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**Norman Y. Mineta San José International Airport
2019 Master Plan Amendment
Biological Resources Report**

Project #4273-01

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List of Abbreviated Terms

Airport	Norman Y. Mineta San José International Airport
BMPs	best management practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
City	City of San José
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DPS	Distinct Population Segment
EFH	Essential Fish Habitat
ESU	Evolutionarily Significant Units
EIR	Environmental Impact Report
FAA	Federal Aviation Administration
FESA	Federal Endangered Species Act
FMP	Fisheries Management Plan
HMMP	habitat mitigation and monitoring plan
LSAA	Lake and Streambed Alteration Agreement
Management Plan	<i>Burrowing Owl Management Plan – San José International Airport</i>
Master Plan	<i>Norman Y. Mineta San José International Airport Master Plan</i>
Master Plan EIR	<i>San José International Airport Master Plan Update Environmental Impact Report</i>
MBTA	Migratory Bird Treaty Act
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
Porter-Cologne	Porter-Cologne Water Quality Control Act
RIM Study	Runway Incursion Mitigation/Design Standards Analysis Study
RWQCB	Regional Water Quality Control Board
Valley Water	Santa Clara Valley Water District
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
VHP	Santa Clara Valley Habitat Plan
VOR	very high frequency omni-directional range

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Section 1. Introduction

This report describes the biological resources present in and adjacent to the footprints of proposed project activities that would be performed under the 2019 Amendment to the 1997 *Norman Y. Mineta San José International Airport Master Plan* (Master Plan), as well as the potential impacts of proposed Amendment projects and measures necessary to mitigate these impacts under the California Environmental Quality Act (CEQA). This report was prepared to facilitate CEQA review of the project by the City of San José (City) based on the Amendment description provided to H. T. Harvey & Associates by David J. Powers & Associates in January 2019.

The biological resources present within the majority of the Master Plan area, as well as the potential impacts of projects under the Master Plan on biological resources and measures necessary to mitigate impacts of the Master Plan under CEQA, were previously described in the 1997 *San José International Airport Master Plan Update Environmental Impact Report* (Master Plan EIR) (City of San José 1997). We understand that the proposed 2019 Amendment would modify the Master Plan and add new projects within the Master Plan area. This current report provides an updated CEQA analysis for biological resources, incorporating and referencing information from the Master Plan EIR as applicable, and updating the previous assessment (which was based on field work conducted prior to 1997) with results from 2019 surveys and background reviews.

1.1 Project Location

The Norman Y. Mineta San José International Airport (Airport) is located on an approximately 1,000-acre site in San José and Santa Clara, California, and is generally bounded by U.S. Highway 101 to the north, the Guadalupe River and State Route 87 to the east, Interstate 880 to the south, and Coleman Avenue and De la Cruz Boulevard to the west (Figure 1). The Guadalupe River, which is managed by the Santa Clara Valley Water District (Valley Water), flows south to north along the eastern boundary of the Airport (Figure 2). Surrounding areas consist of dense urban development in San José and Santa Clara. The Airport is located on the *San José West* and *Milpitas, California* 7.5-minute United States Geological Survey (USGS) quadrangles.

1.2 Study Area

For the purpose of this report, a study area was delineated to encompass all areas where project impacts on biological resources can potentially occur, as well as areas within the Master Plan area that have been previously designated as mitigation for 1997 Master Plan activities. This 686.9-acre area includes the footprints of all proposed projects under the Amendment; the 9.2-acre Fuel Farm; the 13.9-acre Economy Lot 1; all portions of the airfield; the 25.3-acre very high frequency omni-directional range (VOR) site, which is located to the north of the Airport and supports a large radio navigation system to assist with aircraft navigation.



N:\Projects\42004273-01\Reports\BRR\Fig 2 Master Plan Area and Study Area.mxd



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Figure 2. Master Plan Area and Study Area
San José International Airport 2019 Master Plan Amendment
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September 2019

1.3 Background Information

In 1997, the City certified the Master Plan EIR and approved the Master Plan, which included 73 capital improvement projects to accommodate projected growth, the majority of which have been constructed. A number of addenda to the Master Plan EIR have also been prepared since 1997 to address changes to the environmental setting, updates to aviation forecasts, and/or various amendments to the Master Plan. The current horizon year of the Master Plan is 2027.

1.4 Project Description

The proposed project consists of a major amendment to the Master Plan that would modify the Master Plan in several primary categories:

- Modify certain components of the airfield to reduce the potential for runway incursions.
- Update the aviation demand forecasts and shift the horizon year from 2027 to 2037.
- Modify future facilities requirements at the Airport to reflect updated demand forecasts.

The proposed modifications in each of the primary categories are described below.

1.4.1 Airfield Modifications

The proposed Amendment will modify certain components of the airfield to reduce the potential for runway incursions and improve compliance with current Federal Aviation Administration (FAA) design standards. A *runway incursion* is defined as the unauthorized presence of an aircraft, vehicle, or person on a surface designated for the landing and take-off of aircraft. Runway incursions are a significant safety concern, the most serious of which have led to collisions, injuries, and fatalities. To reduce this hazard, the FAA has developed a grant-funded program for a Runway Incursion Mitigation/Design Standards Analysis Study (RIM Study) at various airports. The purpose of a RIM Study is to identify issues at an airport that could contribute to a runway incursion.

The Airport is one of many in the United States where runway incursions have occurred. This led to the initiation of a RIM Study at the Airport in 2016. The purpose of the RIM Study was to reduce the risk of runway incursions and to conform to current FAA airfield design standards and criteria to ensure a high level of airfield safety.

In June 2018, the RIM Study's technical analysis of the Airport concluded with the selection of a recommended airfield reconfiguration alternative that is part of the proposed amendment to the Master Plan. These proposed modifications to the airfield are described below in Section 1.4.3.

1.4.2 2017 Forecasts and Shift of the Master Plan Horizon Year to 2037

The City updates the demand forecasts for the Airport from time to time to account for the latest changes in the aviation industry and in the economy. The updates provide critical information to the Airport with regard to planning for the types and sizes of facilities needed to accommodate the demand at a reasonable level of service. Consistent with this planning principle, previous forecasts were completed in 1994, 2005, and 2009, each of which affected the type, size, and timing of many of the projects contained in the Master Plan.

The latest update to the aviation demand forecasts for the Airport was completed in 2017 as part of the above-described RIM Study. Specifically, in order to adequately assess existing and future conditions on the airfield, the RIM Study necessitated the update to the forecasts to year 2037 to achieve a standard 20-year planning horizon. This is the reason for the proposed shift in the Master Plan horizon year from 2027 to 2037.

The 2017 aviation demand forecasts address each segment of aviation activity: air passengers, air cargo, and general aviation. The methodology used to develop the forecasts takes numerous factors into consideration, including historical activity levels, the existing and projected demographic and economic characteristics of the area, airfares, existing and likely domestic and international destinations, and the Airport's role as one of three major airports serving the San Francisco Bay Area. Highlights of the 2017 forecasts are as follows:

- The level of air passenger activity at the Airport is projected to continue to rise, reaching 22.5 million annual passengers by year 2037, an 80% increase over 2017. However, air passenger aircraft operations will increase by a lesser amount (37%), reflecting the trend toward the use of larger aircraft.
- Air cargo tonnage is projected to increase at an annual compounded growth rate of 2.4%.
- The number of general aviation aircraft that are based at the Airport for the majority of the year is projected to increase at an annual compounded growth rate of 0.9%. Consistent with the projected national trend, jet aircraft are expected to account for an increasingly larger percentage of based aircraft at the Airport.

Completion of the revised forecasts was followed by a review of the yet-to-be-constructed projects in the Master Plan. The purpose of the review was to determine if changes (i.e., modifications, deletions, additions) to the projects were needed so that the Airport will be able to accommodate the revised forecast demand in a comfortable and efficient manner. Section 1.4.4 provides a list of the proposed changes.

1.4.3 Proposed Modifications to Master Plan Projects

Table 1 lists the remaining to-be-constructed Master Plan projects and their anticipated phasing, including those projects that are proposed to be modified, as well as a number of proposed new projects under the 2019 Amendment.

Table 1. Proposed Airfield and Aviation Support Projects to be completed under the 2019 Master Plan Amendment

Project Number	Existing Master Plan Description	2019 Master Plan Amendment Description	Phase 1 (2019–2027)	Phase 2 (2028–2037)
Airfield Projects				
A-17	Extend/widen parallel Taxiway W south from Taxiway C to Runway 12R-30L (for ADG-IV aircraft).	A portion of the project between Taxiways B and C was already completed. The revised description for the remaining portion of project A-17 is as follows: Extend parallel Taxiway W south from Taxiway B to Runway 12R-30L (for ADG-III aircraft).	X	
A-23	Strengthen cross Taxiway J west of extended Runway 12L-30R to west of Runway 12R-30L and widen at 12R-30L for higher-speed arrivals exit to west.	Taxiway J strengthening already completed. Remaining phase of A-23 to be completed as described in the existing Master Plan.	X	
A-26	Widen/strengthen parallel Taxiway V from Taxiway G north to Taxiway W (for ADG-IV aircraft) and patch/restripe south of Taxiway G (for B-II aircraft).	Replace with Following New Project: Convert former Runway 11-29 to a new parallel Taxiway V (for ADG-III aircraft) and extend south to Taxiway C and north to a new cross Taxiway V7.	X	
A-27	Extend cross Taxiway H between Runway 12R-30L and Taxiway V (for ADG-IV aircraft).	Replace with Following New Project: Construct new cross Taxiway V7 from north end of new Taxiway V to Taxiway W (for ADG-III aircraft).	X	
A-37	Extend cross Taxiway K between Runway 12R-30L and Taxiway V (for ADG-IV aircraft).	Replace with Following New Project: Close existing Taxiway V and replace with a parallel apron-edge taxilane (for ADG-III aircraft).	X	
A-38	N/A Proposed new project	Construct up to seven new taxiway connectors (V1–V7) between the expanded west side apron (Project G-9) and new Taxiway V (for ADG-III aircraft).	X	
A-39	N/A Proposed new project	Mitigate direct access from west side apron to Taxiways B, C, and D through pavement marking/painting or removal.	X	
A-40	N/A Proposed new project	Create up to three new taxiway connectors (W1–W3) between the southwest apron and Taxiway W (for ADG-II aircraft) through pavement marking/painting or removal.	X	
A-41	N/A Proposed new project	Relocate existing general aviation run-up pad to southwest apron area.	X	

Project Number	Existing Master Plan Description	2019 Master Plan Amendment Description	Phase 1 (2019–2027)	Phase 2 (2028–2037)
A-42	N/A Proposed new project	Relocate Runway 12R-30L aircraft hold positions on all cross taxiways to current ADG-V aircraft standard.	X	
A-43	N/A Proposed new project	Widen Runway 12L-30R blast pads, and lengthen blast pad at 12L end, to current ADG-V aircraft standard.	X	
A-44	N/A Proposed new project	Realign existing cross Taxiways B-F, H, J, and L between Taxiways Y and Z to mitigate direct access from east side apron to Runway 12L-30R and rename realigned segments as Taxiways Z1–Z8 and Z10.	X (6 taxiways)	X (2 taxiways)
A-45	N/A Proposed new project	Close existing segments of cross Taxiways B-F, H, J, and L between Taxiways Y and Z through pavement marking/painting or removal (upon completion of Project A-44).	X (6 taxiways)	X (2 taxiways)
A-46	N/A Proposed new project	Narrow segment of existing cross Taxiway B between Taxiway Z and Runway 12L-30R through pavement marking/painting.	X	
A-47	N/A Proposed new project	Narrow segment of existing cross Taxiway L between Taxiway Y and Runway 12R-30L through pavement marking/painting.	X	
A-48	N/A Proposed new project	Close existing segments of cross Taxiways F and H between Runway 12R-30L and Runway 12L-30R through pavement marking/painting.	X	
A-49	N/A Proposed new project	Add pavement markings to existing parallel Taxiways W and Y, lateral to the adjacent runway displaced thresholds, to visually denote their use as taxiways.	X	
Terminal Projects				
T-4	Construct new public short-term parking garage (up to 3,000 spaces) on existing “Red” Hourly Parking lot site opposite new Terminal B.	Construct new public short-term parking garage (up to 5,000 spaces) and associated roadway improvements south of existing Rental Car Garage and opposite new Terminal B South Concourse (Project T-13).	X	

Project Number	Existing Master Plan Description	2019 Master Plan Amendment Description	Phase 1 (2019–2027)	Phase 2 (2028–2037)
T-6	Remove former temporary FIS facility from ramp south of Terminal C and remove City office structures at 1311 Airport Boulevard	FIS removal already completed. Remaining phase of T-6 to be completed as described in the existing Master Plan.	X	
T-8	Construct new public long-term parking garage (up to approx. 9,000 spaces) on existing interim rental car ready/return parking lot site, including interim surface parking at site prior to garage construction, second 2-lane bridge accessing site from Airport Boulevard and, upon completion, removal of public parking from interim west side lot.	Construction of interim surface parking and removal of interim parking from west side already completed. Remaining phase of T-8 will remove the interim surface lot and construct a new public long-term parking garage (up to 6,000 spaces) with access from Airport Boulevard using the existing two-lane bridge.	X	
T-13	Expand Terminal B (South Concourse) to south onto remainder of demolished Terminal C site, consisting of up to 700,000 square feet and 10 air carrier gates (ultimate total of 40 gates and 1.70 million square feet).	Expand Terminal B (South Concourse) to the south, including up to an additional 14 air carrier gates and 750,000 square feet of building space, and associated passenger processing facilities (ultimate terminal complex total of up to 42 gates and 1.80 million square feet).	X (12 gates)	X (2 gates)
T-16	N/A Proposed new project	Construct new multi-story business hotel south of and adjacent to new public short-term parking garage (Project T-4), up to 300,000 square feet in size including up to 330 guest rooms and 300 parking spaces.	X	
Air Cargo Projects				
C-2	Construct new cargo airline facilities at or adjacent to existing east side cargo airline areas, including up to 1.2 million square feet of ramp, building, and vehicle parking/movement space.	Expand cargo airline facilities at or adjacent to the existing east side cargo airline areas, with up to 200,000 square feet of additional ramp, building, and vehicle parking and movement space (cargo airline facility total of up to 500,000 square feet).	X (100,000 square feet)	X (100,000 square feet)
C-3	Relocate belly-freight facilities to new site(s) on the east side of the Airport, including up to 93,000 square feet building and vehicle parking/movement space.	Relocate belly-freight facilities to new site(s) on the east side of the Airport, including up to 150,000 square feet of ramp, building, and vehicle parking and movement space.	X	
C-4	Remove existing Air Freight Building and vehicle parking/movement area (displaced by Project T-13 and T-15).	No change from the description in the existing Master Plan.	X	

Project Number	Existing Master Plan Description	2019 Master Plan Amendment Description	Phase 1 (2019–2027)	Phase 2 (2028–2037)
General Aviation Projects				
G-5	Remove San José State University facilities at southwest side upon lease expiration in 2010 and convert site to aviation support or general aviation facility use.	Removal of SJSU facilities already completed. Remaining phase of G-5 to be completed as described in the existing Master Plan.	X	
G-6	Establish new FBO leaseholds on west side for reconfiguration of general aviation facilities.	Partially complete. Remaining phase of G-6 to be completed as described in the existing Master Plan.	X	
G-8	Expand general aviation facilities onto northwest side of Airport (44 acres, upon implementation of Project T-7 and T-8).	Partially complete. Remaining phase of G-8 to be completed as described in the existing Master Plan.	X	
G-9	N/A Proposed new project	Expand west side general aviation apron out to edge of new parallel taxiway (Project A-37).	X	
G-10	N/A Proposed new project	Reconfigure southwest apron tiedown storage facilities (to accommodate Projects A-40, A-41, and G-5).	X	
Aviation Support Projects				
S-1	Construct an approximately 7-acre fuel storage facility (up to 8 tanks, 4.0 million gallons capacity) on the vacant parcel north of U.S. Highway 101, a 2.0-acre fuel dispensing facility between Terminal A and north end of airfield, and a pipeline connecting storage and dispensing.	Construction of first phase (three tanks with 2.0-million gallon capacity) and fuel dispensing facility already completed. Remaining phase of S-1 to be completed as described in the existing Master Plan.		X
S-3	Relocate/expand airport maintenance facilities at existing or new sites on east side of the Airport.	Relocate/expand airport maintenance facilities at new site(s) on the east or west sides of Airport.	X	
S-4	Expand flight kitchen facilities at existing or new sites on the east side of the Airport or relocate/expand off-airport.	No change from the description in the existing Master Plan.	X	
S-5	Relocate/expand airline maintenance-storage facilities at various or new sites on the east side of the Airport.	Relocate/expand airline maintenance-storage facilities at various existing or new sites on the east or west sides of the Airport.	X	

Project Number	Existing Master Plan Description	2019 Master Plan Amendment Description	Phase 1 (2019–2027)	Phase 2 (2028–2037)
S-6	Remove, relocate, or upgrade existing aviation support facilities on southeast side of the Airport (1239-1311 Airport Boulevard) to or at various existing or new eastside sites.	Remove, relocate, or upgrade existing aviation support facilities on the southeast side of the Airport (1239-1311 Airport Boulevard) at various existing or new sites on east or west sides of Airport.	X	

Section 2. Methods

2.1 Background Review

Prior to conducting field work, H. T. Harvey & Associates ecologists reviewed the Master Plan EIR (City of San José 1997) and Amendment description provided by David J. Powers & Associates in January 2019; aerial photos and topographic maps; the California Department of Fish and Wildlife's (CDFW's) California Natural Diversity Database (CNDDDB) (2019); the California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2019); and other relevant scientific literature and technical databases in order to assess the current distribution of special-status plants and animals in the site vicinity. For the purposes of this report, the general vicinity is defined as the area within a 5-mile radius. In addition, for plants, we reviewed all species currently ranked by the CNPS as California Rare Plant Rank (CRPR) rank 1A, 1B, 2, or 3 occurring in the *San José West* and *Milpitas*, California quadrangles and ten surrounding quadrangles (*Newark, Niles, La Costa Valley, Mountain View, Calaveras Reservoir, Cupertino, San José East, Castle Rock Ridge, Los Gatos, and Santa Teresa Hills, California*). We also considered the CNPS plant list for Santa Clara County, as the CNPS does not maintain quadrangle-level records for CRPR 4 species. In addition, we queried the CNDDDB (2019) for natural communities of special concern that occur within the Airport region, and we perused records of birds reported in nearby areas, such as along the Guadalupe River, on eBird (Cornell Lab of Ornithology 2019) and on the South-Bay-Birds List Serve (2019).

