Appendix B

Biological Evaluation

BAY AREA OFFICE
1720 Solano Avenue
Berkeley, CA 94707
Phone: 510/559-9603
Fax: 510/559-9605
www.vollmarconsulting.com

Biological Evaluation

Sanitary Sewer Condition Assessment Repairs Program
City of Santa Clara, Santa Clara County, California

Prepared for:
The City of Santa Clara
Public Works Department
1500 Warburton Avenue
Santa Clara, CA 95050

Prepared by:
Vollmar Natural Lands Consulting
1720 Solano Avenue, Berkeley, CA 94707
Contact: Cassie Pinnell | 916/758-6928
Prepared on Behalf of:
Redtail Consulting, Fremont, CA
Contact: Anna Buising | 510/304-8363

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Figures, Tables, and Appendices

1.0 INTRODUCTION

This report presents the methods and results of a biological habitat evaluation conducted by Vollmar Natural Lands Consulting, Inc. (VNLC) for six proposed improvement sites (known as Segments 12, 23, 29, 30, 31, and 35) located within the City of Santa Clara, Santa Clara County, California (**Figure 1**).

The City's Water and Sewer Utility owns and operates a sanitary sewer system that serves close to 120,000 residential, commercial, and industrial customers within City limits and also accepts flows from the neighboring Cupertino Sanitary District under an agreement originally executed in 1985. The City of Santa Clara's environmental screening identified six repair projects addressing PACP Grade 5 defects (having the "most significant defects") for which California Environmental Quality Act (CEQA) review is warranted. These are listed below. The remaining 28 Grade 5 defect repair projects were found to qualify for Class 1 categorical exemption from CEQA, per Section 15301 of the state's CEQA Guidelines.

The following repair projects, which the City has determined will require CEQA review, are the focus of this biological habitat evaluation:

- **Segment 12** is located north of Walsh Ave, extending from the parking lot at 2403 Walsh Ave across San Tomas Aquino Creek to the parking lot at NVIDIA facilities. The repairs made to Segment 12 will be installing pipe lining in dual siphon lines between SSMH 64-34 and SSMH 64-36.
- **Segment 23** is located within Saratoga Avenue north of San Tomas Expressway. The repairs made to Segment 23 will be installing pipe lining to address a rupture in a 10-inch-diameter VCP sewer pipe.
- **Segments 29 and 30** are located within parking lots at 1400 Kifer Road and 1390 Kifer Road, respectively. The repairs made to Segments 29 and 30 will be installing pipe lining to repair damaged portions of a 24-inch-diameter sewer pipe.
- **Segment 31** is located within the parking lot at 350 Oakmead Parkway and adjacent vacant lot. The repairs made to Segment 31 will be installing pipe lining to repair damaged portions of a 24-inch-diameter VCP sewer pipe.
- **Segment 35** extends beneath the Guadalupe River south of SR 237. The repairs made to Segment 35 will be grouting to repair a seal leaking joint in a 42-inch-diameter reinforced concrete (RCP) sewer pipe.

This habitat evaluation was conducted to identify and characterize existing conditions as well as assess the potential for special-status species, sensitive habitats, and jurisdictional features to occur within the project sites. This evaluation also provides recommended minimization and avoidance measures to reduce potential impacts to habitats and features to less-than-significant levels under CEQA, and to avoid take of special-status species.

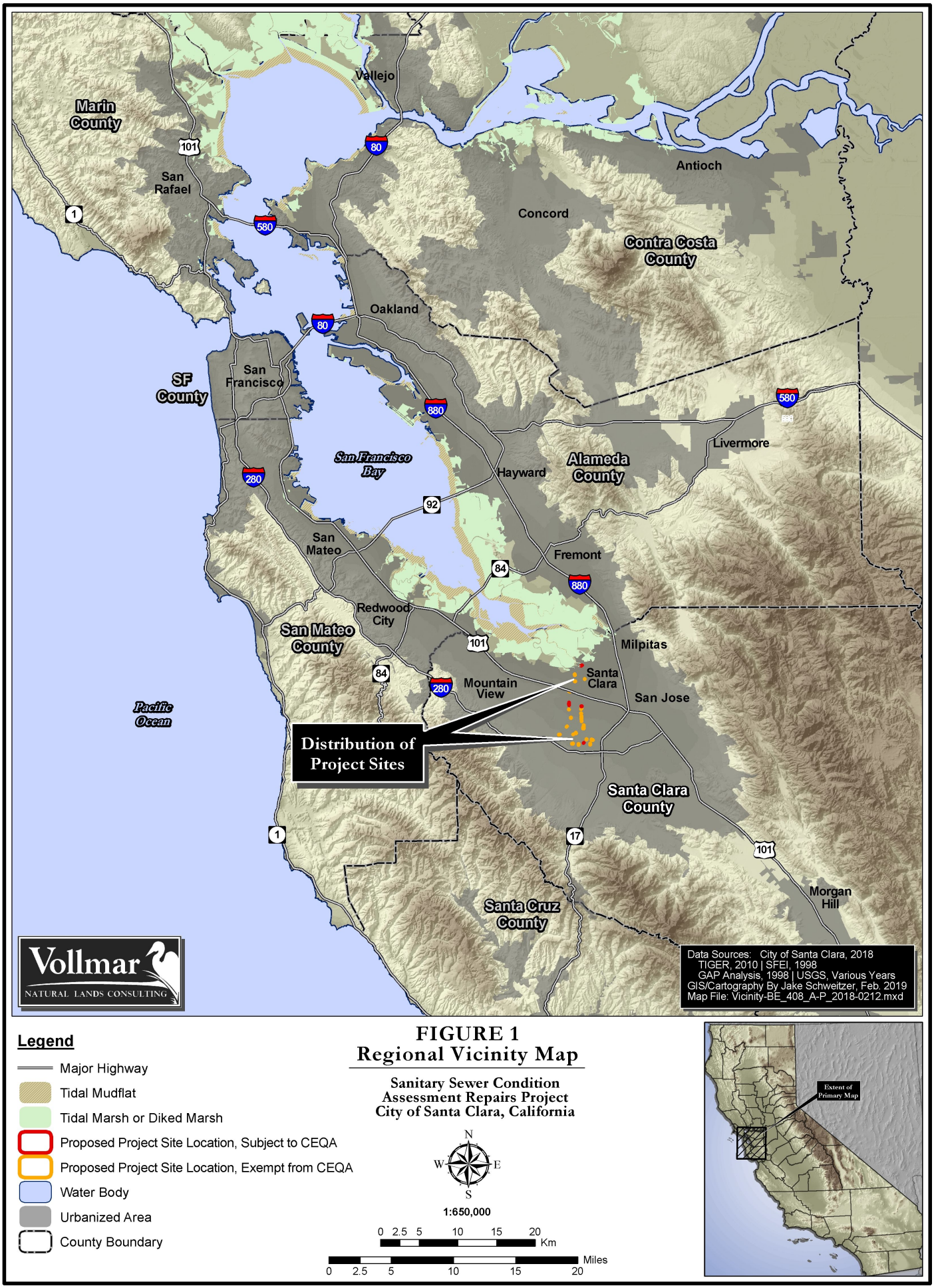
A total of three State listed Threatened (ST) or Endangered (SE), and one State Candidate (SC) special-status species have potential to occur in the vicinity of Segment 35. These include tricolored blackbird (*Agelaius tricolor*) (SC), California black rail (*Laterallus jamaicensis coturniculus*) (ST), California Ridgway's rail (*Rallus obsoletus)* (SE), and salt-marsh harvest mouse (*Reithrodontomys raviventris)* (SE). An additional 20 species that are assigned other special-status species designations under State, federal, Santa Clara Valley Habitat Plan (HCP), or California Native Plant Society (CRPR) listings have potential to occur within the vicinity of Segment 35 and/or Segment 12 (See **Table 1** below). Further information regarding habitat suitability is discussed in **Section 4.0**, and Avoidance and Minimization Measures are recommended under **Section 5.0**.

Table 1. Special-status Species with Potential to Occur within Project Segments

Species	Status					Potential to Occur on Project Site
	State		Federal		Other	
	SE/ ST/ SC	SSC/ SA/ FP/ WL	FE/FT	BLM:S/ NMFS:SC/ USFS:S/ USFWS: BCC	CRPR	
Cooper's hawk *Accipiter cooperii*		X				**Segment 35**
Green sturgeon *Acipenser medirostris*		X	X	X		**Segment 35**
White sturgeon *Acipenser transmontanus*		X				**Segment 35**
Southwestern pond turtle *Actinemys (marmorata) pallida*		X		X		**Segment 35** **Segment 12**
Tricolored blackbird *Agelaius tricolor*	X	X		X		**Segment 35**
Pallid bat *Antrozous pallidus*		X		X		**Segment 35**
Great blue heron (rookery) *Ardea herodias*		X				**Segment 35**
Alkali milk-vetch *Astragalus tener* var. *tener*					X	**Segment 35**
Burrowing owl *Athene cunicularia hypugaea*		X		X		**Segment 35** **Segment 12**
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*					X	**Segment 35**
Point Reyes bird's-beak					X	**Segment 35**

