6. BIOLOGICAL RESOURCES

This chapter describes the jurisdictional framework relevant to biological resources in Hercules, existing onsite and adjacent biological and wetland resources, related City of Hercules policies and regulations, potential impacts of the project on these existing resources, and related mitigation measures warranted to minimize potentially significant impacts. The descriptions and findings in this chapter have been derived by Environmental Collaborative, the EIR consulting biologist, based on reconnaissance level field surveys and peer review of the following available literature, technical information and mapping (listed in chronological order):

- Wetland Research Associates, Inc., *California Red-Legged Frog Site Assessment and Field Survey Report, HPI Site, Hercules*, prepared for Bixby Development Company LLC, May 1999;
- Wetland Research Associates, Inc., *Special Status Wildlife Habitat Assessment of the HPI Site, Hercules*, July 1999a;
- Wetland Research Associates, Inc., *Rare Plant Survey of the HPI Site, Hercules*, prepared for Bixby Development Company LLC, September 14, 1999a; and
- Condor Country Consulting, *2003-2004 Wet Season Branchiopod Survey Report, Hercules Train Station*, prepared for Impact Sciences, Inc., October 1, 2004;
- Jones & Stokes, *Biological Resource Summary for Preliminary Evaluation of Wake Wash Effects for Potential Ferry Terminals at Hercules and Port Sonoma*, September 2005;
- Wetlands and Water Resources, Inc., *Fish and Fisheries Assessment, Hercules Multimodal Transit Facility*, prepared for Impact Sciences, Inc., May 1, 2007.
- Hildie Spautz, Wetland Wildlife Associates, *Bird Surveys for the Hercules Ferry Terminal Project*, prepared for Josh Phillips, Pacific Biology, July 11, 2007;
- Vollmar Consulting, *90 Day Survey Report, 2007 Wet Season Large Branchiopod Surveys, Hercules Ferry Intermodal Terminal Project*, prepared for Impact Sciences, Inc., July 2007;
- Vollmar Consulting, *Terrestrial Wildlife Habitat Evaluation, Hercules Ferry/Intermodal Terminal Project*, memorandum to Elizabeth Purl, Impact Sciences, Inc., September 12, 2006;
- U.S. Army Corps of Engineers, Subject File Number 2008-00382S, *Jurisdictional Waters of the U.S., Hercules Intermodal Transit Facility*, letter to Mr. Jake Schweitzer, Vollmar Consulting, December 3, 2008;
- HDR Engineering Inc., *California Red-Legged Frog Site Assessment Report, Hercules Intermodal Transit Center*, February 2010;

- HDR Inc., *City of Hercules Intermodal Transit Center Preliminary Jurisdictional Delineation*, May 2010; and
- WRA, *Hercules Bayfront, LLC Bay Roost Technical Report, Hercules Bayfront Project*, prepared for Wagstaff/MIG, March 30, 2010.

6.1 SETTING

6.1.1 Federal and State Jurisdictional Framework

Federal, State, and local regulations have been enacted over time to provide for the protection and management of sensitive biological and wetland resources. This subsection outlines the key federal and State regulations that apply to biological and wetland resources in Hercules. Subsection 6.2 (Pertinent City Plans and Policies) which follows describes the local (City of Hercules) policies and regulations pertinent to the proposed project.

On the federal level, the U.S. Fish and Wildlife Service (USFWS) is responsible for protection of terrestrial and freshwater organisms through implementation of the federal Endangered Species Act (ESA) and the Migratory Bird Treaty Act. The National Marine Fisheries Service (NOAA Fisheries) is responsible for protection of anadromous fish and marine wildlife. The U.S. Army Corps of Engineers (USACE) has primary responsibility for protecting wetlands under Section 404 of the federal Clean Water Act (CWA). The USACE also regulates navigable waters under Section 10 (33 U.S.C. 403) of the Rivers and Harbors Act.

At the State level, the California Department of Fish and Game (CDFG) is responsible for administration of the California Endangered Species Act (CESA), and for protection of streams and water bodies through the Lake and Streambed Alteration Agreement process under Section 1600 of the California Fish and Game Code. Certification from the California Regional Water Quality Control Board (Water Board) is also required when a proposed activity may result in discharge into navigable waters, pursuant to Section 401 of the CWA and EPA Section 404(b)(1) Guidelines. Under the Porter-Cologne Act, the Water Board also has jurisdiction over waters of the State not regulated by the USACE.

Pertinent federal and State regulations applied by these agencies to protect and manage special-status species, wetlands, and other sensitive natural communities are described below.

(a) Special-Status Species. "Special-status species" are defined as plants and animals that are legally protected under the federal and/or State Endangered Species Acts (ESAs), the federal Migratory Bird Treaty Act, the California Fish and Game Code (sections 3503, 3503.5, 3511, 3513, 3515, and 4700), or other regulations. In addition, pursuant to CEQA Guidelines Section 15380, special-status species are also defined as other species considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or denning locations, communal roosts, and other essential habitat.

Special status species with legal protection under the ESAs often represent major constraints to development, particularly when they are wide-ranging within the development site vicinity or highly sensitive to habitat disturbance, and where the proposed development may result in a

"take" or "harm" of a species. "Take," as defined by the federal ESA, means to "harass, harm, pursue, hunt, shoot, kill, trap, capture, or collect" a threatened or endangered special status species. "Harm" is further defined by the USFWS to include the killing or harming of wildlife due to significant obstruction of essential behavior patterns (i.e., breeding, feeding, or sheltering) through significant habitat modifications or degradation. The CDFG may also consider the loss of listed special species habitat as a "take," although this CDFG stance may lack statutory authority and case law support under the CESA.

(b) Sensitive Natural Communities. "Sensitive natural communities" are defined as natural community types considered to be rare or of a high inventory priority by the CDFG. Although sensitive natural communities have no legal protective status under the federal ESA or CESA, they are provided a level of consideration under CEQA. Appendix G of the CEQA Guidelines identifies potential impacts on a sensitive natural community as one of six criteria to consider in determining the impact significance of a proposed project. While no significance thresholds are established as part of this criterion, it serves as an acknowledgment that sensitive natural communities are an important resource and, depending on their rarity, may warrant recognition as part of the environmental review process. The level of significance of a project's impact on any particular sensitive natural community will depend on that natural community's relative abundance and rarity.

(c) Wetlands and Other Waters of the United States. Although definitions vary to some degree, wetlands are generally considered to be areas that are periodically or permanently inundated by surface or ground water and which support vegetation adapted to life in saturated soil. Wetlands are recognized as important features on a regional and national level due to their high inherent value to fish and wildlife, use as storage areas for storm and flood waters, and water recharge, filtration and purification functions. Technical standards for delineating "jurisdictional wetlands" have been developed by the USACE and the USFWS, which generally define wetlands through consideration of three criteria: hydrology, soils, and vegetation.

The federal Clean Water Act was enacted to address water pollution and establishes federal regulations and permit requirements regarding construction activities that affect storm water, dredge and fill material operations, and water quality standards. This federal regulatory program requires that discharges to surface waters be controlled under a "National Pollutant Discharge Elimination System" (NPDES) permit program, which applies to sources of water runoff including private developments and public facilities.

Under Section 404 of the CWA, the USACE is responsible for regulating the discharge of fill material into waters of the United States. The term "waters of the U.S." includes wetlands and non-wetland bodies of water that meet a set of specific technical criteria as defined in the Code of Federal Regulations. All of these technical criteria must be met for an area to be identified as a wetland under USACE jurisdiction--i.e., a jurisdictional wetland, unless the area has been modified by human activity. In general, a jurisdictional wetland fill permit must be obtained before fill can be placed in wetlands or other waters of the U.S. The type of jurisdictional wetland permit required--i.e., a "nationwide permit" or a project-specific USACE permit--is determined by the USACE depending on the amount of acreage and the purpose of the proposed fill.

Certain activities in wetlands or "other waters" are automatically authorized, or granted a nationwide permit that allows filling where impacts are considered minor. Eligibility for a nationwide permit simplifies the permit review process. Nationwide permits cover construction

and fill of waters of the U.S. for a variety of routine activities such as minor road crossings, utility line crossings, streambank protection, recreational facilities, and outfall structures. To qualify for a nationwide permit, a project must demonstrate that it has no more than a minimal adverse effect on the aquatic ecosystem, including species listed under the ESA. Nationwide permit qualification typically means that there will be no net loss of either habitat acreage or habitat value, and appropriate mitigation where fill activities are proposed.

CDFG jurisdictional authority over wetland areas is established under Section 1600 of the Fish and Game Code, which pertains to activities that would disrupt the natural flow or alter the channel, bed, or bank of any lake, river, or stream. The Fish and Game Code stipulates that it is unlawful to substantially divert or obstruct the natural flow or substantially change the bed, channel or bank of any river, stream or lake without notifying the CDFG, incorporating necessary mitigation, and obtaining a Lake and Streambed Alteration Agreement. The Wetlands Resources Policy of the CDFG states that the Fish and Game Commission will strongly discourage development in or conversion of wetlands, unless, at a minimum, project mitigation assures there will be no net loss of either wetland habitat values or acreage.

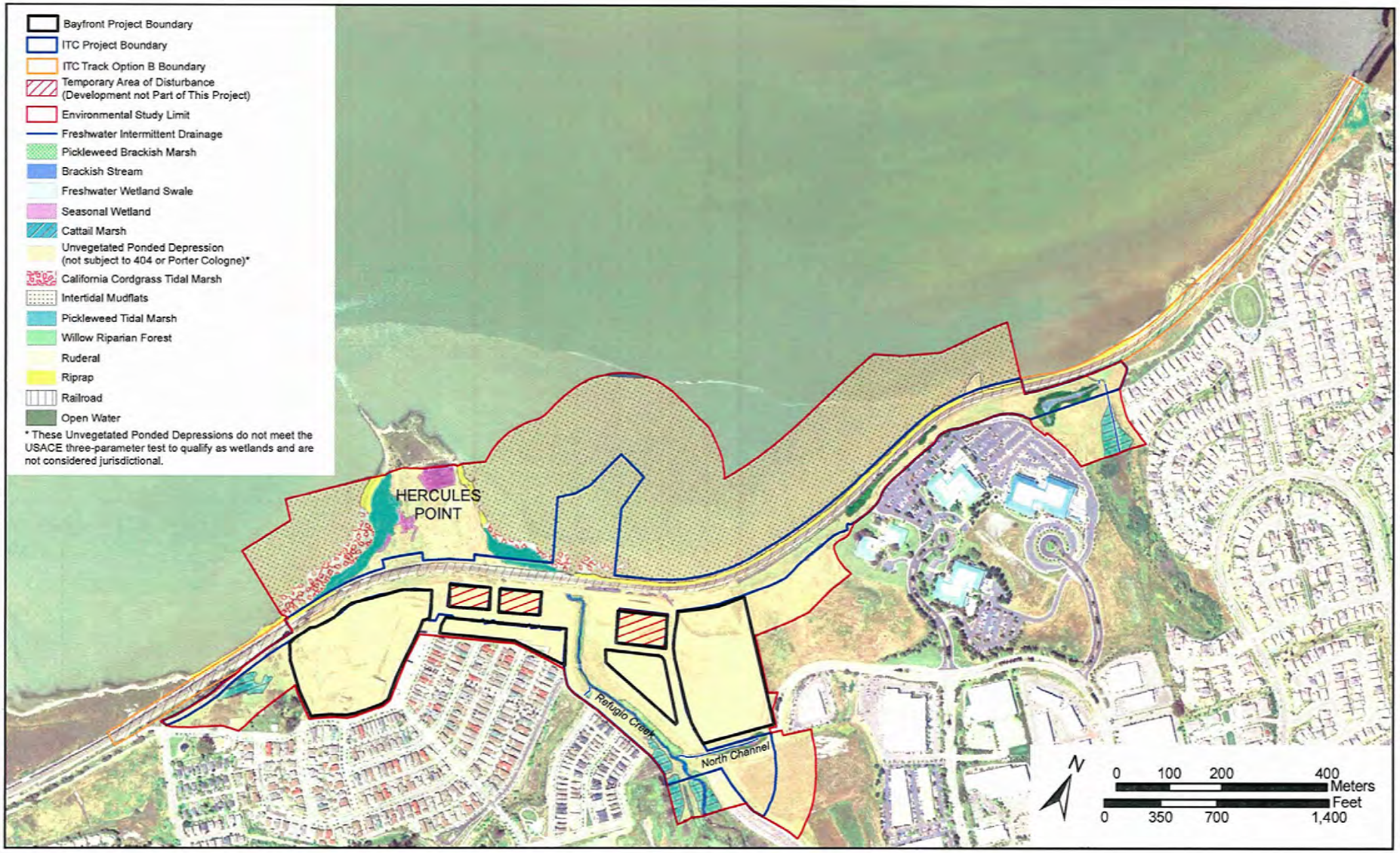
In addition, the Water Board is responsible for upholding state water quality standards. Pursuant to Section 401 of the CWA, a project that applies for a USACE permit for discharge of dredge or fill material must also secure a certification or waiver from the Water Board, including projects that qualify under the Nationwide Permit program. The Water Board is also responsible for regulating wetlands under the State Porter-Cologne Act, which may include hydrologically isolated wetlands no longer regulated by the USACE under Section 404 of the Clean Water Act.