2.2 Site Visit

Reconnaissance-level field surveys of the study area were conducted by H. T. Harvey & Associates senior wildlife ecologists Steve Rottenborn, Ph.D. and Robin Carle, M.S., on January 23, 2019; by R. Carle and plant ecologist Matthew Mosher, B.S., on January 7, 2019; and by R. Carle on March 10, 2019. The purpose of the surveys was to provide an impact assessment specific to the proposed development as described in the proposed Amendment. Specifically, surveys were conducted to (1) assess existing biotic habitats and general wildlife communities at the Airport and in adjacent areas, (2) assess the potential for implementation of the Amendment to impact special-status species and/or their habitats, and (3) identify potential jurisdictional habitats, such as waters of the U.S./state and riparian habitat.

Before site surveys were conducted, maps and images of the Airport were obtained from several sources and reviewed. These sources included the USGS, National Wetlands Inventory (2019), Nationwide Environmental Title Research (2019), and aerial images available on Google Earth Pro software (Google Inc. 2019).

Due to the close proximity of the Guadalupe River to portions of the study area, we determined the riparian baseline for the assessment of appropriate riparian setbacks to comply with City of San José policy. In areas where the river was close to proposed project areas, M. Mosher mapped the limits of the riparian canopy or top of bank (whichever was farther outboard of creek centerline) along the edge of the Guadalupe River nearest

proposed project areas. Mapping was done either using a high-resolution 2017 aerial image, or by using a sub-meter global positioning system unit or an iPad 3 with Geographic Information Systems Pro and GIS Kit software (Garafa, LLC 2015) in the field.

Section 3. Regulatory Setting

3.1 Federal Regulations

3.1.1 Clean Water Act

The Clean Water Act (CWA) functions to maintain and restore the physical, chemical, and biological integrity of waters of the U.S., which include, but are not limited to, tributaries to traditionally navigable waters currently or historically used for interstate or foreign commerce, and adjacent wetlands. Historically, in non-tidal waters, U.S. Army Corps of Engineers (USACE) jurisdiction extends to the ordinary high water mark, which is defined in Title 33, Code of Federal Regulations (CFR), Part 328.3. If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the ordinary high water mark to the outer edges of the wetlands. Wetlands that are not adjacent to waters of the U.S. are termed “isolated wetlands” and, depending on the circumstances, may be subject to USACE jurisdiction. In tidal waters, USACE jurisdiction extends to the landward extent of vegetation associated with salt or brackish water or the high tide line. The high tide line is defined in 33 CFR Part 328.3 as “the line of intersection of the land with the water’s surface at the maximum height reached by a rising tide.” If there are wetlands adjacent to channelized features, the limits of USACE jurisdiction extend beyond the ordinary high water mark or high tide line to the outer edges of the wetlands.

Construction activities within jurisdictional waters are regulated by the USACE. The placement of fill into such waters must comply with permit requirements of the USACE. No USACE permit will be effective in the absence of Section 401 Water Quality Certification. The State Water Resources Control Board (SWRCB) is the state agency (together with the Regional Water Quality Control Boards [RWQCBs]) charged with implementing water quality certification in California.

Project Applicability: The study area does not support wetland or aquatic habitats. Aquatic habitat is present within the Guadalupe River, which bisects Airport property; however, no activities under the Amendment are proposed within the bed and banks of the Guadalupe River. Therefore, a permit from the USACE would not be required for Amendment projects.

3.1.2 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899 prohibits the creation of any obstruction to the navigable capacity of waters of the U.S., including discharge of fill and the building of any wharfs, piers, jetties, and other structures without Congressional approval or authorization by the Chief of Engineers and Secretary of the Army (33 U.S.C. 403).

Navigable waters of the U.S., which are defined in 33 CFR, Part 329.4, include all waters subject to the ebb and flow of the tide, and/or those which are presently or have historically been used to transport commerce. The shoreward jurisdictional limit of tidal waters is further defined in 33 CFR, Part 329.12 as “the line on the shore reached by the plane of the mean (average) high water.” It is important to understand that the USACE does

not regulate wetlands under Section 10, only the aquatic or open waters component of bay habitat, and that there is overlap between Section 10 jurisdiction and Section 404 jurisdiction. According to 33 CFR, Part 329.9, a waterbody that was once navigable in its natural or improved state retains its character as “navigable in law” even though it is not presently used for commerce as a result of changed conditions and/or the presence of obstructions. Historical Section 10 waters may occur behind levees in areas that are not currently exposed to tidal or muted-tidal influence, and meet the following criteria: (1) the area is presently at or below the mean high water line; (2) the area was historically at or below mean high water in its “unobstructed, natural state”; and (3) there is no evidence that the area was ever above mean high water.

As mentioned above, Section 404 of the CWA authorizes the USACE to issue permits to regulate the discharge of dredged or fill material into waters of the U.S. If a project also proposes to discharge dredged or fill material and/or introduce other potential obstructions in navigable waters of the U.S., a Letter of Permission authorizing these impacts must be obtained from the USACE under Section 10 of the Rivers and Harbors Act.

Project Applicability: The Guadalupe River contains current Section 10 Waters to the north of the study area where it is subject to tidal influence. However, no current or historical Section 10 Waters are present within the study area. Therefore, a Letter of Permission from the USACE is not required.

3.1.3 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) protects federally listed wildlife species from harm or take, which is broadly defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Take can also include habitat modification or degradation that directly results in death or injury of a listed wildlife species. An activity can be defined as take even if it is unintentional or accidental. Listed plant species are provided less protection than listed wildlife species. Listed plant species are legally protected from take under the FESA only if they occur on federal lands.

The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) have jurisdiction over federally listed, threatened, and endangered species under FESA. The USFWS also maintains lists of proposed and candidate species. Species on these lists are not legally protected under FESA, but may become listed in the near future and are often included in their review of a project.

Project Applicability: No federally listed or candidate plant or animal species occur within the study area. The Central California Coast steelhead (*Oncorhynchus mykiss*) is known to occur in the Guadalupe River immediately adjacent to the study area and could potentially be affected indirectly by activities at Economy Lot 1.

3.1.4 Magnuson-Stevens Fishery Conservation and Management Act

The Magnuson-Stevens Fishery Conservation and Management Act governs all fishery management activities that occur in federal waters within the United States’ 200-nautical-mile limit. The Act establishes eight Regional Fishery Management Councils responsible for the preparation of fishery management plans (FMPs) to achieve the optimum yield from U.S. fisheries in their regions. These councils, with assistance from the NMFS, establish

Essential Fish Habitat (EFH) in FMPs for all managed species. Federal agencies that fund, permit, or implement activities that may adversely affect EFH are required to consult with the NMFS regarding potential adverse effects of their actions on EFH, and respond in writing to recommendations by the NMFS.

Project Applicability: The Pacific Fisheries Management Council has designated EFH for the Pacific Coast Salmon FMP within the Guadalupe River adjacent to the study area due to the presence of the Chinook salmon (*Oncorhynchus tshawytscha*).

3.1.5 Federal Migratory Bird Treaty Act

The federal Migratory Bird Treaty Act (MBTA), 16 U.S.C. Section 703, prohibits killing, possessing, or trading of migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. The MBTA protects whole birds, parts of birds, and bird eggs and nests; and prohibits the possession of all nests of protected bird species whether they are active or inactive. An active nest is defined as having eggs or young, as described by the Department of the Interior in its April 16, 2003 Migratory Bird Permit Memorandum. Nest starts (nests that are under construction and do not yet contain eggs) are not protected from destruction.

Project Applicability: All native bird species that occur at the Airport are protected under the MBTA.

3.2 State Regulations

3.2.1 Porter-Cologne Water Quality Control Act

The SWRCB works in coordination with the nine RWQCBs to preserve, protect, enhance, and restore water quality. Each RWQCB makes decisions related to water quality for its region, and may approve, with or without conditions, or deny projects that could affect waters of the state. Their authority comes from the CWA and the State's Porter-Cologne Water Quality Control Act (Porter-Cologne). Porter-Cologne broadly defines waters of the state as "any surface water or groundwater, including saline waters, within the boundaries of the state." Because Porter-Cologne applies to any water, whereas the CWA applies only to certain waters, California's jurisdictional reach overlaps and may exceed the boundaries of waters of the U.S. For example, Water Quality Order No. 2004-0004-DWQ states that *shallow* waters of the state include headwaters, wetlands, and riparian areas. Moreover, the San Francisco Bay Region RWQCB's Assistant Executive Director, has stated that, in practice, the RWQCBs claim jurisdiction over riparian areas. Where riparian habitat is not present, such as may be the case at headwaters, jurisdiction is taken to the top of bank.

On April 2, 2019, the SWRCB adopted the State Wetland Definition and Procedures for Discharges of Dredged or Fill Material to Waters of the State. In these new guidelines, riparian habitats are not specifically described as waters of the state but instead as important buffer habitats to streams that do conform to the State Wetland Definition. The Procedures describe riparian habitat buffers as important resources that may both be included in required mitigation packages for permits for impacts to waters of the state, as well as areas requiring permit authorization from the RWQCBs to impact.

Pursuant to the CWA, projects that are regulated by the USACE must also obtain a Section 401 Water Quality Certification permit from the RWQCB. This certification ensures that the proposed project will uphold state water quality standards. Because California's jurisdiction to regulate its water resources is much broader than that of the federal government, proposed impacts on waters of the state require Water Quality Certification even if the area occurs outside of USACE jurisdiction. Moreover, the RWQCB may impose mitigation requirements even if the USACE does not, for example for riparian habitats which are buffers to waters of the state. Under the Porter-Cologne, the SWRCB and the nine regional boards also have the responsibility of granting CWA National Pollutant Discharge Elimination System (NPDES) permits and Waste Discharge Requirements for certain point-source and non-point discharges to waters. These regulations limit impacts on aquatic and riparian habitats from a variety of urban sources.

Project Applicability: Riparian habitats, which would likely be regulated by the RWQCB, are present along the Guadalupe River adjacent to both the Fuel Farm and Economy Lot 1. However, no impacts to riparian habitat will result from activities under the proposed Amendment. Therefore, a Section 401 permit or Waste Discharge Requirement from the RWQCB would not be required for Amendment projects.

3.2.2 California Endangered Species Act

The California Endangered Species Act (CESA; California Fish and Game Code, Chapter 1.5, Sections 2050-2116) prohibits the take of any plant or animal listed or proposed for listing as rare (plants only), threatened, or endangered. In accordance with CESA, the CDFW has jurisdiction over state-listed species (Fish and Game Code 2070). The CDFW regulates activities that may result in take of individuals (i.e., "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill"). Habitat degradation or modification is not expressly included in the definition of take under the California Fish and Game Code. The CDFW, however, has interpreted take to include the "killing of a member of a species which is the proximate result of habitat modification."

Project Applicability: No suitable habitat for any state-listed plant or animal species occurs within the study area, and thus no state-listed plants or animals are reasonably expected to occur.

3.2.3 California Environmental Quality Act

CEQA is a state law that requires state and local agencies to document and consider the environmental implications of their actions and to refrain from approving projects with significant environmental effects if there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. CEQA requires the full disclosure of the environmental effects of agency actions, such as approval of a general plan update or the projects covered by that plan, on resources such as air quality, water quality, cultural resources, and biological resources. The State Resources Agency promulgated guidelines for implementing CEQA known as the State CEQA Guidelines.

Section 15380(b) of the State CEQA Guidelines provides that a species not listed on the federal or state lists of protected species may be considered rare if the species can be shown to meet certain specified criteria. These

criteria have been modeled after the definitions in the FESA and the CESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals. This section was included in the guidelines primarily to deal with situations in which a public agency is reviewing a project that may have a significant effect on a species that has not yet been listed by either the USFWS or CDFW or species that are locally or regionally rare.

The CDFW has produced three lists (amphibians and reptiles, birds, and mammals) of “species of special concern” that serve as “watch lists”. Species on these lists are of limited distribution or the extent of their habitats has been reduced substantially, such that threat to their populations may be imminent. Thus, their populations should be monitored. They may receive special attention during environmental review as potential rare species, but do not have specific statutory protection. All potentially rare or sensitive species, or habitats capable of supporting rare species, are considered for environmental review per the CEQA Section 15380(b).

The CNPS, a non-governmental conservation organization, has developed CRPRs for plant species of concern in California in the CNPS Inventory of Rare and Endangered Plants. The CRPRs include lichens, vascular, and non-vascular plants, and are defined as follows:

- CRPR 1A Plants considered extinct.
- CRPR 1B Plants rare, threatened, or endangered in California and elsewhere.
- CRPR 2A Plants considered extinct in California but more common elsewhere.
- CRPR 2B Plants rare, threatened, or endangered in California but more common elsewhere.
- CRPR 3 Plants about which more information is needed - review list.
- CRPR 4 Plants of limited distribution-watch list.

The CRPRs are further described by the following threat code extensions:

- .1—seriously endangered in California;
- .2—fairly endangered in California;
- .3—not very endangered in California.

Although the CNPS is not a regulatory agency and plants on these lists have no formal regulatory protection, plants appearing as CRPR 1B or 2 are, in general, considered to meet CEQA’s Section 15380 criteria, and adverse effects to these species may be considered significant. Impacts on plants that are listed by the CNPS on CRPR 3 or 4 are also considered during CEQA review, although because these species are typically not as rare as those of CRPR 1B or 2, impacts on them are less frequently considered significant.

Compliance with CEQA Guidelines Section 15065(a) requires consideration of natural communities of special concern, in addition to plant and wildlife species. Vegetation types of “special concern” are tracked in Rarefind

(CNDDDB 2019). Further, the CDFW ranks sensitive vegetation alliances based on their global (G) and state (S) rankings analogous to those provided in the CNDDDB. Global rankings (G1–G5) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas S rankings are a reflection of the condition of a habitat within California. If an alliance is marked as a G1–G3, all of the associations within it would also be of high priority. The CDFW provides the Vegetation Classification and Mapping Program’s currently accepted list of vegetation alliances and associations (CDFW 2010).

Project Applicability: All potential impacts on biological resources will be considered during CEQA review of the Amendment in the context of this Biological Resources Report. Project impacts are discussed in Section 6 below.

3.2.4 California Fish and Game Code

Ephemeral and intermittent streams, rivers, creeks, dry washes, sloughs, blue line streams on USGS maps, and watercourses with subsurface flows fall under CDFW jurisdiction. Canals, aqueducts, irrigation ditches, and other means of water conveyance may also be considered streams if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. A *stream* is defined in Title 14, California Code of Regulations Section 1.72, as “a body of water that follows at least periodically or intermittently through a bed or channel having banks and that supports fish and other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation.” Using this definition, CDFW extends its jurisdiction to encompass riparian habitats that function as a part of a watercourse. California Fish and Game Code Section 2786 defines *riparian habitat* as “lands which contain habitat which grows close to and which depends upon soil moisture from a nearby freshwater source.” The lateral extent of a stream and associated riparian habitat that would fall under the jurisdiction of CDFW can be measured in several ways, depending on the particular situation and the type of fish or wildlife at risk. At minimum, CDFW would claim jurisdiction over a stream’s bed and bank. Where riparian habitat is present, the outer edge of riparian vegetation is generally used as the line of demarcation between riparian and upland habitats.

Pursuant to California Fish and Game Code Section 1603, CDFW regulates any project proposed by any person that will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds.” California Fish and Game Code Section 1602 requires an entity to notify CDFW of any proposed activity that may modify a river, stream, or lake. If CDFW determines that proposed activities may substantially adversely affect fish and wildlife resources, a Lake and Streambed Alteration Agreement (LSAA) must be prepared. The LSAA sets reasonable conditions necessary to protect fish and wildlife, and must comply with CEQA. The applicant may then proceed with the activity in accordance with the final LSAA.

Certain sections of the California Fish and Game Code describe regulations pertaining to protection of certain wildlife species. For example, Code Section 2000 prohibits take of any bird, mammal, fish, reptile, or amphibian except as provided by other sections of the code.

The California Fish and Game Code Sections 3503, 3513, and 3800 (and other sections and subsections) protect native birds, including their nests and eggs, from all forms of take. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered take by the CDFW. Raptors (e.g., eagles, hawks, and owls) and their nests are specifically protected in California under Code Section 3503.5. Section 3503.5 states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.”

Bats and other non-game mammals are protected by California Fish and Game Code Section 4150, which states that all non-game mammals or parts thereof may not be taken or possessed except as provided otherwise in the code or in accordance with regulations adopted by the commission. Activities resulting in mortality of non-game mammals (e.g., destruction of an occupied bat roost, resulting in the death of bats), or disturbance that causes the loss of a maternity colony of bats (resulting in the death of young), may be considered take by the CDFW.

Project Applicability: CDFW jurisdiction under Section 1602 of the California Fish and Game Code includes riparian habitat, which may extend up to the top of bank of the Guadalupe River adjacent to the Fuel Farm and Economy Lot 1. While riparian habitat does occur within the study area, there are no impacts by proposed activities under the Amendment to riparian habitat at the Fuel Farm. Therefore, a CDFW LSAA would not be required for Amendment projects. Most native bird, mammal, and other wildlife species that occur in the study area and in the immediate vicinity are protected by the California Fish and Game Code.

3.3 Local Regulations

3.3.1 City of San José Tree Ordinance

The City of San José promotes the health, safety, and welfare of the city by regulating the planting, removal, and maintenance of trees in the city. The City provides tree protection under the Municipal Code Section 13.28 (street trees, hedges, and shrubs), 13.32 (tree removal controls), and 13.44.220 (damaging park property). The Municipal Code details permit requirements for tree related work, including removal, pruning, and planting. Removal of trees within the street right-of-way are subject to tree removal permitting by the City of San José. Street trees are located in the public right-of-way between the curb and the sidewalk. Pruning or removal of street trees is illegal without a permit issued by the City. Replacement trees are required for the removal of ordinance-size street trees. A single trunk tree qualifies as an ordinance-size tree if it measures 38 inches or more in circumference at 4.5 feet above ground (approximately 12 inches diameter at breast height). A multi-trunk tree qualifies as ordinance-size if the combined measurement of each trunk circumference (at 4.5 feet above ground) adds up to 38 inches or more. As part of the permit application it is required to contact the planning division with regard to the replacement of ordinance-size trees.

