Appendix I

Special Status Species

This page intentionally left blank.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
PLANTS				
Adobe sanicle	*Sanicula maritima*	none/SR/1B.1	Chaparral, coastal prairie, meadows and seeps, and valley and foothill grasslands in association with clay or serpentine soils. 98–787 feet (30–240 meters); blooms February–May	**Not Likely.** Suitable habitat for this species occurs in the Study Area. However, there are no recorded occurrences of this species within 5 miles of the Study Area, and none were observed during rare plant surveys of suitable habitat in 2007 and 2008 by PBS&J.
Alkali milk-vetch	*Astragalus tener* var. *tener*	none/none/1B.2	Playas, valley and foothill grassland with adobe clay, and vernal pools with alkaline soils. 0–2051 feet (0–625 meters); blooms May–September.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area.
Arcuate bush-mallow	*Malacothamnus arcuatus*	none/none/1B.2	Chaparral and cismontane woodland. 82–295 feet (25–90 meters); blooms April–September.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area.
Beach layia	*Layia carnosa*	FE/SE/1B.1	Coastal dunes and coastal scrub with sandy soils. 0–197 feet (0–60 meters); blooms March–July.	**Not Likely.** Coastal scrub does not occur in the Study Area. This species was not observed during surveys conducted by PBS&J in 2007 and 2008.
Bent-flowered fiddleneck	*Amsinckia lunaris*	none/none/1B.2	Coastal bluff scrub, cismontane woodland, and valley and foothill grassland habitats. 10–1,640 feet (3– 500 meters); blooms March–June	**Not Likely.** Although there is one recorded occurrence of this species within 5 miles of the Study Area, no species of *Amsinckia* were observed during floristic surveys conducted in 2005 by CNPS[1] and in 2007 and 2008 by PBS&J.
Big-scale balsamroot	*Balsamorhiza macrolepis* var. *macrolepis*	none/none/1B.2	Occurs in chaparral, cismontane woodland, and valley and foothill grassland, sometimes in serpentine soil substrates at elevations ranging from 295–4,593 feet (90–1,400 meters); blooms March–June.	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Balsamorhiza* were observed during floristic surveys conducted in 2005 by CNPS[2] and in 2007 and 2008 by PBS&J.
Blue coast gilia	*Gilia capitata* ssp. *chamissonis*	none/none/1B.1	Coastal dunes and coastal scrub. 7–656 feet (2–200 meters); blooms April–July.	**Not Likely.** Coastal scrub does not occur in the Study Area. There are no recorded occurrences of this species within 5 miles of the Study Area.

[1] California Native Plant Society (CNPS), Yerba Buena Chapter, Electronic plant list; Hunters Point Serpentine Hillside, R. Hunter and J. Sigg, 2005.
[2] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Bristly sedge	*Carex comosa*	none/none/2.1	Coastal prairie, marshes and swamps (along lake margins), and valley and foothill grassland. 0–2,051 feet (0–625 meters); blooms May–September.	**Not Likely.** Marsh habitat in the Study Area has been highly degraded. This species was not observed during surveys conducted by Caltrans in 2007.[3]
California seablite	*Suaeda californica*	FE/none/1B.1	Marshes and swamps with coastal salt marsh. 0–49 feet (0–15 meters); blooms July–October.	**Not Likely.** Marsh habitat in the Study Area has been highly degraded. This species was not observed during surveys conducted by Caltrans in 2007.[4]
Coastal triquetrella	*Triquetrella californica*	none/none/1B.2	A moss that occurs in coastal bluff scrub and coastal scrub. 33–328 feet (10–100 meters).	**Not Likely.** Coastal scrub does not occur in the Study Area.
Compact cobwebby thistle	*Cirsium occidentale* var. *compactum*	none/none/1B.2	Chaparral, coastal dunes, coastal prairie, and costal scrub. 16–492 feet (5–150 meters); blooms April–June.	**Not Likely.** Coastal scrub does not occur in the Study Area. No native species of *Cirsium* were observed during floristic surveys conducted in 2005 by CNPS[5] and in 2007 and 2008 by PBS&J.
Crystal Springs lessingia	*Lessingia arachnoidea*	none/none/1B.2	Cismontane woodland, coastal scrub, and valley and foothill grassland habitats, in association with serpentinite soils along roadsides. 197–656 feet (60–200 meters); blooms July–October	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Lessingia* were observed during floristic surveys conducted by CNPS[6] and PBS&J in 2007 and 2008.
Diablo helianthella	*Helianthella castanea*	none/none/1B.2	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland. 197–4,265 feet (60–1,300 meters); blooms March–June.	**Not Likely.** Chaparral or oak woodland absent in Study Area.
Fountain thistle	*Cirsium fontinale* var. *fontinale*	FE/SE/1B.1	Openings in chaparral habitats; valley and foothill grassland habitats in association with serpentinite seeps. 295–574 feet (90–175 meters); blooms June–October	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no native species of *Cirsium* were observed during floristic surveys conducted by CNPS[7] and PBS&J in 2007 and 2008.