Species	Status					Potential to Occur on Project Site
	State		Federal		Other	
	SE/ ST/ SC	SSC/ SA/ FP/ WL	FE/FT	BLM:S/ NMFS:SC/ USFS:S/ USFWS: BCC	CRPR	
Chloropyron maritimum ssp. *palustre*						
White-tailed kite *Elanus leucurus*		X		X		**Segment 35**
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*		X		X		**Segment 35**
Western red bat *Lasiurus blossevillii*		X				**Segment 35**
California black rail *Laterallus jamaicensis coturniculus*	X	X		X		**Segment 35**
Alameda song sparrow *Melospiza melodia pusillula*		X		X		**Segment 35**
Steelhead - CCC DPS *Oncorhynchus mykiss irrideus*			X			**Segment 35**
Chinook salmon (Central valley fall-run, hatchery stock) *Oncorhynchus tshawytscha*		X		X		**Segment 35**
California Ridgway's rail *Rallus obsoletus obsoletus*	X	X	X			**Segment 35**
California red-legged frog *Rana draytonii*		X	X			**Segment 35**
Salt-marsh harvest mouse *Reithrodontomys raviventris*	X	X	X			**Segment 35**
Salt-marsh wandering shrew *Sorex vagrans halicoetes*		X				**Segment 35**
California seablite *Suaeda californica*			X		X	**Segment 35**
Saline clover *Trifolium hydrophilum*					X	**Segment 35**

FT – Federal Threatened; FE – Federal Endangered; ST – State Threatened; SE - State Endangered; SC – State Candidate; SSC – CDFW Species Special Concern; SA – CDFW Special Animal List; FP – CDFW Fully Protected; WL – CDFW Watch List; BLM: S -Bureau of Land Management: Sensitive; USFS: S – United States Forestry Service; USFWS: BCC – United States Fish and Wildlife Service: Birds of Conservation Concern; NMFS: SC – National Marine Fisheries Service: Species of Concern



Legend

- Major Highway
- Tidal Mudflat
- Tidal Marsh or Diked Marsh
- Proposed Project Site Location, Subject to CEQA
- Proposed Project Site Location, Exempt from CEQA
- Water Body
- Urbanized Area
- County Boundary

FIGURE 1
Regional Vicinity Map

Sanitary Sewer Condition Assessment Repairs Project
City of Santa Clara, California

N
W E
S

1:650,000

0 2.5 5 10 15 20 Km

0 2.5 5 10 15 20 Miles

2.0 PROJECT LOCATIONS

All six project sites are located within developed portions of the City of Santa Clara, Santa Clara County, California (**Figure 1**).

Segment 23 is located within Saratoga Avenue immediately north of San Tomas Expressway (**Figure 2b**). On the west side of Saratoga Avenue adjacent to the Segment is Pruneridge Shopping Center, anchored by a Lucky grocery store and offering a Starbucks, a Citibank, and a Union 76 gas station along with other businesses. Pruneridge Golf Club is north of the shopping center on the west side of Saratoga Avenue. On the east side of Saratoga Avenue is an area of low- to medium-density residential development abutting Parkway Park to the south. The surrounding area is dominated by suburban residential and local commercial uses.

Segments 29, 30, and 31 are located within paved parking lots at 1400 Kifer Road, 1390 Kifer Road, and 350 Oakmead Parkway (**Figures 2a** and **2b**), in an area dominated by industrial, light industrial, residential development, and office uses. Calabazas Creek runs approximately north-south at the west edge of the parking lots with the Calabazas Creek Trail at top of bank. The Trail is separated from 1400 and 1390 Kifer Road by fencing and a planting strip, and from 350 Oakmead Parkway by a thick hedge planting.

Segment 35 crosses beneath the Guadalupe River about 200 feet south of the SR 237 bridge (**Figure 2a**). To the immediate west of Segment 35 is the City's Eastside Retention Basin, which receives and stores stormwater from Calle del Mundo, Calle del Luna, the Fairway Glen neighborhood, and the area south of Tasman Drive for gradual discharge into the Guadalupe River. The area east of Segment 35 is dominated by high-density residential uses, including the Oak Crest Estates and Lamplighter San Jose mobile home parks, and farther south are several apartment and condominium complexes.

Segment 12 crosses beneath San Tomas Aquino Creek about 350 feet north of Walsh Avenue (**Figure 2b**), extending from the San Tomas Aquino Creek Trail adjacent to the west bank of the Creek to the parking lot of the NVIDIA facilities at 2788 San Tomas Expressway, east of the Creek.

FIGURE 2a
Northern Study Area

Sanitary Sewer Condition Assessment Repairs Project
City of Santa Clara, California

Legend

- Highway or Primary Road
- Stream
- City Boundary
- Proposed Project Site

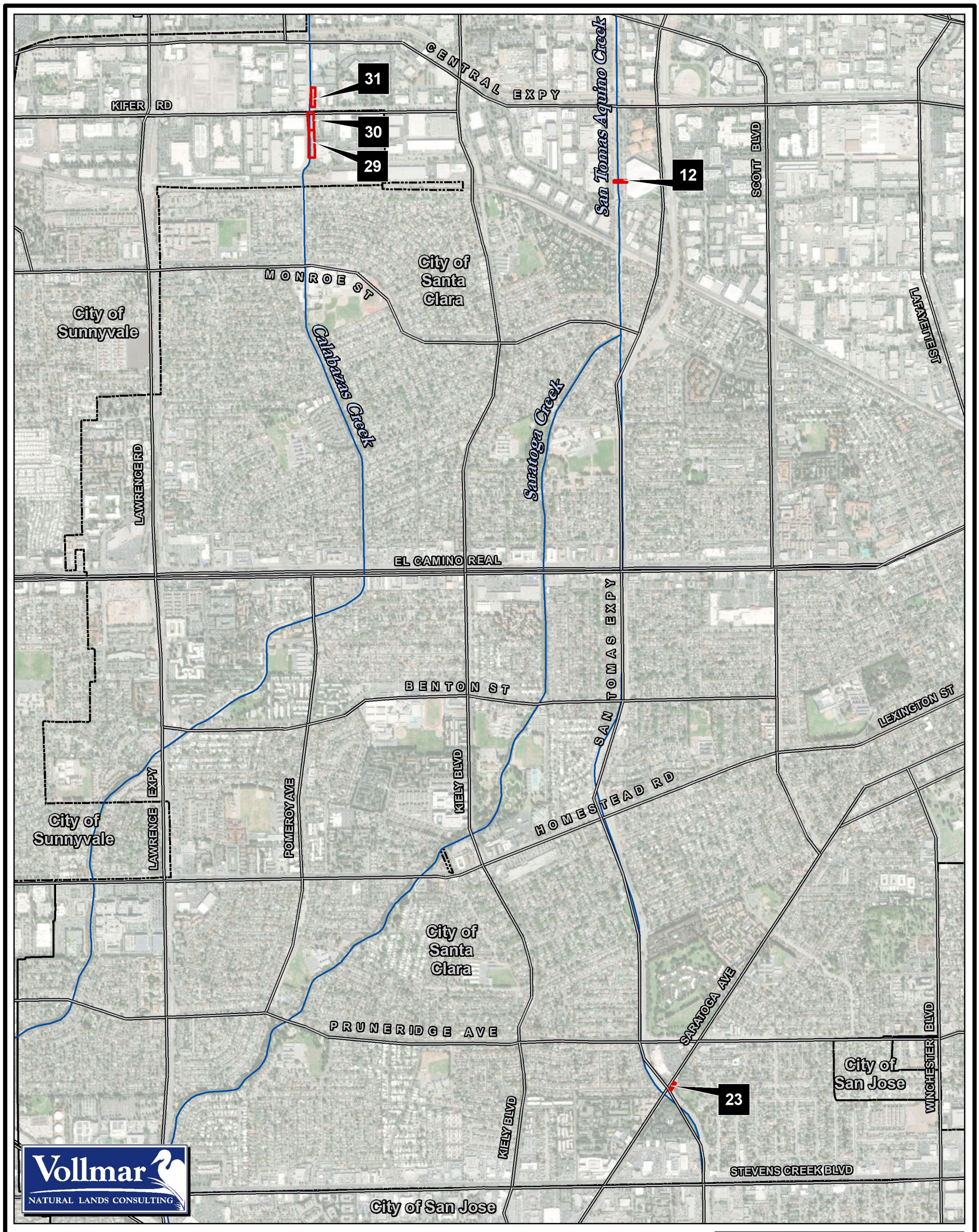
N
W E
S

1:20,000

0 0.5 1 Km

0 0.5 1 Miles

Data Sources: Redtail 2018 | City of Santa Clara, 2018
SFEI BAARI, 2015 | USGS Online Imagery, 2017
U.S. HUD, 2017 | TIGER, 2010
GIS/Cartography by J. Schweitzer & C. Pinnell, Oct 2018
Map File: Site-Zm_408_B-L_2019-0215.mxd



Legend

- Highway or Primary Road
- Stream
- City Boundary
- Proposed Project Site

FIGURE 2b
Southern Study Area

Sanitary Sewer Condition
Assessment Repairs Project
City of Santa Clara, California

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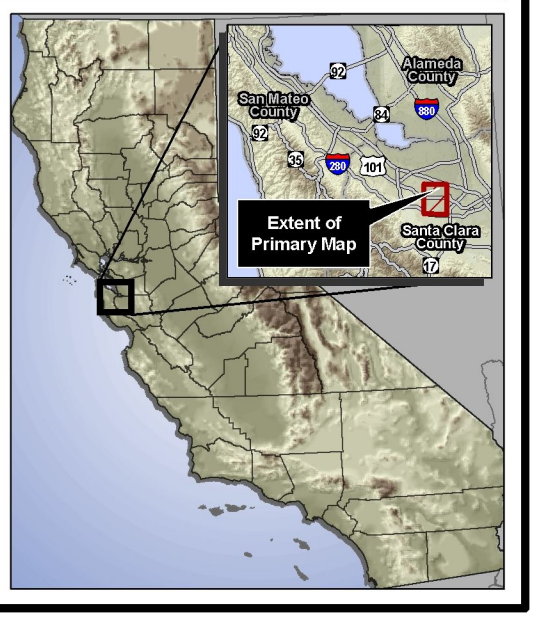
1:20,000

0 0.5 1 Km

0 0.5 1 Miles



Data Sources: Redtail 2018 | City of Santa Clara, 2018
SFEI BAARI, 2015 | USGS Online Imagery, 2017
U.S. HUD, 2017 | TIGER, 2010
GIS/Cartography by J. Schweitzer & C. Pinnell, Oct 2018
Map File: Site-Zm_408_B-L_2019-0215.mxd

3.0 METHODS

3.1 Preliminary Review

Prior to the project sites visits, the latest version of the California Natural Diversity Database (CNDDB 2018) was reviewed to identify special-status plants and wildlife observations in the vicinity. Additionally, the US Fish and Wildlife Service Information Planning and Consultation System (IPaC) was reviewed to assess which federally listed species could occur in the vicinity of the project sites. Site aerial imagery, project descriptions, and general regional conditions were also reviewed prior to the site visits.

