Monitoring;
- MM BIO-4c: Work Zones around Active Nests;
- MM BIO-5: Avoidance and Reduced Speed Limits;
- MM WQ-1: A Water Quality/Stormwater Pollution Prevention Plan; and
- MM HAZ-1b: A Hazardous Materials Management Plan (HMMP).