[3] Jones and Stokes, Natural Environmental Study Report for the Bayview Transportation Improvements Project, June 2009.
[4] Jones and Stokes, Biological Assessment for the Bayview Transportation Improvements Project, June 2009.
[5] California Native Plant Society (CNPS), Yerba Buena Chapter, Electronic plant list; Hunters Point Serpentine Hillside, R. Hunter and J. Sigg, 2005.
[6] Ibid.
[7] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Fragrant fritillary	*Fritillaria liliacea*	none/none/1B.2	Cismontane woodland, coastal prairie, coastal scrub, and valley and foothill grassland habitats often in association with serpentinite soils. 10–1,345 feet (3–410 meters); blooms February–April	**Not Likely.** Although there is one recorded occurrence of this species within 5 miles of the Study Area, no species of *Fritillaria* were observed during floristic surveys conducted by CNPS[8] and PBS&J in 2007 and 2008.
Franciscan manzanita	*Arctostaphylos hookeri* ssp. *franciscana*	none/none/1A	Coastal scrub with serpentinite soil substrates. 197–984 feet (60–300 meters); blooms February–April.	**Not Likely.** Serpentinite soil substrates do not occur within Study Area. No recorded occurrences of this species within 5 miles of the Study Area. No species of *Arctostaphylos* were observed during surveys conducted by Caltrans in 2007[9] and PBS&J in 2007 and 2008.
Franciscan onion	*Allium peninsulare* var. *franciscanum*	SLC/none/1B.2	Clay and serpentine soils on dry hillsides in woodlands and valley and foothill grasslands 170–984 feet (52–300 meters); blooms May–June.	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Allium* were observed during floristic surveys conducted by CNPS[10] and PBS&J in 2007 and 2008.
Franciscan thistle	*Cirsium andrewsii*	none/none/1B.2	Broadleafed upland forest, coastal bluff scrub, coastal prairie, and coastal scrub habitats, often in association with serpentinite soils. 0–492 feet (0–150 meters); blooms March–July	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no native species of *Cirsium* were observed during floristic surveys conducted by CNPS[11] and PBS&J in 2007 and 2008.
Hillsborough chocolate lily	*Fritillaria biflora* var. *ineziana*	none/none/1B.1	Cismontane woodland and valley and foothill grassland habitats in association with serpentinite soils. 492 feet (150 meters); blooms March–April	**Not Likely.** Known only from the Hillsborough area. Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no native species of *Fritillaria* were observed during floristic surveys conducted by CNPS[12] and PBS&J in 2007 and 2008.

[8] Ibid.

[9] Jones and Stokes, Natural Environmental Study Report for the Bayview Transportation Improvements Project, June 2009.

[10] California Native Plant Society (CNPS), Yerba Buena Chapter, Electronic plant list; Hunters Point Serpentine Hillside, R. Hunter and J. Sigg, 2005.

[11] Ibid.

[12] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Kellogg's horkelia	*Horkelia cuneata* ssp. *sericea*	none/none/1B.1	Closed-cone coniferous forest, chaparral, coastal dunes, and coastal scrub with sandy or gravelly openings. 33–656 feet (10–200 meters); blooms April–September.	**Not Likely.** Coastal scrub does not occur in the Study Area.
Marin western flax	*Hesperolinon congestum*	FT/ST/1B.1	Chaparral and valley and foothill grassland habitats in association with serpentinite soils. 16–1214 feet (5–370 meters); blooms April–July	**Not Likely.** Although there are recorded occurrences of this species within 5 miles of the Study Area, no species of *Hesperolinon* were observed during floristic surveys conducted by CNPS and PBS&J in 2007 and 2008.
Montara manzanita	*Arctostaphylos montaraensis*	none/none/1B.2	Chaparral and coastal scrub. 492–1,640 feet (150–500 meters); blooms January–March.	**Not Likely.** Coastal scrub does not occur in the Study Area. No species of *Arctostphylos* were observed during surveys conducted by Caltrans in 2007[13] and PBS&J in 2007 and 2008.
Most beautiful jewel-flower	*Streptanthus albidus* ssp. *permoenus*	none/none/1B.2	Chaparral, cismontane woodland, valley and foothill grasslands, often on serpentine soils. 361–3,281 feet (110–1,000 meters); blooms April–June.	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Streptanthus* were observed during floristic surveys conducted by CNPS and PBS&J in 2007 and 2008.
Pacific manzanita	*Arctostaphylos pacifica*	none/SE/1B.2	Chaparral and coastal scrub. 1,083 feet (330 meters); blooms February–April.	**Not Likely.** Coastal scrub does not occur in the Study Area. Species of *Arctostaphylos* not identified during surveys.
Point Reyes bird's-beak	*Cordylanthus maritimus* ssp. *palustris*	none/none/1B.2	Coastal salt marsh. 0–33 feet (0–10 meters); blooms June–October.	**Not Likely.** Marsh habitat in the Study Area is of marginal quality and has been highly degraded. This species was not observed during surveys conducted by Caltrans in 2007.[14] Observed in adjacent off-site locations to the Yosemite Slough area according to the Yosemite Slough IS/MND.[15] Was not observed in the Yosemite Slough area during 2005 surveys conducted by LSA.

[13] Jones & Stokes, Natural Environmental Study Report for the Bayview Transportation Improvements Project, June 2009.

[14] Jones and Stokes, Biological Assessment for the Bayview Transportation Improvements Project, June 2009.