3.2 Project Site Surveys

An initial visit to each of the six sites was conducted by VNLC Senior Ecologist Jake Schweitzer on October 4, 2018. On January 24, 2019, VNLC Senior Ecologists Cassie Pinnell and Jake Schweitzer walked the proposed six project sites to gain complete visual coverage. During the site visits, all observed flora and wildlife species, general conditions, and notable habitat features were recorded. A search was conducted for jurisdictional features (wetlands and other waters, etc.), sensitive habitats (native grasslands, etc.), and habitat potential for special-status species (nesting potential, burrows, etc.). A complete wetland delineation report was prepared as a separate document. Photographs detailing representative site conditions were also collected from across the site (**Appendix A**).

4.0 RESULTS

4.1 Existing Site Conditions

Segment 12 crosses beneath San Tomas Aquino Creek about 350 feet north of Walsh Avenue (**Figure 2a** and **2b**), extending from the San Tomas Aquino Creek Trail adjacent to the west bank of the Creek to the adjacent parking lot east of the Creek. There is access to the sewer pipeline through manholes in the parking lot. The Creek has been channelized for flood protection and occupies a trapezoidal earthen channel, which has a gravelly bottom with some sandy cobble bars. Vegetation was extremely sparse (i.e., less than 5% cover) at the time of the site survey, as a result of flooding within the channel prior to the survey. A few individuals of the following plant species were observed within the channel: broadleaf cattail (*Typha latifolia*), arroyo willow (*Salix lasiolepis*) saplings, panicled bulrush (*Scirpus microcarpus*), soft rush (*Juncus effusus*) and along the channel margins, the introduced Canary Island date palm (*Phoenix canariensis*) and Bermuda grass (*Cynodon dactylon*) were present. Vegetation along the channel banks and adjacent upland areas is dominated by non-native species, including Harding grass (*Phalaris aquatica*), shamel ash *(Fraxinus uhdei*), oleander (*Nerium oleander*), common fennel (*Foeniculum vulgare*), smilo grass (*Stipa miliacea*), and wild radish (*Raphanus sativus*). There is little potential habitat for special-status plants due to the fact that the stream channel is dominated by weeds, grasses, and light riprap that has been placed for bank stabilization. There is very little existing riparian vegetation in the outlined project footprint. Landscaping is present in planter areas associated with adjacent development.

Segment 23 is located within Saratoga Avenue immediately north of San Tomas Expressway (**Figure 2b**), and is surrounded by developed commercial and residential areas. Vegetation in the vicinity of Segment 23 is restricted to landscaping, which includes species such as olive trees (*Olea europaea*), hawthorne shrubs (*Crataegus* sp.) and juniper (*Juniperus* sp.). Mature coast live oak trees (*Quercus agrifolia*) are located adjacent to the project site, though not within the project footprint. No native vegetation was observed in Segment 23.

Segments 29, 30, and 31 are located within paved parking lots in an area dominated by industrial, light industrial, and office uses (**Figures 2** and **2b**). Vegetation in the immediate vicinity of the alignments, and in the surrounding area, is almost entirely office park landscaping. Trees and shrubs in the parking lots of Segment 30 and Segment 31 include planted landscape trees, including introduced pines (*Pinus* sp.), olive trees, and oleander shrubs. Tree species within Segment 29 consist primarily of planted crepe-myrtle (*Lagerstroemia* sp.). Calabazas Creek runs approximately north-south at the west edge of the parking lots with the Calabazas Creek Trail at top of bank. The Trail is separated from 1400 and 1390 Kifer Road by fencing and a planting strip, and from 350 Oakmead Parkway by a thick hedge planting. This reach of Calabazas Creek has been extensively modified for flood protection and occupies a hardscaped trapezoidal channel that supports minimal vegetation, limited to areas where sediment is present. Birds observed within the project site included crows (*Corvus brachyrhynchos*).

Segment 35 crosses beneath the Guadalupe River about 200 feet south of the SR 237 bridge (**Figure 2a**). Segment 35 is located at the boundary of historical baylands habitats, although much of the surrounding area has been developed or otherwise substantially modified. Within Segment 35, there is a paved bicycle and walking path constructed on both the eastern and western levee tops. The Guadalupe River itself has been channelized and leveed for flood protection in this vicinity but still provides tidally influenced open channel and marshland habitat. The western edge of the Segment is primarily ruderal grassland, though a few coyote brush shrubs (*Baccharis pilularis*) are scattered throughout the area. Given the presence of the nearby highway as well as the recreational trails, the area is subject to heavy human use. To the immediate west of Segment 35 is the City's Eastside Retention Basin, which consists of open water as well as emergent marsh habitat.

Many bird species were observed using the waterways within and immediately adjacent to Segment 35, including common goldeneye (*Bucephala clangula*), green-winged teal (*Anas carolinensis*), American coot (*Fulica americana*), mallards (*Anas platyrhynchos*), Canada geese (*Branta canadensis*), pied-billed grebes (*Podilymbus podiceps*), and great egret (*Ardea alba*). Birds observed in the upland areas included lesser goldfinches (*Spinus psaltria*), black phoebe (*Sayornis nigricans*), Anna's hummingbird (*Calypte anna*), and the red-tailed hawk (*Buteo jamaicensis*). Multiple feral cats were also observed in this area, including within Segment 35.

Vegetation in marshlands at Segment 35 includes native alkali bulrush (*Bolboschoenus maritimus*), California bulrush (*Schoenoplectus californicus)* and western goldenrod (*Euthamia occidentalis*), non-native common plantain (*Plantago major*), and limited stands of native pickleweed (*Salicornia pacifica*). Levee slopes are dominated by non-native wild oat (*Avena fatua*), smilo grass, and wild radish. Vegetation in uplands outboard of the levee slopes includes native coyote brush along with non-native blue gum (*Eucalyptus globulus*), smilo grass, bristly ox-tongue (*Helminthotheca echioides*), broadleaf pepperweed (*Lepidium latifolium*), prickly wild lettuce (*Lactuca serriola*), Italian cypress (*Cupressus sempervirens*), and Harding grass.

4.2 Special-Status Wildlife Species

4.2.1 Special-Status Wildlife Species

For the purposes of this report, special-status wildlife species include those taxa listed or proposed for listing as Threatened (FT, ST) or Endangered (FE, SE) under the Federal or State Endangered Species Acts, State or federal candidates for listing (SC, FC), State Species of Special Concern (SSC) and federal Species of Concern (SOC), State Fully Protected Species (SFP), federal Birds of Conservation Concern (BCC), and other species included on the California Department of Fish and Wildlife (CDFW) Special Animals List.

Figure 3 shows the distribution of special-status wildlife species documented in the surrounding area. These and other special-status wildlife species known from the project region are identified in **Table 2**, along with their regulatory status, habitat requirements, and an evaluation of their

potential to occur on or near the project sites. For species with potential to occur on site, avoidance and minimization measures are recommended to avoid take and reduce impacts to less-than-significant levels under CEQA, and are further detailed in **Section 5.0**.

4.2.1.1 State-Listed Species

State listed Threatened (ST) or Endangered (SE), or State Candidate for listing (SC), special-status wildlife species with potential to occur and/or habitat potential in the vicinity of Segment 35 include:

- Tricolored blackbird (*Agelaius tricolor*), SC, SSC, BCC, BLM:S
- California black rail (*Laterallus jamaicensis coturniculus*) ST, FP, BLM:S, USFWS:BCC
- California Ridgway's rail (*Rallus obsoletus*) SE, FP, FE
- Salt-marsh harvest mouse (*Reithrodontomys raviventris*) SE, FP, FE

Tricolored blackbird (*Agelaius tricolor*) Tricolored blackbirds are most often found in large freshwater marshes, especially those which are saturated with cattails and bulrushes (*Schoenoplectus* spp.). They tend to nest in areas with protective, spiny vegetation and high abundances of insect prey. The closest known occurrence of the tricolored blackbird relative to Segment 35 is approximately one and a half miles away (**Figure 3**). The tricolored blackbird has the potential to occur in the vicinity of Segment 35, due to the presence of brackish marshland dominated by cattails and bulrushes. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

California black rail (*Laterallus jamaicensis coturniculus*) California black rails inhabit shallow areas of freshwater marshland in close proximity to larger bay waters. They can be found in areas with dense grasses and bulrush. The closest known occurrence of the California black rail relative to Segment 35 is approximately one mile away (**Figure 3**). Due to the presence of marsh habitat within immediate proximity to Segment 35, this species has potential to occur within the project site. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including avoiding all impacts to natural vegetation and tidal features in Section 35 (**Section 5.0**).