Removal of trees on private property, commercial, and industrial properties are also subject to tree removal permitting by the City of San José. A permit is required to remove a tree of “any size” from a commercial and

industrial property. A separate “permit adjustment application” is required to be filed for non-ordinance-sized trees that will be removed from commercial and industrial properties. As part of the permit application it is required to contact the City’s planning division with regard to the replacement of trees on private, commercial and industrial properties.

Project Applicability: Ordinance-sized trees are present within the portion of the study area that is located within San José. While a permit from the City of San José would not be required for the removal of these trees (as they would be removed by the City on City property), the Airport will follow the City of San José’s tree replacement guidelines and policies.

3.3.2 City of San José Riparian Corridor Protection and Bird-Safe Design Policy

Measures to protect riparian corridors are provided in the City’s Riparian Corridor Policy Study (City of San José 1999), which was incorporated into the City’s Envision San José 2040 General Plan (City of San José 2012); the Zoning Code (Title 20 of the San José Municipal Code); and the City Council-adopted Santa Clara Valley Habitat Plan (VHP), specifically Condition 11. The term *riparian corridor* as defined by the City means any defined stream channel, including the area up to the bank full-flow line, as well as all characteristic streamside vegetation in contiguous adjacent uplands.

In 2016, the City released Council Policy 6-34 to provide guidance on the implementation of riparian corridor protection consistent with all City policies and requirements that provide for riparian protection. Council Policy 6-34 indicates that riparian setbacks should be measured from the outside edges of riparian habitat or the top of bank, whichever is greater, and that development of new buildings and roads generally should be set back 100 feet from the riparian corridor. However, Council Policy 6-34 also indicates that a reduced setback may be considered under limited circumstances, including the existence of legal uses within the minimum setback, and utility or equipment installations or replacements that involve no significant disturbance to the riparian corridor during construction and operation and that generate only incidental human activity.

Project Applicability: Riparian corridors associated with the Guadalupe River are located immediately adjacent to the Fuel Farm, Economy Lot 1, and Airport Boulevard. Amendment projects located at the Fuel Farm, at Economy Lot 1, and along Airport Boulevard would need to comply with the City’s riparian corridor policy.

3.3.3 Santa Clara Valley Habitat Plan

The VHP (ICF International 2012) provides a framework for promoting the protection and recovery of natural resources, including endangered and threatened species, while streamlining the permitting process for planned development, infrastructure, and maintenance activities. The VHP allows the County of Santa Clara, the Santa Clara Valley Water District, the Santa Clara Valley Transportation Authority, and the cities of Gilroy, Morgan Hill, and San José (collectively, the Local Partners or Permittees) to receive endangered species permits for activities and projects they conduct and those under their jurisdiction. The Santa Clara Valley Open Space Authority also contributed to VHP preparation. The VHP will protect, enhance, and restore natural resources in specific areas of Santa Clara County and contribute to the recovery of endangered species. Rather than

separately permitting and mitigating individual projects, the VHP evaluates natural-resource impacts and mitigation requirements comprehensively in a way that is more efficient and effective for at-risk species and their essential habitats.

The VHP was developed in association with the USFWS and CDFW and in consultation with stakeholder groups and the general public. The USFWS has issued the Permittees a 50-year permit that authorizes incidental take of listed species under FESA, while CDFW has issued a 50-year permit that authorizes take of all covered species under the Natural Community Conservation Planning Act. This approach allows the Permittees to streamline future mitigation requirements into one comprehensive program. In addition to obtaining take authorization for each participating agency's respective activities, the cities and County will be able to extend take authorization to project applicants under their jurisdiction.

USFWS and CDFW will also provide assurances to the Permittees that no further commitments of funds, land, or water will be required to address impacts on covered species beyond that described in the Plan to address changed circumstances. In addition to strengthening local control over land use and species protection, the Plan provides a more efficient process for protecting natural resources by creating new habitat reserves that will be larger in scale, more ecologically valuable, and easier to manage than the individual mitigation sites created under the current approach.

The VHP and associated documents are approved and adopted by the six Local Partners (Cities of Gilroy, Morgan Hill and San José, County of Santa Clara, Santa Clara Valley Transportation Authority, and Santa Clara Valley Water District).

Project Applicability. Although the majority of the study area (i.e., all areas within the City of San José) is located within the VHP permit area, Airport projects are explicitly excluded from VHP coverage and are therefore not considered covered activities under the VHP or required to comply with VHP conditions (ICF International 2012).

Section 4. Environmental Setting

4.1 General Project Area Description

The approximately 686.9-acre study area is located in San José and Santa Clara in Santa Clara County, California. The Guadalupe River bisects the study area along the northeastern boundary of the Airport, and flows south to north adjacent to the site. Based on 30-year climate normal from 1980 through 2010 the study area receives approximately 14.96 inches of annual precipitation and has a mean temperature range of 49.9°–69.2°F (PRISM Climate Group 2019). Elevations within the study area range from approximately 23 feet to 89 feet above sea level. The site is underlain by eight soil types, which are listed in Table 2 (National Resources Conservation Service 2019).

Table 2. Soil Map Units within the Study Area

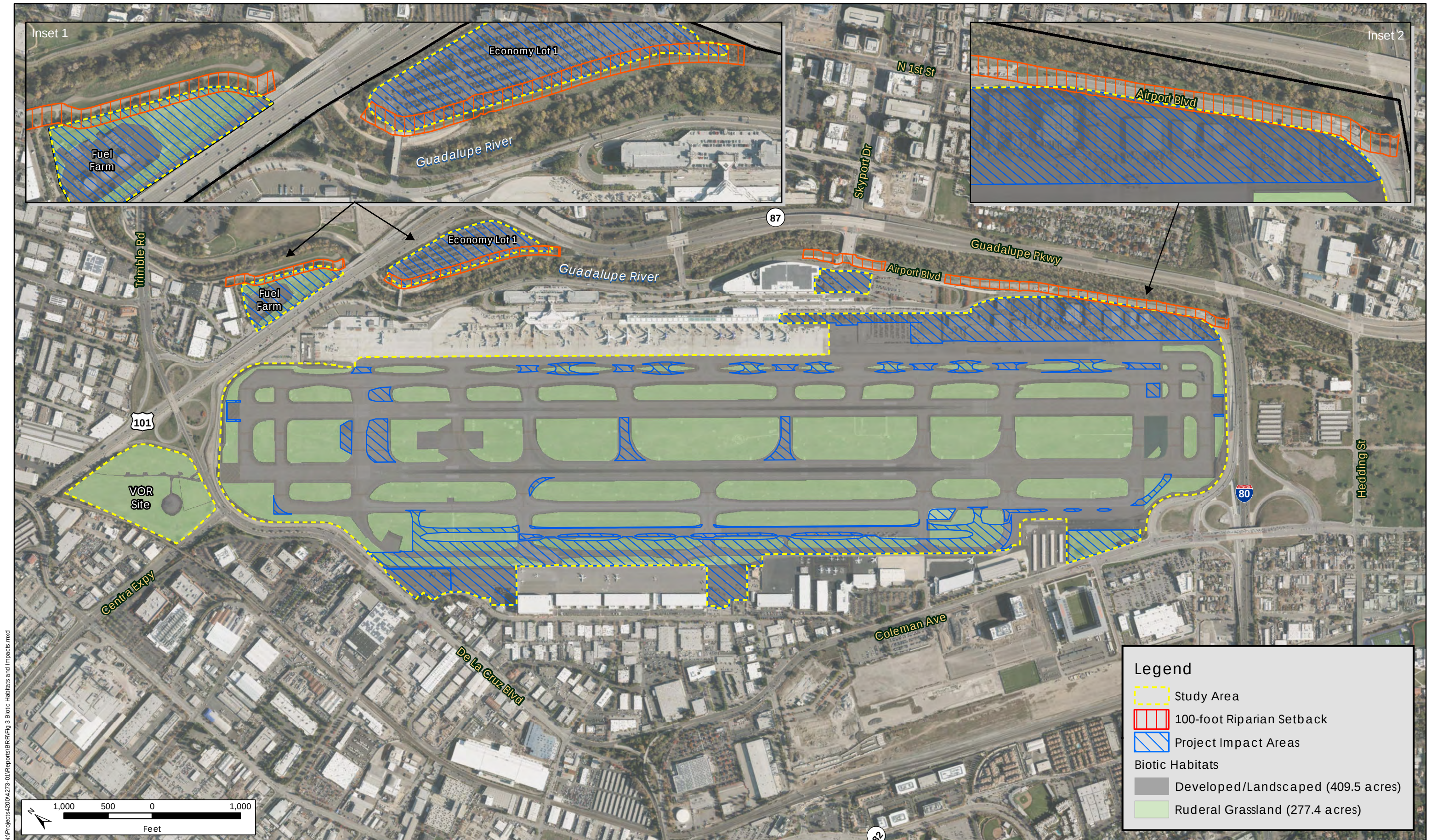
Map Unit Symbol	Map Unit Name	Acres in Study Area
101	Urban land, 0 to 2% slopes, basins	13.9
145	Urbanland-Hangerone complex, 0 to 2% slopes, drained	437.9
146	Hangerone clay loam, drained, 0 to 2% slopes	24.7
160	Urbanland-Clear Lake complex, 0 to 2% slopes	18.6
165	Urbanland-Campbell complex, 0 to 2% slopes, protected	184.7
166	Campbell silt loam, 0 to 2% slopes, protected	8.2
171	Elder fine sandy loam, 0 to 2% slopes, rarely flooded	0.2

4.2 Biotic Habitats

Reconnaissance-level surveys identified two habitat types/land uses in the study area: developed/landscaped (410.4 acres) and ruderal grassland (277.4 acres); these habitats are depicted on Figure 3 and described in detail below. Plant species observed during the reconnaissance-level survey are listed in Appendix A.

4.2.1 Developed/Landscaped

Vegetation. The majority of the study area (410.4 acres) consists of developed and landscaped habitat. Hardscape areas at the Airport include runways and taxiways, the terminal buildings, outbuildings, hangars, and associated parking structures. The Fuel Farm area to the north consists of three fuel tanks, an administrative building, and an associated paved roadway. To the northeast of the Airport, on the opposite side of the Guadalupe River, is Economy Lot 1, which is a paved parking area. The VOR site supports a large navigational antenna and an access road. Amongst these areas, particularly along the east side of the terminal buildings, are various landscaped areas which are mown and maintained by Airport staff. These landscaped areas support few trees and minimal vegetation, likely to minimize the attraction of wildlife to the airfield.



N:\Projects\4200\4273-01\Reports\BRRP\Fig 3 Biotic Habitats and Impacts.mxd



H. T. HARVEY & ASSOCIATES
Ecological Consultants

Figure 3. Biotic Habitats and Impacts
San José International Airport 2019 Master Plan Amendment
Biological Resources Report (4273-01)
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Wildlife. For aircraft safety, wildlife species are generally discouraged from occurring on the airfield, and developed portions of the study area support little to no vegetation, with the exception of a few small landscaped areas along the terminal buildings as described above. Nevertheless, common wildlife species that are associated with urban areas and tolerant of high levels of human disturbance occur within developed portions of the study area. These include the nonnative European starling (*Sturnus vulgaris*), house sparrow (*Passer domesticus*), house mouse (*Mus musculus*), and black rat (*Rattus rattus*), as well as the native western fence lizard (*Sceloporus occidentalis*), raccoon (*Procyon lotor*), and a variety of birds, including the Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), mourning dove (*Zenaida macroura*), and northern mockingbird (*Mimus polyglottos*). The buildings in the study area may be attractive to certain nesting bird species in the area that nest on buildings, such as the black phoebe (*Sayornis nigricans*) and house finch. Several of the larger open buildings in the study area (e.g., hangars) provide potential nesting and roosting sites for barn owls (*Tyto alba*) as well as potential roosting habitat for bats, such as the Mexican free-tailed bat (*Tadarida brasiliensis*).

4.2.2 Ruderal Grassland

Vegetation. Approximately 248.8 acres of ruderal grassland are present between the runways, taxiways, and other paved/developed areas on the active airfield. These areas are mown frequently to discourage wildlife use and maintain visibility, and the dominant plants occurring in these areas are well adapted to such frequent disturbance. This ruderal grassland is dominated by nonnative, annual grasses, such as ripgut brome (*Bromus diandrus*), Italian ryegrass (*Lolium multiflorum*), and wild oats (*Avena* sp.). Common forbs include nonnative species such as black mustard (*Brassica nigra*), Russian thistle (*Salsola tragus*), and bull mallow (*Malva nicaeensis*).

The VOR site supports 23.6 acres of ruderal grassland vegetation similar to that within vegetated portions of the active airfield. However, mowing at the VOR site appears to be less frequent, and the eastern portion contains some young coyote brush (*Baccharis pilularis*), fennel (*Foeniculum vulgare*), and jubata grass (*Cortaderia jubata*), indicating that this area has not been recently mown. Several Mexican fan palms (*Washingtonia robusta*) are present along the northeastern and western edges of the VOR site.

Wildlife. The areas of ruderal grassland habitat within the airfield are managed to discourage wildlife species, and these areas are also regularly disturbed by mowing. Due to this intensive management, the grassland habitat within the airfield provides limited habitat for wildlife species. Nevertheless, moderate numbers of California ground squirrels (*Otospermophilus beecheyi*) and Botta's pocket gophers (*Thomomys bottae*) are present throughout the ruderal grassland areas within the airfield. Burrowing owls have inhabited these grassland areas for decades and are present year-round. Wintering grassland birds such as the red-winged blackbird (*Agelaius tricolor*) and Say's phoebe (*Sayornis saya*) forage in these grasslands. Few grassland-nesting birds breed in these areas, but small numbers of western meadowlarks (*Sturnella neglecta*) may nest around the airfield and forage here year-round. Aerial foragers such as the black phoebe, cliff swallow (*Petrochelidon pyrrhonota*), and Mexican free-tailed bat will forage aerially over this habitat for insects. Diurnal raptors such as red-tailed hawks (*Buteo jamaicensis*) forage for small mammals over grasslands during the day, and at night nocturnal raptors, such as barn owls, will forage for nocturnal rodents, such as deer mice (*Peromyscus maniculatus*).

The ruderal grassland habitat at the VOR site, which is located to the north of the Airport and supports a large radio navigation system to assist with aircraft navigation, is partially maintained by occasional mowing. A number of artificial burrowing owl burrows have been installed at the VOR site; however, burrowing owls are not currently known to occur at the site (Campos 2019, U.S. Department of Agriculture [USDA] 2018) and no owls or burrows of California ground squirrels to provide suitable nesting and roosting habitat for owls were observed here during the January 2019 site visit. Other native rodent species that could potentially occur in this habitat include the California vole (*Microtus californicus*), deer mouse, and black-tailed jackrabbit (*Lepus californicus*). Because the vegetation within much of this site is allowed to grow tall, it provides foraging opportunities for a number of additional bird species including the bushtit (*Psaltiriparus minimus*), and lesser goldfinch (*Spinus psaltria*), which forage on seeds in ruderal areas. Aerial foragers such as the black phoebe, cliff swallow, and Mexican free-tailed bat will forage aerially over this habitat for insects. Diurnal and nocturnal raptors such as those that occur on the airfield forage for small mammals over grasslands; the Mexican fan palms provide suitable nesting sites for these species, and the VOR radio and other tall structures provide perching sites from which these species can forage on small mammals. A pair of white-tailed kites (*Elanus leucurus*) was observed on the site during the January 2019 site visit, and this species may nest in trees on the site or in nearby areas and forage in grasslands at the VOR site year-round.

The ruderal grassland habitat at the Fuel Farm is limited in extent, and the majority of the wildlife species that occur in this area occur primarily in adjacent developed or riparian areas and use this grassland for foraging. Such species include the house finch, bushtit, and lesser goldfinch, which forage on seeds in ruderal areas, and the black phoebe, cliff swallow, and Mexican free-tailed bat, which forage aerially over ruderal habitats for insects. No burrows of California ground squirrels or Botta's pocket gophers were observed in this habitat during the site visit; however, other rodent species such as the California vole and deer mouse may occur here. Numerous feral cats (*Felis catus*) were observed near the Fuel Farm site during the March 10 site visit.

Medium-sized mammal species such as the native striped skunk (*Mephitis mephitis*), raccoon, and nonnative Virginia opossum (*Didelphis virginiana*) and feral cat utilize ruderal habitats in the study area for foraging. Reptiles such as western fence lizards, western skinks (*Plestiodon skiltonianus*), western terrestrial garter snakes (*Thamnophis elegans*), and southern alligator lizards (*Elgaria multicarinata*) frequent grassland habitats, and may occur in grassland habitats or adjacent developed habitats in the study area.

4.3 Adjacent Habitat Areas

The study area is adjacent to the Guadalupe River, which supports willow riparian forest just outside the northeastern boundary of the Fuel Farm and adjacent to Economy Lot 1 and Airport Parkway. Along the active floodplain of the Guadalupe River adjacent to the Fuel Farm (i.e., outside the study area), the overstory vegetation consists of Fremont cottonwood (*Populus fremontii*), red willow (*Salix laevigata*), and arroyo willow (*Salix lasiolepis*). The stream banks immediately outside the Fuel Farm are artificially constructed levees that support none of these woody, native riparian forest species, with an improved access road running along the top of bank. Farther south, near Economy Lot 1 and the southern portion of the Airport along Airport Parkway, the channel is generally broader, and woody vegetation extends farther outboard of the stream's ordinary high

water mark this far south. A limited number of nonnative trees are present, including weeping willow (*Salix babylonica*) and holly oak (*Quercus ilex*) along top of bank in the southern portion of the study area. Understory vegetation along this reach of the Guadalupe River varies from relatively high-quality, dense cover of California blackberry (*Rubus ursinus*) to areas dominated by dense nonnative species such as English ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*). Significant trash wrack was also observed among the willow trees rooted below the ordinary high water mark.

Riparian habitats in California generally support exceptionally rich bird communities and contribute disproportionately to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provides foraging opportunities, and the diverse habitat structure provides cover and nesting opportunities. Many bird species that are attracted to herbaceous vegetation and aquatic habitats along the Guadalupe River are expected to move through portions of the study area, primarily near the Fuel Farm and Economy Lot 1, when flying along the Guadalupe River. The numbers of these birds moving through the site will vary by time of year and by species. Many birds, such as waterfowl, often tend to move in large groups, while other species, such as migrating landbirds, will move through individually. Local bird numbers also vary by time of year, as many birds form small to large flocks during winter and migration, and occur in more widely spaced pairs during the breeding season.