[15] California State Parks Foundation, Draft Initial Study –Mitigated Negative Declaration for the Candlestick Point State Recreation Area Yosemite Slough Restoration Project, December 2005.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Presidio clarkia	*Clarkia franciscana*	FE/SE/1B.1	Occurs in coastal scrub and valley and foothill grassland, often on serpentine soils. 82–1,099 feet (25–335 meters); blooms May–July	**Not Likely.** Known from fewer than five occurrences. The closest two known populations are in the San Francisco Presidio approximately 6 miles northwest. Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Clarkia* were observed during floristic surveys conducted by CNPS[16] and PBS&J in 2007 and 2008.
Presidio manzanita	*Arctostaphylos hookeri ssp. ravenii*	FE/SE/1B.1	Chaparral, coastal prairie, and coastal scrub with serpentinite outcrops. 148–705 feet (45–215 meters); blooms February–March.	**Not Likely.** Undisturbed serpentinite soil outcrops do not occur in study area, Though there is a CNDDB recorded occurrence of this species within 5 miles of the study area, no species of *Arctostaphylos* was identified during surveys.
Robust spineflower	*Chorizanthe robusta* var. *robusta*	FE/none/1B.1	Chaparral, cismontane woodlands (in openings), coastal dunes, coastal scrub with sandy or gravelly soil. 10–984 feet (3–300) meters; blooms April–September.	**Not Likely.** Coastal dunes are absent from the Study Area. Remnant dunes in the Study Area are disturbed habitat. This species was not observed during surveys conducted by PBS&J in 2007 and 2008.
Rose leptosiphon	*Leptosiphon rosaceus*	none/none/1B.1	Coastal bluff scrub. 0–328 feet (0–100 meters); blooms April–July.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area.
San Bruno Mountain manzanita	*Arctostaphylos imbricata*	none/SE/1B.1	Chaparral and coastal scrub with rocky substrate. 902–1,214 feet (275–370 meters); blooms February–May.	**Not Likely.** Coastal scrub does not occur in the Study Area. Species of *Arctostaphylos* not identified during surveys.
San Francisco Bay spineflower	*Chorizanthe cuspidate* var. *cuspidata*	none/none/1B.2	Coastal bluff scrub, coastal dunes, coastal prairie, and coastal scrub with sandy soils. 10–705 feet (3–215 meters); blooms April–July (uncommon in August).	**Not Likely.** Coastal scrub does not occur in the Study Area.
San Francisco campion	*Silene vercunda* ssp. *verecunda*	none/none/1B.2	Coastal bluff scrub, chaparral, coastal prairie, coastal scrub, and valley and foothill grassland with sandy soil. 98–2,116 feet (30–645 meters); blooms March–June (uncommon in August).	**Not Likely.** Coastal scrub does not occur in the Study Area.

[16] California Native Plant Society, California Native Plant Society, Yerba Buena Chapter, Electronic plant list; R. Hunter and J. Sigg, 2005.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
San Francisco Collinsia	*Collinsia multicolor*	none/none/1B.2	Closed-cone coniferous forest and coastal scrub (sometimes with serpentinite soil). 98–820 feet (30–250 meters); Blooms March–May.	**Not Likely.** Coastal scrub does not occur in the Study Area.
San Francisco gumplant	*Grindelia hirsutula* var. *maritima*	none/none/1B.2	Coastal bluff scrub, coastal scrub, and valley and foothill grassland habitats in association with sandy or serpentinite soils. 49–1,312 feet (15–400 meters); blooms June–September	**Not Likely.** Although there are a number of recorded occurrences of this species within 5 miles of the Study Area, this species was not observed during floristic surveys conducted by CNPS[17] and PBS&J in 2007 and 2008.
San Francisco Lessingia	*Lessingia germanorum*	FE/SE/1B.1	Coastal scrub (remnant dunes). 82–295 feet (25–90 meters); blooms July–November (uncommon in June).	**Not Likely.** Coastal scrub does not occur in the Study Area. This species was not observed in sandy soil areas during surveys; no species of *Lessingia* were observed during floristic surveys conducted by CNPS[18] and PBS&J in 2007 and 2008.
San Francisco owl's-clover	*Triphysaria floribunda*	none/none/1B.2	Coastal prairie, coastal scrub, and valley and foothill grassland habitats in association with serpentinite soils. 33–525 feet (10–60 meters); blooms April–June	**Not Likely.** Although there is one recorded occurrence of this species within 5 miles of the Study Area, no species of *Triphysaria* has been observed during floristic surveys conducted by CNPS[19] and PBS&J in 2007 and 2008.
San Francisco popcornflower	*Plagiobothrys diffusus*	None/SE/ 1B.1	Occurs in coastal prairie and valley and foothill grassland. 197–1,181 feet (60–360 meters); blooms March–June.	**Not Likely.** Known from fewer than ten occurrences. Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Plagiobothrys* were observed during floristic surveys conducted by CNPS[20] and PBS&J in 2007 and 2008.