California Ridgway's rail (*Rallus obsoletus*) California Ridgway's rail habitat includes salt marshes and tidal sloughs. This species forages in marsh vegetation and shelters in slough channels. The closest known occurrence of the California Ridgway's rail relative to Segment 35 is approximately four miles away (**Figure 3**). Due to the presence of marsh habitat within Segment 35, this species has potential to occur within the project site. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including avoiding all impacts to natural vegetation and tidal features in Section 35 (**Section 5.0**).

Groundfish
salt-marsh harvest mouse
Groundfish
California Ridgway's rail
California Ridgway's rail
Finfish and Market Squid
salt-marsh harvest mouse
western pond turtle
Congdon's tarplant
San Francisco Bay
Coyote - Below LeRoy Anderson
Coastal Pelagic Species
Coastal Pelagic Species
western snowy plover
salt-marsh harvest mouse
salt-marsh wandering shrew
tricolored blackbird
yellow rail
mimic tryonia
Coastal Pelagic Species
Alameda song sparrow
California black rail
Hoover's button-celery
alkali milk-vetch
saltmarsh common yellowthroat
saline clover
Point Reyes salty bird's-beak
California black rail
arcuate bush-mallow
Congdon's tarplant
white-tailed kite
saltmarsh common yellowthroat
white-tailed kite
saltmarsh common yellowthroat
salt-marsh wandering shrew
Congdon's tarplant
Alameda song sparrow
Guadalupe River
Coyote Creek
great blue heron
tricolored blackbird
western yellow-billed cuckoo
alkali milk-vetch
tricolored blackbird
Calabazas Creek
San Tomas Aquino Creek
western pond turtle
Hall's bush-mallow
hoary bat
Swainson's hawk
hairless popcornflower
San Francisco dusky-footed woodrat
Cooper's hawk
BO
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31
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12
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21
22
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28
5
7
6
24
27
14
1
8
23
9
2
3
4
10
11
33
34
35
237
101
280
880
Sunnyvale
Cupertino
Santa Clara
Alviso
Milpitas
San Jose

Vollmar NATURAL LANDS CONSULTING

CNDDB Special-status Plant
CNDDB Special-status Animal
Central California Coast Steelhead Critical Habitat
Stream
Highway or Primary Road
West Coast Essential Fish Habitat (see map label)
West Coast Salmon Essential Fish Habitat*
Green Sturgeon Critical Habitat Estuary
Proposed Project Site, Subject to CEQA
Proposed Project Site, Exempt from CEQA**

* See hydrologic unit map label at boundary (note, this is also historical baylands boundary)
** No site 26 (removed from project)

Data Sources: Redtail 2018 | City of Santa Clara, 2018
CDFW CNDDB, 09/2018 | NOAA/USFWS, 2018
USGS/ESRI Topo Map,. 2006
GIS/Cartography by J. Schweitzer & C. Pinnell, Oct 2018
Map File: CNDDB_408_B-L_2018-1003.mxd

FIGURE 3
Regional Special-status Species
Santa Clara Sewer Repair Project

City of Santa Clara, California

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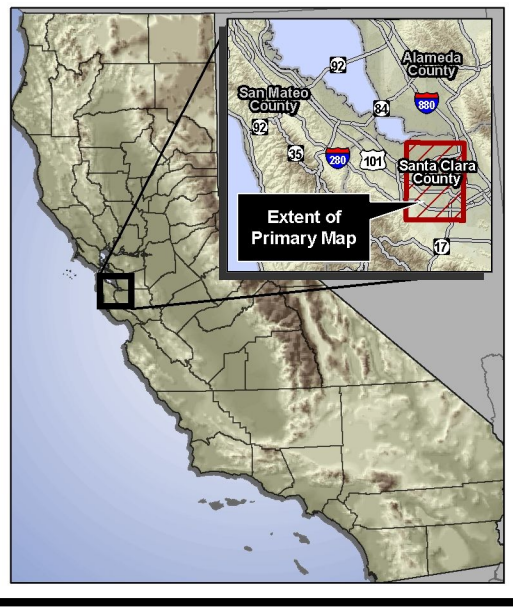
1:50,000

0 0.5 1 2 Km

0 0.5 1 2 Miles



Salt marsh harvest mouse (*Reithrodontomys raviventris)* Salt marsh harvest mouse habitat includes both diked and tidal marshes, with a preference for areas with heavy vegetative cover including pickleweed, tules, and other vegetation for both cover and foraging. The closest documented occurrence to the project area is approximately three miles from Segment 35 (**Figure 3**). Due to the presence of marsh habitat within immediate proximity to Segment 35, this species has potential to occur within the project site. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including avoiding all impacts to natural vegetation and tidal features in Section 35 (**Section 5.0**).

4.2.1.2 State Special-Status Species

Additional special-status species with State designations including Special Animals (SA), Fully Protected (FP), species on the CFDW Watch List (WL), or Species of Special Concern (SSC) as well as species covered under the Santa Clara Valley Habitat Plan (HCP), with potential to occur in the vicinity of Segments 35 (all) and Segment 12 (burrowing owl) include (see **Table 2** for additional details):

- Cooper's hawk (*Accipiter cooperii*) WL
- Green sturgeon (*Acipenser medirostris*) FT, SSC, NMFS:SC
- White sturgeon (*Acipenser transmontanus*) SSC
- Southwestern pond turtle (*Actinemys (marmorata) pallida*) SSC, BLM:S, USFS:S
- Pallid bat (*Antrozous pallidus*) SSC, BLM:S, USFS:S
- Great blue heron (rookery) (*Ardea herodias*) SA
- Burrowing owl (*Athene cunicularia hypugaea*) SSC, BLM:S, USFWS:BCC, HCP
- White-tailed kite (*Elanus leucurus*) FP
- Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) SSC, USFWS:BCC
- Western red bat (*Lasiurus blossevillii*) SSC
- Alameda song sparrow (*Melospiza melodia pusillula*) SSC, USFWS:BCC
- Chinook salmon (*Oncorhynchus tshawytscha*) SSC, NMFS:SC, USFS:S
- California red-legged frog (*Rana draytonii*) SSC, FT, HCP
- Salt-marsh wandering shrew (*Sorex vagrans halicoetes*) SSC

Cooper's hawk (*Accipiter cooperii*) Cooper's hawk nest in pines, oaks, Douglas-firs, and other large trees, but are also commonly found in wooded suburban areas (including parks, quiet neighborhoods, fields, and busy streets with sufficient tree cover). This species has been documented in the larger developed areas surrounding the project site. The large trees in close proximity to Segment 35 offer potential nesting habitat for this species. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

Green sturgeon (*Acipenser medirostris*) Green sturgeon are anadromous fish, with spawning in juvenile rearing in river, migration to saltwater to feed, and returning to freshwater to spawn. Locally, the southern DPS spawning is primarily restricted to the upper mainstem of the

Sacramento River, but post-spawn outmigration is variable, with some individuals remaining in the Estuary for a number of months (NMFS 2018). Segment 35 is within the Green Sturgeon Critical Habitat (Estuary), and therefore minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

White sturgeon (*Acipenser transmontanus*) White sturgeon primarily live in estuaries of large rivers, but migrate to spawn and are known to travel between river systems through oceans, and move into intertidal areas during high tides to feed. Productive spawning areas in the Sacramento River are associated with areas where levees are set back, allowing access to floodplains and backwater habitats (e.g., Wilkins and Butte sloughs) during high spring flows. (Moyle et al 2015). White sturgeons are occasionally found in tidal and estuarine systems of larger tributary streams to the SF Estuary, including the Guadalupe River (SFEI 2015). Segment 35 includes potential habitat for white sturgeon. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

Southwestern pond turtle (*Actinemys (marmorata) pallida*) Western pond turtles prefer aquatic habitat with basking sites and some form of vegetative cover. The proximity of the closest western pond turtle population relative to the Project is approximately three miles. Basking rocks in the channel that could potentially provide habitat for the western pond turtle were observed in Segment 35, and potential habitat for the western pond turtle was also observed in Segment 12.

Pallid bat (*Antrozous pallidus*) Pallid bats have a range extending from Texas and Central Mexico to British Columbia. They may be found throughout California except from Shasta County to Kern County in the high Sierra Nevada mountain range. A variety of habitats are host to this species, including deserts, grasslands, shrublands, woodlands, and forests, and it is most commonly found in dry, open habitats with rocky areas, trees, buildings, or bridges for roosting. Pallid bats forage on insects in open areas, often catching prey on the ground. This species roosts at night in many types of habitat, including open buildings, porches, garages, highway bridges, and mines, with adequate cover for protection from high temperatures. Pallid bat is extremely sensitive to human disturbance of roosting sites. The closest documented occurrence is over five miles from Segment 35, however, pallid bats have the potential to occur near Segment 35.

Great blue heron (rookery) (*Ardea herodias*) Great blue heron enjoy hunting in freshwater wetland habitat by wading deep into the water and striking. They prefer to nest in high treetops adjacent to rivers or wetlands (USFWS). The closest known occurrence of great blue herons relative to Segment 35 is approximately three miles away (**Figure 3**). Due to the presence of trees near the site, the great blue heron has the potential to nest near Segment 35. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

Burrowing owl (*Athene cunicularia hypugaea*) Burrowing owls prefer open habitat with short vegetation and minimal trees. They enjoy grasslands, shrublands, and agricultural areas with

soils that allow them to create burrows and hunt insects and small mammals. The closest known occurrence of the burrowing owl relative to Segment 35 and/or Segment 12 is within 0.5 mile. The burrowing owl has the potential to occur in both Segments 12 and 35 due to the presence of possible burrowing habitat (one burrow was observed on a levee near Segment 12). Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

White-tailed kite (*Elanus leucurus*) White-tailed kite forage in grasslands, meadows, wetlands, farmlands and other open areas with high small-mammal prey abundances. They are known to nest high up in potentially dense stands of oaks, willows or other tree species. The closest known occurrence of the White-tailed kite relative to Segment 35 is less half a mile away (**Figure 3**). While there is potential for the white-tailed kite to occur in Segment 35 due to the presence of foraging habitat, there is no potential nesting habitat available on the site.