6.1.2 Existing Biological Resource Conditions on and Adjacent to the Project Site

(a) Vegetation and Wildlife. Existing biological resources and habitat types on the project (Hercules Bayfront) site and ITC project site are diagrammed on Figure 6.1. As illustrated on Figure 6.1 and described in sections 3.2.1 (City history) and 8.1.6(d) (Historical Background and Resources) of this Draft EIR, the project site and the surrounding Hercules waterfront vicinity have been extensively modified by past industrial activities, flood control improvements, and more recently, grading associated with remediation of contaminated soils and site surcharging necessary to implement the City-adopted WDMP. The majority of the project site is devoid of vegetation or supports a sparse cover of introduced non-native grassland and ruderal (weedy) species; however, the ITC site, including segments of Refugio Creek and the North Channel, continue to support native marshland and riparian vegetation, and provide important adjacent habitat for aquatic and terrestrial species. Figures 6.2 through 6.5 illustrate in more detail the existing wetland features on the project site and ITC site, as identified in the May 2010 Preliminary Jurisdictional Delineation prepared by HDR, Inc.,[1] and listed on page 6-1 herein (the HDR preliminary wetland delineation included the Hercules Bayfront project site in its scope).

(1) Non-Native Grassland. As illustrated on Figure 6.1, most of the project site supports a cover of ruderal grassland, composed primarily of non-native grasses and forbs. Characteristic species include: wild oats (*Avena barbata*), fennel (*Foeniculum vulgare*), mustard (*Brassica nigra*), soft chess (*Bromus hordeaceus*), ripgut brome (*Bromus diandrus*), Italian ryegrass (*Lolium perenne*), hare barley (*Hordeum murinum* ssp. *leporinum*), Harding grass (*Phalaris*

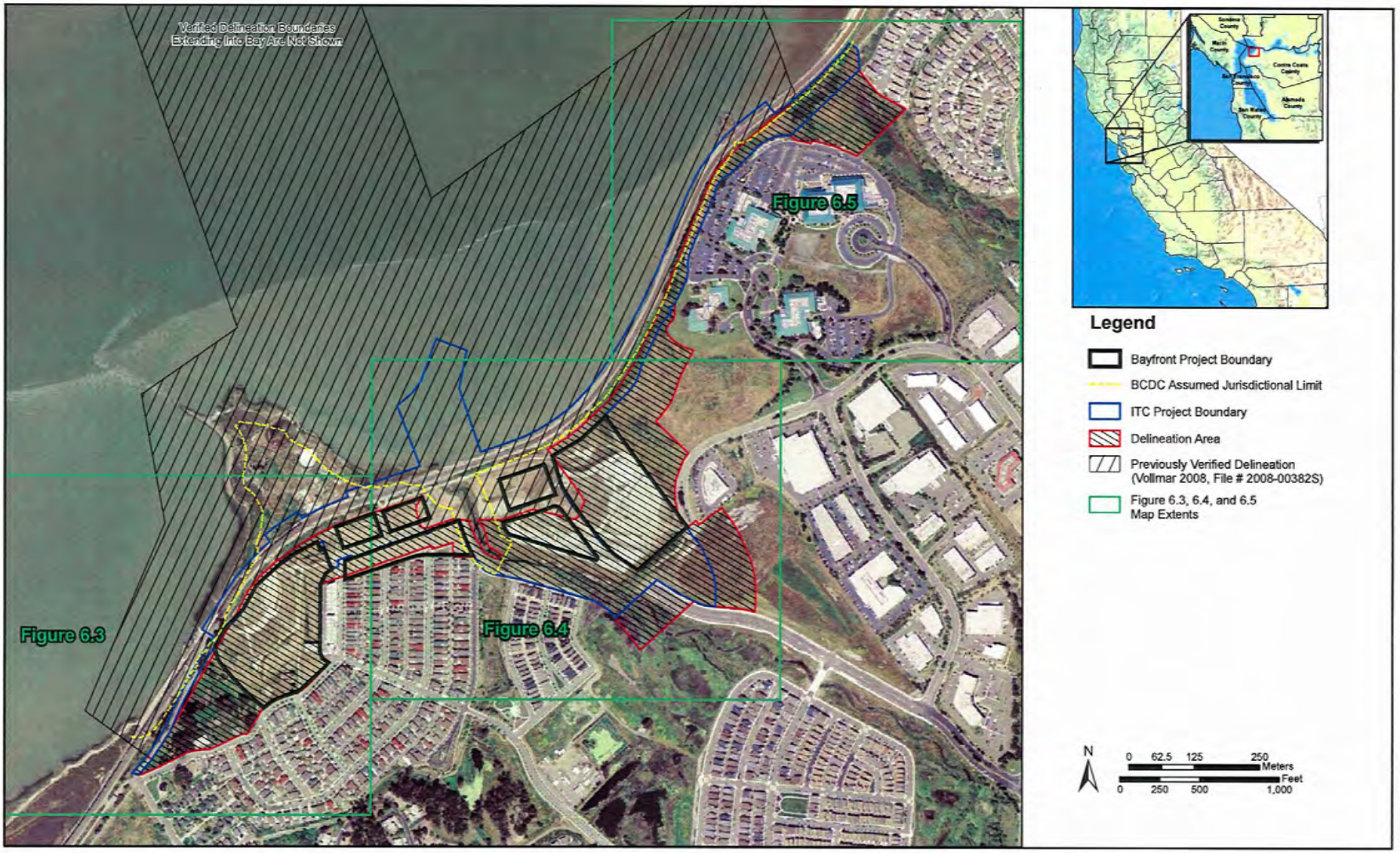
[1]HDR, Inc., *City of Hercules Intermodal Transit Center Preliminary Jurisdictional Delineation*, May 2010.



SOURCE: HDR Engineering, Inc.

Figure 6.1

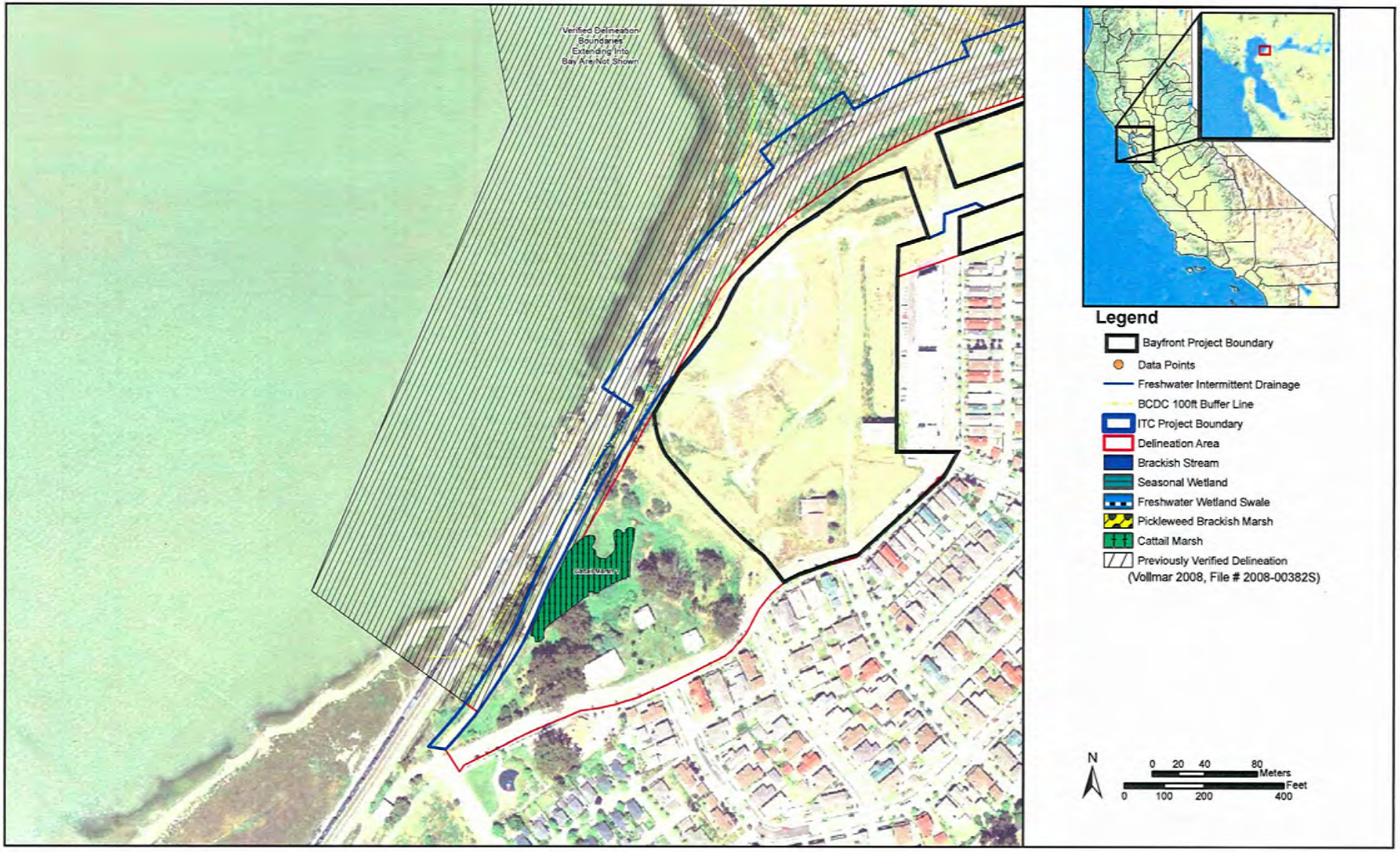
EXISTING BIOLOGICAL RESOURCES AND HABITAT TYPES ON THE PROJECT SITE



SOURCE: HDR Engineering, Inc.

