Appendix C

Special-Status Species

Special-Status Plants Known to Occur in the Project Region and their Potential to Occur in the Survey Area

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Survey Area[2]
Vernal pool smallscale *Atriplex persistens*	–	–	1B.2	Vernal pools, wetland. Alkaline vernal pools. 10–375 feet in elevation. Blooms June–October. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Watershield *Brasenia schreberi*	–	–	2B.3	Wetland. Freshwater marshes and swamps. Aquatic from water bodies both natural and artificial in California. 100–7220 feet in elevation. Blooms June–September. Geophyte.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Hoover's calycadenia *Calycadenia hooveri*	–	–	1B.3	Cismontane woodland, valley and foothill grassland. On exposed, rocky, barren soil. 230–855 feet in elevation. Blooms July–September. Annual.	**May occur:** The annual grassland within the southern proposed compost storage area has potential to support this species.
Succulent owl's-clover *Castilleja campestris* var. *succulenta*	FT	SE	1B.2	Vernal pools, wetland. Moist places, often in acidic soils. 65–2315 feet in elevation. Blooms (March), April–May. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Mariposa clarkia *Clarkia biloba* ssp. *australis*	–	–	1B.2	Ultramafic. Chaparral, cismontane woodland. On serpentine. Several sites occur in the foothill woodland/riparian ecotone. 395–4805 feet in elevation. Blooms April–July. Annual.	Not expected to occur: The property boundary is outside of the elevational range for this species.
Beaked clarkia *Clarkia rostrata*	–	–	1B.3	Cismontane woodland, valley and foothill grassland. North-facing slopes; sometimes on sandstone. 195–3000 feet in elevation. Blooms April–May. Annual.	**May occur:** The annual grassland within the southern proposed compost storage area has potential to support this species.
Peruvian dodder *Cuscuta obtusiflora* var. *glandulosa*	–	–	2B.2	Wetland. Marshes and swamps (freshwater). Freshwater marsh. 50–920 feet in elevation. Blooms July–October. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Dwarf downingia *Downingia pusilla*	–	–	2B.2	Wetland. Valley and foothill grassland (mesic sites), vernal pools. Vernal lake and pool margins with a variety of associates. In several types of vernal pools. 5–1610 feet in elevation. Blooms March–May. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Delta button-celery *Eryngium racemosum*	–	SE	1B.1	Wetland. Riparian scrub. Seasonally inundated floodplain on clay. 5–1100 feet in elevation. Blooms June–October. Annual/Perennial.	Not expected to occur: No suitable habitat for this species (wetlands or riparian scrub) occurs in the area of proposed changes.
Spiny-sepaled button-celery *Eryngium spinosepalum*	–	–	1B.2	Wetland. Vernal pools, valley and foothill grassland. Some sites on clay soil of granitic origin; vernal pools, within grassland. 260–835 feet in elevation. Blooms April–June. Annual/Perennial.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Survey Area[2]
Hoover's spurge *Euphorbia hooveri*	FT	–	1B.2	Vernal pools, wetland. Vernal pools on volcanic mudflow or clay substrate. 80–425 feet in elevation. Blooms July–September (October). Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Boggs Lake hedge-hyssop *Gratiola heterosepala*	–	SE	1B.2	Wetland. Marshes and swamps (freshwater), vernal pools. Clay soils; usually in vernal pools, sometimes on lake margins. 35–7790 feet in elevation. Blooms April–August. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Forked hare-leaf *Lagophylla dichotoma*	–	–	1B.1	Cismontane woodland, valley and foothill grassland. Sometimes clay. 625–1100 feet in elevation. Blooms April–May. Annual.	Not expected to occur: The project site is outside of the elevational range for this species.
Pincushion navarretia *Navarretia myersii* ssp. *myersii*	–	–	1B.1	Vernal pools, wetland. Clay soils within non-native grassland. 150–330 feet in elevation. Blooms April–May. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Shining navarretia *Navarretia nigelliformis* ssp. *radians*	–	–	1B.2	Found in clay depressions, wetlands, and vernal pools. 195–3200 feet in elevation. Blooms (March), April–July. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or wetlands) occurs in the area of proposed changes.
Colusa grass *Neostapfia colusana*	FT	SE	1B.1	Vernal pools, wetland. Usually in the bottoms of large, or deep vernal pools; adobe soils. 15–410 feet in elevation. Blooms May–August. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
San Joaquin Valley Orcutt grass *Orcuttia inaequalis*	FT	SE	1B.1	Vernal pools, wetland. 35–2475 feet in elevation. Blooms April–September. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Hairy Orcutt grass *Orcuttia pilosa*	FE	SE	1B.1	Vernal pools, wetland. 150–655 feet in elevation. Blooms May–September. Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.
Eel-grass pondweed *Potamogeton zosteriformis*	–	–	2B.2	Wetland. Marshes and swamps. Ponds, lakes, streams. 295–7005 feet in elevation. Blooms June–July. Annual.	Not expected to occur: No suitable habitat for this species (emergent marsh) occurs in the area of proposed changes.
Hartweg's golden sunburst *Pseudobahia bahiifolia*	FE	SE	1B.1	Shallow, well-drained, medium-textured soils in valley and foothill grassland or cismontane woodland. Clay soils, often acidic. Predominantly on the northern slopes of knolls (i.e., mima mounds), but also along shady creeks or near vernal pools. 195–560 feet in elevation. Blooms March–April. Annual.	Not expected to occur: Mima mound habit suitable for this species is not present in the area of proposed changes.