[17] Ibid.
[18] Ibid.
[19] Ibid.
[20] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
SanMateo thorn-mint	*Acanthomintha duttonii*	FE/SE/1B.1	Chaparral and valley and foothill grassland habitats, often on serpentinite soil substrates. 164–984 feet (50–300 meters); blooms April–June	**Not Likely.** Serpentinite soil substrates do not occur within Study Area, however there are no recorded occurrences of this species within 5 miles of the Study Area; species of *Acanthomintha* were not observed during floristic surveys conducted by CNPS[21] and PBS&J in 2007 and 2008.
Santa Cruz microseris	*Stebbinsoseris decipiens*	none/none/1B.2	Openings in broadleafed upland forest, closed-cone coniferous forest, chaparral, coastal prairie, coastal scrub, valley and foothill grasslands, sometimes on serpentine soils. 33–1,640 feet (10–500 meters); blooms April–May.	**Not Likely.** Although potentially suitable habitat and soil substrates are present, there are no recorded occurrences of this species within 5 miles of the Study Area; no species of *Stebbinsoseris* were observed during floristic surveys conducted by CNPS[22] and PBS&J in 2007 and 2008.
Short-leaved evax	*Hesperevax sparsiflora* var. *brevifolia*	none/none/2.2	Coastal bluff with sandy soil and coastal dunes. 0–705 feet (0–215 meters); blooms March–June.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area.
White-rayed pentachaeta	*Pentachaeta bellidiflora*	FE/SE/List 1B.1	Occurs in cismontane woodland and valley and foothill grassland, often in serpentinite. 115–2034 feet (35–620 meters); blooms March–May	**Not Likely.** Although there is one recorded occurrence of this species within 5 miles of the Study Area, no species of *Pentachaeta* were observed during floristic surveys conducted by CNPS[23] and PBS&J in 2007 and 2008.
SENSITIVE NATURAL COMMUNITIES				
Coastal brackish marsh (salt marsh)		CDFG Sensitive Habitat		**Known.** The Study Area supports representative assemblages of plant species associated with this community type. Degraded occurrences of this sensitive natural community are present along the southern portion of HPS Phase II site, along Yosemite Slough, and patches along the Candlestick Point shoreline.[24]

[21] Ibid.
[22] Ibid.
[23] Ibid.
[24] H.T. Harvey & Associates, Hunters Point Shipyard and Candlestick Point State Recreation Area Final Delineation of Wetlands and Other Waters, San Francisco, California, February 2009 and revised July 13, 2009 and October 2, 2009.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
INVERTEBRATES				
Bay checkerspot butterfly	*Euphydryas editha bayensis*	FT/none/none Critical habitat	All habitats for the bay checkerspot are on shallow, serpentine-derived, or similar soils. These soils support the plants on which the caterpillars (larvae) feed the primary larval host plant is dwarf plantain (*Plantago erecta*). In many years, the plantain dries up and the larvae transfer to a second host plant, Indian paintbrush, or purple owl's clover (*Castilleja exserta* spp. *exerta*), which remains edible later in the season.	**Not Likely.** It is not likely that there is a sufficient population of plantain to support Bay checkerspot in the Study Area.[25] Sites that support this species provide greater topographic heterogeneity than the serpentine grassland in the Study Area. Although there are a number of recorded occurrences for this species within 5 miles of the Study Area, this species was extirpated from the closest location of historical occurrence (San Bruno Mountain) in the 1980's.
Callippe silverspot butterfly	*Speyeria callippe callippe*	FE/none/none	Occurs in grassland habitats around the northern Bay Area containing Johnny jump-up (*Viola pedunculata*), which is the larval host plant for this species.	**Not Likely.** Although there are a number of recorded occurrences within 5 miles of the Study Area, *V. pedunculata* has not been observed within the Study Area. In addition, although there are nearby occurrences, there is an insufficient population of this species' host plant within the Study Area to sustain a population of this species.[26]
Mission blue butterfly	*Plebejus* [*Icaricia*] *icarioides missionensis*	FE/none/none	The adults feed on hairy false goldenaster (*Heterotheca villosa*), blue dicks (*Dichelostemma capitatum*), and seaside buckwheat (*Eriogonum latifolium*). They do not wander far from the three species of lupine that are the larval food plant: silver lupine (*Lupinus albifrons*), summer lupine (*L. formosus*), and many-colored lupine (*L. versicolor*). Females lay eggs throughout the mating flight. The eggs are laid singly on leaves, stems, flowers, and seedpods of lupine species.	**Not Likely.** Although there are a number of recorded occurrences for this species within 5 miles of the Study Area, including one from the Bayview Hill area, the Study Area does not support a substantial stand of lupine (*Lupinus* spp.) to support this species. [27] Isolated lupine plants intermixed within ruderal vegetation was observed along the Candlestick Point area, near Yosemite Slough. One or two lupine plants were observed in this area during the May 5, 2008 survey, but this would not constitute habitat for this species.

[25] Kobernus, P., Senior Biologist, TRA Environmental Sciences, Inc., email to PBS&J, August 30, 2007.
[26] Ibid.
[27] United States Fish and Wildlife Service (USFWS), Endangered and Threatened Wildlife and Plants*: Proposed Determination of Critical Habitat for Six Butterflies and Two Plants*, 42 Federal Register 7972, February 8, 1977.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Monarch butterfly (wintering)[28]	*Danaus plexippus*	none/none/ESHA	Occur in many open habitats including fields, meadows, weedy areas, marshes, and roadsides. Adults migrate from August to October, flying south to hibernate along the California coast and in central Mexico. During migration and wintering, butterflies roost in trees and form huge aggregations. Caterpillars feed exclusively on milkweed (*Asclepias* spp.); early in the season, adults sip nectar from dogbane (*Apocynum* spp.), lilac (*Ceanothus* spp.), red clover (*Trifolium pratense*), *Lantana* spp., and thistles (*Cirsium* spp.). In the fall adults visit composites including goldenrods (*Solidago californica*), blazing stars (*Liatris spicata*), ironweed (*Vernonia* spp.), and tickseed sunflower (*Bidens* spp.).	**Known, but Not Likely roosting.** Although individuals have been observed on the site, there is no record of monarch butterfly autumnal (i.e., temporary bivouac site) or over-wintering use of the Study Area in the CNDDB and other records, including anecdotal observations. The nearest observations of such roosts are at Fort Mason, the Presidio of San Francisco, and Stern Grove. The modification of Hunters Point and Candlestick Park would not affect those sites.[29]
Myrtle's silverspot butterfly	*Speyeria zerene myrtleae*	FE/none/none	Occurs in grassland habitats around the northern Bay Area. The larval host plant is hookspur violet (*Viola adunca*). Adults feed on nectar from flowers including hairy gumweed, coastal sand verbena (*Abronia latifolia*), mints (or monardella) (*Monardella* spp.), bull thistle (*Cirsium vulgare*), and seaside fleabane (*Erigeron glaucus*).	**Not Likely.** There are no recorded occurrences of this species within 5 miles of the Study Area. The Study Area does not support the suitable host plants for this species.
San Bruno elfin butterfly	*Callophyrs* [*Incisalia*] *mossii bayensis*	FE/none/none	Endemic to the coastal mountains near San Francisco Bay. Eggs are laid in small clusters or strings on the upper or lower surface of broadleaf stonecrop (*Sedum spathulifolium*). The adult food plants have not been fully determined but Montara Mountain colonies are suspected to use Montara manzanita (*Arctostaphylos montaraensis*) and California huckleberry (*Vaccinium ovatum*).	**Not Likely.** There are a number of recorded occurrences for this species within 5 miles of the Study Area. However, the San Bruno elfin is found in the fog-belt of steep north facing slopes that receive little direct sunlight. It lives near prolific growths of the larval food plant, stonecrop, which is a low growing succulent. The Study Area does not support suitable larval and adult host plants.[30]