Figure 6.2

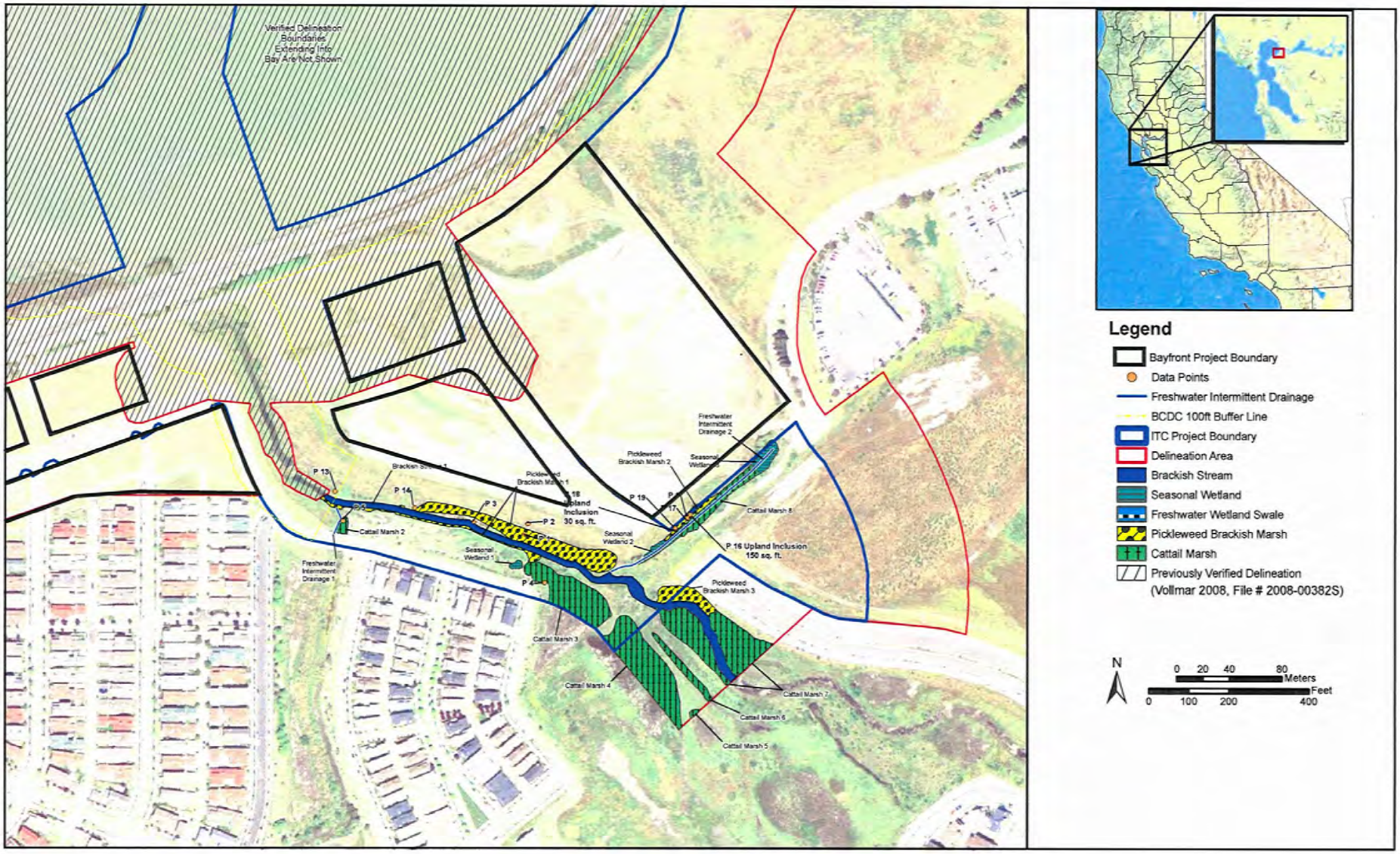
PRELIMINARY WETLAND DELINEATION MAP



SOURCE: HDR Engineering, Inc.

Figure 6.3

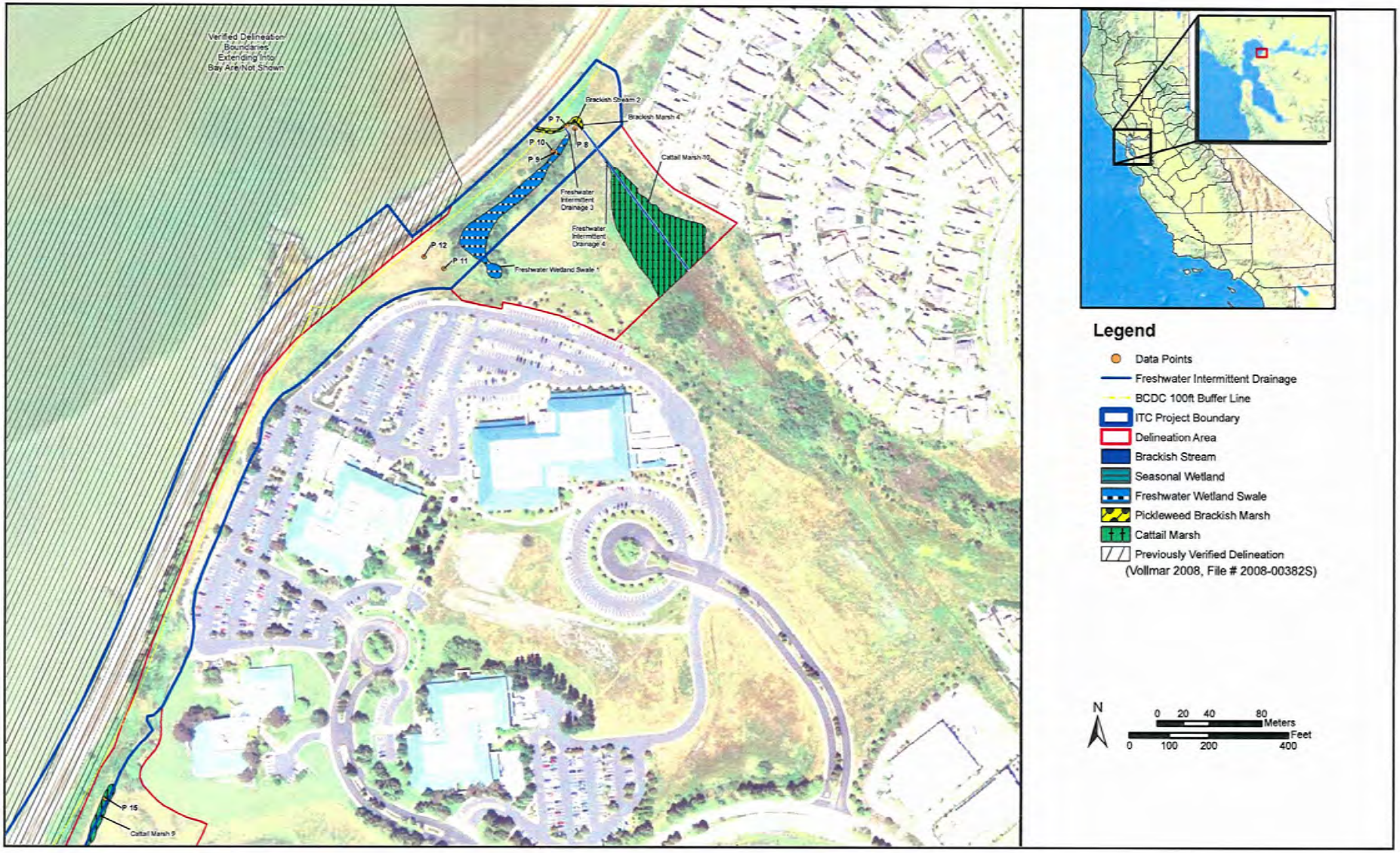
EXISTING WETLAND FEATURES: SOUTHWEST AREA



SOURCE: HDR Engineering, Inc.

Figure 6.4

EXISTING WETLAND FEATURES: CENTRAL AREA



SOURCE: HDR Engineering, Inc.

Figure 6.5

EXISTING WETLAND FEATURES: NORTHEAST AREA

aquatica), rose clover (*Trifolium hirtum*), wild radish (*Raphanus sativus*), and yellow star thistle (*Centaurea solstitialis*). A few planted landscape trees and shrubs remain around the vacant Clubhouse Building in the southern portion of the site. Scattered shrubs of native coyote brush (*Baccharis pilularis*) occur in less disturbed areas of the grassland and on the margins of the Refugio Creek corridor.

(2) Refugio Creek and North Channel. As illustrated on Figure 6.1, Refugio Creek on the ITC site is a tidally influenced perennial stream that flows directly into San Pablo Bay. The creek is no longer a natural drainage channel, having been originally straightened, deepened and channeled by the Hercules Powder Company in the early 1900s, and most recently altered in the early 2000s as part of upstream development activity.

As illustrated on Figure 6.4, vegetation along the creek channel within the ITC site consists of a mosaic of coastal brackish marsh, freshwater marsh, and non-native grassland. Given the tidal influence at this downstream end, the channel segment is characterized by salt-tolerant plants, such as pickleweed (*Sarcocornia pacifica*) and saltgrass (*Distichlis spicata*), forming stands of brackish marsh. As illustrated on Figure 6.4, the upper portion of this adjacent channel segment is characterized by less salt-tolerant plants, such as cattails (*Typha* spp.) and common tule (*Schoenoplectus acutus*). Some seasonal wetland features also occur on the level terraces that border the incised, active creek channel.

As also illustrated on Figure 6.4, vegetation along the North Channel segment within the ITC site is dominated by a mixture of native brackish marsh, willow (*Salix lasiolepis*) scrub, and freshwater marsh species. Pickleweed forms the dominant groundcover along the lower portion of this North Channel segment, indicating relatively high salinity levels. Willows dominate the eastern portion of this North Channel segment, most likely supported by irrigation runoff that feeds the channel. Willows are largely absent along the western portion of this North Channel segment where the proposed extension of John Muir Parkway would cross the channel (see Figures 6.4 and 3.6). Vegetative cover along the margins of this North Channel segment are dominated by ruderal non-native grassland.

Brackish marsh and freshwater marsh habitats along the adjacent edges of Refugio Creek and the North Channel occupy approximately 0.68 and 0.55 acres of land area, respectively.

(3) Seasonal Wetlands. As illustrated on Figure 6.4, several patches of non-tidal freshwater seasonal wetlands areas occur in shallow depressions along terraces within the adjacent Refugio Creek corridor and along the adjacent segment of the North Channel. Some of the depressions are the result of human activities. In shallower depressions, vegetation is dominated by bristly ox-tongue (*Pichris echiodes*), Italian ryegrass, and curly dock (*Rumex crispus*). Deeper depressions, often bounded by soil deposit berms, support more hydrophytic species, such as rabbitsfoot grass (*Polypogon monspeliensis*) and rough cocklebur (*Xanthium strumarium*). Such seasonal wetland habitat occupies approximately 0.09 acres of the adjacent Refugio Creek and North Channel corridors, and approximately 0.03 acres of the adjacent railroad right-of-way.

(4) Unvegetated Ponded Depressions. As also illustrated on Figure 6.1, several seasonally ponded depressions, or intermittent "puddles," occur within the adjacent railroad right-of-way. The intermittent puddles are generally devoid of vascular vegetation and occur within depressions in compacted dirt and gravel. The puddles can reach a maximum depth of six inches in the winter, with most not exceeding three inches in depth. None of the unvegetated

ponded depressions occur within the anticipated limits of grading associated with proposed Hercules Bayfront Project improvements. Most of these features would be eliminated during implementation of the proposed adjacent ITC project improvements along the railroad right-of-way.

(5) Wildlife. Past disturbance has substantially reduced project site wildlife habitat value, but the Refugio Creek and North Channel corridors within the adjacent ITC site continue to provide important cover for aquatic and terrestrial species. Areas of dense marsh and willow along these two adjacent channel segments provide suitable roosting, foraging, and possibly nesting substrate for numerous species of birds. Species typically associated with these two adjacent riparian corridors and adjacent uplands include: red-wing blackbird, sparrows and other songbirds, as well as egrets and herons, aquatic garter snake, Pacific chorus frog, western toad, raccoon, striped skunk, and black-tailed deer. Wading birds and waterfowl could also forage in the scattered on-site seasonal wetlands and depressions when they hold water. Small mammals and reptiles common in grassland and ruderal habitats may occur in project site areas of denser grassland cover and along the adjacent drainage channels, such as California vole, black-tailed jackrabbit, pocket gopher, fence lizard, and gopher snake. Introduced species, such as red fox and wild turkey, have also been observed in the project site vicinity. A number of raptors may forage in the remaining grasslands and marshlands on the site and surrounding area, including northern harrier, white-tailed kite, American kestrel, and red-tailed hawk. However, no onsite evidence of any large nests typical of raptors was observed during field reconnaissance surveys of the site or past studies of the area.

The two vacant buildings on the project site could provide suitable nesting and roosting habitat for barn owls and other birds, Norway rat and house mouse, and possibly one or more species of bats. An inspection of both buildings by the EIR consulting biologist revealed limited signs of bat use but no evidence of any major colonial roosting activity.

The onsite and adjacent seasonal wetlands and depressions provide habitat for aquatic invertebrates, such as versatile fairy shrimp *(Branchinecta lindahli)*, daphnia, seed shrimp, water boatmen, midge larvae, and mosquito larvae. Birds and other wildlife may also utilize these seasonal wetland areas for foraging when water is present, but these features provide only limited habitat for vertebrates. As indicated in Table 6.1 and further described below, these seasonally wet areas contain only marginally suitable habitat characteristics for listed special status invertebrates, such as vernal pool fairy shrimp (*Branchinecta lynchi*). This federally listed special status species was not detected on the site or vicinity during past surveys in 2003, 2004, and 2007. Supplemental detailed surveys are currently being conducted to confirm the absence of this special status species, as discussed below under "Special-Status Species."

(b) Special-Status Species. Review of the California Natural Diversity Data Base (CNDDB) records of the CDFG indicates that a number of special-status species have been reported within the project vicinity--i.e., the northwest area of Contra Costa County and west Hercules.