Saltmarsh common yellowthroat (*Geothlypis trichas sinuosa*) Saltmarsh common yellowthroats require brackish or freshwater marshes in order to breed and grassy vegetation in order to nest. Vegetative species such as cattail and coyote brush can be utilized by the species for nesting. The closest known occurrence of the saltmarsh common yellowthroat relative to Segment 35 is approximately 0.5 mile away (**Figure 3**). Due to the presence of marsh habitat which would allow saltmarsh common yellowthroats to construct nests, they have the potential to occur in Segment 35. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

Western red bat (*Lasiurus blossevillii*) The western red bat ranges from southern Canada, through the western United States, to Central America. This bat is a migratory species similar to birds, and may be found in forests roosting in the foliage of trees. The roosting locations of the western red bat are often adjacent to streams and urban areas, and are in areas with high tree cover above but open from below. The proximity of the closest western red bat population relative to segment 35 cannot be determined using Figure 3, but its presence has been noted in the region. The closest documented population of the bat is further than approximately 10 miles away (CNDDB 2018). The western red bat has the potential to occur in Segment 35, due to the possibility of roosting in trees adjacent to the segment.

Alameda song sparrow (*Melospiza melodia pusillula*) Alameda song sparrows are found in tidal salt marsh habitats, and enjoy shrub cover and other covering vegetation. They are often found in vegetation such as marsh gumplant and cordgrass along the sides of channels. The closest known occurrence of the Alameda song sparrow relative to Segment 35 is less than one mile away (**Figure 3**). The Alameda song sparrow has the potential to occur in Segment 35. Minimization and avoidance measures should be employed to avoid potential impacts to this species, including those detailed in **Section 5.0**.

Chinook salmon (*Oncorhynchus tshawytscha*) The Central valley fall-run population of Chinook salmon is known from the Guadalupe River (SCVHCP). Since Chinook spawn in early winter and juveniles migrate to the ocean in their first spring, Chinook are able to use some of the local stream habitats that otherwise have heightened temperatures and low water quality in the summer (SCVHA 2012). However, according to the evaluation of special-status species for coverage under the Santa Clara HCP, NOAA considers the population in the study area to be of hatchery stock and not part of the listed ESU. Therefore the status of the population in the Guadalupe River is limited to State Species of Concern and federal Species of Concern.

California red-legged frog (*Rana draytonii*) The aquatic habitat of the California red-legged frog includes sheltered backwaters of ponds, springs, streams, stock ponds, or reservoirs, especially with dense stands of overhanging willows and emergent vegetation such as cattails (USFWS). Upland dispersal habitat includes woodlands, grasslands, and streamsides with plant cover in lowlands and foothills. The proximity of the closest California red-legged frog population relative to Segment 35 is over six miles. The retention basin near Segment 35 could provide potential breeding habitat, but it is unlikely that this species will be impacted by the Project (**Section 5.0**).

Salt-marsh wandering shrew (*Sorex vagrans halicoetes*) Salt-marsh wandering shrews can be found in areas of salt marsh habitat that provide dense vegetative cover, which is often comprised of pickleweed. The closest known occurrence of the salt-marsh wandering shrew relative to Segment 35 is approximately two miles away (**Figure 3**). The salt-marsh wandering shrew has the potential to occur in Segment 35 due to the presence of salt marsh vegetation and habitat on the site (**Section 5.0).**

4.2.1.3 Federal-Listed Species

In addition to the species detailed above, special-status species without State designation, but with federal designations including Endangered (FE), Threatened (FT), or Protected (FP) with potential to occur in the vicinity of the Segment 35 include (see **Table 2** for additional details):

- Steelhead - CCC DPS (*Oncorhynchus mykiss*) FT

Steelhead - CCC DPS (*Oncorhynchus mykiss*) Steelhead can be found in coastal waters, bays, and their major tributaries. The Guadalupe River is known habitat for the Coastal San Francisco Bay Diversity Stratum of the Central California Coast Steelhead Distinct Population Segment (CCC DPS) (NMFS 2016, Leidy 2005, SCVHA 2012). Since steelhead are known from the Guadalupe River watershed, Segment 35 includes potential habitat for steelhead. The Guadalupe River Diversity Stratum is listed as Essential for the Diversity Stratum's Recovery. Avoidance and minimization measures are included in **Section 5.0**.

The remaining species known from the vicinity are not expected to occur on site due to lack of suitable habitat, location outside the current distribution of the species, or distance/isolation from

known populations by development or otherwise unsuitable habitat. For example, the Guadalupe River is within the historical range of coho salmon (*Oncorhynchus kisutch*) Central California Coast Evolutionarily Significant Unit (CCC ESU) (FT, SE). However, according the Final CCC Coho ESU Recovery Plan (NMFS 2012), CCC coho salmon are extirpated from all rivers flowing into San Francisco Bay. In addition, the evaluation of special-status species for coverage under the Santa Clara HCP concluded that Santa Clara County was at the bottom of its range, and recovery in the system is highly unlikely. Therefore, this species is not expected to occur in any of the project sites, including Segment 35 which is located within the Guadalupe River.

These species, as well as those with potential to occur, are included in **Table 2.**

4.2.2 Migratory and Nesting Birds

The Migratory Bird Treaty Act (16 U.S.C. 704) and the California Fish and Game Code (Section 3503) prohibits take of migratory birds or disturbance to the active nests of most native birds. In addition to the special-status bird species listed above, numerous birds of conservation concern could use the project vicinity (including trees or shrubs in the vicinity of all six project sites) for migration or nesting. These include the black turnstone (*Arenaria melanocephala*), Clark's grebe (*Aechmophorus clarkia*), Costa's hummingbird (*Calypte costae*), golden eagle (*Aquila chrysaetos*), Lawrence's goldfinch (*Carduelis lawrencei*), Lewis's woodpecker (*Melanerpes lewis*), long-billed curlew (*Numenius americanus*), marbled godwit (*Limosa fedoa*), Nuttall's woodpecker (*Picoides nuttallii*), oak titmouse (*Baeolophus inornatus*), Rufous hummingbird (*Selasphorus rufus*), short-billed dowitcher (*Limnodromus griseus*), song sparrow (*Melospiza melodia*), spotted towhee (*Pipilo maculatus clementae*), whimbrel (*Numenius phaeopus*), willet (*Tringa semipalmata*), and wrentit (*Chamaea fasciata*).

To avoid impacts to migratory and nesting birds, avoidance and minimization measures should be employed for any project activities that could result in increased noise disturbance within breeding season (February - August), as detailed in **Section 5.0**.

4.3 Special-Status Plant Species and Communities

One federally listed plant has potential to occur within the immediate vicinity of the project sites, California seablite (*Suaeda californica*), with potential habitat limited to Segment 35. California seablite is a federally listed endangered species, and also listed by the California Native Plant Society as a List 1B.2 species (see **Table 2**). Additionally, four plant species with special-ranking by the CNPS have potential to occur in the vicinity of Segment 35. Listed plant species with potential to occur in Segment 35 include:

- Alkali milk-vetch (*Astragalus tener* var. *tener*) CRPR 1B.2
- Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) CRPR 1B.1
- Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*) CRPR 1B.2
- California seablite (*Suaeda californica)* FE, CRPR 1B.1
- Saline clover (*Trifolium hydrophilum*) CRPR 1B.2

Alkali milk-vetch (*Astragalus tener* var. *tener*) Alkali milk-vetch is a rare annual herb endemic to California that typically occurs in wetlands in alkaline flats, vernal pools, and vernally moist meadow habitats around the San Francisco Bay region. Alkali milk-vetch blooms in the spring from March to June, growing to 4-30cm in height. The closest known occurrence of the plant species to Segment 35 is over two miles (**Figure 3**). Though the quality of the habitat on the edge of channel is poor, alkali milk-vetch has the potential to occur in Segment 35.

Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*) Congdon's tarplant is an annual herb native to California that can be found in wetlands along the coast and in the Central Valley. It blooms in the summer and early fall from May to November. The closest known occurrence of the plant species to Segment 35 is one mile (**Figure 3**). Though the quality of the habitat is poor, Congdon's tarplant has the potential to occur in Segment 35.

Point Reyes bird's-beak (*Chloropyron maritimum* ssp. *palustre*) Point Reyes bird's-beak is an annual herb, endemic to California and Oregon, which occurs in wetlands within coastal salt marshes, and blooms from June to October**.** The closest known occurrence of the plant is within 1.5 miles from Segment 35 (**Figure 3**). Point Reyes bird's-beak has the potential to occur in Segment 35.

California seablite (*Suaeda californica*) California seablite is a rare shrub endemic to California, occurring mainly in the San Francisco Bay region and sometimes along the central coast. This plant grows on the margins of coastal salt-marsh habitat and in wetland-riparian habitat. The nearest known occurrence of the plant is 5.5 miles from Segment 35 (**Figure 3**). California seablite has the potential to occur in Segment 35.