Name	Federal Status[1]	State Status[1]	CRPR[1]	Habitat	Potential to Occur in the Survey Area[2]
Sanford's arrowhead *Sagittaria sanfordii*	–	–	1B.2	Wetland. Marshes and swamps. In standing or slow-moving freshwater ponds, marshes, and ditches. 0–2135 feet in elevation. Blooms May–October (November). Geophyte.	Not expected to occur: No suitable habitat for this species (wetlands and marshes) occurs in the area of proposed changes.
Keck's checkerbloom *Sidalcea keckii*	FE	–	1B.1	Ultramafic. Cismontane woodland, valley and foothill grassland. Grassy slopes in blue oak woodland. On serpentine-derived, clay soils, at least sometimes. 280–1655 feet in elevation. Blooms April–May (June). Annual.	Not expected to occur: No suitable habitat for this species (ultramafic or serpentine derived soils) occurs in the area of proposed changes.
Greene's tuctoria *Tuctoria greenei*	FE	SR	1B.1	Vernal pools, wetland. Vernal pools in open grasslands. 80–4345 feet in elevation. Blooms May–July (September). Annual.	Not expected to occur: No suitable habitat for this species (vernal pools or swales) occurs in the area of proposed changes.

Notes: CRPR = California Rare Plant Rank; CNDDB = California Natural Diversity Database

[1 & 2] Legal Status Definitions

Federal:
FE Endangered (legally protected)
FT Threatened (legally protected)
State:
SE Endangered (legally protected)
SR State Rare (legally protected)

California Rare Plant Ranks:
1B Plant species considered rare or endangered in California and elsewhere (protected under CEQA, but not legally protected under ESA or CESA)
2B Plant species considered rare or endangered in California but more common elsewhere (protected under CEQA, but not legally protected under ESA or CESA)

Threat Ranks:
0.1 Seriously threatened in California (over 80% of occurrences threatened; high degree and immediacy of threat)
0.2 Moderately threatened in California (20-80% occurrences threatened; moderate degree and immediacy of threat)
0.3 Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

[2] Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present within the survey area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available within the survey area; however, there are little to no other indicators that the species might be present.

Sources: CNDDB 2024; CNPS 2024.

Special-Status Wildlife Known to Occur in the Project Region and their Potential to Occur on the Survey Area