Table 6.1 lists the special-status plant and animal species considered to have the greatest potential for occurrence in the west Hercules vicinity; the table also identifies the species, status, typical habitat characteristics, and likelihood of occurrence on the project site. These consist of 12 special-status plant species and 30 special-status animal species. As indicated in

Table 6.1
SPECIAL-STATUS SPECIES KNOWN OR WITH POTENTIAL TO OCCUR IN THE WEST HERCULES VICINITY

Special-Status Plant Species

Species	Status*	Typical Habitat/Site Suitability
Suisun marsh aster *Aster lentus*	List 1B	Brackish and freshwater marshes. ***Limited potential habitat exists on-site.***
Mt. Diablo fairy-lantern *Calochortus pulchellus*	List 1B	Chaparral, woodland, and riparian habitats. ***Suitable habitat absent on-site.***
Soft bird's-beak *Cordylanthus mollis ssp. mollis*	FE, CR, List 1B	Coastal salt marsh. ***Limited potential habitat exists on-site.***
Western leatherwood *Dirca occidentalis*	List 1B	Chaparral, woodland, forest, and riparian habitats. ***No potential habitat exists on-site.***
Fragrant fritillary *Fritillaria liliacea*	List 1B	Coastal scrub, valley and foothill grassland, coastal prairie, often on serpentine or clay. ***Limited habitat exists on-site.***
Diablo helianthella *Helianthella castanea*	List 1B	Valley and foothill grassland, chaparral, woodland, riparian, and coastal scrub habitats. ***Suitable habitat absent on-site.***
Congdon's tarplant *Centromadia parryi ssp. congdonii*	List 1B	Alkaline valley and foothill grassland. ***Very limited habitat exists on-site.***
Santa Cruz tarplant *Holocarpha macradenia*	FT, CE, List 1B	Coastal prairie, coastal scrub, valley and foothill grassland, often on clay or sandy soil. ***Very limited habitat exists on-site.***
Contra Costa goldfields *Lasthenia conjugens*	FE, List 1B	Alkaline vernal pools, valley and foothill grasslands, wet areas. ***Very limited habitat exists on-site.***
Delta tule pea *Lathyrus jepsonii var. jepsonii*	List 1B	Freshwater and brackish marshes. ***Very limited habitat exists on-site.***
Mason's lilaeopsis *Lilaeopsis masonii*	CR, List 1B	Brackish or freshwater marshes, riparian scrub. ***Very limited habitat exists on-site.***
Rayless ragwort *Senecio aphanactis*	List 2	Chaparral, woodland, and coastal scrub habitats, usually on alkaline soils. ***Very limited habitat exists on-site.***

SOURCE: Environmental Collaborative, March 2008.

***Key to status codes:**

PT	Proposed Federal Threatened
FE	Federal Endangered
CE	State Endangered
CR	State Rare
List 1B	CNPS list of plants rare, threatened, or endangered in California and elsewhere
List 2	CNPS list of plants needing more information

Special-Status Animal Species

Species	Status**	Likelihood of Occurrence/Typical Habitat
Mammals		
Suisun shrew *Sorex ornatus sinuosus*	CSC	**Unlikely.** No documented records of occurrence in northwestern Contra Costa County.
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	CSC	**Unlikely.** Documented to occur in marsh at mouth of San Pablo Creek south of Point Pinole. Small areas of tidal marsh on site provide only marginal habitat which are not likely to be colonized.
San Pablo vole *Microtus californicus sanpabloensis*	CSC	**Unlikely.** Only documented occurrences are located south of Point Pinole, and suitable grassland habitat is largely absent on site.
Salt marsh harvest mouse *Reithrodontomys raviventris*	FE, SE	**Unlikely.** Small area of tidal marsh provides insufficient cover for a sustainable population, and colonization from known occurrences across San Pablo Bay and at Point Pinole is unlikely.
Pallid bat *Antrozous pallidus*	CCS	**Unlikely.** Roosts in tree cavities, crevices, and unused structures. Possible use of existing structures for roosting.
Townsend's western big-eared bat *Corynorhinus townsendii*	CCS	**Unlikely.** Roosts in caves, mines, and unused buildings. Possible use of existing structures for roosting.
Yuma myotis *Myotis yumanensis*	CSC	**Unlikely.** Roosts in caves, mines, and unused buildings. Possible use of existing structures for roosting.
Birds		
Cooper's hawk *Accipiter cooperi*	CSC	**Unlikely.** Suitable breeding habitat (dense oaks, riparian, other woodland) is absent on site.
Sharp-shinned hawk *Accipiter striatus*	CSC	**Unlikely.** Suitable breeding habitat (conifer woodlands) is absent on site.
Golden eagle *Aquila chrysaetos*	CSC	**Unlikely.** Site does not contain suitable nesting locations, and extent of surrounding development limits the likelihood that it would even be infrequently used as foraging habitat.
Northern harrier *Circus cyaneus*	CSC	**Possible.** Limited foraging habitat available in remaining grasslands. Mostly found in flat, open areas of tall, dense grasses, moist or dry shrubs, and edges for nesting, cover, and feeding.
White-tailed kite *Elanus leucurus*	CFP	**Possible.** Limited foraging habitat available in remaining grasslands. Potential breeding habitat present in willow scrub along North Channel, although no evidence of nesting activity was observed.
Osprey *Pandion haliaetus*	CSC	**Unlikely.** Suitable nesting habitat absent. Has been documented as occurring at Mare Island.
American peregrine falcon *Falco peregrinus anatum*	FE, SE	**Unlikely.** Suitable nesting habitat absent, but may occasionally forage in site vicinity in winter or during migration.

California black rail *Laterallus jamaicensis coturniculus*	ST, FSC	**Unlikely.** No documented occurrences between Point Pinole and Carquinez Strait. Tidal marsh on site is probably too small to support a breeding pair of this species, though occasional foraging activity by dispersing individuals is possible.
California clapper rail *Rallus longirostris obsoletus*	FE, SE	**Unlikely.** No documented occurrences between Point Pinole and Carquinez Strait. Tidal marsh on site is probably too small to support a breeding pair of this species, though occasional foraging activity by dispersing individuals is possible.
Long-billed curlew *Numenius americanus*	CSC	**Possible.** Nesting habitat generally absent on site, but may roost during high tides along shoreline.
Burrowing owl *Athene cunicularia*	CSC	**Unlikely.** Generally occurs in open grasslands and fields with ground squirrel burrows or other retreat areas, which are absent on the site.
Loggerhead shrike *Lanius ludovicianus*	CSC	**Possible.** Remaining grasslands provide marginal foraging habitat for this species, which could nest in the scattered shrubs and willow scrub along the North Channel.
Tricolored blackbird *Agelaius tricolor*	CSC	**Unlikely.** Generally winters in open habitats such as pastures and fields. Breeds in colonies in emergent wetland or clumps of blackberry, which are absent on the site.
Yellow warbler *Dendroica petechia brewsteri*	CSC	**Unlikely.** No documented records of this species nesting in northwestern Contra Costa County, though willow scrub along North Channel provides marginal foraging habitat.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	CSC	**Possible.** Scattered emergent vegetation along creek channel could be used for nesting, though large areas of suitable nesting habitat is absent on site.
Yellow-breasted chat *Icteria virens*	CSC	**Unlikely.** No documented records of this species nesting in northwestern Contra Costa County.
San Pablo song sparrow *Melospiza melodia samuelis*	CSC	**Possible.** Potential habitat occurs in limited marsh along lower reach of Refugio Creek.
Reptiles and Amphibians		
Western pond turtle *Clemmys marmorata*	CSC	**Unlikely.** Brackish condition of Refugio Creek channel and absence of retreat pools along North Channel limits likelihood of occurrence on site.
Alameda whipsnake *Masticophis lateralis euryxanthus*	FT, ST	**Unlikely.** Suitable habitat composed of a mosaic of grassland/oak woodland/scrub is absent on site.
California red-legged frog *Rana aurora draytonii*	FT, CSC	**Unlikely.** Brackish condition of Refugio Creek channel and absence of retreat pools along North Channel limits likelihood of occurrence on site. Has been reported from the upper watersheds of Rodeo and Refugio Creeks, but none were observed during surveys conducted nearby at Hercules Village site by WRA in May 1999. A 2010 survey conducted by the City's ITC project EIR/EIS consultant, HDR, Inc., indicated that no individuals and no breeding habitat

		for the species were present in the project study area, but nevertheless determined that it is possible that the species could disperse into or through the project area from nearby populations.
Fish		
Steelhead-Central California Coast ESU	FT	**Unlikely.** Refugio Creek probably has unsuitably high temperatures for juveniles and no spawning habitat, but individuals may occasionally disperse along the lower reach of Refugio Creek.
Invertebrates		
Vernal Pool Fairy Shrimp *Branchinecta lynchi*	FT	**Unlikely.** Marginal suitable habitat in seasonal pools and depressions, but no evidence of presence detected.
Monarch *Danaus plexippus*	wintering sites monitored by CDFG	**Unlikely.** Suitable eucalyptus roosting habitat is absent on site.

SOURCE: Environmental Collaborative, March 2010; Wagstaff/MIG, September 2010.

** **Key to status codes:**

CSC	CDFG Species of Special Concern
CFP	CDFG Fully Protected Animal
SE	State Endangered
ST	State Threatened
FC	Federal Candidate for listing
FE	Federal Endangered
FT	Federal Threatened

the table, due to the extent of past disturbance and negative results of systematic surveys conducted in the past,[1] no special-status plant species are believed to occur on or adjacent to the project site.

Similarly, suitable habitat for most special-status animal species is either absent from the site and vicinity or is limited to potential foraging and possible dispersal habitat for several bird, fish, and amphibian species. A number of special-status bird species may occasionally forage or disperse along the adjacent lower reaches of Refugio Creek, including: San Pablo song sparrow (*Melospiza melodia samuelis),* California clapper rail (*Rallus longirostris obsoletus*), California black rail (*Laterallus jamaicensis coturniculus*), and salt marsh common yellowthroat (*Geothlypis trichas sinuosa*). With the exception of San Pablo song sparrow, which was detected along the bay side of the railroad right-of-way, none of the listed bird species has been detected on the project site or in the immediate site vicinity in past protocol surveys for special-status bird species.[2]

More common bird species such as northern harrier (*Circus cyaneus*), white-tailed kite (*Elanus leucurus*), and loggerhead shrike (*Lanius ludovicianus*) may forage in the adjacent open marsh areas and remaining uplands, although no evidence of on-site or adjacent nesting by these species was observed during the EIR field reconnaissance surveys or during past surveys of the site.

Brackish water conditions generally preclude the possible occurrence of California red-legged frog (*Rana draytonii*) along Refugio Creek, and the riparian scrub along the North Channel provides only marginal dispersal habitat for this species, which was not detected during protocol surveys conducted in the past.[3] The small area of pickleweed cover along the Refugio Creek corridor and bay shoreline to the west also limits the likelihood that salt marsh harvest mouse (*Reithrodontomys raviventris)* and other small mammals of concern occur in the project vicinity.

A bat hibernation roost survey was recently conducted at the two vacant buildings in the southwest portion of the site--the former Hercules Powder Company Clubhouse and the former Hercules Powder Company Administration Building. The survey was conducted for the EIR preparers on June 15, 2010 by WRA Environmental Consultants.[4] Based on the survey, the Clubhouse and Administration Buildings have been determined not to support maternity roosting or hibernating bats. Nevertheless, as indicated in Table 6.1, several special-status bat species have a remote potential to occur in the two vacant buildings on the project site. All three of these species are known to use abandoned buildings for seasonal and maternal roosts.

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[1]Wetland Research Associates, Inc., 1999a, *ibid.*

[2]Hildie Spautz, Wetland Wildlife Associates, 2007, *ibid.*

[3]Wetland Research Associates, Inc., 1999, *ibid.*

[4]WRA Environmental Consultants, Hercules Bayfront, LLC, Bat Roost Technical Report II, Hercules Bayfront Project, prepared for Wagstaff/MIG; June 15, 2010.

Onsite and adjacent seasonal wetlands and ponded depressions were surveyed for vernal pool branchiopods in 2003 and 2004,[1] and in 2007,[2] given the marginal habitat these onsite features provide, particularly for the federally listed vernal pool fairy shrimp. No federally listed vernal pool branchiopods have been found during any of the past surveys. Supplemental surveys are currently being conducted by HDR, Inc. during the 2009/2010 wet season to confirm the presence or absence of any listed branchiopods on the site, adjacent creek corridor, and adjacent railroad right-of-way; to date, none have been found during this latest season of surveys.