[28] Wintering habitat is considered an Environmentally Sensitive Habitat Area by the California Coastal Commission.

[29] Monroe, M., Ranger, Muir Woods National Monument, telephone conversation with Todd Wong, July 16, 2008.

[30] Kobernus, P., Senior Biologist, TRA Environmental Sciences, Inc., email to PBS&J, August 30, 2007.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
MOLLUSKS				
Black abalone	*Haliotes cracherodii*	FE/none/none	Endemic to Santa Barbara Channel Islands.	**Absent.** The Study Area is outside the range of this species.
White abalone	*Haliotes sorenseni*	FE/none/none	Rocky marine subtidal (to 200 feet deep) and extreme lower intertidal (below 15 feet deep) habitats. Current population extremely depleted.	**Absent.** The Study Area is too shallow and modified to provide suitable habitat.
Olympia oyster	*Ostreola conchaphila*	none/none/CEQA	Native Olympia oysters were historically abundant in San Francisco Bay, and small populations of native oysters have been documented within the Bay. Suitable substrate includes solid surfaces to which the larvae can easily attach.	**High.** Because the larval forms of oysters are free-floating in the Bay and a large population exists south of the Study Area at Oyster Point Marina, native oysters are likely present on suitable substrate throughout the Study Area.
FISH				
Pacific herring	*Clupea pallasi*	none/none/CEQA	Pacific herring generally enter the Bay from November through April of each year and spawn in intertidal and sub-tidal habitats.	**Known**. According to NMFS, known herring spawning areas within the Study Area include several piers and areas of shoreline both north and south of the proposed marina.
Chinook salmon –Fall/Late Fall-run ESUs	*Oncorhynchus tshawytscha*	SC/SSC/none	The most abundant Chinook in the Central Valley. Fall/Late fall-run fish spawn in streams with stable water supply, clean gravel, and good quality riparian habitat.	**Low.** The Study Area is generally outside the migratory corridor for this ESU. A population exists in the South Bay that would migrate past the Study Area on the way to and from the ocean. The origin and status of this population is unclear (refer to text).
Coho salmon—Central California ESU	*Oncorhynchus kisutch*	FE/SE/none	Spawning in accessible coastal streams, generally in areas with complex instream habitat, heavy forest cover, and high quality water. Juveniles rear in these areas for two years before migrating to the ocean.	**Absent.** This species does not currently exist in the San Francisco Bay.[31]
Delta smelt	*Hypomesus transpacificus*	FT/ST/none	Endemic to the Sacramento-San Joaquin Delta. Adults spawn in freshwater in the upper Delta. The rest of the year, they reside primarily in the interface between salt and freshwater of the Sacramento-San Joaquin Delta at salinities less than 2 parts per million.	**Absent.** The Study Area is outside the known range of this species.