Saline clover (*Trifolium hydrophilum*) Saline clover is an annual herb native to California that occurs in wetland-riparian habitat, particularly preferring salt marshes with alkaline soils near sea level elevation. The closest occurrence of the plant is within 1.5 miles from Segment 35 (**Figure 3**). Though the quality of the habitat is poor, Congdon's tarplant has the potential to occur in Segment 35.

Potential for special-status plants to occur on the project site is limited to Segment 35. Avoidance and minimization measures should be employed to avoid impacts to special-status plants by avoiding all impacts to areas that support natural vegetation in Segment 35. If impacts to vegetated areas are unavoidable, then a survey should be conducted by a qualified botanist to ensure that no special-status plant species are located within the areas of disturbance (**Section 5.0**).

4.4 Wetlands or Waters of the U.S.

During the January 2019 site visit, a search was conducted for wetlands and Waters of the U.S., including drainages, creeks, and streams, or any other feature that could be subject to the jurisdiction of the U.S. Army Corps of Engineers under Section 404 of the Federal Clean Water Act, or the California Department of Fish and Wildlife under Sections 1602-1603 of the California Fish and Game Code.

The delineation identified a total of 0.094 acre of potential jurisdictional Waters within Segment 35, in the form of 0.081 acre of wetlands and 0.013 acre of other Waters. All of the potential jurisdictional Waters are within the Guadalupe River floodplain. To prevent impacts to these features, avoidance and minimization measures should include best management practices (BMPs) for spill protection, erosion control, and avoiding fill of wetlands and other Waters (**Section 5.0**).

Table 2. Special-Status Species Documented within the Project Region

Species	Status	Habitat Description	Potential to Occur on Project Site
Birds			
Cooper's hawk *Accipiter cooperii*	**WL**	Nests in coast live oaks and other forest habitat, may use large trees in suburban and urban settings	**Potential in the vicinity of Segment 35.** Species is documented in the project region and may be a casual visitor to project Segments, large trees in proximity to Segment 35 may offer nesting habitat.
Tricolored blackbird *Agelaius tricolor*	**SC,SSC, BLM:S USFWS:BCC**	Large freshwater marshes. Forages in open habitats such as pastures and lawns.	**Potential in the vicinity of Segment 35.** Habitat surveys identified brackish marsh habitat in Segment 35, including flooded cattails and bulrushes that could provide nesting substrate. Portions of Segment 35 are within the tricolored blackbird survey areas identified in the Santa Clara Valley Habitat Agency Geobrowser.
Western burrowing owl *Athene cunicularia hypugaea*	**SSC, BLM:S, USFWS:BCC**	Open dry areas with little vegetation. Nests in subterranean animal burrows.	**Potential to occur in Segment 35 and Segment 12.** Habitat survey identified one burrow on western levee near Segment 12.
Great blue heron (rookery) *Ardea herodias*	**SA**	Nests in large stands of trees near water.	**Low habitat potential** near Segment 35.
Swainson's hawk *Buteo swainsoni*	**ST, BLM:S, USFWS:BCC**	Forages in open grasslands and prairies. Nests adjacent to riparian habitats.	**Not expected.** Urban area and immediately surrounding sites does not provide foraging habitat.
Western snowy plover *Charadrius alexandrinus nivosus*	**FT, SSC, USFWS:BCC**	Coastal beaches, sand spits, dune-backed beaches, sparsely vegetated dunes, beaches at creek and river mouths, and salt pans at lagoons and estuaries.	**Not expected**. No nesting habitat at any project sites; areas are vegetated (Segment 35) or urbanized (other segments).
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	**FT, SE, BLM:S. USFS:S, USFWS:BCC**	Nests in riparian habitat.	**Not expected**. Lack of wooded, dense thickets.

Species	Status	Habitat Description	Potential to Occur on Project Site
White-tailed kite *Elanus leucurus*	**FP, BLM:S**	Undisturbed open grasslands, meadows, farmlands, and emergent wetlands for foraging. Nests near top of dense oak, willow, or other tree stands.	**Low habitat potential in Segment 35** for foraging, but no nesting habitat available.
Saltmarsh common yellowthroat *Geothlypis trichas sinuosa*	**SSC, USFWS:BCC**	Freshwater marsh.	**Potential to occur in Segment 35.**
California black rail *Laterallus jamaicensis coturniculus*	**ST, FP, BLM:S, USFWS:BCC**	Freshwater marshes and wetland meadows that are in close proximity to larger bay waters.	**Potential to occur in Segment 35**.
Alameda song sparrow *Melospiza melodia pusillula*	**SSC, USFWS:BCC**	Tidal salt marsh.	**Potential to occur in Segment 35.**
California Ridgway's rail *Rallus obsoletus obsoletus*	**FE,SE,FP**	Salt marshes and tidal sloughs.	**Potential to occur in Segment 35.**
California least tern *Sternula antillarum browni*	**FE, SE, FP**	Open beaches.	**Not expected.** Lack of open beaches or unvegetated nesting areas.
Amphibians			
California tiger salamander *Ambystoma californiense*	**FT, ST, WL**	Grasslands and low foothills, with vernal pools for breeding.	**Not expected.** Lack of both upland and aquatic habitat.
Northern California legless lizard *Anniella pulchra*	**SSC, USFS:S**	Moist soil in sparsely vegetated areas.	**Not expected.** Sites are urbanized and/or lacking moist, sparsely vegetated areas.
Foothill yellow-legged frog *Rana boylii*	**SC, SSC BLM:S, USFS:S**	Rocky streams in a variety of habitats.	**Not expected.** Stream segments are channelized or lacking substrates and cover preferred by species.
California red-legged frog *Rana draytonii*	**FT, SSC**	Quiet pools of freshwater streams, and occasionally ponds.	**Low habitat potential near Segment 35**. Aquatic habitat limited to retention basin near Segment 35.
Fish			

Species	Status	Habitat Description	Potential to Occur on Project Site
Green sturgeon *Acipenser medirostris*	**FT, SSC** **NMFS:SC**	Spawn in freshwater streams or rivers, feeding in oceans and estuaries	**Potential to occur in Segment 35**; Guadalupe River provides potential habitat and is within designated Green Sturgeon Critical Habitat (Estuary).
White sturgeon *Acipenser transmontanus*	**SSC**	Tidal and estuarine systems, oceans	**Potential to occur in Segment 35**; Guadalupe River provides potential habitat.
Delta smelt *Hypomesus transpacificus*	**FT**	Streams, rivers, estuaries.	**Not expected.** Though Segment 35 is within historical baylands, Delta smelt is limited to areas of fresher water in the northern portion of the Bay and Delta.
Coho salmon – CC ESU *Oncorhynchus kisutch*	**FE,SE**	Migrate between ocean and freshwater environments, with hatching and rearing in freshwater environments, migration to ocean for maturation, then return to natal freshwater streams for spawning.	**Not expected,** Segment 35 is within historic extent, but species is presumed extirpated from rivers flowing into SF Bay.
Steelhead – CCC DPS *Oncorhynchus mykiss irideus*	**FT**	Streams, rivers, lakes, estuaries, ocean.	**Potential to occur in Segment 35;** known from the Guadalupe River, which includes Segment 35.
Chinook salmon (Central valley fall-run, hatchery stock) *Oncorhynchus tshawytscha*	**SSC, NMFS:SC, USFS:S**	Streams, rivers, estuaries, ocean.	**Potential to occur in Segment 35;** known from the Guadalupe River, which includes Segment 35.
Insects			

Species	Status	Habitat Description	Potential to Occur on Project Site
San Bruno elfin butterfly *Callophrys mossii bayensis*	**FE**	Rocky outcrops and cliffs in coastal scrub, host plant is broadleaf stonecrop.	**Not expected.** No potential habitat at any project site.
Bay checkerspot butterfly *Euphydryas editha bayensis*	**FT**	Native grasslands on shallow, serpentine-derived soil, larvae on *Plantago erecta* and *Castilleja densiflora.*	**Not expected.** No serpentine habitat and no stands of host plants at any project site.
Mammals			
Pallid bat *Antrozous pallidus*	**SSC, BLM:S, USFS:S**	Forages in a variety of habitats. Roosts in rocky outcrops, buildings, and hollow trees.	**Potential to occur in Segment 35.** Large trees surrounding Segment 35 could support suitable roosting habitat, and foraging could occur in the upland areas.
Ring-tailed cat *Bassariscus astutus*	**FP, HCP**	Brushy and wooded areas, primarily at lower and middle elevations, usually within 0.5 miles of water. Dens found in rock shelters and tree hollows, mammal burrows and brush piles.	**Not expected.** No rock shelters, burrows, tree hollows, or brush piles observed within any of the project sites. Highly urbanized area.
Townsend's big-eared bat *Corynorhinus townsendii*	**SSC, USFS:S, BLM:S**	Prefers mesic habitats, maternity roosts in caves, tunnels, mines and buildings.	**Not expected.** Project activities do not include demolition of abandoned building, bridge retrofits, or forests, woodlands, or rock outcrops.
Western red bat *Lasiurus blossevillii*	**SSC**	Roosts in forest or woodland habitats, especially near riparian areas.	**Potential to occur in Segment 35.** Species does not breed in project region, but could roost in trees adjacent to Segment 35.
Hoary bat *Lasiurus cinereus*		Forested habitat.	**Not expected.** Project activities do not include demolition of abandoned building, bridge retrofits, or forests, woodlands, or rock outcrops.
San Francisco dusky-footed woodrat *Neotoma fuscipes annectens*	**SSC**	Habitat includes riparian areas, oak woodlands, and scrub	**Not expected.** Riparian areas at Segments 12 and 35 are open, with very little overhead cover. No signs of woodrat observed.
Salt-marsh harvest mouse *Reithrodontomys raviventris*	**FE, SE, FP**	Salt marshes.	**Potential to occur in Segment 35.** Known from the vicinity, and emergent salt marsh vegetation present in Segment 35.