(c) Sensitive Natural Communities. Vegetation communities (habitats) are generally considered "sensitive" if: (a) they are considered rare within the region by jurisdictional agencies including the USFWS, CDFG, and other agencies; (b) they are known to support sensitive animal or plant species; and/or (c) they are known to serve as important wildlife corridors. The adjacent shared facilities sites contain one commonly-defined sensitive natural community, Coastal Brackish Marsh. Coastal Brackish Marsh covers the banks of Refugio Creek.

Coastal Brackish Marsh is brackish from freshwater input, and is usually found at the interior edges of coastal bays and estuaries or in coastal lagoons. It is typically dominated by pickleweed, saltgrass, alkali heath, and creeping wildrye, and is primarily represented by pickleweed brackish marsh on the adjacent banks of Refugio Creek. Coastal Brackish Marsh is considered a sensitive natural community because it provides foraging, cover, nesting, and roosting habitat for a variety of birds, mammals, reptiles, and amphibians. Some species are year around residents to this habitat and others are winter visitors that rely on these habitats for cover and foraging. In addition, a number of species from adjacent uplands may visit the wetlands to feed.

The willow scrub along the North Channel, is also recognized as a sensitive adjacent natural community type.

Figures 6.1 through 6.5 show the extent of these natural community types in the project site vicinity.

(d) Potential Jurisdictional Waters. The extent of jurisdictional waters on the Hercules Bayfront Project site and adjacent ITC project site have been mapped as part of a delineation by Vollmar Consulting in 2007 and an updated draft delineation conducted in 2010 by HDR, Inc.[3] The delineation by Vollmar Consulting was verified by the USACE in 2008,[4] with the delineation study area generally encompassing the western one-third of the Refugio Creek corridor, some of the northwestern portion of the Hercules Bayfront Project site, and frontage along the railroad right-of-way. The 2010 delineation by HDR, Inc. has not yet been verified by the USACE, but appears to provide an accurate depiction of the extent of potential jurisdictional wetlands and waters on the site, based on the peer review conducted by the EIR consulting biologist. Figures 6.1 through 6.5 show the areas encompassing both the verified and draft updated wetland

[1]Condor Country Consulting, 2004, *ibid.*

[2]Vollmar Consulting, 2007, *ibid.*

[3]HDR Engineering, Inc., 2010, *ibid.*

[4]U.S. Army Corps of Engineers, 2008, *ibid.*

delineations for the project site and vicinity, together with the mapped extent of known and potential jurisdictional waters.

As indicated on Figures 6.1 through 6.5, jurisdictional waters in the project site vicinity are limited to the "other waters" of the adjacent segments of Refugio Creek and the North Channel, which are generally devoid of wetland vegetation, and the scattered areas of brackish marsh, freshwater marsh, and seasonal wetlands along these drainage features. Seasonal wetland and unvegetated depressions were also mapped by Vollmar Consulting in the heavily disturbed area along the north side of Refugio Creek and along the railroad right-of-way. Collectively, the area of jurisdictional waters occurring on the project site and adjacent areas that could potentially be affected by the proposed project improvements totals approximately 1.85 acres. Table 6.2 provides a summary of these identified on-site and adjacent jurisdictional features, consisting of approximately 0.5 acres of largely unvegetated other waters along the two drainages, 0.68 acres of brackish marsh, 0.55 acres of cattail-dominated marsh, and 0.12 acres of seasonal wetland and unvegetated depressions.

6.2 PERTINENT PLANS AND POLICIES

6.2.1 City of Hercules General Plan

In addition to the previously-described jurisdictional protections provided by federal and State regulations, such as the federal and State ESAs and the State CWA, the local policies and ordinances of the City of Hercules also recognize the importance to the community of preserving sensitive biological and wetland resources. These include the relevant objectives, policies, and programs in the *Open Space/Conservation Element* of the Hercules General Plan listed below. In addition, one program from the General Plan *Land Use Element* provides specific setback recommendations from lower Refugio Creek relevant to the project site. Where any aspect of the proposed project is found in this EIR to be potentially inconsistent with one or more of these City objectives, policies, or programs, a potentially significant environmental impact and one or more associated mitigations is identified for incorporation into the project to reduce the impact and better implement the General Plan. Otherwise, the proposed project is considered consistent with the City objectives, policies, and programs listed below.

Land Use Element

- *Require a minimum 50-foot setback between development and the "top of bank" of the lower Refugio Creek and Rodeo Creek corridors, except that the setback may be reduced for the west branch of Refugio Creek if the 50-foot setback proves infeasible. This buffer will be included as part of any enhancements required by regulatory agencies or proposed by the developer. Riparian areas which are culverted or underground will be excluded from the buffer requirement.* (Program 14A.4)

Open Space/Conservation Element

- *Preserve seasonal freshwater wetlands.* (Objective 2)

Table 6.2
KNOWN AND POTENTIAL JURISDICTIONAL WETLANDS AND OTHER WATERS LOCATED ON SITE AND ADJACENT RAILROAD RIGHT-OF-WAY

Feature	USACE Jurisdictional Area (Acres/Square Feet)[1]
Wetland Features	
Pickleweed Brackish Marsh[2]	0.68/29,833
Cattail Marsh[2]	0.55/23,919
Seasonal Wetland	0.12/5,192
Wetland Features Subtotal	1.35/58,944
Other Waters	
Brackish Stream (Refugio Creek/North Channel)	0.44/19,406
Freshwater Intermittent Drainage	0.06/2,603
Other Waters Subtotal	0.5/22,009
Total Acreage of Known and Potential Jurisdictional Wetlands and Other Waters	1.85/80,953

SOURCE: HDR Engineering, Inc., 2010.

[1] *Acreage calculations were rounded to the nearest hundredth of an acre.*
[2] *Willow scrub riparian areas are not identified as a separate wetland type because the footprint of this habitat type is encompassed by mapped areas of brackish marsh and cattail marsh.*

- *The City shall require project proponents to design construction footprints to avoid any wetlands and buffer zones around the wetlands. If avoidance is not possible projects shall be redesigned so as to impact the least amount of wetlands. Any areas that are classified as wetlands and will be affected by project development shall be recreated either on or off site in accordance with CDFG and COE* [Corps of Engineers]. (Policy 2a)

- *Prior to construction in areas of wetlands, the City shall support CDFG and Corps permitting process. A project sponsor shall be required to obtain a Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit prior to any development within any wetland.* (Program 2a. I)

- *If flood control improvements are required along Refugio Creek, the City shall work with the Corps to create the flood control area wide enough to provide for establishment within the flood control area of native vegetation to provide for wildlife habitat. The City shall allow a transition area between proposed land uses and this natural community, as described in Program 13B of the proposed Land Use Element.* (Program 2a.2)

- *Protect the Refugio Creek riparian corridor from encroaching development.* (Objective 3)

- *Design of building footprints along any riparian corridors shall be outside the CDFG- and/or COE-pre-approved buffer zone. Sensitive riparian habitats shall be marked by a qualified biologist to deter any destruction by equipment during construction.* (Policy 3a)

- *Prior to construction in areas of riparian corridors or wetlands, the City shall support the CDFG and Corps permitting process. A Streambed Alteration Agreement from CDFG and/or a Section 404 Corps permit shall be obtained by the project applicant prior to any development within any creek or discharge of fill into any creek.* (Program 3a.1)

- *Development along any riparian corridor shall incorporate measures to avoid impacts during construction, including: i) Construction of any access bridge shall be limited to the bridge footprint area only; ii) Parking of large equipment shall be on the upland grassland area or on the paved street. Construction workers cars shall have designated parking areas; and iii) Basins for oil leaks from the equipment shall be installed if equipment is parked on-site over night.* (Program 3a.2)

- *Protect riparian and wetland communities from degradation through introduction of urban pollutants in stormwater runoff.* (Objective 4)

- *The City shall require project proponents to design facilities to prevent degradation of riparian and wetland communities from urban pollutants in storm runoff.* (Policy 4a)

- *To minimize pollution downstream from sedimentation, the City shall require installation of sedimentation and grease basins in the storm drain system in parking lots in accordance with NPDES regulations and shall require that property owners maintain the basins annually, or as required by NPDES regulations. Parking lots shall be swept periodically to decrease the amount of debris that could potentially contaminate the riparian or wetland habitat.* (Program 4a.1)

- *Preserve salt marsh zones along San Pablo Bay.* (Objective 5)

- *The City shall review development proposals for consistency with minimizing impacts to salt marsh zones. Buildings shall be located on existing developed or graded areas, where practicable.* (Policy 5a)

- *The City shall work with CDFG, BCDC, East Bay Regional Park District, and the Corps to determine appropriate buffer zones along the Bay to protect tidal habitat when designing a bay access trail linkage between Pinole and Rodeo. Public access and pedestrian pathways shall be limited within the buffer zone, and when possible, located along the edges of the buffer zone. Bicycles shall be encouraged to stay on bike paths through the use of signage and fencing.* (Program 5a.1)

- *The City shall require developers to provide signage and fencing to enforce leash laws around remaining areas of sensitive habitats such as salt marsh wetlands and mud flats as conditions of approval.* (Program 5a.2)

- *Protect native plant communities and habitats for special-status plant and animal species.* (Objective 6)

- *The City shall continue to utilize environmental review under CEQA to review development projects that are not exempt from the California Environmental Quality Act for impacts on sensitive species and their habitat.* (Policy 6a)

- *The City shall require that development within the General Plan area incorporate features to preserve habitat for sensitive species.* (Policy 6b)

- *Areas that could provide habitat for sensitive species shall be surveyed by qualified biologists provided by project sponsors prior to project design. Surveys in sensitive areas shall be conducted prior to any development. Sensitive areas within the study area includes eucalyptus groves, freshwater wetlands and adjacent trees, open grasslands, ponds and creeks, and buildings which are abandoned or slated for destruction. If any species is present, coordination with the CDFG will be required for mitigation of impacts and redesigning of the project footprint to avoid any sensitive species or sensitive habitat. If avoidance is unavailable, coordination with the CDFG will be required for relocation of these species and for determining replacement of habitat.* (Program 6b.1)

- *As much open space as possible within sites proposed for development shall be retained as informal open space for wildlife habitat, rather than as formal, landscaped parks or grounds. The City shall require that native plants from the local area be used in landscaping, and in areas with a lower water table, native drought tolerant species shall be used in landscaping.* (Policy 6c)

- *Development, subdivision and planned development plan applications shall be reviewed and conditioned to implement the following: i) Wildlife areas shall be revegetated with native or non-native grassland and native species of shrubs requiring no irrigation and little management beyond the first year after planting; ii) Wildlife habitat shall be consolidated into "preserves" that are as large as possible; iii) Habitats on adjoining parcels shall be as contiguous as possible, to create wildlife corridors; iv) Wildlife open space shall be placed adjacent to other wildlife habitat, to preserve the greatest ecological value; v) Public access to wildlife habitat shall be minimized by placing trails close to buildings so as to provide the largest area of habitat possible with the least amount of impact from the public; vi) Open space areas shall be designed into the footprint of proposed projects and shall be located adjacent to existing open space areas, providing a larger continuous area for wildlife to use; vii) Open space areas, if disturbed during construction, shall be landscaped with native species; viii) Trails, if any, shall be placed close to buildings so as not to disturb wildlife nesting/denning areas.* (Program 6c.1)

6.2.2 City of Hercules Waterfront District Master Plan

Relevant to the proposed project, the WDMP includes a Civic Space Regulating Plan that identifies Refugio Creek and the North Channel as a Natural Preserve/Hillside/ Riparian Area (sees subsection 3.4.5 and accompanying Figure 3.7 in chapter 3, Project Description, of this EIR).

6.2.3 Hercules Tree Removal Ordinance

The City's "tree ordinance," i.e., the adopted City ordinance regarding "Removal of Mature Trees" (Ordinance No. 1331), serves to prohibit the removal of trees on undeveloped land except when permitted as part of a development application, as summarized below. The

ordinance was adopted to prevent the uncontrolled removal or destruction of mature trees on undeveloped or partially developed land in the City. Trees with trunk diameters of 12 inches or greater are protected under the provisions of the ordinance, which prohibits their removal except as allowed under emergency situations or approved as part of a development project. A tree replacement plan is required under the ordinance as a condition of approval when tree removal is unavoidable.