[31] Jones and Stokes, Biological Assessment for the Bayview Transportation Improvements Project, June 2009.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Longfin Smelt	*Spirinchus thaleichthys*	none/ST/none	Native to San Francisco Bay. Adults spawn in upper estuary in early winter. Larvae are dispersed by downstream flow and distribution is determined by outflow. Adults found outside the Bay in some years.	**Moderate.** Based on a 2009 status review, distribution of larval fish is determined by outflow from the Sacramento-San Joaquin River Estuary where adults spawn.[32] As they develop swimming ability, they could disperse into the Study Area. They are captured as by-catch in the Bay for bay shrimp (*Crangon franciscorum*).
Tidewater goby	*Eucyclogobius newberryi*	FE/SSC/none	Brackish water habitats along coast, fairly still but not stagnant water and high oxygen levels.	**Absent.** The shoreline of the Study Area is influenced by tidal activity. Brackish water habitat absent. Due to degradation lagoon/estuary habitat does not exist.[33]
AMPHIBIANS				
California red-legged frog	*Rana aurora draytonii*	FT/SSC/none	Permanent and semi-permanent freshwater habitats, such as creeks and cold-water ponds, with emergent and submergent vegetation.	**Not Likely.** Perennial freshwater habitat is absent from the Study Area. There are no CNDDB records for this species in the vicinity of the Study Area.
REPTILES				
Green turtle	*Chelonia mydas*	FT/none/none	Shallow water with sufficient submergent vegetation. Breeds on islands often but also on mainland sandy beaches.	**Absent.** Suitable habitat for this species does not occur in the Study Area.
Leatherback turtle	*Dermochelys coriacea*	FE/none/none	Marine, open ocean often near continental shelf. Nests on sloped sandy beaches often near deep water.	**Absent.** Suitable habitat for this species does not occur in the Study Area.
Loggerhead turtle	*Caretta caretta*	FT/none/none	Open ocean up to 500 miles off shore. Nests on sandy beaches seaward of well developed dunes.	**Absent.** Suitable habitat for this species does not occur in the Study Area.
Olive (=Pacific) ridley sea turtle	*Lepidochelys olivacea*	FT/none/none	Near shore less and 15 km. bottom dwelling sea turtle, nests on sandy beaches.	**Absent.** Suitable habitat for this species does not occur in the Study Area.
San Francisco garter snake	*Thamnophis sirtalis tetrataenia*	FE/ST/FP	Inhabits ponds, streams, rivers, and reservoirs, typically with riparian or emergent vegetation. Requires upland areas for aestivation and nesting, usually within 100 yards of permanent water source.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area. There are no CNDDB records for this species in the vicinity of the Study Area.

[32] California Department of Fish and Game (CDFG), *A Status Review of the Longfin Smelt (Spirinchus thaleichthys) in California, January 2009.*

[33] Jones and Stokes, *Biological Assessment for the Bayview Transportation Improvements Project*, June 2009.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Western pond turtle	*Actinemys marmorata*	none/SSC/none	Typically inhabit ponds, slow-moving streams and rivers, irrigation ditches, and reservoirs with abundant emergent and/or riparian vegetation.	**Not Likely.** Suitable habitat for this species does not occur in the Study Area. There are no CNDDB records for this species in the vicinity of the Study Area.
BIRDS				
Alameda song sparrow	*Melospiza melodia pusillula*	none/SSC/none	Tidal salt marsh habitats along the edge of the Bay and streams where tidal flow effects the vegetation.	**Low.** Salt marsh along Yosemite Slough and the HPS shoreline provides marginal habitat for this species due to its limited extent. Song sparrows were observed between January 2003 and April 2004 along Yosemite Slough, however it is unknown whether these were Alameda song sparrows.
American peregrine falcon (nesting)	*Falco pergrinus anatum*	Delisted/SE (proposed delisted)/FP	Frequents bodies of water in open areas with cliffs and canyons nearby for cover and nesting. Known to nest on artificial substrates (bridges, buildings, etc)	**Known.** A pair of American Peregrine falcons was observed nesting in the Re-gunning crane on Parcel D of the HPS Phase II site. The pair has raised several young at this location.[34]
Bank swallow (nesting)	*Riparia riparia*	none/ST/none	Nests in steep sandy banks where it excavates burrows.	**Not Likely.** Although individuals have been observed in the vicinity, the Study Area does not provide suitable nesting habitat.
Barrow's goldeneye	*Bucephala islandica*	none/SSC/none	Breeds in high central & northern Sierra Nevada Mountains, near wooded mountain lakes or large streams. Nest in tree cavities, such as a deserted nest-hole of a pileated woodpecker or flicker; also use nest boxes.	**Known.** Although observed near the site during migration and winter, the Study Area does not provide suitable nesting habitat and is well outside the species' breeding range.
Bryant's savannah sparrow	*Passerculus sandwichensis alaudinus*	none/SSC/none	Frequents low tidally influenced habitats, adjacent to ruderal areas, moist grasslands within and just above the fog belt, and grasslands.	**Low.** Salt marsh along Yosemite Slough and the HPS shoreline provides marginal habitat for this species due to its limited extent. Savannah sparrows were observed between January 2003 and April 2004 along Yosemite Slough, however it is unknown whether these were Bryant's savannah sparrows.

[34] Nelson, G., Facility Coordinator, Navy, field visit with PBS&J, July 8, 2008.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Burrowing owl	*Athene cunicularia*	none/SSC/none	Found in open, dry grasslands, deserts, and ruderal areas. Requires suitable small mammal burrows.	**Known.** This species has been observed in the past on Candlestick Point and at HPS, and suitable foraging habitat is present on the site. Although suitable conditions for nesting are present, the species is not known to have nested on the site. Currently, it is either absent, or it occurs sporadically as a non-breeding visitor.
California black rail	*Laterallus jamaicensis coturniculus*	none/ST/FP	Inhabits tidal salt marshes bordering larger bays, or other freshwater and brackish marshes, at low elevations.	**Not Likely.** Small mats of pickleweed adjacent to brackish wetlands are too limited in extent and too highly disturbed to provide suitable habitat. Tidal zone is very narrow.
California clapper rail	*Rallus longirostris obsoletus*	FE/SE/FP	Restricted to salt marshes and tidal sloughs; usually associated with heavy growth of pickle-weed; feeds on mollusks removed from the mud in sloughs.	**Not Likely.** CNDDB records exist for this species within 5-miles of the project site, however, suitable habitat does not occur in the study area. Salt marsh is highly disturbed and limited in the Study Area. Yosemite Slough is a tidal slough, but suitable habitat for the rail is absent because the existing salt marsh in Yosemite Slough is very narrow and unsuitable. The lack of tidal channels within those marshes, feeding into Yosemite Slough further reduce habitat quality.
Common loon	*Gavia immer*	none/SSC/none	Nesting locations at certain large lakes & reservoirs in interior of state, primarily in northeastern plateau region. Bodies of water regularly frequented are extensive, fairly deep, and produce quantities of large fish.	**Known.** Although observed near the site during migration and winter, the Study Area does not provide suitable nesting habitat and is well outside the species' breeding range.
Harlequin duck (nesting)	*Histrionicus histrionicus*	none/SSC/none	Usually nests along shores of shallow, swift rivers with plentiful aquatic invertebrates.[35]	**Known.** This species was observed perching on the piers in the HPS Phase II site. However, the Study Area does not provide suitable nesting habitat for this species. The Study Area is outside this species' current breeding range.