Species	Status	Habitat Description	Potential to Occur on Project Site
Salt-marsh wandering shrew *Sorex vagrans halicoetes*	**SSC**	Salt marshes which provide dense cover.	**Potential to occur in Segment 35.** Known from the vicinity, and some salt marsh vegetation present in Segment 35.
San Joaquin kit fox *Vulpes macrotis mutica*	**FE, ST**	Annual grassland and scrub and subshrub land. Live in dens in friable soils or enlarge smaller holes created by other animals.	**Not expected.** No potential habitat at any project site, with little connectivity to nearest documented occurrence.
Reptiles			
Southwestern pond turtle *Actinemys (marmorata) pallida*	**SSC, BLM:S USFS:S**	Ponds, lakes, streams, irrigation ditches, or permanent pools along intermittent streams, with basking sites.	**Potential to occur in Segment 35 and 12.** Basking rocks in the channel were observed and could potentially provide habitat in the vicinity.
Green sea turtle *Chelonia mydas*	**FT**	Often found in open ocean, return to beaches to breed.	**Not expected.** No potential habitat at any project site.
Alameda whipsnake (striped racer) *Masticophis lateralis euryxanthus*	**FT, ST**	Chaparral, northern coastal sage scrub and coastal sage.	**Not expected.** No potential habitat at any project site.
Mollusks and Crustaceans			
Conservancy fairy shrimp *Branchinecta conservatio*	**FE**	Large, cool-water vernal pools with moderately turbid water.	**Not expected.** No potential habitat at any project site.
Vernal pool tadpole Shrimp *Lepidurus packardi*	**FE**	Muddy bottom of vernal pools.	**Not expected.** No potential habitat at any project site.
Plants			
Alkali milk-vetch *Astragalus tener* var. *tener*	**CRPR 1B.2**	Playas, Valley and foothill grassland (adobe clay), Vernal pools.	**Potential to occur in Segment 35**, though poor quality habitat, on edge of channel.
Congdon's tarplant *Centromadia parryi* ssp. *congdonii*	**CRPR 1B.1**	Valley and foothill, grassland (alkaline).	**Potential to occur in Segment 35**, though poor quality habitat.

Species	Status	Habitat Description	Potential to Occur on Project Site
Point Reyes bird's-beak *Chloropyron maritimum* ssp. *palustre*	**CRPR 1B.2**	Marshes and swamps (coastal salt).	**Potential to occur in Segment 35.**
Robust spineflower *Chorizanthe robusta* var. *robusta*	**FE, CRPR 1B.1**	Chaparral (maritime), Cismontane woodland (openings), Coastal dunes, Coastal scrub. Sandy or gravelly substrate.	**Not expected.** No potential habitat at any project site.
Western leatherwood *Dirca occidentalis*	**CRPR 1B.2**	Broadleafed upland forest, Closed-cone coniferous forest, Chaparral, Cismontane woodland, North Coast coniferous forest, Riparian forest, Riparian woodland mesic.	**Not expected.** No potential habitat at any project site.
Santa Clara Valley dudleya *Dudleya abramsii* ssp. *setchellii*	**FE, CRPR 1B.1**	Cismontane woodland, Valley and foothill grassland, serpentinite, rocky.	**Not expected.** No potential habitat at any project site.
Hoover's button-celery *Eryngium aristulatum* var. *hooveri*	**CRPR 1B.1**	Vernal pools.	**Not expected.** No potential habitat at any project site.
Contra Costa goldfields *Lasthenia conjugens*	**FE, CRPR 1B.1**	Cismontane woodland, Playas (alkaline), Valley and foothill grassland, Vernal pools, mesic.	**Not expected.** No potential habitat at any project site.
Arcuate bush-mallow *Malacothamnus arcuatus*	**CRPR 1B.2**	Chaparral, Cismontane woodland.	**Not expected.** No potential habitat at any project site.
Hall's bush-mallow *Malacothamnus hallii*	**CRPR 1B.2**	Chaparral, Coastal scrub.	**Not expected.** No potential habitat at any project site.
Prostrate vernal pool navarretia *Navarretia prostrata*	**CRPR 1B.1**	Coastal scrub, Meadows and seeps, Valley and foothill grassland (alkaline), Vernal pools, Mesic.	**Not expected.** No potential habitat at any project site.
Hairless popcornflower *Plagiobothrys glaber*	**CRPR 1A**	Meadows and seeps (alkaline), Marshes and swamps (coastal salt).	**Not expected.** Some potential habitat in Segment 35, but species is presumed extinct.
California alkali grass *Puccinellia simplex*	**CRPR 1B.2**	Chenopod scrub, Meadows and seeps, Valley and foothill grassland, Vernal pools. Alkaline, vernally mesic; sinks, flats, and lake margins.	**Not expected.** No potential habitat at any project site.

Species	Status	Habitat Description	Potential to Occur on Project Site
California seablite *Suaeda californica*	**FE, CRPR 1B.1**	Salt-marsh coastal wetlands.	**Potential to occur in Segment 35**.
Metcalf Canyon jewelflower *Streptanthus albidus* ssp. *albidus*	**FE, CRPR 1B.1**	Valley grasslands, serpentine soils.	**Not expected.** No potential habitat at any project site.
Saline clover *Trifolium hydrophilum*	**CRPR 1B.2**	Marshes and swamps, Valley and foothill grassland (mesic, alkaline), Vernal pools.	**Potential to occur in Segment 35**, though habitat quality is low.

FT –Federal Threatened; FE – Federal Endangered; ST – State Threatened; SE - State Endangered; SC- State Candidate; SSC – CDFW Species Special Concern; SA- CDFW Special Animal List; FP – CDFW Fully Protected; WL – CDFW Watch List; BLM: S -Bureau of Land Management: Sensitive; USFS: S - United States Forestry Service; USFWS: BCC - United States Fish and Wildlife Service: Birds of Conservation Concern ; NMFS: SC - National Marine Fisheries Service: Species of Concern; CNPS 1B – CA Native Plant Society – Plants Rare, Threatened, or Endangered in CA and Elsewhere; CI – Critically Imperiled

5.0 IMPACTS AND AVOIDANCE MEASURES

5.1 Key Assumptions

The following impact analysis is based on the Project descriptions included in this report. We have assumed that the staging areas will take place entirely within developed or landscaped areas, with no direct impacts to adjacent natural or regulated habitats outside of the Project footprint.

5.2 Impacts Found To Be Less Than Significant

Impacts to Pallid Bat and Western Red Bat

The project is not proposing to remove any trees, nor is it proposing the demolition or renovation of buildings or bridges. Project activities will not result in the loss of any high-quality roost sites, nor are individual bats are expected to be lost by the actions of this Project. Thus, the proposed Project would not have a significant effect on the species local and regional populations and the potential impact is determined to be less than significant.

5.3 Impacts Found To Be Less Than Significant With Avoidance and Minimization Measures

The following **avoidance measures** are recommended in order to avoid impacts to special-status animals, plants, and sensitive features within the vicinity of the project sites:

Measure 1. To prevent loss of nesting birds.

If feasible, construction at all Segments will be scheduled between September 1 and January 31, outside the February 1 – August 31 nesting period.

> **Measure 1.1**. If construction at any Segment occurs during the nesting period, the City will retain a qualified biologist to conduct a pre-construction nesting bird survey covering the Segment footprint and a 300-foot-wide surrounding buffer. The survey will be conducted within 2 weeks of the start of construction-related activity at the Segment.
>
> **Measure 1.2**. If active nest(s) of any species are identified within the 300-foot-wide survey area, a no-activity buffer will be established around the nest for the duration of the nesting season, or until a biologist determines the young have fledged and left the nest, or that the nest has been abandoned. No entry into the no-activity buffer will be permitted. The no-activity buffer will be delineated in the field by or under the supervision of the biologist, using temporary construction fencing or another suitable low-impact medium. The width of the buffer will be determined by the biologist, based on the species involved, the amount of vegetative and other screening between the nest and areas where construction activity will take place, and, if appropriate, other site-specific factors. If

special-status species are involved, the biologist will consult with the appropriate resource agency(ies) (DFW and/or USFWS) in determining the width of the buffer.

Measure 2. To prevent impacts to tricolored blackbirds.

If repair work at Segment 35 occurs during the Tricolored Blackbird nesting period (March 15 – July31), the City will retain a qualifed biologist (City's biologist) to make a good-faith best effort to determine if nesting has occurred within 300-feet of Segment 35 within the past 5 years, based on review of the CNDDB, field survey for old nests, contact with local experts and resource agency staff, etc. If evidence of nesting within the last 5 years is discovered, the species will be presumed present.

Measure 2.1. If no evidence of nesting within the past 5 years is identified, the species' presence will be considered undetermined, and the City's biologist will conduct a preconstruction survey in bulrushes and cattail habitat along and within 250 feet of Segment 35 in order to document the presence or absence of nesting colonies of Tricolored Blackbird. Surveys will be conducted during the Tricolored Blackbird nesting period and will conclude no more than 2 calendar days prior to construction.

Measure 2.2. If nesting activity is detected, construction activities will be prohibited within a 250 foot no-activity buffer around the edge of all hydric vegetation associated with the colony, until or unless the City's biologist determines that nesting activity has concluded, with all young successfully fledged, or nests abandoned. The City's biologist will monitor construction to ensure that the 250-foot buffer zone is enforced. If monitoring indicates that construction outside the buffer is affecting a breeding colony, the buffer will be increased as space allows. If space does not allow, construction will cease until the colony abandons the site or until the end of the breeding season, whichever comes first.