6.3 IMPACTS AND MITIGATION MEASURES

6.3.1 Significance Criteria

Based on the CEQA Guidelines,[1] the proposed project would have a significant environmental impact on biological resources if it would:

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

(b) have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game 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; or

(g) have the potential to substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community or reduce the number or restrict the range of a rare or endangered plant or animal.

6.3.2 Relevant Project Characteristics

The proposed Hercules Bayfront Project involves construction and development of the project site with a mixture of residential, commercial, and open space uses, as described in chapter 3 (Project Description) of this EIR. Development of the site would involve installation of temporary

[1] CEQA Guidelines, Appendix G, Items IV(a-f).

construction fencing and erosion control Best Management Practices (BMPs) to protect the adjacent Refugio Creek and North Channel corridors. Vegetation in onsite areas to be developed would be grubbed and removed, followed by final grading, infrastructure installation, and building construction. Scattered seasonal wetland features and wetland depressions within the project onsite development area would be eliminated, as would the existing ruderal grassland habitat occupying portions of the proposed development footprint.

Hercules Bayfront Project construction activities adjacent to Refugio Creek and the North Channel are proposed to be isolated as necessary to protect the active channels and minimize disturbance to adjacent habitat; however, the adjacent Refugio Creek and North Channel corridors would be modified as part of the comprehensive channel realignment and restoration program under the ITC project (see section 6.3.3 below).

6.3.3 Relevant Off-Site Drainage Proposals

(a) ITC Project Drainage Modifications. Refugio Creek would collect runoff from the proposed Hercules Bayfront Project. The proposed adjacent ITC project includes realignment and restoration of Refugio Creek from San Pablo Bay upstream approximately 1,000 feet to the existing restored segment of the creek. The realignment would require construction of a new, higher capacity outlet to San Pablo Bay. The rerouting of the terminus of Refugio Creek would also require construction of a new channel undercrossing of the new UPRR bridge right-of-way, as part of the ITC project. The existing Refugio Creek and culverts near the existing rail bridge would be filled. The new railroad bridge would be supported by a concrete pile. Bridge abutments would be constructed outside of the creekbed and banks. New riprap slope protection would be installed to protect the bridge abutments through the UPRR prism.

The channel area realignment component of the ITC project would include construction of the new Transit Loop Bridge and Bayfront Bridge. The creek upstream of the two new bridges would be improved by cutting back the existing slopes and constructing a new creek embankment to the west. The existing creek culverts and bends near the existing rail bridge would be eliminated, the creek straightened, and the new higher capacity outlet to San Pablo Bay constructed.

A new meandering low-flow channel of Refugio Creek and enlarged marsh would be incorporated as part of the creek channel realignment, restoration and enhancement program in order to improve hydraulic and ecological function. The enlarged marsh would increase the floodplain width to a maximum of approximately 200 feet upstream of the proposed Bayfront Bridge. These ITC project channel restoration and flood control improvement components would connect with the portion of Refugio Creek upstream of the Waterfront District that was similarly restored in December 2000.

The revegetation components of the proposed ITC project creek channel realignment and restoration component are expected to include creation of enhanced wetland and upland habitat values along both the Refugio Creek and the North Channel. The existing and planned expanded terrace areas that will border the active channels will provide opportunities to increase the extent of jurisdictional wetlands on the site and mitigate any loss of jurisdictional waters associated with both the ITC project (including the channel realignment component) and the Hercules Bayfront Project. The ITC project is expected to include a proposed approach to the wetland creation and enhancement activities, identifying acreage estimates for newly

created wetlands and providing a framework for the maintenance and monitoring that will be required as part of associated jurisdictional agency approvals.

Also as part of the proposed ITC project, the North Channel of Refugio Creek would be improved to incorporate an earthen-bottom drainage culvert under John Muir Parkway and a bio-retention storm water treatment system designed to comply with City requirements (see section 11.2, Pertinent Plans and Policies, of EIR chapter 11, Hydrology and Water Quality). The improved system would receive storm water runoff from the Bayfront Boulevard-John Muir Parkway Extension component of the ITC project and Blocks K through R of the Hercules Bayfront Project.

(b) Hercules Bayfront Project Interim Drainage Concept. As explained in section 3.6, the assumption in this EIR is that the ITC project will be constructed prior to the Hercules Bayfront Project. If, however, the Hercules Bayfront Project is constructed in advance of the ITC project, interim creek restoration and enhancement modifications would be completed by the Hercules Bayfront Project. As noted in section 3.5.6 (Proposed Project Storm Drainage Components) of this Draft EIR, the Hercules Bayfront Project includes a proposed interim creek restoration and enhancement concept for implementation in the event that the Hercules Bayfront Project is constructed prior to the ITC project. The proposed interim creek realignment and restoration grading concept extends from the existing restored creek segment terminus south of the North Channel to a proposed tie-in to the existing channel at a point approximately 90 feet south of the proposed new Bayfront Bridge. The plan is intended to provide interim flood control and wetland enhancement sufficient to serve the mitigation needs of Hercules Bayfront Project buildout without realignment of the two downstream 90 degree "dog legs" and without the replacement of the three existing 72-inch culverts. The adequacy of this interim plan concept is addressed in chapter 11, Hydrology and Water Quality, of this Draft EIR.

6.3.4 Impacts and Mitigation Measures

Under CEQA, all phases of a project must be considered when evaluating its impacts on the environment, including principal supporting infrastructure (CEQA Guidelines sections 15124 and 15126). The proposed Refugio Creek and North Channel realignment, restoration and enhancement program, John Muir Parkway/Bayfront Boulevard extension, Transit Loop Drive and associated Bayfront Bridge and Transit Loop Bridge, are assumed to be constructed as part of the leading ITC project. The ITC project is currently expected to be constructed in advance of the Hercules Bayfront Project. The environmental implications of these facilities are being addressed in the ITC Project EIR/EIS.

If the Hercules Bayfront Project is ultimately constructed in advance of the ITC project, these shared facilities (excluding the Transit Loop Drive/Bridge, which is not a shared facility) would be implemented by the Hercules Bayfront Project. The following impact and mitigation discussion has been formulated to provide the necessary CEQA compliance documentation for either scenario.

Impact 6-1: Potential Project Impacts on Special-Status Bird Species. Construction of the project and shared facilities necessary to support the project could result in disturbance of nesting birds and/or destruction of bird nests associated with adjacent Refugio Creek marsh habitat, existing trees and shrubs along the North Channel and Refugio Creek margins, and ground habitat within the project site. Potentially affected species that are both federally- and state-listed include the California black rail and California clapper rail. Other potentially affected state-listed species include the northern harrier, white-tailed kite, long-billed curlew, burrowing owl, loggerhead shrike, saltmarsh common yellowthroat, and San Pablo song sparrow. Because such nesting birds are protected under the federal Migratory Bird Treaty Act and other state and federal regulations, this possible project effect represents a ***potentially significant impact*** (see criteria [a] and [g] in subsection 6.3.1, "Significance Criteria," above).

Project construction activities involving vegetation removal and disturbance in the vicinity of potential nesting habitat could result in inadvertent destruction of bird nests in active use, which would be a violation of the federal Migratory Bird Treaty Act and various sections of the Fish and Game Code, depending on the species involved. The Migratory Bird Treaty Act prohibits the taking, hunting, killing, selling, purchasing, etc., of migratory birds, parts of migratory birds, and their eggs and nests.

A protocol-level survey conducted within and adjacent to the project site in 2007 did not detect any California clapper rails at or adjacent to the project site (WWA 2007). However, there is a low potential that the project site may be colonized in any given year.

A 2007 protocol-level survey conducted within and adjacent to the project site also did not detect any black rails (WWA 2007); however, there is some chance that pickleweed tidal marsh or pickleweed brackish marsh in or adjacent to the project site may be occupied by California black rail in some years.

San Pablo song sparrow nests have been documented in and adjacent to the project site along Hercules Point. Several other migratory bird species were observed in the project site and could potentially begin nesting in the project site prior to construction.

Ultimately, the proposed creek enhancement work would serve to improve local habitat for San Pablo song sparrow and other marsh and riparian dependent species. In the interim, the possibility remains that raptors, loggerhead shrike, and other birds could establish nests in the limited areas of brush and willow trees along the adjacent North Channel and Refugio Creek margins adjacent to the North Channel, or that burrowing owl and northern harrier could establish nests in the grassland areas adjacent to or within the project site. If project construction activities were to occur during the active nesting season, grading and vegetation removal could result in the inadvertent destruction of active nests, or abandonment of a nest in active use due to the close proximity of equipment operation and other disturbance, which would also be considered a *potentially significant impact*.

Mitigation 6-1. Implement the following measures to address the potential inadvertent destruction of nesting birds on and near the project site as a result of project construction-related vegetation removal and disturbance:

(a) Nesting Birds Associated with Refugio Creek Marsh Habitat. To avoid the potential for disturbance of nesting birds associated with marsh habitat adjacent to the project site, schedule any construction activities in project Blocks I, J, K, and N that encroach within 300 feet of the brackish (cordgrass tidal) marsh along Refugio Creek to the period of August 1 through February 28/29.

If construction work cannot be scheduled during this period, a biologist meeting the qualifications criteria of the CDFG shall conduct CDFG-protocol pre-construction surveys for nesting birds along the Refugio Creek corridor. The surveys shall be conducted no more than 14 days prior to the start of work and shall focus on determining whether San Pablo song sparrow and possibly saltmarsh common yellowthroat are nesting in these areas. If these or other birds protected under the Migratory Bird Treaty Act are found nesting, then appropriate construction buffers shall be established to avoid disturbance of the nests until such time that the young have fledged. Nesting activities shall be monitored periodically by a qualified biologist to determine when construction activities in the buffer area can resume.

The size of the nest buffer shall be determined by the biologist in consultation with CDFG, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance. Typically, these buffers range from 150 to 250 feet from the nest location.

(b) Nesting Birds Associated with Trees and Shrubs Along the North Channel. Project-related brush removal and construction activity in Blocks N, Q and R in the vicinity of trees along the adjacent North Channel or margins of Refugio Creek adjacent to the North Channel shall take place during the period of August 1 through February 28/29 to the maximum extent possible to avoid possible disturbance to tree and shrub-nesting birds. If brush removal and construction in the vicinity of the North Channel cannot take place outside of this timeframe, a biologist meeting CDFG qualifications criteria shall conduct pre-construction surveys for nesting birds no more than 14 days prior to the start of work. If active nests of raptors or other birds protected under the Migratory Bird Treaty Act are located in trees or brush to be removed, then appropriate construction buffers shall be established to avoid disturbance of the nests until such time that the young have fledged and the nest is no longer active, as determined by a qualified biologist. The size of the buffer shall be determined by the biologist in consultation with CDFG, and shall be based on the nesting species, its sensitivity to disturbance, and expected types of disturbance.

(continued)

Mitigation 6-1 (continued):

(c) Nesting Birds Associated with Ground Habitat in the Remainder of the Project Site. Grassland removal and general grading over the remainder of the project site shall also preferably take place during the period of August 1 through February 28/29 to minimize the potential inadvertent loss of ground nesting burrowing owls and northern harriers. If grassland removal and general grading cannot take place outside of this timeframe, a biologist meeting CDFG qualifications criteria shall conduct pre-construction surveys in the proposed grassland removal or general grading area to confirm that there are no burrowing owls or northern harriers nesting in suitable habitat. The surveys shall be conducted no more than 14 days prior to the start of ground disturbing activities in these areas. If active nests of either species are discovered in the proposed area of disturbance or within 300 feet of the area, the biologist shall consult with CDFG to determine the appropriate construction buffer. Once the biologist determines that the nests are no longer active, then construction activities can resume within the buffer area.

Implementation of these measures to the satisfaction of the CDFG would reduce this impact to a ***less-than-significant level.***

Impact 6-2: Potential Inadvertent Project Take of Special-Status Mammal Species. Marginal habitat for the salt marsh wandering shrew and San Pablo vole occurs within the tidal habitat along Refugio Creek. Although more suitable habitat for these state-listed special-status species is generally absent on or near the project site and shared facilities sites, there remains a remote possibility that they could be impacted by construction activities in or within 500 feet of Refugio Creek tidal marsh habitat. This possibility represents a ***potentially significant impact*** (see criteria [a] in subsection 6.3.1, "Significance Criteria," above].