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Reptiles and Amphibians				
California tiger salamander - central California DPS *Ambystoma californiense* pop. 1	FT	ST	Lives in vacant or mammal-occupied burrows throughout most of the year; in grassland, savanna, or open woodland habitats. Need underground refuges, especially ground squirrel burrows, and vernal pools or other seasonal water sources for breeding.	**May occur:** Vernal pools and swales provide aquatic habitat suitable for California tiger salamander. Existing operations and protocol surveys conducted at and near the project site detected a single CTS metamorph within the stormwater retention pond located 300 feet west of the southern proposed storage area in 2011 (CNDDB 2024). Although the stormwater basin provides low-quality habitat due to the poor water quality, and lack of upland mammal burrows due to ongoing mammal control in the surrounding vicinity, this species could potentially disperse in project area.
Giant gartersnake *Thamnophis gigas*	FT	ST	Marsh and swamp, riparian scrub, wetland. Prefers freshwater marsh and low gradient streams. Has adapted to drainage canals and irrigation ditches. This is the most aquatic of the garter snakes in California.	Not expected to occur: The survey area does not support stream or canal habitat required by giant gartersnake.
Western pond turtle *Emys marmorata*	FPL	SSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 ft elevation. Needs basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	Not expected to occur: The stormwater retention basin lacks suitable emergent vegetation and floating debris to provide aquatic habitat, and the grassland areas lack cobble or sandy soil substrate needed for pond turtle upland habitat.
Western spadefoot *Spea hammondii*	FPL	SSC	Cismontane woodland, coastal scrub, valley and foothill grassland, vernal pool, and wetlands. Occurs primarily in grassland habitats but can be found in valley-foothill hardwood woodlands. Vernal pools are essential for breeding and egg-laying. Estivate in burrows created in surrounding uplands.	**May occur:** Although the habitat is low-quality, western spadefoot may breed and disperse from the nearby wetland preserve into the annual grassland portions of the project area during wet events and estivate onsite through the nonbreeding season.
Birds				
Bald eagle Haliaeetus leucocephalus	FD	SE, FP	Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**May occur:** Bald eagle have been documented breeding at Lake Yosemite approximately 3.5 mile east of the project site and one individual was observed flying over the landfill in 2022 (eBird 2024). Workers at the landfill have observed bald eagles visiting the active landfill and occasionally hunting gulls on the property an estimated once every two years in the past (Womble Pers. comm. 2024). Although the survey area does not contain trees or structures suitable for bald eagle nesting, and fish-bearing streams that provide typical bald eagle foraging habitat are not present within 1 mile of the project site, bald eagle may forage on the project site.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Burrowing owl *Athene cunicularia*	–	SSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel.	**May occur:** One burrowing owl was observed foraging within the wetland preserve north of the project site in 2013 (MCRWMA 2016). The annual grassland in the southern proposed storage area may provide suitable habitat for burrowing owl. No mammal burrows required for burrowing owl denning were observed in the area; however, culverts associated with the nearby stormwater retention basin may provide low-quality but marginally suitable habitat for the species.
Least Bell's vireo *Vireo bellii pusillus*	FE	SE	Riparian forest, riparian scrub, riparian woodland. Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, coyote brush, mesquite.	Not expected to occur: Suitable habitat for least Bell's vireo foraging and breeding is not present in or near the project site.
Mountain plover *Charadrius montanus*	–	SSC	Short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Short vegetation, bare ground and flat topography. Prefers grazed areas and areas with burrowing rodents. This species may overwinter in California but breeds elsewhere.	Not expected to occur. This species is unlikely to occur in the project area during its sensitive overwintering period because the grasslands in the project area are not maintained with short vegetation as preferred by this species.
Northern harrier *Circus hudsonius*	–	SSC	Coastal salt and freshwater marsh. Nest and forage in grasslands, from salt grass in desert sink to mountain cienagas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**May occur:** The annual grassland in the proposed storage area provides low-quality but suitable nesting habitat for this species. Northern harrier may nest in grasslands such as the annual grassland proposed for storage, however, they prefer to nest near hunting grounds such as the wetland preserve near the project area.
Swainson's hawk *Buteo swainsoni*	–	ST	Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**May occur:** Although the project site does not provide nesting habitat suitable for Swainson's hawk, the ruderal/disturbed and annual grassland areas in the project site provide foraging habitat suitable for this species.
Tricolored blackbird *Agelaius tricolor*	–	ST, SSC	Freshwater marsh, marsh and swamp, swamp, wetland. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony and relatively low levels of disturbance.	**May occur:** Although the project site does not provide suitable nesting habitat for tricolored blackbird, this species has been documented in grasslands south of the project area (CNDDB 2024), and tricolored blackbird may use the project site for foraging.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Yellow-breasted chat *Icteria virens*	–	SSC	Riparian forest, riparian scrub, riparian woodland. Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 feet of ground.	Not expected to occur: Suitable habitat for yellow-breasted chat foraging and breeding is not present in or near the project site.
Fish				
Hardhead *Mylopharodon conocephalus*	–	SSC	Klamath/North coast flowing waters, Sacramento/San Joaquin flowing waters. Low to mid-elevation streams in the Sacramento-San Joaquin drainage. Also present in the Russian River. Clear, deep pools with sand-gravel-boulder bottoms and slow water velocity. Not found where exotic centrarchids predominate.	Not expected to occur: Suitable habitat for fish is not present in or near the project site.
Kern brook lamprey *Lampetra hubbsi*	–	SSC	San Joaquin River system and Kern River. Gravel-bottomed areas for spawning and muddy-bottomed areas where ammocoetes can burrow and feed.	Not expected to occur: Suitable habitat for fish is not present in or near the project site.
Steelhead - Central Valley DPS *Oncorhynchus mykiss irideus* pop. 11	FT	–	Sacramento/San Joaquin flowing waters. Populations in the Sacramento and San Joaquin rivers and their tributaries.	Not expected to occur: Suitable habitat for fish is not present in or near the project site.
Invertebrates				
Conservancy fairy shrimp *Branchinecta conservatio*	FE	–	Endemic to the grasslands of the northern two-thirds of the Central Valley; found in large, turbid pools. Inhabit astatic pools located in swales formed by old, braided alluvium; filled by winter/spring rains, last until June.	Not expected to occur: No vernal pool habitat is present in the areas of proposed changes.
Crotch bumble bee *Bombus crotchii*	–	SC	Found primarily in California: mediterranean, Pacific coast, western desert, Great Valley, and adjacent foothills through most of southwestern California. Habitat includes open grassland and scrub. Nests underground.	**May occur:** The project is within the known range of this species (CDFW 2023) and grassland and vernal pools within the vicinity of the project may provide suitable floral resources for Crotch bumble bee foraging.
Vernal pool fairy shrimp *Branchinecta lynchi*	FT	–	Valley and foothill grassland, vernal pool, wetland. Endemic to the grasslands of the Central Valley, Central Coast mountains, and South Coast mountains, in astatic rain-filled pools. Inhabit small, clear-water sandstone-depression pools and grassed swale, earth slump, or basalt-flow depression pools.	Not expected to occur: Vernal pool fairy shrimp have been observed in the wetland preserve west of the proposed project, however, no vernal pool habitat is present in the areas of proposed changes.