Measure 3. To prevent impacts to California black rail and California Ridgway's rail.

If repair work at Segment 35 occurs during the California Black Rail/Ridgway's Rail nesting season (February 1 – August 31), the following precautions will be required.

Measure 3.1. Protocol-level surveys will be conducted by a DFW-approved biologist for California Black Rail and by a USFWS- and DFW-approved biologist for Ridgway's Rail to identify breeding locations and territories, if any

Measure 3.2. If breeding rails are determined to be present, all activity within 700 feet of an identified calling center/nesting area will be prohibited until nesting is complete, as verified by the appropriately qualified biologist, or the end of the nesting season, whichever comes first.

Measure 4. To prevent loss of burrowing owls.

Measure 4.1. If repair work at Segment 35 or Segment 35 occurs during the western burrowing owl nesting season (February 1 – August 31), the City will retain a qualified biologist to conduct preconstruction surveys covering all areas of suitable habitat within 250 feet of the Segment. The survey will last a minimum of 3 hours, and will either begin 1 hour before sunrise and continue until 2 hours after sunrise or begin 2 hours before sunset and continue until 1 hour after sunset. If no owls are detected during a first survey, a second survey will be conducted. If owls are detected during the first survey, a second survey is not needed. All owls observed will be counted and their locations will be mapped.

Measure 4.2. If evidence of nesting Western Burrowing Owls is found, a 250-foot-wide no-disturbance buffer zone will be established around each occupied nest and will be delineated in the field by the biologist, using a suitable low-impact medium. Construction may proceed outside the no-disturbance buffer zones.

Measure 5. To prevent impacts to waters during construction. Best Management Practices (BMPs) should be implemented to protect waterways during construction, including silt fencing or other sediment control infrastructure, construction equipment should also be staged away from waterways, and a spill prevention plan should be in place to prevent runoff into the stormdrains and waterways. Construction personnel should be educated on these avoidance measures and the sensitivity of the waterways. Specific recommended AMMs include:

Measure 5.1 Surface activity within riparian, wetland/marshland, and open channel areas will be prohibited. Prior to mobilization for construction at the Segments identified above, the City will retain a qualified biologist/ecologist (City's biologist) to delineate areas of sensitive habitat to be avoided. Where Santa Clara Valley Water District (District) right-of-way fencing is present, reminder signage/noticing to contractor staff will be adequate. Where no signage is present, avoidance areas will be delineated using temporary construction fencing, pin flags, or another appropriate, low-impact medium installed by or under the direct supervision of the City's biologist. No entry (personnel, equipment, or materials) will be permitted into the delineated avoidance areas.

Measure 5.2 If ground disturbance is required (for example, for rehabilitation of Manhole 114-4 at the east end of Segment 35), runoff control measures such as straw wattles, filter rolls, filter fences, or silt fences will be installed to contain disturbed soil materials. Runoff control will be in place prior to groundbreaking. If straw wattles are used, they will consist of certified sterile, weed-free rice straw or similar, suitable for use in sensitive habitat. If filter fences or mesh are used, they will consist of materials, and employ a design, approved by DFW and USFWS as safe for amphibians and reptiles.

Measure 5.3 Where ground disturbance occurs in a paved area (Segment 30), pavement will be restored immediately following the completion of repairs.

Measure 5.4 Where ground disturbance occurs in a vegetated area (Segment 35), the disturbed area will be reseeded immediately following the completion of repairs, using a certified weed-free native species seed mix appropriate to the site.

Measure 5.5 Excavated materials will be stockpiled away from sensitive habitat, in areas that are relatively level, and relatively free of vegetation. Stockpiles will be located as far as reasonably feasible from the limits of sensitive habitat avoidance habitat, and runoff control measures as described above will be used to prevent delivery of sediment to wetlands and watercourses. If wattles are used, they will consist of certified sterile, weed-free materials, as identified above. Any excavated materials not reused on site will be promptly removed to appropriate permanent disposal locations following the completion of repairs.

Measure 5.6 Demolition debris such as concrete and asphalt cuttings and manhole components will be promptly removed from the work area for proper disposal and will not be discharged into drain inlets, the storm water drainage system, or watercourses.

Measure 5.7 All diesel- and gasoline-powered construction equipment and tools, including generator units, will be inspected for leaks and damage prior to mobilization.

Measure 5.8 No fueling, lubrication, maintenance, or staging of vehicles or equipment will take place within unpaved areas. Fueling will be conducted at least 200 feet from wetlands and waterways. Equipment staging will be located at least 150 feet away from riparian and wetland/marshland areas. If onsite fueling, maintenance, or repairs are required, containment measures such as drip pans will be required.

Measure 5.9 Materials staging will also be restricted to paved, surfaced, or upland areas away from wetlands and watercourses.

Measure 5.10 Preparation (resin saturation) of the felt CIPP liners and grout will be restricted to paved, surfaced, or upland areas away from watercourses.

Measure 5.11 If stationary diesel- or gasoline-powered equipment is needed (for example, generators to power light units for night work), it will be situated in a paved area if possible, and will be placed within secondary (dual) containment.

Measure 5.12 Appropriate types and quantities of materials will be maintained onsite to contain any spills or releases of materials and prevent them from entering sensitive habitat and jurisdictional waters.

Measure 5.13 In the event of a spill, appropriate spill response procedures will be initiated as soon as the incident is discovered. The contractor will be required to notify the City staff as soon as feasible, and in no case more than 24 hours after the occurrence.

If there is any potential for the spill to enter jurisdictional waters, the City will notify the RWQCB.

Measure 5.14 Trash generated during repair and rehabilitation activities will be promptly and properly removed from the site.

Measure 6. To prevent impacts to rare plants. Surface activity within areas of natural vegetation (unpaved and unlandscaped) areas will be avoided. At Segments 35 and 12, prior to mobilization for construction, the City will retain a qualified biologist/ecologist (City's biologist) to delineate areas of sensitive habitat to be avoided. Where Santa Clara Valley Water District (District) right-of-way fencing is present, reminder signage/noticing to contractor staff will be adequate. Where no signage is present, avoidance areas will be delineated using temporary construction fencing, pin flags, or another appropriate, low-impact medium. No entry will be permitted into avoidance areas.

Measure 6.1 Prior to work at Segment 35, the City will retain a qualified biologist or ecologist (City's Biologist) with local botanical expertise to conduct surveys for alkali milk-vetch and Congdon's tarplant. Surveys will be conducted during the peak bloom periods for the species: May – March for alkali milk-vetch and May – October for Congdon's tarplant. If neither species is present, no further action will be required and construction may proceed. If either species is present, the City's Biologist will be responsible for defining appropriate no-disturbance buffers to protect them during construction, if this is feasible while still accomplishing the needed repairs in a safe and timely manner. Buffers will be established using temporary construction fencing or another low-impact medium installed by or under the direct supervision of the biologist. If the plants cannot feasibly be protected, the post-disturbance revegetation seed mix will include the species affected. Seed will be collected onsite if possible. If this is not feasible due to the timing of construction, locally native seed will be used. Following reseeding, the City's Biologist will conduct at least (1) follow-up survey next subsequent blooming period to verify successful germination. If germination was not successful, the disturbed area will be reseeded with the failed species, using locally native seed and an additional follow-up blooming period survey will be conducted.

Measure 7. To prevent impacts to fish. Incorporate WQ **Measures 5.1 – 5.14** to prevent waterways from sediment, spills, and disturbance, as well as to prohibit any Surface Activity within riparian, wetland/marshland, and open channel areas.

Measure 8. To prevent impacts to California red-legged frog and southwestern pond turtle. Incorporate WQ **Measures 5.1 – 5.14** to prevent waterways from sediment, spills, and disturbance, as well as to prohibit any Surface Activity within riparian, wetland/marshland, and open channel areas. Additionally, to help avoid disturbance, injury, and mortality to individuals that may stray into neighboring uplands, California red-legged frog and southwestern pond turtle

should be among the species covered in Worker Awareness and Response Training for special-status species, and will require workers to avoid contact with, report, and coordinate with a qualified biologist to protect any individuals that may be encountered.

Measure 9. To prevent impacts to salt marsh harvest mouse and salt-marsh wandering shrew. Incorporate WQ **Measures 5.1 – 5.14** to prevent waterways from sediment, spills, and disturbance, as well as to prohibit any Surface Activity within riparian, wetland/marshland, and open channel areas.

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APPENDIX A

REPRESENTATIVE SITE PHOTOGRAPHS

Photo 1. Segment 12, cobble and gravel creek channel supported by light riprap at levee toe (facing west across channel to western access point)

Photo 2. Levee where burrow was observed near Segment 12 (facing south towards Walsh Avenue)

Photo 3. Segment 23 (facing west Saratoga Avenue)

Photo 4. Segment 23, landscaped vegetation (facing east)

Photo 5. Segment 29, parking lot and landscaping (facing south)

Photo 6. Segment 29, wall between parking lot and drainage channel (facing south)

Photo 7. View of Segment 30 (facing south across site)

Photo 8. View of Segment 30 (facing north across site)

Photo 9. Segment 31 (facing north across manhole entrance)

Photo 10. Southwest view of the west section of Segment 35

Photo 11. View of west terminus, toward Eastside Retention Basin

Photo 12. View of Segment 35 facing east from west terminus

Photo 13. View of Segment 35 facing south from the pedestrian bridge on Highway 237