We consider the riparian habitat along this reach of the Guadalupe River to be of moderately high quality for birds. The large numbers of mature trees and native trees and presence of dense understory vegetation in some areas contribute positively to the value of this habitat for birds. However, the relatively narrow width of the riparian canopy, regularly disturbed nature of the stream channel (for stream maintenance/flood prevention purposes), and trampling/disturbance of this habitat from homeless camps negatively affect the quality of this habitat for birds. This riparian habitat is also somewhat fragmented due to the surrounding high-density urban development and the presence of bridges, road crossings, and channelization along nearby portions of the river, and therefore lacks connectivity to higher-quality riparian habitats in the region. In addition, many feral cats were observed along this reach of the river, and these cats will prey upon native birds. Nevertheless, songbirds that migrate along the Pacific Flyway and travel through the site vicinity are expected to be attracted to this reach of the Guadalupe River, and this habitat is likely used fairly heavily by migrating birds. Further, this reach of the Guadalupe River is used regularly by resident birds that are present in the vicinity year-round and are attracted to the riparian habitat for foraging and nesting opportunities.

Reptiles such as the gopher snake (*Pituophis catenifer*), western fence lizard, and southern alligator lizard also are present in the riparian habitat along the Guadalupe River. Amphibians such as the arboreal salamander (*Aneides lugubris*) occur in the leaf litter in this habitat and the native Pacific tree frog (*Pseudacris regilla*) is also known to be present. Urban-adapted mammals, such as the native raccoon and striped skunk, as well as the non-native Virginia opossum, Norway rat (*Rattus norvegicus*), black rat, feral cat, and eastern gray squirrel (*Sciurus carolinensis*), reside in riparian habitat and adjacent habitats within the study area.

Section 5. Special-Status Species and Sensitive Habitats

CEQA requires assessment of the effects of a project on species that are protected by state, federal, or local governments as “threatened, rare, or endangered”; such species are typically described as “special-status species”. For the purpose of the environmental review of projects proposed under the Amendment, special-status species have been defined as described below. Impacts on these species are regulated by some of the federal, state, and local laws and ordinances described in Section 3 above.

For purposes of this analysis, “special-status” plants are considered plant species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, rare, or a candidate species.
- Listed by the CNPS as CRPR 1A, 1B, 2, 3, or 4.

For purposes of this analysis, “special-status” animals are considered animal species that are:

- Listed under FESA as threatened, endangered, proposed threatened, proposed endangered, or a candidate species.
- Listed under CESA as threatened, endangered, or a candidate threatened or endangered species.
- Designated by the CDFW as a California species of special concern.
- Listed in the California Fish and Game Code as fully protected species (fully protected birds are provided in Section 3511, mammals in Section 4700, reptiles and amphibians in Section 5050, and fish in Section 5515).

Information concerning threatened, endangered, and other special-status species that potentially occur in the study area was collected from several sources and reviewed by H. T. Harvey & Associates biologists as described in Section 2.1 above. Figure 4 depicts CNDDDB records of special-status plant species in the general vicinity of the Project site and Figure 5 depicts CNDDDB records of special-status animal species. These generalized maps show areas where special-status species are known to occur or have occurred historically.

5.1 Special-Status Plant Species

The CNPS (2019) and CNDDDB (2019) identify 78 special-status plant species as potentially occurring in at least one of the 11 USGS quadrangles containing or surrounding the study area for CRPR 1 or 2 species, or in Santa Clara County for CRPR 3 and 4 species. Of those, 77 potentially occurring special-status plant species were determined to be absent from the study area for at least one of the following reasons: (1) lack of suitable habitat

types; (2) absence of specific microhabitat or edaphic requirements, such as serpentine soils; (3) the elevation range of the species is outside of the range within the study area; and/or (4) the species is considered extirpated from the study area vicinity. Appendix B lists these plants along with the basis for the determination of absence. However, at least marginally suitable habitat is present within the ruderal grassland present in the study area for Congdon's tarplant (*Centromadia parryi* ssp. *congdonii*), and the site also occurs within the known range of the species. This species, including a description of areas within the study area where it may occur, is discussed further below.

Congdon's Tarplant (*Centromadia parryi* ssp. *congdonii*). **Federal Listing Status: None; State Listing Status: None; CRPR: 1B.1.** Congdon's tarplant is an annual herb in the composite family (Asteraceae) that is endemic to California. It has a variable blooming period extending from May through November. Congdon's tarplant occurs in valley and foothill grassland habitat, floodplains, and swales, particularly those with alkaline substrates; and in disturbed areas with non-native grasses such as wild oat (*Avena fatua*), ripgut brome, Italian ryegrass, and seaside barley (*Hordeum marinum*) (CNDDB 2019, CNPS 2019, Baldwin et al. 2012, and Valley Water 2011). Congdon's tarplant occurs in Alameda, Contra Costa, Monterey, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, and Solano Counties (CNDDB 2019). In Santa Clara County, populations occur in ruderal grassland at Moffett Federal Airfield; in ruderal grassland and seasonal wetland habitats within Sunnyvale Baylands Park; in annually disked ruderal grassland in Alviso, north of Highway 237 and east of North First Street; and in ruderal grassland along railroad tracks in Milpitas.

Ruderal grassland within the study area has some potential for occurrence of Congdon's tarplant, including grassland at the airfield, Fuel Farm (not including an old construction staging area to the east, which is unsuitable), and VOR site. Surveys for this CEQA analysis were performed outside the species' typical period of detectability, and therefore we were unable to conduct surveys to determine whether or not it is currently present in the study area.

5.2 Special-Status Animal Species

The legal status and likelihood of occurrence in the study area of special-status animal species known to occur, or potentially occurring, in the surrounding region are presented in Table 3. Most of the special-status species listed in Table 3 are not expected to occur in the study area because it lacks suitable habitat, is outside the known range of the species, and/or is isolated from the nearest known extant populations by development or otherwise unsuitable habitat. The Master Plan EIR addressed a number of additional wildlife species that are not listed in Table 3 because they are associated with tidal marsh habitats of the San Francisco Bay (which are separated from the study area by approximately 3.5 miles of dense urban development) or that have since been removed from special-status species lists since 1997, these species are not discussed in this report.

The following special-status species that are present in less urbanized settings in the South Bay, or in specialized habitats in the South Bay, are absent from the study area due to a lack of suitable habitat and/or isolation of the site from populations by urbanization: the California tiger salamander (*Ambystoma californiense*), California

red-legged frog (*Rana draytonii*), foothill yellow-legged frog (*Rana boylei*), bald eagle (*Haliaeetus leucocephalus*), San Francisco dusky-footed woodrat (*Neotoma fuscipes annectens*), and American badger (*Taxidea taxus*).

No aquatic habitats to support special-status fish species are present within the study area; however, the study area is located adjacent to the Guadalupe River, which provides habitat for the Central California Coast steelhead and the Central Valley Fall-run Chinook salmon. In addition, the yellow warbler (*Setophaga petechia*) and San Francisco common yellowthroat (*Geothlypis trichas sinuosa*) can potentially nest in riparian habitats along the Guadalupe River adjacent to the study area. Although these special-status species will not be directly affected by activities under the Amendment, there is some potential for project activities to result in indirect effects on these species due to their close proximity to the study area.

A number of special-status bird species can occasionally occur in the study area as nonbreeding foragers (i.e., they do not nest in the study area). These are the Bryant's savannah sparrow (*Passerculus sandwichensis alaudinus*), peregrine falcon (*Falcon peregrinus anatum*), and golden eagle (*Aquila chrysaetos*). The pallid bat (*Antrozous pallidus*), a California species of special concern, may also forage aerially over habitats in the study area. These species are not expected to nest, roost, or breed in or immediately adjacent to the study area, and will be affected very little, if at all, by proposed projects under the Amendment. In addition, the grasshopper sparrow (*Ammodramus savannarum*), a bird species that is considered a California species of special concern only when it is nesting, may occur occasionally in grasslands within the study area as a nonbreeding transient, forager, or migrant, but no suitable nesting habitat for this species occurs in the study area. Because this species is only considered a species of special concern when nesting, it is not a "special-status species" when it occurs as a nonbreeding visitor to the study area.

Tricolored blackbirds (*Agelaius tricolor*) have not been recorded nesting in the vicinity of the study area, and the species does not nest in the types of habitats that occur on and adjacent to the site. Therefore, this species is not expected to breed within or immediately adjacent to the study area, and at most it occurs as an uncommon and irregular forager on the site during the nonbreeding period.

The western pond turtle (*Actinemys marmorata*), burrowing owl, white-tailed kite (*Elanus leucurus*), and loggerhead shrike (*Lanius ludovicianus*) are addressed in greater detail below because these species can potentially breed or occur in or immediately adjacent to the study area and/or may be significantly impacted by development under the Amendment (see Section 6 *Impacts and Mitigation Measures* below).

Table 3. Special-status Animal Species, Their Status, and Potential Occurrence in the Study Area

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Federal or State Endangered, Threatened, or Candidate Species			
Central California Coast steelhead (<i>Oncorhynchus mykiss</i>)	FT	Cool streams with suitable spawning habitat and conditions allowing migration between spawning and marine habitats.	Present in Adjacent Waters. No aquatic habitats are present within the study area to provide suitable habitat for steelhead, and this species is absent from the study area. However, steelhead are known to occur in the Guadalupe River immediately adjacent to the study area (Smith 2013). This reach of the Guadalupe River functions as a migration corridor for individuals traveling between the San Francisco Bay and spawning and rearing habitat farther upstream.
California tiger salamander (<i>Ambystoma californiense</i>)	FT, ST	Vernal or temporary pools in annual grasslands or open woodlands.	Absent. Populations located on the Santa Clara Valley floor have been extirpated due to habitat loss, and the species is now considered absent from the majority of the Valley floor, including the study area (H. T. Harvey & Associates 1999a, 2012, Valley Water 2011). No recent records of California tiger salamanders are located anywhere in the study area vicinity (CNDDDB 2019). Determined to be absent.
California red-legged frog (<i>Rana draytonii</i>)	FT, CSSC	Streams, freshwater pools, and ponds with emergent or overhanging vegetation.	Absent. This species has been extirpated from the majority of the study area region, including the entire urbanized Santa Clara Valley floor, due to development, the alteration of hydrology of its aquatic habitats, and the introduction of non-native predators such as non-native fishes and bullfrogs (H. T. Harvey & Associates 1997, Valley Water 2011). Determined to be absent.
Foothill yellow-legged frog (<i>Rana boylei</i>)	SC	Partially shaded shallow streams and riffles with a rocky substrate. Occurs in a variety of habitats in coast ranges.	Absent. No aquatic habitat to support this species occurs in the study area. The VHP maps the Guadalupe River adjacent to the site as secondary habitat for foothill yellow-legged frogs (ICF International 2012). However, this species has been extirpated from Valley floor areas of Santa Clara County, and is no longer known to occur along the County's streams below major reservoirs, including Calero and Almaden Reservoirs which are located upstream of the study area (H. T. Harvey & Associates 1999b). Thus, yellow-legged frogs are absent from the study area and immediately adjacent areas.

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Bald eagle (<i>Haliaeetus leucocephalus</i>)	SE, SP	Occurs mainly along seacoasts, rivers, and lakes; nests in tall trees or in cliffs, occasionally on electrical towers. Feeds mostly on fish.	Absent. Nests and forages in the region primarily at inland reservoirs. No suitable nesting or foraging habitat is present in the study area.
Tricolored blackbird (<i>Agelaius tricolor</i>)	ST	Nests near fresh water in dense emergent vegetation.	Absent as Breeder. In Santa Clara County, has bred in only a few scattered locations, and is absent from, or occurs only as a nonbreeder in, most of the County (Rottenborn 2007a). Typically nests in extensive stands of tall emergent herbaceous vegetation in non-tidal freshwater marshes and ponds. No suitable nesting habitat is present along the Guadalupe River adjacent to the study area; this species (whose colonies are loud and conspicuous) has never been recorded nesting within or adjacent to the study area, and high levels of adjacent disturbance likely preclude nesting by this species. Thus, this species is expected to occur only in low numbers, as a nonbreeding forager.
California Species of Special Concern			
Central Valley fall-run Chinook salmon (<i>Oncorhynchus tshawytscha</i>)	CSSC	Cool rivers and large streams that reach the ocean and that have shallow, partly shaded pools, riffles, and runs.	Present in Adjacent Waters. No aquatic habitats are present within the study area to provide suitable habitat for Chinook salmon, and this species is absent from the study area. This species did not spawn historically in South Bay streams; however, small numbers have been detected in the Guadalupe River (Leidy et al. 2003). This reach of the Guadalupe River typically functions as a migration corridor for individuals traveling between the San Francisco Bay and higher-quality spawning habitat farther upstream. However, Chinook salmon may attempt spawning in this reach if they are unable to access higher-quality habitat upstream due to seasonally low flows.

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Western pond turtle (<i>Actinemys marmorata</i>)	CSSC	Permanent or nearly permanent water in a variety of habitats.	May be Present. No suitable aquatic habitat is present within the study area, and breeding populations of western pond turtles have been extirpated from most urbanized areas in the region. However, individuals of this long-lived species still occur in urban streams and ponds in the Santa Clara Valley, including the Guadalupe River (CNDDDB 2019). Pond turtles foraging or dispersing along the Guadalupe River could potentially occur within the reach of the river adjacent to the study area. No suitable nesting habitat for western pond turtles is present within the study area, and it is unlikely that individual pond turtles would occur within the study area itself, but occasional individuals may disperse into the study area.
Burrowing owl (<i>Athene cunicularia</i>)	CSSC	Nests and roosts in open grasslands and ruderal habitats with suitable burrows, usually those made by California ground squirrels.	Present. Burrowing owls have been known to nest, roost, and forage within the grassland portions of the Airport's airfield for decades (Albion Environmental, Inc. 1997), and they continue to be present in these areas year-round (USDA 2018). Burrowing owls were previously detected using the VOR site (USDA 2018) but are not known to occur at the Fuel Farm (CNDDDB 2019, Cornell Lab of Ornithology 2019). The VOR site provides suitable foraging habitat for burrowing owls, but no burrows of California ground squirrels or accessible artificial burrows are present within this area to provide nesting and roosting habitat. No burrows of California ground squirrels are present at the Fuel Farm, and the small area of grassland habitat in this area, which is regularly disturbed and surrounded by trees, does not provide suitable nesting, roosting, or foraging habitat for owls.
Loggerhead shrike (<i>Lanius ludovicianus</i>)	CSSC (nesting)	Nests in tall shrubs and dense trees; forages in grasslands, marshes, and ruderal habitats.	May be Present. Nests (or at least formerly nested) in a number of locations around the South Bay where open grassland, ruderal, or agricultural habitat with scattered brush, chaparral, or trees provides perches and nesting sites (Bousman 2007a), though populations have declined in recent years as suitable habitat has been increasingly developed. Potentially suitable nesting habitat for loggerhead shrikes is present at the VOR site within the study area, although it is unlikely that more than one pair is present within the study area. Nonbreeding individuals may forage in low numbers in grasslands throughout the study area year-round.

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Yellow warbler (<i>Setophaga petechia</i>)	CSSC (nesting)	Nests in riparian woodlands.	May be Present in Adjacent Areas. No suitable nesting habitat for yellow warblers is present within the study area. However, suitable riparian nesting habitat for this species is present adjacent to the study area along the Guadalupe River. Yellow warblers forage along the Guadalupe River in large numbers during migration, and up to one or two pairs of yellow warblers can potentially nest adjacent to the study area.
San Francisco common yellowthroat (<i>Geothlypis trichas sinuosa</i>)	CSSC	Nests in herbaceous vegetation, usually in wetlands or moist floodplains.	May be Present in Adjacent Areas. No suitable nesting habitat for common yellowthroats is present within the study area. Suitable nesting and foraging habitat for common yellowthroats is present in the herbaceous vegetation and floodplain riparian habitat along the Guadalupe River adjacent to the study area, and one to two pairs of this species may nest and forage within this habitat.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	CSSC (nesting)	Nests and forages in grasslands, meadows, fallow fields, and pastures.	Absent as Breeder. Known to occur in the region primarily in grasslands and less frequently disturbed agricultural habitats, mostly in the foothills. This species does not breed on grassland on the Santa Clara Valley floor. Small numbers of individuals may forage in grasslands in the study area during migration.
Bryant's savannah sparrow (<i>Passerculus sandwichensis alaudinus</i>)	CSSC	Nests in pickleweed dominant salt marsh and adjacent ruderal habitat.	Absent as Breeder. In the South San Francisco Bay, nests primarily in short pickleweed-dominated portions of diked/muted tidal salt marsh habitat and in adjacent ruderal habitats (Rottenborn 2007b). No suitable nesting habitat occurs in the study area. Individuals of several savannah sparrow subspecies, including <i>alaudinus</i> , may forage within the study area during migration and winter.
Pallid bat (<i>Antrozous pallidus</i>)	CSSC	Forages over many habitats; roosts in caves, rock outcrops, buildings, and hollow trees.	Absent as Breeder. Historically, pallid bats were likely present in a number of locations throughout the study area region, but their populations have declined in recent decades. This species has been extirpated as a breeder from urban areas close to the Bay, as is the case in the study area. No high-quality roosting habitat is present in the study area, and no known maternity colonies of this species are present within or adjacent to the study area. There is a low probability that the species occurs in the site vicinity at all due to urbanization; however, individuals from more remote colonies could potentially forage in the study area over open habitats on rare occasions.