Mitigation 6-2: Prior to any project or shared facility construction activity in or within 500 feet of Refugio Creek tidal marsh habitat, a biologist meeting the qualifications criteria of the CDFG (for state-listed CSC species) shall conduct a preconstruction survey for salt marsh wandering shrew and San Pablo vole. If either species is detected within this zone, CDFG shall be contacted regarding appropriate measures to relocate the individuals outside the zone or protect the occupied habitat. If no individuals are found during the preconstruction survey, onsite construction impact avoidance measures, such as installation of exclusion fencing, shall be installed around the perimeter of the subject tidal marsh to prevent species individuals from entering the construction area or being harmed by construction activities. The location and design specifications of the exclusionary fencing or alternative measure shall be submitted to the CDFG for review and approval. The qualified biologist shall monitor installation of the fencing or alternative measure to ensure proper installation and total exclusion of the two species, as well as to insure that no individuals are harmed during installation.

A CDFG approved biological monitor will be present during construction activities within and immediately adjacent to the tidal marsh habitat. The biological monitor shall have the authority to stop construction activities if an individual of these species is found within the construction area. If an individual of either species is found on the project or shared facility site during construction, work will immediately cease in the vicinity and the CDFG will be notified.

Construction personnel shall participate in a CDFG-approved worker environmental awareness program. A qualified biologist would inform key construction personnel about the life history of these two species and their potential presence in the project area and explain the state and federal laws pertaining to protecting this species and its habitat. Construction personnel would be informed of the presence of a biological monitor and receive instruction regarding reporting requirements if an individual of either species is found during construction.

Implementation of these measures would reduce this impact to a ***less-than-significant level***.

Impact 6-3: Potential Inadvertent Project Take of Vernal Fairy Shrimp. Although no evidence of presence has been detected, marginal habitat for the vernal pool fairy shrimp occurs in the seasonal pools and depressions within ruderal habitats on the project and shared facilities sites, and there remains a remote possibility that vernal pool shrimp could be harmed by project or shared facility construction activities. Such a possible "take" of this federal threatened species represents a ***potentially significant impact*** (see criteria [a] and [g] in subsection 6.3.1, "Significance Criteria," above).

Mitigation 6-3: Complete preconstruction fairy shrimp surveys in winter 2010/2011 within suitable habitats for VPFS. If VPFS are detected during surveys, notify the USFWS and implement appropriate avoidance and mitigation measures prior to commencement of construction within or adjacent to the VPFS occupied habitat. If no VPFS are found, no further mitigation will be necessary. Implementation of this measure would reduce this impact to a ***less-than-significant level***.

Impact 6-4: Potential Inadvertent Project Take of Steelhead, Western Pond Turtle or California Red-Legged Frog. Although suitable habitat for the federal-listed steelhead, state-listed western pond turtle (WPT), or the state- and federal-listed California red-legged frog (CRLF), is generally absent on and near the project and shared facilities sites, there remains a remote possibility that they could be impacted by project-related vegetation removal and shared facilities in-channel construction activities, resulting in the inadvertent "take" of the species. This possibility represents a ***potentially significant impact*** (see criteria [a] and [g] in subsection 6.3.1, "Significance Criteria," above).

Although considered "unlikely" (see Table 6.1), there is a possibility that the adjacent segment of Refugio Creek could provide marginally suitable dispersal habitat for the state- and federally-listed California red-legged frog, the federally-listed steelhead, and the state-listed western pond turtle. Similarly, the willow scrub cover along the adjacent segment of North Channel provides marginal dispersal habitat for California red-legged frog, although this drainage does not contain suitable aquatic habitat for western pond turtle. Pre-construction surveys and construction zone exclusion practices would serve to avoid potential take of California red-legged frog, steelhead, and western pond turtle in the remote instance that these species were present or were to disperse onto the site in the future. Implementation of these measures as part of the project would serve to adequately avoid any inadvertent take of listed species. Areas disturbed during construction would be restored and enhanced as part of the ITC Project creek restoration and enhancement component, and would eventually serve to improve habitat conditions for these species. However, given the remote potential for inadvertent loss of individuals during in-channel construction, and the fact that California red-legged frog and steelhead are federally-listed species, this is considered a *potentially significant impact* under criteria [a] and [g] in subsection 6.3.1, "Significance Criteria," above.

Mitigation 6-4. Implement the following measures to address the potential for a project-related inadvertent "take" of steelhead, California red-legged frog, and western pond turtle on the project site or adjacent shared facilities sites during construction.

A biologist meeting the qualifications criteria of the USFWS (for federally listed threatened species) and the CDFG (for state-listed CSC species) shall be retained to oversee construction and ensure that no inadvertent take of steelhead, California red-legged frog, or western pond turtle occurs as a result of a project-related short-term disturbance to Refugio Creek and the North Channel.

The qualified biologist shall conduct USFWS-, NOAA- and CDFG-protocol pre-construction surveys to confirm absence or presence of any steelhead or California red-legged frog or western pond turtle, on segments of Refugio Creek and the North Channel where adjacent project-related improvements are proposed. In the remote instance that listed steelhead or California red-legged frog individuals are encountered, the USFWS and NOAA Fisheries shall be consulted to determine appropriate avoidance measures prior to initiation of any project-related construction activities. These measures could include installation of temporary construction fencing, additional surveys and monitoring, and other measures.

To avoid potential impacts to encountered Central California steelhead that may seasonally disperse along Refugio Creek, in-water construction shall not occur between October 15 and June 15.

The USFWS-protocol pre-construction surveys for California red-legged frog shall be conducted prior to any project-related construction activities to ensure that this species is not actively using the site or vicinity as a dispersal corridor. The pre-construction surveys shall be conducted by a qualified biologist familiar with all life stages of the frog and shall cover all aquatic habitats on and near the site suitable for dispersal. Prior to conducting the pre-construction surveys, the USFWS shall be notified of the intent to conduct California red-legged frog pre-construction surveys and provided with the names and qualifications of surveyors. The pre-construction surveys for California red-legged frog shall not commence until survey approval is received by the USFWS.

If any life stage of California red-legged frog (e.g., egg mass, tadpole, frog) is detected in the construction zone during the surveys, the USFWS shall be notified regarding the presence of the California red-legged frog. A plan shall be developed in consultation with the USFWS to relocate the California red-legged frog individuals

(continued)

Mitigation 6-4 (continued):

to the nearest protected habitat outside the construction zone and to provide necessary on-site construction avoidance measures to prevent inadvertent take of this species.

Similarly, the CDFG-protocol survey for the western pond turtle shall be conducted prior to any construction activities to assess whether this species is also actively using the site or vicinity as a dispersal area. If any western pond turtles are detected within the construction zone, the qualified biologist shall relocate the individual to a secure pool habitat location along Refugio Creek outside the construction zone. Consultation with the USFWS and/or the CDFG is not required. Adjustments shall be made which may include installation of exclusionary fencing to ensure that individuals cannot enter the construction zone. This may include installing temporary silt fencing along the outer edge of the channel construction area to prevent individuals from moving into the construction zone.

Any in-channel construction areas shall be dewatered, and the qualified biologist shall be present to oversee installation of any required coffer dams and construction containment fencing. The qualified biologist shall periodically inspect this system while in use to ensure that no fish or other aquatic life are adversely affected. Screening shall be used at the entrance to any diversion pipe or pumping equipment to prevent animals from becoming entrained during operation. Adjustments shall be made as necessary to minimize disturbance to aquatic life during the short-term use of the coffer dam system. The biological monitor shall have the authority to stop construction activities if steelhead or California red-legged frog individuals are found within the construction area.

Implementation of these measures would reduce this impact to a ***less-than-significant level.***

Impact 6-5: Potential Loss of Roosting Habitat for Special-Status Bats. There remains a remote possibility that one or more species of special-status (California Species of Special Concern) bats could be roosting in one of the two vacant buildings on the project site. Renovation of the two structures as proposed would eliminate any such roosting habitat, representing a ***potentially significant impact*** (see criterion [a] in subsection 6.3.1, "Significance Criteria," above).

A bat hibernation roost survey was recently conducted at the two vacant buildings in the southwest portion of the site--the former Hercules Powder Company Clubhouse and the former Hercules Powder Company Administration Building. The survey was conducted for the

EIR preparers on June 15, 2010 by WRA Environmental Consultants.[1] Based on the survey, the Clubhouse and Administration Buildings have been determined not to support maternity roosting or hibernating bats. Nevertheless, there remains a possibility that these two vacant buildings could be used as a seasonal or maternal roost. Renovation of the structures is proposed as part of the project, which would eliminate any bat roosts if present in the buildings. Special-status bat species are particularly vulnerable to human disturbance, and if construction were to occur during the maternity roosting season, young bats incapable of flight could be inadvertently destroyed. Suitable roosting habitat is difficult to recreate, particularly for most special-status bat species.

Mitigation 6-5. Implement the following measures to avoid potential project impacts on roosting bats:

(1) The Clubhouse and Administration Buildings have been determined not to support maternity roosting or hibernating bats. Regular monthly maintenance of the buildings may continue; however, all potential points of ingress should be sealed in the interim, using screens, wood, caulking or the like to prevent bats from colonizing until the renovation is complete.

(2) A CDFG-protocol pre-construction survey for roosting bats shall be conducted by a biologist meeting the qualifications criteria of the CDFG within 14 days prior to the commencement of building renovation. To determine presence or absence of bats, the survey shall be conducted by a biologist with experience surveying for bats. If no special-status bats are identified during the pre-construction survey, then no impacts to these CSC bats would be expected to occur from building renovation.

If, however, any special-status bats are identified in the structures, all disturbance activities within the structure and within 200 feet should be halted and remain halted until (a) the roost is vacated, or (b) the CDFG has been notified and consulted to develop alternative measures. At present, there are no CDFG standard guidelines for the mitigation and removal of bat species. Bat guidelines specifics for the project would be prepared by WRA in collaboration with CDFG and Western Bat Working Group biologists to determine if protection measures are adequate, or if replacement for loss of occupied habitat is required.

Implementation of these measures to CDFG satisfaction would reduce this impact to a ***less-than-significant level.***

[1]WRA Environmental Consultants, Hercules Bayfront, LLC, Bat Roost Technical Report II, Hercules Bayfront Project, prepared for Wagstaff/MIG; June 15, 2010.

Impact 6-6: Potential Loss of Sensitive Marsh Habitat Communities. Shared facility construction activities within the Refugio Creek and North Channel corridors would result in disturbance and loss of two federal special-status and state-listed sensitive natural communities in these areas: Coastal Brackish Marsh Habitat (pickelweed brackish marsh) covering the banks of Refugio Creek, and brackish stream habitat within the Refugio Creek channel, representing a ***significant impact*** (see criterion [b] in subsection 6.3.1, "Significance Criteria," above).

Construction of the proposed creek realignment, restoration and enhancement program, and associated proposed new crossings of Refugio Creek and the North Channel, shared facilities which are necessary to support the proposed Hercules Bayfront Project, would affect areas of existing Coastal Brackish Marsh (pickleweed brackish marsh) habitat occurring within the banks of the creek. This habitat type is considered sensitive and also constitutes waters of the U.S. regulated by the USACE and USEPA under section 10/404 of the federal Clean Water Act. Similarly, construction activities would affect areas of existing brackish and freshwater marsh, which are considered sensitive natural community types by the CDFG.

A restoration plan is currently being prepared for the proposed ITC project for lower Refugio Creek and is expected to result in no net loss of brackish marsh habitat and brackish stream habitat within Refugio Creek (see Mitigation 6-7 below).

Mitigation 6-6. Implement *Mitigation 6-7.* Implementation of *Mitigation 6-7* regarding replacement of jurisdictional wetlands would also serve to address potential impacts on sensitive marsh habitat communities, and would reduce this impact to a ***less-than-significant level.***

Impact 6-7: Project-Related Potential Loss and Modifications to Jurisdictional Wetlands and Other Waters. An estimated 0.24 acres of jurisdictional waters would be lost or disturbed as a result of the proposed filling of wetlands and other waters to accommodate improvements associated with the Hercules Bayfront Project, , and an estimated 1.37 acres of jurisdictional waters would be lost or disturbed as a result of the proposed shared facilities project-related construction--i.e., construction of the Refugio Creek and North Channel realignment, restoration and enhancement program and John Muir Parkway and Bayfront Boulevard extensions, representing a ***significant impact*** (see criteria [c] and [g] in subsection 6.3.1, "Significance Criteria," above).