[35] California Department of Fish and Game (CDFG). Website: http://www.dfg.ca.gov/whdab/html/B096.html. Accessed April 6, 2005.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Loggerhead shrike	*Lanius ludovicianus*	none/SSC/none	Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting. Typically nests in broken woodlands, savannah, pinyon-juniper, Joshua tree, and riparian woodlands, desert oases, scrub, and wash.	**Known.** Non-native grasslands provide suitable foraging habitat. Loggerhead shrike has been observed by Alan Hopkins at the CPSRA.[36] Although suitable conditions for nesting are present, the species is not known to have nested on the site. Currently, it is either absent, or it occurs sporadically as a non-breeding visitor.
Marbled murrelet	*Brachyramphus marmoratus*	FT/SE/none	Mature, coastal coniferous forests for nesting; nearby coastal water for foraging; nests in conifer stands greater than 150 years old and may be found up to 35 miles inland; winters on subtidal and pelagic waters often well offshore.	**Absent.** Suitable habitat not present in the Study Area.
Northern harrier	*Circus cyaneus*	none/SSC/none	Coastal salt & fresh-water marsh. Nest & forage in grasslands, from salt grass in desert sink to mountain cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Known.** Salt marsh and ruderal habitats provide suitable foraging habitat for this species, which has been observed by Alan Hopkins at the CPSRA.[37] However, suitable breeding habitat is absent due to the limited extent of marsh, human disturbance, and vulnerability of this ground-nesting species to predation.
San Francisco yellowthroat	*Geothlypis trichas sinuosa*	none/SSC/none	Inhabits emergent wetland habitat, and is a resident and summer visitor in the San Francisco Bay area. Nests are usually placed on or within 8 cm (3 inches) of ground; and may be positioned over water in emergent aquatic vegetation, dense shrubs, or other dense growth.	**Moderate.** Salt marsh along Yosemite Slough and the HPS shoreline provides potential habitat for this species. The existing salt marsh provides marginal habitat due to its limited extent. Common yellowthroats were observed between January 2003 and April 2004 along Yosemite Slough, however it is unknown whether these were San Francisco yellowthroats.[38]

[36] Golden Gate Audubon Society, *Final Report Yosemite Slough Watershed Wildlife Survey 2003–2004*, prepared by LSA, July 27 2004.
[37] Ibid.
[38] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Short-eared owl	*Asio flammeus*	none/SSC/none	Found in swamplands, both fresh and salt; lowland meadows; irrigated alfalfa fields. Tule patches/tall grass needed for nesting/daytime seclusion. Nests on dry ground in depression concealed in vegetation.	**Known.** Salt marsh and ruderal habitats provide suitable foraging habitat for this species, which has been observed by Alan Hopkins at the CPSRA.[39] However, suitable breeding habitat is absent due to the limited extent of marsh, human disturbance, and vulnerability of this ground-nesting species to predation.
Short-tailed albatross	*Phoebastria albatrus*	FE/none/none	Pelagic; nests on offshore islands in north Pacific.	**Absent.** Suitable habitat does not occur in the Study Area.
Tricolored Blackbird	*Agelaius tricolor*	none/SSC/none	Highly colonial species, most numerous in central valley & vicinity. Largely endemic to California. Requires open water, protected nesting substrate, & foraging area with insect prey within a few km of the colony.	**Known.** Ruderal and developed areas on the site provide potential foraging habitat for this species, and the tricolored blackbird has been observed by Alan Hopkins at the CPSRA.[40] However, suitable nesting habitat is absent due to the lack of extensive freshwater marsh vegetation.
Vaux's swift	*Chaetura vauxi*	none/SSC/none	Redwood, Douglas fir, & other coniferous forests. Nests in large hollow trees & snags. Often nests in flocks. Forages over most terrains & habitats.	**Known.** Suitable nesting habitat does not occur in the Study Area. However, individuals may forage aerially over the Study Area.
Western snowy plover (nesting)	*Charadrius alexandrinus nivosus*	FT/SSC/none	Coastal beaches above the normal high tide line in flat, open areas with sandy or saline substrates; vegetation and driftwood are usually sparse or absent.	**Not Likely.** Extensive, open sandy substrate to provide nesting habitat within the Study Area is absent.
White-tailed kite	*Elanus leucurus*	none/none/FP	Preferred habitat is marshes and waste fields in the Central Valley and coastal plains of California.	**Known.** Non-native grasslands provide suitable foraging habitat. Large trees in the Study Area provide suitable nesting habitat for this species, although the species is not known to nest there.
MAMMALS				
Blue whale	*Balaenoptera musculus*	FE/none/none	Coastal and pelagic environments frequently found on the continental shelf off the California coast.	**Absent.** Suitable habitat does not occur in the Study Area.
Finback whale	*Balaenoptera physalus*	FE/none/none	Pelagic; usually found 25 miles or more off shore.	**Absent.** Suitable habitat does not occur in the Study Area.
Guadalupe fur seal	*Arctocephalus townsendii*	FT/ST/FP	Rocky insular shorelines and sheltered coves.	**Absent.** Suitable habitat does not occur in the Study Area.