Name	*Status	Habitat	Potential for Occurrence in the Study Area
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	CSSC	Roosts in caves and mine tunnels, and occasionally in deep crevices in trees such as redwoods or in abandoned buildings, in a variety of habitats.	Absent. No known extant populations of the Townsend's big-eared bat occur on the Santa Clara Valley floor. Suitable breeding habitat is not present in the study area, and no colonies are known from the site vicinity. Determined to be absent.
San Francisco dusky-footed woodrat (<i>Neotoma fuscipes annectens</i>)	CSSC	Nests in a variety of habitats including riparian areas, oak woodlands, and scrub.	Absent. Suitable habitat for this species is present along the Guadalupe River adjacent to the study area. However, with the exception of records along Coyote Creek and along the edges of the Valley, San Francisco dusky-footed woodrats are not known to occur in the more urbanized portions of Santa Clara County (H. T. Harvey & Associates 2010). Determined to be absent.
American badger (<i>Taxidea taxus</i>)	CSSC	Burrows in grasslands and occasionally in infrequently disked agricultural areas.	Absent. Known to occur in the study area region primarily in extensive grasslands and agricultural habitats, mostly in the foothills. Suitably extensive grasslands or agricultural habitats are not present within or near the study area, and the grasslands within the study area are isolated from more extensive grasslands in the foothills to the east by high-density urban development. Determined to be absent.
State Fully Protected Species			
American peregrine falcon (<i>Falco peregrinus anatum</i>)	SP	Forages in many habitats; nests on cliffs and tall bridges and buildings.	Absent as Breeder. Peregrine falcons are known to nest on City Hall in downtown San José, but are not known or expected to nest in the study area due to a lack of suitable habitat. Nevertheless, the peregrine falcon may occur in the study area as an occasional forager, primarily during migration and winter.
Golden eagle (<i>Aquila chrysaetos</i>)	SP	Breeds on cliffs or in large trees (rarely on electrical towers); forages in open areas.	Absent as Breeder. No suitable nesting habitat for golden eagles is present within the study area. Nevertheless, this species may occur in the study area as an occasional forager, primarily during migration and winter.
White-tailed kite (<i>Elanus leucurus</i>)	SP	Nests in tall shrubs and trees; forages in grasslands, marshes, and ruderal habitats.	Present. A pair of white-tailed kites was observed at the VOR site during the January 2019 site visit, and suitable nesting habitat for this species is present in trees in this portion of the study area. White-tailed kites may occur throughout the study area as occasional foragers year-round.

Key to Abbreviations:

Status: Federally Threatened (FT); State Endangered (SE); State Threatened (ST); State Fully Protected (SP); California Species of Special Concern (CSSC).

5.2.1 Federally Listed Species

Central California Coast Steelhead (*Oncorhynchus mykiss*). Federal Listing Status: Threatened; State Listing Status: None. The Central California Coast Distinct Population Segment (DPS) of steelhead consists of all runs from the Russian River in Sonoma County south to Aptos Creek in Santa Cruz County, including all steelhead spawning in streams that flow into the San Francisco Bay. In 1998, the NMFS published a final rule to list the Central California Coast DPS as threatened under FESA (NMFS 1997). Critical habitat for this DPS was designated on September 2, 2005 and includes a portion of the Guadalupe River from approximately the West Hedding Street crossing downstream to the Bay (NMFS 2005).

The steelhead is an anadromous form of rainbow trout that migrates upstream from the ocean to spawn in late fall or early winter, when flows are sufficient to allow them to reach suitable habitat in far upstream areas. In the South Bay, adults typically migrate to spawning areas from late December through early April, and both adults and smolts migrate downstream from February through May. Steelhead typically spawn in gravel substrates located in clear, cool, perennial sections of relatively undisturbed streams, with dense canopy cover that provides shade, woody debris, and organic matter. Steelhead usually cannot survive long in pools or streams with water temperatures above 21°C; however, they can use warmer habitats if adequate food is available. Steelhead populations have declined due to degradation of spawning and rearing habitat, the introduction of barriers to upstream migration, over-harvesting by recreational fisheries, and reduction in winter flows due to damming and spring flows due to water diversion.

Steelhead are known to occur in the Guadalupe River, and no barriers to dispersal are present between the study area and the mouth of the river (Leidy et al. 2005, NMFS 2005, Smith 2013). Although studies conducted by Valley Water and others have documented steelhead use of specific reaches of the Guadalupe River (e.g., for spawning or rearing), there is no comprehensive dataset indicating suitable spawning or rearing locations. Steelhead are expected to occur in any reach of the Guadalupe River offering suitable habitat and lacking downstream barriers to dispersal. They typically spawn and rear in the upstream-most reaches of these streams that offer suitable spawning conditions, and they occur in more downstream areas during migration the ocean and upstream spawning and rearing areas. The quality of potential spawning and rearing habitat for steelhead in the lower portion of the Guadalupe River is poor.

Within the Guadalupe River system, steelhead have access to the mainstem of the Guadalupe River up to Guadalupe Dam, as well as Arroyo Calero and Alamos Creek (tributaries of the Guadalupe River) upstream to Calero Dam and Almaden Dam, respectively. Steelhead spawning and rearing likely occurs farther upstream of the study area south of Blossom Hill Road, where more natural habitat is present (Smith 2013). High volumes of storm water flowing into the river during rain events likely result in the destruction of any redds present along the reach adjacent to the study area in winter. Further, homeless camps create high levels of disturbance within the bed and banks of the Guadalupe River, and result in increased pollution, obstructions to stream flow, and fish mortality caused by poaching (Smith 2013). These factors combine to create low-quality habitat for steelhead adjacent to the study area in the Guadalupe River. Thus, although marginal spawning and rearing habitat for steelhead may be present adjacent to the study area, there is a low probability that steelhead breed

or rear in the Guadalupe River adjacent to the study area because of the poor-quality habitat. Any juveniles present would be restricted to riffles or other fast-water habitats, which support food resources to meet their metabolic needs in high-temperature waters (Smith 2013). During wet months, this portion of the Guadalupe River functions as a migration corridor for individuals traveling between the San Francisco Bay and higher-quality spawning habitat farther upstream.

5.2.2 California Species of Special Concern

Central Valley Fall-run Chinook Salmon (*Oncorhynchus tshawytscha*). Federal Listing Status: None; State Listing Status: Species of Special Concern. Like the steelhead, the Chinook salmon is an anadromous salmonid. Populations of Pacific salmon have been categorized into Evolutionarily Significant Units (ESUs) by the NMFS; an ESU represents a population of Pacific salmon that is reproductively isolated from other conspecific populations, and is recognized as a distinct evolutionary component of the species (Waples 1991). The Central Valley Fall-run ESU represents a population of Chinook salmon that migrates from the ocean to spawning streams in late fall and begin spawning in beds of coarse river gravels between October and December. Populations of fall-run Chinook salmon have suffered the effects of over-fishing by commercial fisheries, degradation of spawning and rearing habitat, added barriers to upstream migration, and reductions in winter flows due to damming. Approximately 40 to 50% of the spawning and rearing habitats in Central Valley streams have been lost or degraded. Chinook salmon generally spawn in cool waters providing incubation temperatures no warmer than 55°F. Compared to steelhead, Chinook salmon are more likely to spawn in coarse gravels located lower in the watershed.

Chinook salmon did not historically spawn in streams flowing into the South San Francisco Bay. This species was first observed in South Bay streams in the mid-1980s, including in the Guadalupe River, coinciding with a large groundwater pumping operation that resulted in high flows in the Guadalupe River, even during summer and fall (SWRCB 1988, U.S. Environmental Protection Agency 2005). These artificially high summer and fall flows apparently attracted Chinook salmon into South Bay streams. Genetic analysis, timing of spawning, and the detection of coded, wire-tagged hatchery fish in the South Bay suggest that these fish are derived from Central Valley fall-run stock (Garcia-Rossi and Hedgecock 2002), possibly hatchery releases. Nevertheless, Chinook salmon have been documented spawning within the Guadalupe River in and around the downtown San José area between October and December (City of San José 2002).

Chinook salmon spawn in reaches with suitable gravels, and use downstream reaches for migration between the ocean and spawning and rearing areas. Conditions for successful spawning in South Bay streams are poor because these fish spawn during fall when streamflow is at its lowest, making it difficult for up-migrating adults to access spawning areas. High-quality spawning habitat is not expected to be present in the reach of the Guadalupe River adjacent to the study area, but Chinook salmon may use this reach of the Guadalupe River during migration and may attempt spawning if they are unable to reach higher-quality habitat upstream due to seasonally low flows.

Western Pond Turtle (*Actinemys marmorata*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The western pond turtle occurs in ponds, streams, and other wetland habitats in the Pacific slope drainages of California and northern Baja California, Mexico (Bury and Germano 2008). The central California population was historically present in most drainages on the Pacific slope (Jennings and Hayes 1994), but streambed alterations and other sources of habitat destruction, exacerbated by frequent drought events, have caused substantial population declines throughout most of the species' range (Stebbins 2003). Ponds or slack-water pools with suitable basking sites (such as logs) are an important habitat component for this species, and western pond turtles do not occur commonly along high-gradient streams. Females lay eggs in upland habitats, in clay or silty soils in unshaded (often south-facing) areas up to 0.25 mile from aquatic habitat (Jennings and Hayes 1994). Juveniles feed and grow in shallow aquatic habitats (often creeks) with emergent vegetation and ample invertebrate prey. Nesting habitat is typically found within 600 feet of aquatic habitat (Jennings and Hayes 1994), but if no suitable nesting habitat can be found close by, adults may travel overland considerable distances to nest. Threats to the western pond turtle include impacts to nesting habitat from agricultural and grazing activities, human development of habitat, and increased predation pressure from native and non-native predators as a result of human-induced landscape changes.

Although breeding populations of western pond turtles have been extirpated from most agricultural and urbanized areas in the region, individuals of this long-lived species still occur in urban streams and ponds in the Santa Clara Valley. Nevertheless, western pond turtles may occur in aquatic habitat along the Guadalupe River. The likelihood that pond turtles would occur within upland portions of the study area is as follows:

- Fencing along the developed portion of the Fuel Farm prevents access by this species, and fencing along the majority of Economy Lot 1 (with the exception of the vehicle/pedestrian entrance) reduces the possibility that pond turtles will disperse into the parking area. Neither Economy Lot 1 nor the Fuel Farm provides suitable upland nesting habitat for pond turtles. Thus, there is a low probability that pond turtles will disperse across accessible portions of the Fuel Farm and Economy Lot 1.
- Pond turtles are not expected to occur at the VOR site, which is located more than 0.25 mile from the river and is separated from the river by heavily traveled roads.
- Due to a lack of suitable habitat as well as the presence of high volumes of traffic on Airport Boulevard, pond turtles are unlikely to disperse southwest across Airport Boulevard to occur at the Airport or on the airfield, although this possibility cannot be ruled out. Fencing around the airfield precludes western pond turtle dispersal in most areas (i.e., where fencing extends to the ground), but some sections of this fencing (e.g., in the southern portion of the airfield) have gaps that would allow access by turtles, especially smaller individuals. Pond turtles are not expected to nest within grassland habitat on the airfield located within 0.25 mile of the Guadalupe River due to the distance between the river and the grassland areas (465 feet or greater), the presence of high volumes of traffic on Airport Boulevard, the presence of the fence surrounding the airfield (which is low enough to the ground to prevent larger individuals from accessing the infield), and the presence of dense grassland vegetation within the infields that makes nest excavation difficult.

Thus, western pond turtles are unlikely to occur in the study area itself due to the lack of on-site aquatic habitats, the absence of suitable nesting habitat, the presence of fencing between the study area and the Guadalupe River, and high levels of disturbance associated with development in the study area and along the Guadalupe River Trail. However, small numbers of western pond turtles are expected to be present in the Guadalupe River, and they may nest along the banks of the river. It is possible that individual pond turtles could potentially disperse into the study area on occasion, although they are expected to do so in extremely small numbers, if at all.

Burrowing Owl (*Athene cunicularia*). Federal Listing Status: None; State Listing Status: Species of Special Concern. Burrowing owls are small, terrestrial owls of open country. These owls inhabit annual and perennial grasslands, typically with sparse or nonexistent tree or shrub canopies. In California, burrowing owls are found in close association with California ground squirrels; owls use the abandoned burrows of ground squirrels for shelter and nesting. The nesting season as recognized by the CDFW (California Department of Fish and Game 2012) extends from February 1 through August 31. After nesting is completed, adult owls may remain in their nesting burrows or in nearby burrows, or they may migrate (Rosenberg et al. 2007); young birds disperse across the landscape distances of 0.1 mile to 35 miles from their natal burrows (Rosier et al. 2006). Burrowing owl populations have declined substantially in the San Francisco Bay Area in recent years, with declines estimated at 4–6% percent annually (DeSante et al. 2007).

Burrowing owls occur year-round in the Santa Clara Valley (Trulio 2007), and are commonly present in open, agricultural, or grassland areas with active burrows of California ground squirrels. They exhibit strong site fidelity, and may return to a nesting site and attempt to nest even after the site has been developed. However, burrowing owls are increasingly disappearing from “infill” locations on the urban Valley floor.

A population of burrowing owls has been present year-round at the Airport for decades, and the City of San José developed the *Burrowing Owl Management Plan – San José International Airport* (Management Plan) in 1997 with the goals of reducing the potential burrowing owl collisions with aircraft, mitigating impacts of Airport construction projects on burrowing owls; and providing for the long-term maintenance of a stable population of burrowing owls at the Airport (Albion Environmental, Inc. 1997). The burrowing owl population at the Airport continues to be managed according to the Management Plan, although some changes to the management regime have been implemented since 1997.

The Airport has monitored the owl population since 1989 as part of general monitoring of the numbers of wildlife species that occur on the airfield (Albion Environmental, Inc. 1997). This monitoring consists of year-round bi-monthly point-count surveys as well as two burrowing owl censuses each year, one during the nesting season and one during the non-nesting season (USDA 2018). A summary of the monitoring results is provided as Figure 6 below (Campos 2019, USDA 2018). Numbers of owls at the Airport appear to have increased initially between 1997 and 2002, when the Management Plan was first implemented. Since then, numbers have fluctuated considerably among years, but there has been a gradual, overall decline in owl numbers since the early 2000s. Nesting populations over the past three years have been lower than have ever been previously recorded. Based on various estimates (i.e., by USDA staff managing owls at the Airport and surveys conducted

by the USGS), numbers of nesting pairs at the Airport were approximately 5–6, 3–6, and 5 in 2016, 2017, and 2018, respectively (USDA 2017 and 2018, Santa Clara Valley Habitat Agency 2018, Campos 2019).

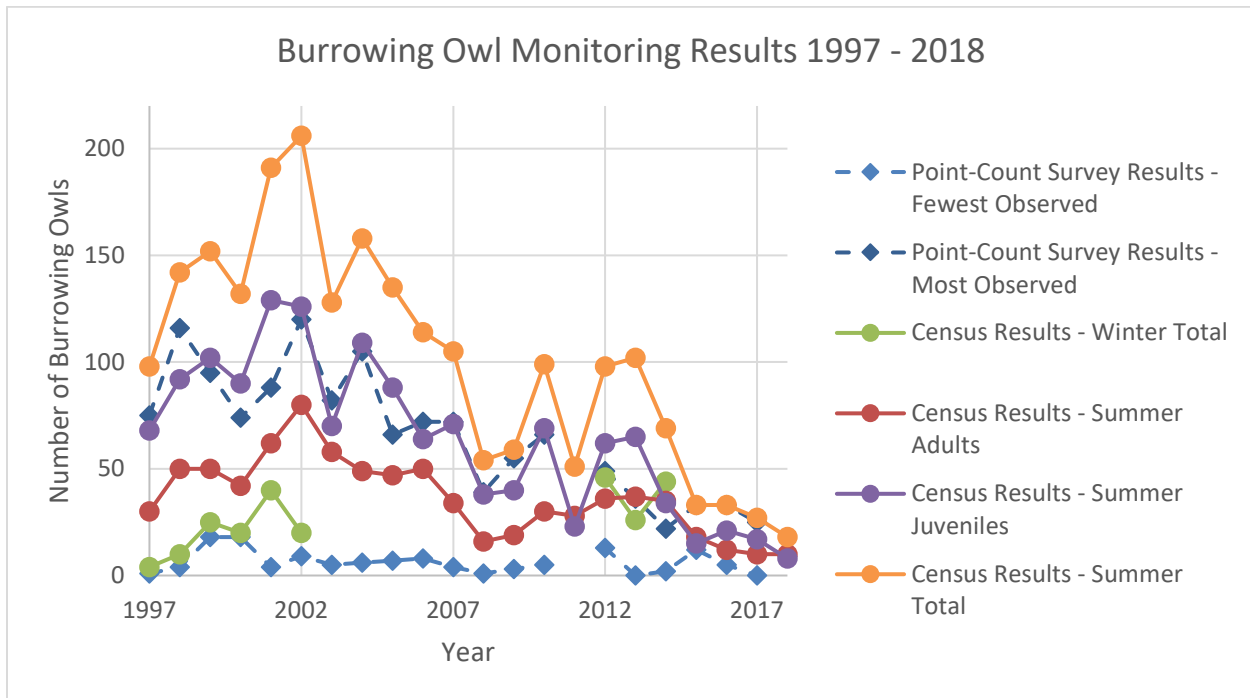
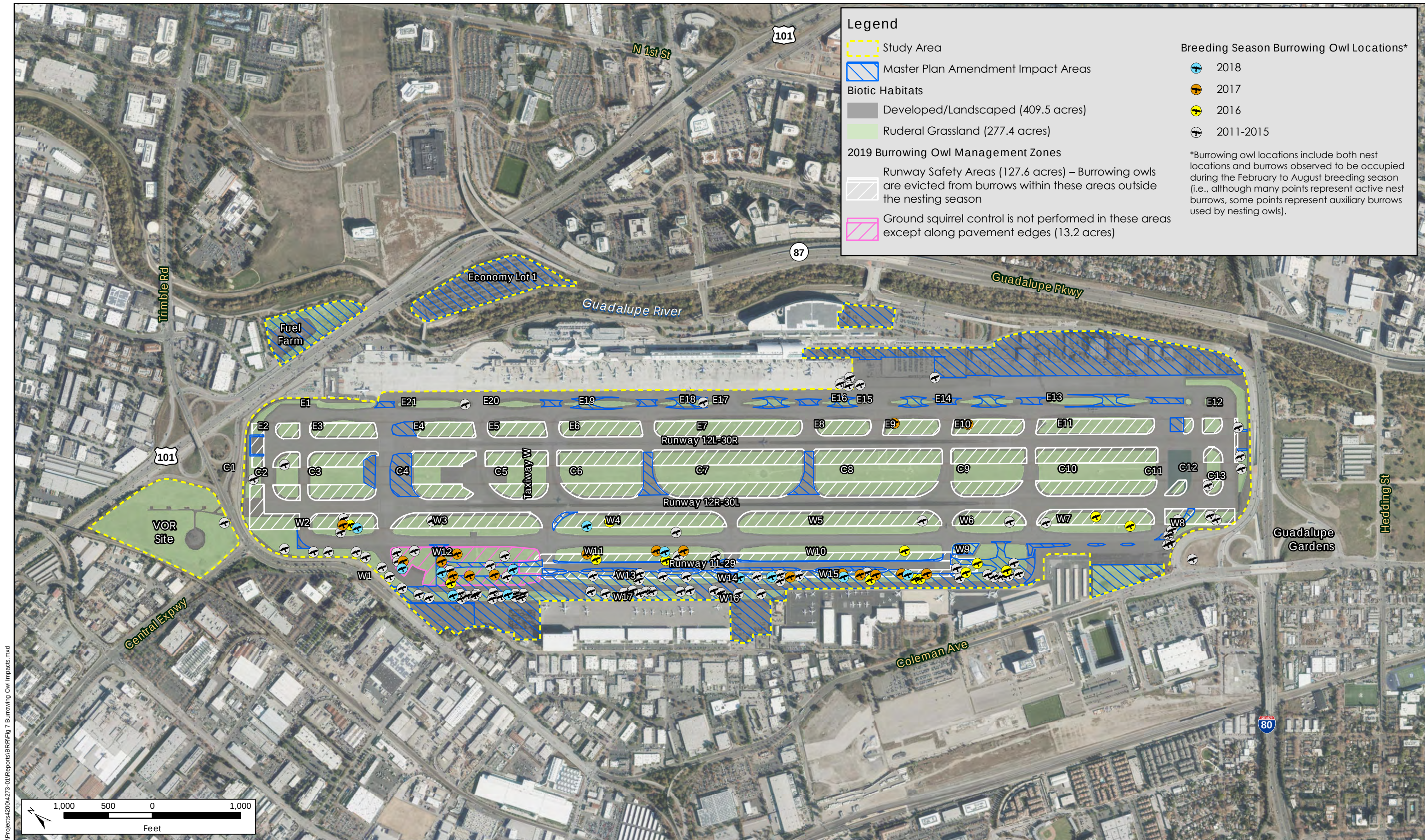


Figure 6. Summary of Burrowing Owl Monitoring Results at the Airport from 1997 to 2018

The reasons for the decline in owl numbers at the Airport are not fully known. A portion of the owls' population decline can be attributed to the regional decline in burrowing owl numbers that has occurred throughout the South Bay (ICF International 2010). The Management Plan anticipated that burrowing owls at the Airport were likely to decline in future years due a reduction in available burrows from ground squirrel control efforts. Such ground squirrel control efforts are likely responsible for the low numbers of burrowing owls present in the smaller patches of grassland in the central and northeastern portions of the airfield (i.e., northeast of Runway 12R-30L; see Figure 7); however, based on the relatively high availability of suitable burrows observed in portions of the airfield southwest of Runway 12R-30L in January 2019 compared to the low numbers of owls documented in recent years, limited burrow availability does not appear to be the sole explanation for the small numbers of owls that currently inhabit the airfield. Other potential factors may include reduced food availability, predation, and/or habitat loss.