Hercules Bayfront Project onsite trail, roadway, and building components would all be restricted to locations outside the reconstructed top of bank (see Figure 3.5 in chapter 3, Project Description, of this EIR). Chapter 22 of the Hercules Zoning Ordinance, "Refugio Creek Overlay District", mandates a 50-foot setback between development and the top of bank of lower Refugio Creek, unless the 50-foot setback proves infeasible as decided by the City (see full policy in subsection 6.2.1). The extensive long-term modifications to the Refugio Creek channel that would occur as part of the creek restoration and enhancement program

are considered supporting infrastructure necessary to implement the proposed Hercules Bayfront Project (see EIR subsection 3.6). Nevertheless, an estimated 0.24 acres of jurisdictional waters would be filled or modified as a result of proposed onsite Hercules Bayfront Project construction activities, and approximately 1.37 acres as a result of shared facilities construction--i.e., the Refugio Creek and North Channel realignment, restoration and enhancement project and John Muir Parkway and Bayfront Boulevard extensions. These fill impacts would consist of: (1) filling of an estimated 0.03 acres of scattered seasonal wetlands and depressions in the western portion of the site and along the railroad right-of-way to accommodate the grade separation and retaining wall adjacent to the ITC site; (2) filling an estimated 0.06 acres of marsh and 0.02 of unvegetated freshwater drainage to accommodate the new earthen-bottom drainage culvert under John Muir Parkway; and (3) disturbance to an estimated 0.06 acres of Refugio Creek and 0.07 acres of adjacent brackishwater marsh to accommodate the Bayfront Bridge crossing.

The loss of these jurisdictional features would ultimately be mitigated--i.e., offset--through creation of expanded wetland habitat along the Refugio Creek and North Channel corridors, as part of the creek restoration and enhancement program formulated for the two projects and included in the ITC Project.

Mitigating for the loss of wetlands at the drainage crossings, and consolidating the replacement acreage for the scattered, low-value seasonal wetlands and depressions into the joint creek restoration and enhancement efforts, would serve to improve wetland functions and values by consolidating existing and created wetlands in one area. The proposed replacement of these jurisdictional waters would adequately mitigate their anticipated loss, provided that appropriate authorizations were granted from the jurisdictional agencies.

Proposed modifications to jurisdictional wetlands and waters would require authorization from the USACE, Water Board, and CDFG. The proposed bridge crossing over Refugio Creek, culvert crossing of the North Channel, and implementation of the creek restoration and enhancement program would all be activities regulated by these jurisdictional agencies. Opportunities to fully mitigate any loss of existing wetlands and waters appear to be feasible as part of the project-related creek restoration and enhancement program; however, because jurisdictional waters would be affected and authorizations are still required from jurisdictional agencies, this impact is considered *significant* under criterion [c] in subsection 6.3.1, "Significance Criteria," above.

Indirect impacts to wetlands and aquatic habitat also typically result from the increased potential for erosion and water quality degradation associated with urban development. Creation of impervious surfaces tends to magnify the volume of runoff and potential for urban pollutants, with perhaps the greatest potential damage resulting from sedimentation during the construction phase of a project and from new non-point discharge of automobile by-products, fertilizers, and herbicides. However, implementation of adequate erosion control measures, and incorporation of the numerous storm water runoff treatment methods called for in *Mitigations 11-1* and *11-2* in chapter 11 (Hydrology and Water Quality) of this EIR, would serve to address potential indirect impacts on wetlands and water quality. Additional discussion of project-related potential indirect impacts on wetlands and water quality is provided in chapter 11.

Mitigation 6-7. Implement the following measures to address project-related potential impacts on jurisdictional wetlands and waters:

Where verified waters of the U.S. are present and cannot be avoided, authorization for project-related modifications to these features shall be obtained from the USACE, Water Board, and CDFG. All conditions required as part of the authorizations by the USACE, Water Board, and CDFG shall be implemented as part of the project. Consultation or incidental take permitting may be required under the California and federal Endangered Species Acts. The applicant for these project-related modification activities shall obtain all legally required permits or other authorizations from the USFWS, NOAA Fisheries, and CDFG for the potential "take" of protected species under the Endangered Species Acts.

Prior to issuance of a grading permit for the Hercules Bayfront Project, a consolidated Wetland Protection and Replacement Program shall be prepared by a qualified wetland specialist and approved by the jurisdictional agencies addressing the proposed onsite filling of scattered seasonal wetlands and depressions within the project site offsite shared facilities sites, including the Refugio Creek and North Channel realignment and restoration and related John Muir Parkway and Bayfront Boulevard extension. The Program shall include appropriate implementation measures for these construction activities to prevent inadvertent loss and degradation of jurisdictional waters to be protected, and replacement for those features eliminated or modified. The Program should preferably be implemented as part of the proposed creek restoration and enhancement program.

Wetlands eliminated by onsite project development and by offsite shared facilities construction shall be replaced at a minimum 1:1 replacement ratio and shall be established in suitable locations within protected open space areas. The wetland replacement component shall emphasize establishment of native brackish and freshwater marsh habitat to enhance existing habitat values, and shall preferably be consolidated with other existing wetlands to be retained as part of the ITC project.

All wetland features to be protected shall be flagged by a qualified biologist prior to any grading, and initial onsite and project-related offsite construction activities shall be overseen by the qualified biologist, including installation of temporary protective fencing and silt fencing.

The consolidated Wetland Protection and Replacement Program shall also define maintenance and long-term management responsibilities, monitoring requirements, and contingency measures. Monitoring shall be conducted by a qualified wetland specialist for a minimum of five years and continue until the success criteria are met.

(continued)

Mitigation 6-7 (continued):

In addition, an onsite Stormwater Pollution Prevention Plan (SWPPP) shall be prepared for the Hercules Bayfront Project addressing all water quality, sedimentation, and erosion aspects of the proposed project, as required under *Mitigation 11-1* in chapter 11, Hydrology and Water Quality, of this EIR. The SWPPP shall include dewatering the project reach of the Refugio Creek and North Channel during in-channel construction activities, details on use of coffer dams to dewater the in-channel construction zone, and methods to avoid introducing soil into the active channel.

Implementation of these measures would reduce this impact to a ***less-than-significant level.***

Impact 6-8: Invasive Species Impact. Construction of the proposed shared facilities could result in the spread of invasive species. This possibility represents a ***potentially significant impact*** (see criteria [a] and [b] in subsection 6.3.1, "Significance Criteria," above).

The upland habitats on the project site are currently dominated by non-native invasive species (ruderal vegetation). These species are abundant in disturbed habitats in the region. No mitigation is necessary for the existing occurrence of non-native upland species. However, there is a potential that non-native cordgrass or other non-native species could be introduced to the shared facilities construction sites as a result of construction disturbance to salt marsh and intertidal mudflats. If non-native cordgrass was introduced to these areas, it could spread and potentially competitively displace or hybridize with the existing native cordgrass. Additionally, any aquatic habitats disturbed by shared facilities construction could become rapidly colonized by non-native species. This would be a potentially significant impact.

Mitigation 6-8: Implement the following measures in order to prevent the introduction of non-native cordgrass and/or other non-native aquatic plant species to the shared facility sites:

- All construction equipment to be utilized in or adjacent to the intertidal mudflats and salt marsh habitats shall be thoroughly cleaned to remove dirt and weed seeds prior to being transported or driven to or from the project site.
- If any borrow soil or other stockpiled material (e.g., rock slope protection) to be placed in or adjacent to the intertidal mudflats and salt marsh habitats is transported to the project site from an offsite location, it shall be inspected for the presence of noxious weeds or invasive plants.
- If noxious weeds or invasive plants are present in imported materials, the contractor shall remove approximately five inches of the surface of the material from the borrow site before transporting to the project site.

Before removal, this material will be chemically or mechanically treated to kill the existing noxious weeds and invasive plants, and will not be used for the project without approval.

Implementation of these measures would reduce this impact to a ***less-than-significant level.***

Onsite Wildlife Habitat Loss and Obstruction of Wildlife Movement Opportunities. The onsite habitat avoidance and minimization of potential impacts to sensitive wildlife habitat areas (such as jurisdictional wetlands and waters) required in the mitigations above for both the project and the shared facilities would serve to ensure that no potentially significant impacts on important wildlife habitat and movement corridors would occur as a result of the project and shared facilities. The limited habitat values of most of the project site, and the mitigations described above for the project and shared facilities including the offsite creek restoration and enhancement measures, would serve to ensure that potential impacts of the project and shared facilities on sensitive wildlife movement opportunities would be ***less-than-significant*** (see criteria [d] and [g] in subsection 6.3.1, "Significance Criteria," above).

Mitigation. No significant impacts on wildlife habitat and movement opportunities have been identified; no mitigation is required.

Conformance with Local Policies and Ordinances Protecting Biological Resources. The project and the associated mitigations described in this EIR chapter to mitigate its direct and indirect effects on biological and wetland resources, as discussed above under *Impact/ Mitigation 6-1* through *Impact/Mitigation 6*-5, substantially conform with the relevant objectives, policies, and programs of the Hercules General Plan described in section 6.2.1 herein. The impact assessments and mitigation requirements identified above have been formulated to be consistent with relevant biological resource protection policies of the General Plan, including

policies requiring the protection of the Refugio Creek corridor, special-status species, sensitive natural communities, and wetlands. Project onsite setbacks provided or required herein along Refugio Creek and the North Channel, together with the proposed enhancement of these drainages and implementation of the other mitigation measures described above, would serve to ensure compliance with these relevant policies and programs, ensuring that potential impacts would be ***less-than-significant*** (see criterion [e] in subsection 6.3.1, "Significance Criteria," above).

No trees exceeding 12 inches in diameter would be removed as part of the project, and no tree removal permit would be required. The few trees with trunk diameters exceeding 12 inches occur along the North Channel (adjacent to the project site) and would be retained as part of the project-related creek realignment, restoration and enhancement project. The project therefore does not conflict with the Hercules Tree Removal Ordinance.

Mitigation. No significant project-related conflicts with local policies or ordinances have been identified; no mitigation is required.

Effect on an Adopted Habitat Conservation Plan. No habitat conservation plans have been prepared addressing the site and surrounding lands, and the project therefore would not conflict with any adopted habitat conservation plan. The project would have ***no impact*** on a habitat conservation plan (see criterion [f] in subsection 6.3.1, "Significance Criteria," above).

Mitigation. No conflict with an adopted conservation plan has been identified; no mitigation is required.

Cumulative Impacts on Biological Resources. The potential cumulative impacts of anticipated development activities in the Hercules vicinity on biological resources would be dependent on the degree to which significant vegetation and wildlife resources are protected on each particular project site. This includes individual project-related preservation of natural communities (marshlands, riparian vegetation, etc.), special-status plant or animal species, and wetland features. CEQA-required further environmental review of other site specific development proposals in the Hercules vicinity should serve to ensure that important biological resources are similarly identified, protected, and properly managed to prevent any significant cumulative adverse development-related impacts.

To some degree, cumulative development activities can each contribute to an incremental reduction in the amount of existing wildlife habitat, particularly for birds and larger mammals. Habitat for species intolerant of human disturbance can be lost as development encroaches incrementally into previously undeveloped areas, disrupting or eliminating movement corridors and fragmenting the remaining suitable habitat retained within parks, private open space, or undeveloped properties. Grading associated with individual construction activities can generally and incrementally increase erosion and sedimentation, and urban pollutants from new development can cumulatively reduce water quality. Recommendations to control project-related erosion and sedimentation after grading, as called for in chapter 11 (Hydrology and Water Quality) of this EIR, should serve to reduce the project contribution to such cumulative potentials for water quality degradation to a less than significant level.

Most of the project site is already extensively disturbed by past industrial uses. The sensitive resource areas along the adjacent Refugio Creek and the North Channel would be preserved and enhanced as part of the Hercules Bayfront Project and/or the ITC project, serving to fully mitigate any project-related direct impacts on sensitive wetland resources. Wildlife in the immediate area has become relatively acclimated to human activity on and in the vicinity of the site, and the proposed development is not expected to disrupt important movement corridors or access to surrounding habitat. Habitat preservation and enhancement measures proposed along the Refugio Creek and North Channel corridors as described in this EIR chapter would serve to adequately address any project contribution to potential cumulative adverse impacts on biological and wetland resources. The mitigation measures identified above would ensure that the project's contribution to cumulative biological impacts would be ***less-than-significant***.

Mitigation. No significant cumulative biological impact has been identified; no mitigation is required.