[39] Ibid.
[40] Ibid.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***
Right whale	*Eubalaena glacialis*	FE/none/none	Pelagic, occurs mainly over continental shelf in the Pacific Ocean.	**Absent.** Suitable habitat does not occur in the Study Area.
Salt marsh harvest mouse	*Reithrodontomys raviventris*	FE/SE/FP	Salt marshes with a dense plant cover or pickleweed or fat hen; adjacent to an upland site.	**Not Likely.** Small mats of pickleweed adjacent to brackish wetlands and salt marsh habitat in the Study Area are highly disturbed. This species has not been recorded on the Peninsula north of the Foster City/ San Mateo Bridge area in decades.
Sei whale	*Balaenoptera borealis*	FE/none/none	Pelagic; generally in deep water along continental shelf.	**Absent.** Suitable habitat does not occur in the Study Area.
Sperm whale	*Physeter catodon*	FE/none/none	Pelagic; prefers deep water but is sometimes found around islands or in shallow shelf waters.	**Absent.** Suitable habitat does not occur in the Study Area.
Steller sea-lion	*Eumetopias jubatus*	FT/none/none Critical habitat	Near shore, pelagic when in water. Otherwise on shore, talus or bare rocks. Critical habitat has been defined for stellar sea lion as a 20 nautical mile buffer around all major haulouts and rookeries, as well as associated terrestrial, air and aquatic zones, and three large offshore foraging areas.[41]	**Not Likely.** Suitable habitat does not occur in the Study Area. Designated critical habitat does not occur in the Study Area. The closest designated critical habitat for this species is the Farallon Islands, approximately 33 air miles east of the Study Area.
Western red bat	*Lasiurus blossevillii*	none/SSC/none	Roosts primarily in trees, less often in shrubs, adjacent to streams, fields, or urban areas. Preferred roost sites are protected from above, open below, and located above dark ground cover.	**Moderate.** Trees (such as eucalyptus) provide potential roost sites for solitary migrant individuals.

SOURCE: CDFG Natural Diversity Database (CNDDB), July 2009 for the US Geological Survey's (USGS) 7.5-minute San Francisco South and Hunters Point quadrangles.
California Native Plant Society (CNPS), July 2009 for the USGS 7.5-minute San Francisco South and Hunters Point quadrangles.
US Fish and Wildlife Service (USFWS), July 2009 for the USGS 7.5-minute San Francisco South and Hunters Point quadrangles

a. Status:

Federal

FE Federally listed as Endangered
FT Federally listed as Threatened
FC Federal candidate species
FPD Federally Proposed Delisted
SC National Marine Fisheries Service designated Species of Concern. Species of Concern status does not carry any procedural or substantive protections under the FESA.

State

SE State listed as Endangered
ST State listed as Threatened
SPD State Proposed for Delisting

[41] National Marine Fisheries Service (NMFS), *Designated Critical Habitat; Stellar Sea Lion*, 58 Federal Register 45269, 1993.

Table I-1. Special Status Species Potentially Occurring within the General Project Vicinity				
Common Name	***Scientific Name***	***Status[a] Fed/ CA/ other***	***Habitat and Seasonal Distribution in California***	***Likelihood of Occurrence Within the Project Vicinity***

SR State Rare
FP California Department of Fish and Game designated "Fully Protected"
SSC California Department of Fish and Game designated "Species of Special Concern"

Other

ESHA Environmentally Sensitive Habitat Area by the California Coastal Commission
SLC California Native Plant Society (CNPS) Ranking Species of Local Concern
1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.
2 California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California, but more common elsewhere.
3 California Native Plant Society (CNPS) Ranking. Plants About Which More Information is Needed—A Review List.
CEQA Species not currently protected by statute or regulation, but considered rare, threatened or endangered under Section 15380 of the CEQA Guidelines.
Recent modifications to the CNPS Ranking System include the addition of a new Threat Code extension to listed species (i.e., List 1B.1, List 2.2 etc.). A Threat Code extension of .1 signifies that a species is seriously endangered in California; .2 is fairly endangered in California; and .3 is not very endangered in California.

b. Likelihood of occurrence evaluations
- A rating of "**Known**" indicates that the species/natural community type has been observed on the site.
- A rating of "**High**" indicates that the species has not been observed, but sufficient information is available to indicate suitable habitat and conditions are present in the Study Area and the species is expected to occur in the Study Area.
- A rating of "**Moderate**" indicates that it is not known if the species is present, but suitable habitat exists in the Study Area.
- A rating of "**Low**" indicates that species was not found during biological surveys conducted to date on the Project site and may not be expected given the species' known regional distribution or the quality of habitats located in the Study Area.
- A rating of "**Not Likely**" indicates that the taxon would not be expected to occur in the Study Area because the Study Area does not include the known range or does not support suitable habitat.
- A rating of "**Absent**" indicates that no recorded occurrences or suitable habitat(s) occur within the Study Area to support this species. These species are not discussed further in this document.

This page intentionally left blank