Suitable nesting, roosting, and foraging habitat for burrowing owls is present within grassland infield areas at the airfield, and the airfield has been the primary focus of burrowing owl management and monitoring activities at the Airport since 1997 (City of San José 2010). The VOR site was added as a permanently designated burrowing owl management area in 2012–2014, when artificial burrows were installed in this area (City of San José 2010, Campos 2019). Each of these areas are discussed in further detail below.



N:\Projects\4200\4273-01\Reports\BRRP\Fig 7 Burrowing Owl Impacts.mxd

We define categories of burrowing owl habitat within the study area as follows:

- *Nesting habitat* includes areas of grasslands with burrows of California ground squirrels or suitable artificial burrows that may be used for nesting by owls during the nesting season (i.e., between February 1 and August 31).
- *Roosting habitat* encompasses the same areas of grasslands with burrows of California ground squirrels or suitable artificial burrows, which may be used by owls for roosting during either the nesting season (as defined above) or the non-nesting season (i.e., between September 1 and January 31). Owls from various nesting populations, including the South Bay and migrant owls from more distant populations, may roost in the study area during the non-nesting season, but most of the Airport's resident population of owls will nest and roost within the study area.
- *Foraging habitat* includes areas of grasslands within which owls that nest and roost in the study area can potentially forage for prey (e.g., invertebrates and small mammals and reptiles). All areas of nesting and roosting habitat in the study area are also considered foraging habitat, but some areas of foraging habitat do not provide nesting/roosting habitat because no burrows are present.

The grassland infield areas within the airfield currently provide 248.8 acres of nesting, roosting, and/or foraging habitat for burrowing owls; foraging habitat is present in grassland infields throughout the airfield, while suitable nesting and roosting habitat is present primarily southwest of Runway 12R-30L (Photo 1). The grassland infields are regularly mown and subject to relatively low levels of direct disturbance from humans and predators (avian and mammal predators are actively discouraged on the airfield), and as a result provide attractive habitat year-round for the Airport's resident population of burrowing owls. Owls predominantly occur in the southwest portion of the airfield (southwest of Runway 12R-30L), where burrows of California ground squirrels are present ((USDA 2017–2018, Campos 2019). Owls were previously known to nest and occur regularly in natural burrows located northeast of Runway 12R-30L (USDA 2012–2015), but California ground squirrel activity in this area has been limited in recent years, and the infields northeast of Runway 12R-30L currently support few, if any burrows of California ground squirrels (Campos 2019). Owls that inhabit the airfield appear to be acclimated to current levels of aircraft traffic (Campos 2019).



Photo 1. Grassland habitat within infield areas on the southwest side of the airfield provides high-quality nesting, roosting, and foraging habitat for burrowing owls.

Because burrowing owls have not nested throughout the entire airfield in recent years, we determined the extent of burrowing owl nesting habitat at the airfield based on the results of the 2019 site visit as well as the 2011–2018 breeding season censuses (Campos 2019 and USDA 2012–2018) (Figure 7). As discussed below, Runway

Safety Areas are managed to minimize owl use, but such areas were not excluded from consideration as suitable nesting habitat because owls often occupy burrows within these areas during the breeding season (Figure 7). The majority of occupied breeding-season burrowing owl burrows¹ in recent years (i.e., 2016 to 2018) have been located southwest of Runway 12R-30L, and all but one pair of owls nested southwest of Runway 12R-30L between 2016 and 2018 (Figure 7). Recent California ground squirrel activity on the airfield has also been concentrated southwest of Runway 12R-30L, with few squirrels remaining northeast of Runway 12R-30L to establish burrow complexes (Campos 2019). Based on this information, we consider all grassland habitat located southwest of Runway 12R-30L as suitable nesting, roosting, and foraging habitat for burrowing owls, and all remaining portions of the airfield northeast of Runway 12R-30L as foraging habitat only.

Management of burrowing owls at the Airport has consisted of a balance between encouraging the presence of owls on the airfield and at the VOR site while maintaining safe conditions for aircraft. Burrowing owls accounted for 6.36% of total aircraft strikes between 2003 and 2017, with a range of 0 to 9 strikes reported per year during this period (USDA 2018). The presence of California ground squirrels within the airfield is also a safety issue; ground squirrels attract raptors such as red-tailed hawks, which can also collide with aircraft, and their burrows can damage pavement and equipment, creating hazards. The 1997 Management Plan designated Runway Safety Areas within which burrowing owls are routinely evicted to minimize aircraft collisions, as well as management areas within which the presence of burrowing owls is encouraged (Figures 7 and 8). Current Airfield management practices related to burrowing owls are as follows (Campos 2019):

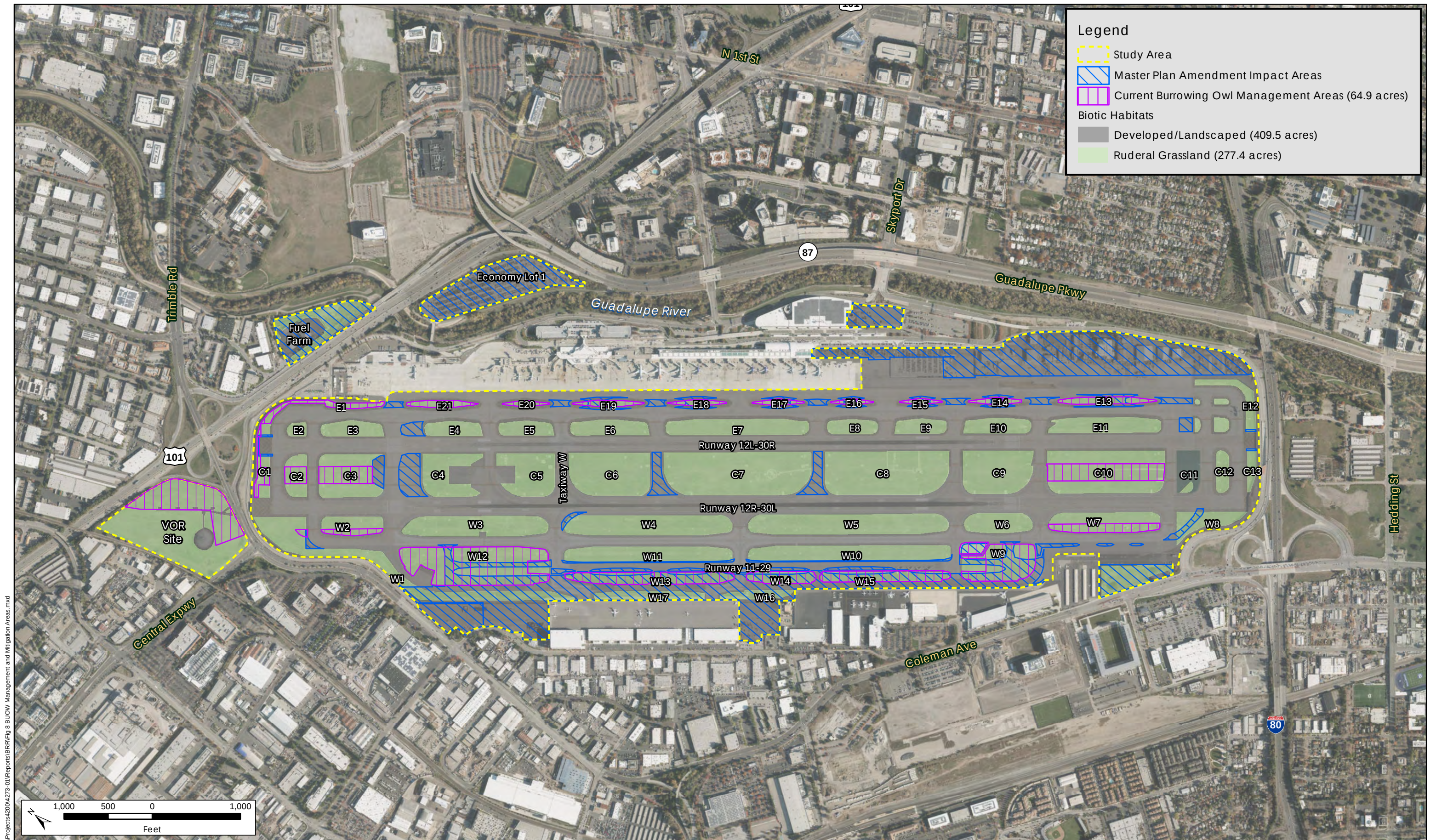
- Burrowing owls are evicted from occupied burrows (using one-way doors) within the Runway Safety Areas outside the nesting season to minimize collisions with aircraft, but owls are allowed to remain in other portions of the airfield (or within the Runway Safety Areas, if they are detected during the nesting season). Burrows of California ground squirrels that are not occupied by owls are periodically closed within Runway Safety Areas to minimize the potential for owls to occupy those areas.
- Lethal control of California ground squirrels is implemented in all portions of the airfield, including the burrowing owl management areas, with the exception of infield W12 (Figure 7). Within this area, the control of ground squirrels is limited to pavement edges to prevent damage to pavement resulting from burrows.
- Infield areas are mown regularly, and vegetation height is maintained below 12 inches.

California ground squirrels were known to have been more abundant within airfield infields prior to the implementation of the Airport's rodent control program (Albion Environmental, Inc. 1997). Ground squirrel management activities have not eliminated ground squirrels from the airfield (including burrowing owl management areas), but are of sufficient intensity to (1) ensure that numbers of California ground squirrels on the airfield remain relatively low in order to minimize the attraction of predators to the airfield (and potential collisions of predators with aircraft), and (2) minimize the establishment of burrows in areas where they will result in damage to airfield infrastructure (e.g., at runway and taxiway edges) (Campos 2019). The number of

¹ The burrowing owl locations shown on Figure 7 include both confirmed nest locations and other burrows observed to be occupied during the February to August breeding seasons (i.e., although many points represent active nest burrows, a number of points represent satellite burrows used by nesting owls).

burrows on the airfield appears to be relatively stable from year to year (Campos 2019), suggesting that management has simply been maintaining lower numbers of squirrels throughout the airfield rather than continually reducing the population. For example, although the interior of infield W12 is the only area where ground squirrel management is not implemented, ground squirrels continue to be present in a number of other infields southwest of Runway 12R-30L. Based on observations from the January 2019 site visit, sufficient natural burrows are present on the airfield to support the current population of owls and perhaps more owls. No artificial burrows are currently present on the airfield; all artificial burrows have been relocated to the VOR site (Campos 2019).

The VOR site supports 23.6 acres of grassland habitat, and a total of 99 artificial burrows have been installed in the portion of the site currently considered a burrowing owl management area (USDA 2018; see Figure 8). No burrowing owls were observed at this site during the January 2019 site visit, and burrowing owls were last known to occur on the site in 2014 (USDA 2018). The site is not mown as frequently as the airfield (Campos 2019). At the time of the January 2019 site visit, the vegetation in the northern half of the site (currently considered a burrowing owl management area) was several feet tall (Photo 2) while the vegetation in the southern portion of the site was taller than the vegetation on the airfield, but had been managed more recently compared to the northern portion of the site (Photo 3). The artificial burrows on the site have not been regularly maintained (Campos 2019). In January 2019, the artificial burrows at the VOR site were observed to be entirely or partially blocked by vegetation and dirt, making them inaccessible to owls. A number of tall poles, a radio navigation system, and several large trees provide perch sites from which predatory raptors can potentially hunt burrowing owls (Photos 2 and 3). Based on these observations, the VOR site does not currently provide suitable nesting or roosting habitat for burrowing owls due to a lack of natural burrows or open artificial burrows. This area does not currently provide high-quality foraging habitat for owls due to the tall vegetation present (especially in the northern portion of the site) and the presence of perches from which predatory raptors may prey upon burrowing owls.



N:\Projects\4200\4273-01\Reports\BRR\Fig 8 BUOW Management and Mitigation Areas.mxd



Photo 2. Grassland habitat in the northern portion of the VOR site was several feet tall in January 2019. Tall poles in this area provide perches for raptors that prey upon burrowing owls.



Photo 3. Grassland habitat in the southern portion of the VOR was more recently managed in January 2019. The radio navigation system and several tall trees along the site boundary provide perching sites for raptors that prey upon burrowing owls.

Loggerhead Shrike (*Lanius ludovicianus*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting). The loggerhead shrike is a predatory songbird associated with open habitats interspersed with shrubs, trees, poles, fences, or other perches from which it can hunt. Nests are built in densely foliated shrubs or trees, often containing thorns, which offer protection from predators and on which prey items are impaled. The breeding season for loggerhead shrikes may begin as early as mid-February and lasts through July. Nationwide, loggerhead shrike populations have declined significantly over the last 20 years. Loggerhead shrikes are still fairly common in parts of the region, but urbanization has reduced available habitat, and local populations likely are declining. Loss and degradation of nesting habitat as well as possible negative impacts of pesticides are considered the major contributors to the population declines exhibited by this species (Cade and Woods 1997, Humple 2008).

Loggerhead shrikes occur in the region where open grassland, ruderal, or agricultural habitat with scattered brush or trees to provide perches and nesting sites. Small numbers of loggerhead shrikes are known to occur in the San José area, although the species more typically occurs in agricultural areas in the foothills or around the San Francisco Bay where open habitats are more extensive (Cornell Lab of Ornithology 2019). Suitable nesting habitat is present in the study area at the VOR site in dense trees and shrubs, with suitable foraging habitat in open grassland areas. The species was not observed during reconnaissance-level surveys, and loggerhead shrikes have declined within central San José to the point that the species may no longer be present in the study area. Nevertheless, it is possible that up to one pair of shrikes could potentially nest in the study area. Small numbers of nonbreeding individuals may forage in the study area year-round.

Yellow Warbler (*Setophaga petechia*). Federal Listing Status: None; State Listing Status: Species of Special Concern (Nesting). The yellow warbler is a widespread neotropical migrant that inhabits wet deciduous forests throughout North America (Lowther et al. 1999). In California, yellow warblers occupy

wooded riparian habitats along the coast, on both eastern and western slopes of the Sierra Nevada, and throughout the northern portion of the state (Heath 2008). Their range has remained relatively stable over time, but populations have declined substantially in many localities due to habitat loss (Cain et al. 2003, Heath 2008) and expansion of the brood-parasitic brown-headed cowbird. As a result, nesting yellow warblers have been largely extirpated from the Santa Clara Valley (Heath 2008). However, small numbers of yellow warblers still nest in riparian habitats within Santa Clara County (Bousman 2007b). Ideal nesting habitat for yellow warblers consists of riparian corridors with dense, shrubby understory and open canopy (Lowther et al. 1999, Cain et al. 2003, Heath 2008). Yellow warblers nest from early May through early August and construct open cup nests in upright forks of shrubs or trees in dense willow thickets or other dense vegetation (Lowther et al. 1999).

No suitable nesting habitat for yellow warblers is present in the riparian vegetation within the study area at the VOR site, as this vegetation is too narrow and highly disturbed to support the species. However, suitable nesting habitat for yellow warblers occurs in the riparian corridor along the Guadalupe River adjacent to the study area. If this species is present, one or two pairs could potentially nest in this habitat adjacent to the study area. In addition, yellow warblers are an abundant migrant throughout the study area region, and the species could forage throughout the study area during the spring and fall.

San Francisco Common Yellowthroat (*Geothlypis trichas sinuosa*). Federal Listing Status: None; State Listing Status: Species of Special Concern. The San Francisco common yellowthroat inhabits emergent vegetation and nests in fresh and brackish marshes and moist floodplain vegetation around the San Francisco Bay. Common yellowthroats will use small and isolated patches of habitat as long as groundwater is close enough to the surface to encourage the establishment of dense stands of rushes, cattails, willows, and other emergent vegetation (Nur et al. 1997, Gardali and Evens 2008). Ideal habitat, however, is composed of extensive, thick riparian, marsh, or herbaceous floodplain vegetation in perpetually moist areas, where populations of brown-headed cowbirds are low (Menges 1998). San Francisco common yellowthroats nest primarily in fresh and brackish marshes, although they nest in salt marsh habitats that support tall vegetation (Guzy and Ritchison 1999). This subspecies builds open-cup nests low in the vegetation, and nests from mid-March through late July (Guzy and Ritchison 1999, Gardali and Evens 2008).