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Vernal pool tadpole shrimp *Lepidurus packardi*	FE	–	Valley and foothill grassland, vernal pool, wetland. Inhabits vernal pools and swales in the Sacramento Valley containing clear to highly turbid water. Pools commonly found in grass bottomed swales of unplowed grasslands. Some pools are mud-bottomed and highly turbid.	Not expected to occur: No vernal pool habitat is present in the areas of proposed changes.
Mammals				
American badger *Taxidea taxus*	–	SSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.	Not expected to occur: Individuals could pass through and forage on the project site; however, soils in the proposed storage area are not suitable for badger den sites. Badgers may den nearby in the wetland preserve and forage or disperse through the other project areas.
Pallid bat *Antrozous pallidus*	–	SSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Tree roosting has also been documented in large conifer snags, inside basal hollows of redwoods and giant sequoias, and bole cavities in oaks. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	Not expected to occur: No suitable roosting sites for this species are present in the area of proposed changes or compost storage.
San Joaquin kit fox *Vulpes macrotis mutica*	FE	ST	Annual grasslands or grassy open stages with scattered shrubby vegetation. Need loose-textured sandy soils for burrowing, and suitable prey base.	Not expected to occur: Individuals could pass through and forage on the site, however, dens on site are unlikely. The closest documented occurrence was documented in 1999 6.5 miles southwest along the Livingston Canal near Atwater High in Merced, and the next closest occurrence is located 7.5 miles southeast near the Black Rascal Creek in agricultural land south of UC Merced (CNDDB 2024). The area proposed for storage in annual grassland does not contain a suitable prey base or suitable soils for burrowing. Although the wetland preserve may provide suitable habitat, this species is not likely to occur in the Highway 59 landfill area during the sensitive denning period.
Townsend's big-eared bat *Corynorhinus townsendii*	–	SSC	Throughout California in a wide variety of habitats. Most common in mesic sites. Requires large cavities for roosting, which may include abandoned buildings and mines, caves, and basal cavities of trees. Roosts in the open, hanging from walls and ceilings. Roosting sites limiting. Extremely sensitive to human disturbance.	Not expected to occur: No suitable roosting sites for this species are present in the area of proposed changes or storage (low-disturbance roosts such as trees, shrubs, cliffs, or tall buildings).
Western mastiff bat *Eumops perotis californicus*	–	SSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	Not expected to occur: No suitable roosting sites for this species are present in the area of proposed changes or compost storage (bats may roost in trees, shrubs, cliffs, or tall buildings).

Name	Federal Status[1]	State Status[1]	Habitat	Potential to Occur in the Survey Area
Western red bat *Lasiurus blossevillii*	–	SSC	Roosting habitat includes forests and woodlands from sea level up through mixed conifer forests. Roosts primarily in trees (less often in shrubs) along the edge of habitats adjacent to streams, fields, or urban areas. Foraging occurs in open areas.	Not expected to occur: No suitable roosting sites for this species are present in the area of proposed changes or compost storage.

General references: Unless otherwise noted all habitat and distribution data provided by CNDDB.

Note: CNDDB = California Natural Diversity Database

[1] Legal Status Definitions

Federal:
FE Endangered (legally protected)
FT Threatened (legally protected)
FPL Federally Proposed for listing (no formal protection other than CEQA consideration)

State:
SE Endangered (legally protected)
ST Threatened (legally protected)
FP Fully protected (legally protected)
SSC Species of special concern (no formal protection other than CEQA consideration)

[2] Potential for Occurrence Definitions

Not expected to occur: Species is unlikely to be present in the plan area due to poor habitat quality, lack of suitable habitat features, or restricted current distribution of the species.

May occur: Suitable habitat is available in the plan area; however, there are little to no other indicators that the species might be present.

Likely to occur: All of the species life history requirements can be met by habitat present on the site, and populations/occurrences are known to occur in the immediate vicinity.

Present. Species observed within the study area.

Source: CNDDB 2024; USFWS 2024.