The San Francisco common yellowthroat is one of approximately 12 subspecies of common yellowthroat recognized in North America, two of which occur in the South Bay region. Because subspecies cannot be reliably distinguished in the field, determination of the presence of San Francisco common yellowthroat can be achieved only by locating birds that are actively nesting within the nesting range known for the subspecies. Common yellowthroats nesting in the study area are of the special-status *sinuosa* subspecies (San Francisco Bay Bird Observatory 2012).

Within the study area region, the greatest proportion of nesting records of San Francisco common yellowthroat occur within brackish and freshwater marshes near the edge of the Bay, and in early-successional riparian habitat in broader floodplains (Bousman 2007c). Nests are typically located in extensive stands of bulrushes in brackish marshes and dense cattail beds in freshwater marshes, but the species also nests in forbs in riparian habitats.

No wetland or moist scrub habitats are present within the study area to provide nesting habitat for common yellowthroats. However, the wetland and floodplain, herbaceous riparian habitat along the Guadalupe River immediately adjacent to the study area provides potential nesting and foraging habitat for this species. One or two pairs of common yellowthroats could potentially nest in the herbaceous vegetation and riparian habitat adjacent to the study area during the nesting season, and this species likely forages in this habitat year-round.

5.2.3 State Fully Protected Species

White-tailed Kite (*Elanus leucurus*). **Federal Listing Status: None; State Listing Status: Fully Protected.** In California, white-tailed kites can be found in the Central Valley and along the coast in grasslands, agricultural fields, cismontane woodlands, and other open habitats (Zeiner et al. 1990, Dunk 1995, Erichsen et al. 1996). White-tailed kites are year-round residents of the state, establishing nesting territories that encompass open areas with healthy prey populations and snags, shrubs, trees, or other substrates for nesting (Dunk 1995). Nonbreeding birds typically remain in the same area over the winter, although some movements do occur (Polite 1990). The presence of white-tailed kites is closely tied to the presence of prey species, particularly voles, and prey base may be the most important factor in determining habitat quality for white-tailed kites (Dunk and Cooper 1994, Skonieczny and Dunk 1997). Although the species recovered after population declines during the early 20th century, its populations may be exhibiting new declines because of recent increases in habitat loss and disturbance (Dunk 1995, Erichsen et al. 1996).

White-tailed kites are common residents in less-developed portions of the study area region where open grassland, ruderal, or agricultural habitats are present. The majority of the study area does not support large trees due to the presence of the airfield. However, large trees on the VOR site, along the periphery of the Airport, and immediately adjacent to the study area along the Guadalupe River provide suitable sites for nesting by up to one pair of white-tailed kites. The open habitats in the study area (e.g., ruderal grasslands and developed areas) provide foraging opportunities for this species. A pair of white-tailed kites was observed at the VOR site during the January 2019 site visit.

5.3 Sensitive Natural Communities, Vegetation Alliances, and Habitats

Natural communities have been considered part of the Natural Heritage Conservation triad, along with plants and animals of conservation significance, since the state inception of the Natural Heritage Program in 1979. CDFW determines the level of rarity and imperilment of vegetation types, and tracks sensitive communities in its Rarefind database (CNDDB 2019). Global rankings (G) of natural communities reflect the overall condition (rarity and endangerment) of a habitat throughout its range, whereas state (S) rankings are a reflection of the condition of a habitat within California. Natural communities are defined using NatureServe's standard heritage program methodology as follows (Faber-Langendoen et al. 2012):

G1/S1: Critically imperiled.

G2/S2: Imperiled.

G3/S3: Vulnerable.

G4/S4: Apparently secure.

G5/S4: Secure.

In addition to tracking sensitive natural communities, CDFW also ranks vegetation alliances, defined by repeating patterns of plants across a landscape that reflect climate, soil, water, disturbance, and other environmental factors (Sawyer et al. 2009). If an alliance is marked G1-G3, all of the vegetation associations within it will also be of high priority (CDFW 2019). CDFW provides the Vegetation Classification and Mapping Program's (VegCAMP) currently accepted list of vegetation alliances and associations (CDFW 2019).

Impacts on CDFW sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, must be considered and evaluated under CEQA (Title 14, Division 6, Chapter 3, Appendix G of the California Code of Regulations). Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS.

Sensitive Natural Communities. A query of sensitive habitats in Rarefind (CNDDDB 2019) identified four sensitive habitats as occurring within the eleven USGS quadrangles containing or surrounding the Airport: serpentine bunchgrass (Rank G2/S2), sycamore alluvial woodland (G1/S1), north central coast drainage Sacramento sucker/roach river (Unranked), and northern coastal salt marsh (Rank G3/S3). Serpentine bunchgrass occurs only on serpentine soils, which do not occur in the study area. Sycamore alluvial woodland is an open to moderately closed, winter-deciduous broadleafed riparian woodland heavily dominated by well-spaced California sycamore (*Platanus racemosa*) (Holland 1986). The study area does not contain riparian habitat, and the willow riparian habitat adjacent to the study area is not dominated by well-spaced California sycamore. North central coast drainage Sacramento sucker/roach river occurs within the San Lorenzo River and its tributaries, which is located on the west side of the Santa Cruz Mountain, in Santa Cruz County, and does not occur in the study area. The last sensitive habitat type, northern coastal salt marsh, is characterized by Holland (1986) as occurring along sheltered inland margins of bays, often co-dominated by pickleweed (*Salicornia* spp.), California cordgrass (*Spartina foliosa*), and sometimes saltgrass (*Distichlis spicata*). None of these species and no salt marsh habitats were observed in the study area.

Sensitive Vegetation Alliances. Willow riparian forest adjacent to the study area is best described as a *Populus fremontii* – *Salix* (*laevigata*, *lasiolepis*, *lucida* ssp. *lasiandra*) Alliance. This alliance is ranked as G4/S3, meaning there are greater than 100 viable occurrences worldwide and/or more than 12,950 hectares, and there are 21–100 viable occurrences statewide and/or more than 2,590–12,950 hectares. As a G4 alliance, the vegetation is considered “secure, but factors and threats exist to cause some concern.” Thus the willow riparian forest adjacent to the study area qualifies as a sensitive vegetation alliance (CDFW 2019).

Sensitive Habitats (Waters of the U.S./State). There are no aquatic habitats in the study area which may be considered waters of the U.S./state.

Riparian. The riparian banks and the habitat they support adjacent to the study area, along the Guadalupe River, would be considered jurisdictional by the CDFW and the RWQCB. Riparian habitat extends to the top of the levee slope along the Guadalupe River, or to the edge of the dripline of any trees rooted below the top of the levee which extend further outboard than the top of the levee.

Section 6. Impacts and Mitigation Measures

The State CEQA Guidelines provide direction for evaluating the impacts of projects on biological resources and determining which impacts will be significant. CEQA defines a “significant effect on the environment” as “a substantial adverse change in the physical conditions which exist in the area affected by the proposed project.” Under State CEQA Guidelines Section 15065, a project's impacts on biological resources are deemed significant if the project would:

- A. “substantially reduce the habitat of a fish or wildlife species”
- B. “cause a fish or wildlife population to drop below self-sustaining levels”
- C. “threaten to eliminate a plant or animal community”
- D. “reduce the number or restrict the range of a rare or endangered plant or animal”

In addition to the Section 15065 criteria that trigger mandatory findings of significance, Appendix G of State CEQA Guidelines provides a checklist of other potential impacts to consider when analyzing the significance of project effects. The impacts listed in Appendix G may or may not be significant, depending on the level of the impact. For biological resources, these impacts include whether the project would:

- A. “have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- B. “have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service”
- C. “have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means”
- D. “interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites”
- E. “conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance”
- F. “conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan”

Potential impacts on existing biological resources were evaluated by comparing the quantity and quality of habitats present in the study area under baseline conditions to the anticipated conditions after implementation

of the proposed Amendment. Direct and indirect impacts on special-status species and sensitive natural communities were assessed based on the potential for the species, their habitat, or the natural community in question to be disturbed or enhanced following implementation of the proposed Amendment.

6.1 Impacts on Special-Status Species: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less than Significant with Mitigation)

6.1.1 Impacts on Upland Habitats and Associated Common Plant and Wildlife Species

Construction activities related to Amendment projects will permanently impact up to 108.7 acres of developed/landscaped habitat and 39.5 acres of ruderal grasslands (Figure 3). Permanent impacts would occur as a result of airfield projects (i.e., the modifications of taxiways and runways and relocation of the general aviation run-up pad); the construction of new parking garages; the expansion of Terminal B; the construction of a new business hotel; and the expansion, relocation, and modification of Airport facilities. The proposed activities will alter and/or remove the existing vegetation within these areas. Both the developed/landscaped and ruderal grassland habitats are relatively abundant and widespread regionally, and are not particularly sensitive or valuable (from the perspective of providing important plant or wildlife habitat) aside from the potential importance of grassland to Congdon's tarplant and the burrowing owl, as described in Sections 6.1.2 and 6.1.8 below. Therefore, impacts on these habitats would not be considered significant under CEQA.

As discussed previously, the study area currently supports a number of common wildlife species, although due to its largely developed nature, the study area provides relatively low-quality habitat for most species and thus supports relatively small numbers of individuals of any one species. The common wildlife species that occur in upland habitats in the study area are regionally abundant, are present in widely available habitats in the region, and will continue to be present in some portions of the study area following construction. Additionally, Amendment projects would impact only a small proportion of their regional populations, and the number of individuals likely to be displaced by habitat disturbance and loss would be quite small with respect to the amount of suitable habitat available in the area. Thus, impacts on most common species and their habitats resulting from the implementation of projects under the Amendment would not meet the threshold of having a substantial adverse effect, and would not be considered significant under CEQA. Analyses of the potential for Amendment projects to impact special-status animals found in upland habitats in the study area are discussed separately below.

The plant species observed in the study area during the reconnaissance-level survey (Appendix B) are not regulated under state or federal laws and are not listed as rare by the CNPS. All native plant species found or with any potential to occur on the site are regionally abundant and common in California, with the exception of Congdon's tarplant (discussed separately in Section 6.1.2 below). Therefore, implementation of projects

under the Amendment would not have a substantial adverse effect on common plant species, and impacts on such species would not be considered significant under CEQA.

6.1.2 Impacts on Congdon's Tarplant (Less than Significant with Mitigation)

One special-status plant species, Congdon's tarplant, categorized by the CNPS as CRPR 1B.1, has the potential to occur within ruderal grassland habitat in the study area, possibly including the airfield, Fuel Farm, and VOR site. The eastern portion of the Fuel Farm is an old construction staging area covered in gravel aggregate which does not provide potential habitat (see Section 5.1 and Appendix B for further discussion). Surveys for this CEQA analysis were performed outside the species' typical period of detectability, and therefore we were unable to conduct surveys to determine whether or not it is currently present in the study area. If this species is present, Amendment projects may affect Congdon's tarplant plants due to disturbance or destruction of individuals and suitable habitat. Direct impacts could include grading or filling areas supporting this species, trampling or crushing of plants, and soil compaction. Indirect impacts could include increased mobilization of dust onto plants, which can affect their photosynthesis and respiration, or changes to hydrology supporting these plants due to grading or construction in nearby habitats.

Conservation of CRPR 1 species is important because their populations contribute to preserving the genetic resources for the species and ensuring persistence of rare species in the county and state. If Congdon's tarplant is present and impacts occur to 10% or less of its population (by individuals or occupied area) within the study area, such a low level of impacts would not be expected to cause the extirpation of such a population, as long as the remaining plants are avoided and protected. However, due to the regional rarity of this species, impacts to more than 10% of a population could contribute to a reduction in this species' genetic resources, which would be considered significant under CEQA (Criterion A). Implementation of the following mitigation measures will reduce impacts on Congdon's tarplant to a less-than-significant level.

Mitigation Measure 1. Pre-Activity Surveys for Special-Status Plants. Prior to initial ground disturbance for any given Amendment project that impacts ruderal grassland at the airfield, Fuel Farm, and VOR site, and during the appropriate blooming period (May–November), a focused survey for Congdon's tarplant will be conducted within the project footprint and a 50-foot buffer around the project footprint. This buffer may be increased by the qualified plant ecologist depending on site-specific conditions and activities planned in the areas, but must be at least 50 feet wide. Situations for which a greater buffer may be required include proximity to proposed activities expected to generate large volumes of dust, such as grading; potential for project activities to alter hydrology supporting habitat for the species; or proximity to proposed structures that may shade areas farther than 50 feet away. Surveys are to be conducted in a year with near-average or above-average precipitation. The purpose of the survey will be to assess the presence or absence of Congdon's tarplant. If the target species is not found in the impact area or the identified buffer, then no further mitigation will be warranted. If Congdon's tarplant individuals are found in the impact area or identified, then Mitigation Measures 2 and 3 will be implemented.

We understand that individual projects under the Amendment may be constructed in a phased manner. Surveys for Congdon's tarplant may be conducted over large areas simultaneously (rather than having to be conducted prior to each individual project), but surveys for a particular project area must be performed within 5 years prior to the start of construction for that project to be valid.

Mitigation Measure 2. Avoidance Buffers. To the extent feasible, and in consultation with a qualified plant ecologist, the City will design and construct Amendment projects to completely avoid impacts on all populations of Congdon's tarplant within the project footprints or within the identified buffers of the impact areas. Avoided Congdon's tarplant populations will be protected by establishing and observing the identified buffer between plant populations and the impact area. All such populations located in the impact area or the identified buffer, and their associated designated avoidance areas, will be clearly depicted on any construction plans. In addition, prior to initial ground disturbance or vegetation removal, the limits of the identified buffer around special-status plants to be avoided will be marked in the field (e.g., with flagging, fencing, paint, or other means appropriate for the site in question). This marking will be maintained intact and in good condition throughout project-related construction activities.

If complete avoidance is not feasible and more than 10% of a population (by occupied area or individuals) would be impacted as determined by a qualified plant ecologist, Mitigation Measure 3 will be implemented.

Mitigation Measure 3. Preserve and Manage Mitigation Populations. If avoidance of Congdon's tarplant is not feasible and more than 10% of the population would be impacted, compensatory mitigation will be provided via the preservation, enhancement, and management of occupied habitat for the species, or the creation and management of a new population. To compensate for impacts on Congdon's tarplant, off-site habitat occupied by the affected species will be preserved and managed in perpetuity at a minimum 1:1 mitigation ratio (at least one plant preserved for each plant affected, and at least one occupied acre preserved for each occupied acre affected), for any impact over the 10% significance threshold. Alternately, seed from the population to be impacted may be harvested and used either to expand an existing population (by a similar number/occupied area to compensate for impacts to Congdon's tarplant beyond the 10% significance threshold) or establish an entirely new population in suitable habitat. The compensation area could be within the Airport grounds, for example within one of the burrowing owl mitigation sites, or off-site.

Areas proposed to be preserved as compensatory mitigation for Congdon's tarplant impacts must contain verified extant populations of the species, or in the event that enhancement of existing populations or establishment of a new population is selected, the area must contain suitable habitat for the species as identified by a qualified plant ecologist. Mitigation areas will be managed in perpetuity to encourage persistence and even expansion of this species. Mitigation lands cannot be located on land that is currently held publicly for resource protection unless substantial enhancement of habitat quality will be achieved by the mitigation activities. The mitigation habitat will be of equal or greater habitat quality compared to the impacted areas, as determined by a qualified plant ecologist, in terms of soil features, extent of disturbance, vegetation structure, and dominant species composition, and will contain at least as many individuals of the species as are impacted by Amendment activities. The permanent protection and management of mitigation lands will be ensured through an

appropriate mechanism, such as a conservation easement or fee title purchase. A habitat mitigation and monitoring plan (HMMP) will be developed and implemented for the mitigation lands. That plan will include, at a minimum, the following information:

- a summary of habitat impacts and the proposed mitigation;
- a description of the location and boundaries of the mitigation site and description of existing site conditions;
- a description of measures to be undertaken to enhance (e.g., through focused management that may include removal of invasive species in adjacent suitable but currently unoccupied habitat) the mitigation site for Congdon's tarplant;
- a description of measures to transplant individual plants or seeds from the impact area to the mitigation site, if appropriate (which will be determined by a qualified plant or restoration ecologist);
- proposed management activities to maintain high-quality habitat conditions for Congdon's tarplant;
- a description of habitat and species monitoring measures on the mitigation site, including specific, objective final and performance criteria, monitoring methods, data analysis, reporting requirements, monitoring schedule, etc. At a minimum, performance criteria will include demonstration that any plant population fluctuations over the monitoring period of a minimum of 5 years for preserved populations and a minimum of 10 years for enhanced or established populations do not indicate a downward trajectory in terms of reduction in numbers and/or occupied area for the preserved mitigation population that can be attributed to management (i.e., that are not the result of local weather patterns, as determined by monitoring of a nearby reference population, or other factors unrelated to management);
- if a new population is established, the new population must contain at least 200 individuals or the same number of impacted individuals, whichever is greater, by year 5. This is to ensure the created population will be large enough to expect to persist and gain sufficient dedicated pollination services. If year 5 is a poor weather year for summer and fall-blooming annual plants and reference populations show a decline, this criteria can be measured in the next year occurring with average or better rainfall; and
- contingency measures for mitigation elements that do not meet performance criteria.

The HMMP will be prepared by a qualified plant or restoration ecologist. Approval of the HMMP by the City will be required before Amendment impacts to this species occur.

6.1.3 Impacts on Water Quality and Special-Status Fish (Less than Significant)

No direct impacts are proposed to the Guadalupe River, which runs adjacent to the study area. Indirect impacts on water quality in the river could potentially occur as a result of Amendment activities at Economy Lot 1, which is located immediately adjacent to the Guadalupe River above the top of bank. No indirect impacts on the Guadalupe River or water quality within the channel are expected to occur as a result of activities at the Fuel Farm, which are separated from the river by an approximately 5-foot tall levee (e.g., any fuel leaks or spills

at the fuel farm would be well contained by that levee and other measures that would prevent groundwater contamination). Indirect impacts on water quality from construction of Economy Lot 1 would be avoided and minimized by implementing erosion and sediment control measures, as well as best management practices (BMPs) for work near aquatic environments. Construction projects in California causing land disturbances that are equal to 1 acre or greater must comply with state requirements to control the discharge of stormwater pollutants under the NPDES *General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities* (Construction General Permit; Water Board Order No. 2009-0009-DWQ). Prior to the start of construction/demolition, a Notice of Intent must be filed with the State Water Board describing the project. A Storm Water Pollution Prevention Plan must be developed and maintained during the project and it must include the use of BMPs to protect water quality until the site is stabilized. Standard permit conditions under the Construction General Permit require that the applicant utilize various measures including: on-site sediment control BMPs, damp street sweeping, temporary cover of disturbed land surfaces to control erosion during construction, and utilization of stabilized construction entrances and/or wash racks, among other factors.

In many Bay Area counties, including Santa Clara County, projects must also comply with the *California Regional Water Quality Control Board, San Francisco Bay Region, Municipal Regional Stormwater National Pollutant Discharge Elimination System Permit* (Water Board Order No. R2-2015-0049). This permit requires that all projects implement BMPs and incorporate Low Impact Development practices into the design to prevent stormwater runoff pollution, promote infiltration, and hold/slow down the volume of water coming from a site after construction has been completed. In order to meet these permit and policy requirements, projects must incorporate the use of green roofs, impervious surfaces, tree planters, grassy swales, bioretention and/or detention basins, among other factors.

Amendment activities at Economy Lot 1 may similarly result in effects on the Central California Coast steelhead and Central Valley fall-run Chinook salmon in the Guadalupe River due to a temporary increase in erosion, sedimentation, and turbidity in aquatic habitats located downstream of the work area. Additionally, minor spills of petrochemicals, hydraulic fluids, and solvents may occur during vehicle and equipment refueling. Such leaks/spills could adversely affect water quality downstream of construction activities. Compliance with permit conditions to protect water quality, as described above, will minimize the potential for impacts to water quality due to increases in erosion, sedimentation, and turbidity as well as releases of pollutants into the creek water. These measures will also minimize the release of pollutants to waters in the Guadalupe River, thereby protecting water quality in the river. Therefore, activities at Economy Lot 1 are not expected to result in substantial adverse indirect effects on special-status fish species in the Guadalupe River.

Thus, with compliance with permit conditions, potential project impacts on water quality and special-status fish species would be less than significant under CEQA, in our opinion.

6.1.4 Impacts on Nonbreeding Special-Status Birds and Mammals (Less than Significant)

Several special-status bird and mammal species occur in the study area as nonbreeding migrants, transients, or foragers, but they are not known or expected to breed or occur in large numbers within or near the Amendment impact areas. These are the tricolored blackbird, Bryant's savannah sparrow, grasshopper sparrow, American peregrine falcon, golden eagle, and pallid bat.

The tricolored blackbird (a state threatened species) is not expected to occur in the study area as a breeder due to the absence of suitable breeding habitat, but individuals may occur occasionally as foragers during the nonbreeding season. Bryant's savannah sparrow (a California species of special concern) breeds in marshes along the San Francisco Bay to the north, and individuals may forage in ruderal grassland on the site during the nonbreeding season. Similarly, the grasshopper sparrow (a California species of special concern) breeds in expansive grassland habitats in the foothills, and individuals may occasionally forage in grasslands in the study area during migration. The American peregrine falcon and golden eagle (state fully protected species) are not expected to breed in the study area due to a lack of suitable nesting habitat. Individuals of these species occasionally forage in the study area in small numbers. The pallid bat (a California species of special concern) may be present in the study area as an occasional forager, but is not expected to breed in the study area due to a lack of suitable habitat, and there are no known maternity colonies on or adjacent to the site. Nevertheless, individuals from more remote colonies could potentially forage over the open grasslands on the site on rare occasions.

Activities under the proposed Amendment would have some potential to impact foraging habitats and/or individuals of these species. Construction activities might result in a temporary direct impact through the alteration of foraging patterns (e.g., avoidance of work sites because of increased noise and activity levels during maintenance activities) but would not result in the loss of individuals, as individuals of these species would fly away from any construction areas or equipment before individuals could be injured or killed. Further, the study area does not provide important foraging habitat used regularly or by large numbers of individuals of any of these species. As a result, impacts under the Amendment will have little impact on these species' foraging habitat and no substantive impact on regional populations of these species. Therefore, this impact would be less than significant.

Special-status birds that occur on the airfield will be subject to increased mortality as a result of increased collisions with aircraft as growth at the Airport continues. Specifically, when compared to 2018 conditions, the City is projecting a 37% increase in aircraft operations by 2037. However, larger birds, including as American peregrine falcons and golden eagle, are discouraged from occupying the airfield (and even removed by the USDA, if deemed necessary). Further, the regular mowing of vegetation on the airfield as well as the control of California ground squirrels reduces available small mammal prey for golden eagles; invertebrate prey for tricolored blackbirds, Bryant's savannah sparrows, grasshopper sparrows, and pallid bats; and avian prey for American peregrine falcons, and the airfield thus does not provide high-quality foraging habitat for any of these species. As a result, limited numbers of these species are expected to occur on the airfield over the long-term, and although collisions of individual golden eagles, peregrine falcons, tricolored blackbirds, Bryant's savannah

sparrows, and pallid bats could increase following Amendment implementation, the impact on these species' populations is expected to be minimal.

6.1.5 Impacts on Breeding Special-Status Birds (Less than Significant)

The yellow warbler and San Francisco common yellowthroat (California species of special concern) could potentially nest immediately adjacent to the Amendment impact areas located at the Fuel Farm and Economy Lot 1. The yellow warbler may nest in riparian trees along the Guadalupe River, and San Francisco common yellowthroat may nest in herbaceous riparian vegetation along the Guadalupe River. The white-tailed kite (a state fully protected species) and loggerhead shrike (a California species of special concern) may nest in trees or shrubs within or adjacent to grassland habitats at the VOR site in the study area, and individuals may forage in grasslands throughout the study area year-round. These four species are assessed together because the potential impacts of the proposed Amendment projects on these species would be similar.

Based on our site observations, the areal extent of the reaches of the Guadalupe River adjacent to the Fuel Farm and Economy Lot 1, and known nesting densities of yellow warblers and San Francisco common yellowthroats, it is likely that no more than 1–2 pairs each of these species could potentially nest immediately adjacent to these impact areas. Amendment projects would not result in the loss of suitable nesting or foraging habitat for the yellow warbler and San Francisco common yellowthroat, as no activities are proposed within the bed and banks of the Guadalupe River. However, activities that occur during the nesting season and cause a substantial increase in noise or human activity near active nests may result in the abandonment of active nests (i.e., nests with eggs or young). In addition, heavy ground disturbance, noise, and vibrations caused by project activities could potentially disturb nesting and foraging individuals and cause them to move away from work areas.

However, because the number of nesting pairs that could be disturbed is very small (i.e., 1–2 pairs of each species), the impacts of projects under the Amendment would represent a very small fraction of the regional population of these species. Therefore, neither the potential loss of individual yellow warblers and common yellowthroats nor the disturbance of nesting and foraging habitat would rise to the CEQA standard of having a *substantial* adverse effect, and these impacts would thus not constitute a significant impact on these species or their habitat under CEQA.

Based on the extent of the VOR site, as well as known nesting densities of white-tailed kites and loggerhead shrikes, it is likely that no more than one pair of each of these species could potentially nest within or immediately adjacent to one of these areas. However, Amendment projects would not result in the loss of suitable nesting habitat for these species, and no Amendment activities that could potentially disturb nesting and foraging individuals will occur.

Yellow warblers and San Francisco common yellowthroats are associated with riparian habitats, and these species are not expected to occur on the airfield or collide with aircraft frequently. However, any white-tailed kites and loggerhead shrikes that might forage on the airfield will be subject to increased mortality as a result

of increased collisions with aircraft as growth at the Airport continues. Specifically, when compared to 2018 conditions, the City is projecting a 37% increase in aircraft operations by 2037.

However, larger birds, including as white-tailed kites, are discouraged from occupying the airfield (and even removed by the USDA, if deemed necessary). The regular mowing of vegetation on the airfield reduces available prey for white-tailed kites and loggerhead shrikes, and the airfield thus does not provide high-quality foraging habitat for either of these species. As a result, limited numbers of these species are expected to occur on the airfield over the long-term, and although collisions of individual white-tailed kites and loggerhead shrikes could increase following Amendment implementation, the impact on these species' populations is expected to be minimal.

6.1.6 Impacts on the Western Pond Turtle (Less than Significant)

The study area does not provide important or extensive habitat that is used regularly or by large numbers of western pond turtles, and is not relied upon by breeding individuals of this species. Thus, projects under the Amendment would not result in impacts to any habitat that is useful to western pond turtles as nesting, foraging, or dispersal habitat. Projects could potentially result in the injury or mortality of small numbers of individual pond turtles due to worker foot traffic, equipment use, or vehicle traffic. Petrochemicals, hydraulic fluids, and solvents that are spilled or leaked from construction vehicles or equipment may kill individuals. Additionally, increases in human presence and activity in the vicinity of suitable habitat during construction may result in an increase in native and non-native predators that would be attracted to trash left at the work site. For example, raccoons, American crows (*Corvus brachyrhynchos*), and common ravens (*Corvus corax*) are attracted to trash and may prey opportunistically on western pond turtles.

The above potential impacts notwithstanding, due to the small number of pond turtles that occur along the Guadalupe River, and the even smaller number of individuals that can potentially disperse across the study area, few, if any, western pond turtles are expected to be impacted by Amendment activities. The potential loss of individual pond turtles as a result of Amendment projects would not constitute a significant impact on this species under CEQA.

6.1.7 Impacts on Common Species of Roosting Bats (Less than Significant with Mitigation)

Common bat species, such as the Mexican free-tailed bat, can potentially roost in buildings within the study area, especially hangars such as those at 1239, 1253, 1277, 1311, and 1455 Airport Boulevard. These buildings were being actively used for aviation purposes at the time of the February 2019 site visit, and if they remain in use, they are unlikely to be colonized by large numbers of roosting bats. However, there is some potential for a large colony of roosting bats to become established in these hangars, should aviation activities cease in a hangar in the future. Proposed projects under the Amendment include the removal of a number of existing hangar buildings within the study area, and the demolition of these structures would result in the direct physical disturbance of any roosting bats that may be present as well as the loss of roosting sites. In addition, demolition of structures during the bat maternity season (approximately March 15 to August 31) could result in the injury

or mortality of young and lactating females within a roost site. Impacts on a large day roost (i.e., 100 or more bats) of common species of bats, or cumulative impacts on 100 or more bats as multiple buildings are removed, would be considered a significant impact under CEQA, as this could have a substantial effect on regional populations of the species. Implementation of the following mitigation measures would reduce this impact to less-than-significant levels. Because many buildings will be removed under the Amendment over a period of years, these measures will be implemented any time bats are encountered in order to avoid potential cumulative impacts on 100 or more bats during all building removal under the Amendment.

Mitigation Measure 4. Conduct Pre-Activity Surveys for Roosting Bats. A pre-activity survey for roosting bats shall be conducted prior to any removal or renovation of hangar buildings with metal siding or buildings with closed areas such as an attic space, particularly those that are unoccupied. No pre-activity survey is required for buildings without attics or metal siding. The survey shall be conducted by a qualified bat biologist. If no active roosts are found, then no further action is warranted. If a roost is present, a qualified bat biologist shall determine the species and number of individuals present.

Mitigation Measure 5. Avoid Disturbance of Active Roosts. If an occupied roost is found in a structure that would be disturbed or removed by proposed activities, the Amendment project may be redesigned to avoid the disturbance of the structure. If the roost is unoccupied at the time of the survey, the Airport may choose to install bat exclusion devices to prevent bats from taking up occupancy of the structure prior to the onset of the proposed activity. If avoidance is not feasible, Mitigation Measures 6 and 7 shall be implemented.

Mitigation Measure 6. Avoid Disturbance of Maternity Roosts. If an active maternity roost is present within the building to be demolished and the Amendment project cannot be redesigned to avoid removal or disturbance of the occupied roost, disturbance shall not take place during the maternity season (as determined by the qualified bat biologist, but approximately March 15 to August 31), and an appropriate disturbance-free buffer zone (also determined by the qualified bat biologist) shall be observed during this period to avoid disturbing the roosting bats.

Mitigation Measure 7. Exclude Bats Prior to Disturbance. If disturbance of an active non-breeding roost cannot be avoided, the individuals shall be safely evicted outside the maternity season (as determined by the qualified bat biologist) between approximately August 1 and March 15. Bats may be evicted through exclusion after notifying the CDFW. Exclusion methods may include the installation of one-way doors and/or use of ultrasonic deterrence devices. One-way doors and/or deterrence devices should be left in place for a minimum of two weeks with a minimum of five fair-weather nights with no rainfall and temperatures no colder than 50°F.

6.1.8 Impacts on the Burrowing Owl (Less than Significant with Mitigation)

Projects under the Amendment may impact burrowing owls as a result of the permanent removal of nesting and foraging habitat, the degradation of remaining habitat, increased mortality due to collisions with aircraft, increased disturbance due to increased traffic and airfield activities, and disturbance or direct impacts from construction.

Project activities will result in the loss of suitable nesting, roosting, and foraging habitat for burrowing owls at the airfield. Proposed Amendment impacts located southwest of Runway 12R-30L will result in impacts on 32.4 acres of suitable nesting, roosting, and foraging habitat for burrowing owls, or 24.4% of the existing nesting and roosting habitat at the airfield. Proposed Amendment impacts located northeast of Runway 12R-30L are limited to infields E13–E19 and are considered impacts on burrowing owl foraging habitat only (2.1 acres). Per the direction of the City, we have assumed that all Amendment impacts on grassland infields within the airfield will be permanent (i.e., that these areas will be replaced with asphalt). Impacts of the permanent removal of 32.4 acres of burrowing owl nesting, roosting, and foraging habitat and 2.1 acres of foraging habitat are as follows:

- Infields E13–E19 are small, narrow grassland areas that provide few, if any, ground squirrel burrows (Campos 2019) and have not been used for nesting by owls since 2012 (USDA 2013). Currently, these areas provide potential foraging habitat due to their grassland land cover, though these grassland patches likely have limited foraging habitat value to burrowing owls due to their small size. The realignment/closing of existing cross-taxiways on the northeast side of the airfield as proposed under the Amendment will fragment these small infields and reduce their size. This impact is expected to reduce the value of these infields to owls as potential foraging areas compared to existing conditions. Because these areas provide only foraging habitat (i.e., and not nesting habitat) that is of limited value to owls, the permanent removal of 2.1 acres of this habitat is not expected to substantially affect the airfield’s population of owls.
- A small corner of infield W4 will be removed as part of the strengthening of Taxiway J under the Amendment. This area currently supports nesting, roosting, and foraging habitat for burrowing owls, and owls were known to nest in this infield as recently as 2018 (Campos 2019). Because the impact area is relatively small compared to the size of the infield, the removal of this habitat will not substantially reduce the value of infield W4 as nesting, roosting, and foraging habitat for owls, and owls are expected to continue to use infield W4 following the strengthening of Taxiway J.
- Infield W8 will be reduced in size and fragmented into two infields as part of the extension and widening of Taxiway W. This area currently supports nesting, roosting, and foraging habitat for owls, and owls were known to nest in this area as recently as 2015 (USDA 2016). The fragmentation and reduction in size of this infield is expected to reduce its value to burrowing owls, and owls may reduce their use of infield W8 and possibly no longer nest within this area following the extension and widening of Taxiway W.
- A grassland area without a designation number, located in the southern portion of the airfield along Coleman Avenue, will be removed under the Amendment, and the general aviation run-up pad will be relocated to this area (i.e., existing grasslands will be converted to developed areas). Burrowing owls have not been documented nesting within this area, and until 2011 this area was entirely developed and supported San José State University facilities. However, this area currently supports grasslands with many burrows of California ground squirrels. At the time of the March 10 site visit the vegetation here was several feet tall, indicating that it is not mown as frequently as the habitat on the rest of the airfield, but a review of aerial photos indicates that the site is mown regularly (Google Inc. 2019). Therefore, this area provides potential nesting, roosting, and foraging habitat for burrowing owls.

- Infields W15, W16, and W17, and a portion of infield W1 will be removed as part of the closure of Runway 11-29, closure of Taxiway V, creation of a new taxiway, and expansion of Airport facilities in this area. These infields support burrowing owl nesting, roosting, and foraging habitat, and have historically supported nesting by multiple pairs of owls each year (USDA 2012–2018, Campos 2019). Two to three pairs of owls nested in infield W15 as recently as 2018 (USDA 2018). Because these areas have been historically used by owls and continue to be occupied by multiple pairs of owls, the removal of these areas is expected to reduce the numbers of burrowing owls that nest at the airfield in future years.
- Infields W9 and W12 will each be fragmented into three smaller infields as part of the creation of a new taxiway in this area. These infields support burrowing owl nesting, roosting, and foraging habitat, and they represent the largest areas of contiguous grassland habitat that have been used for nesting by owls in recent years (Figure 7). Infield W9 has historically supported nesting burrowing owls since 2011, and infield W12 has supported nesting owls since 2013 (USDA 2011–2018). Further, squirrel control is currently not performed in the interior of infield W12, and this area thus is of greater value to owls compared to other infields due to the potential for greater burrow availability. Because these areas are of high value to owls due to their large size, have been historically used by owls, and continue to be occupied by multiple pairs of owls, the fragmentation of these areas is expected to reduce the numbers of burrowing owls that nest at the airfield in future years.
- Narrow strips of infields W10 and W11 will be removed as part of creation of a new taxiway in this area under the Amendment. These areas currently support nesting, roosting, and foraging habitat for burrowing owls, and owls were known to nest in these infields as recently as 2018 (USDA 2018). Because the impact areas are relatively small compared to the size of the infields, the removal of this habitat will not substantially reduce the value of these infields as nesting, roosting, and foraging habitat for owls, and owls are expected to continue to use infields W10 and W11 following the creation of the new taxiway.
- The Runway Safety Area around existing Runway 11-29 will be removed, and owls will no longer be evicted from burrows within remaining grassland habitat within these areas (a total of 11.9 acres) outside of the nesting season, although California ground squirrel control will still occur here. This will provide some future benefit to owls that may nest, roost, and forage in the remaining grassland infill areas adjacent to existing Runway 11-29.
- Burrowing owl management areas were designated in the Management Plan; these areas are located away from Runways 12L-30R and 12R-30L (to reduce collisions between owls and aircraft) and were determined to provide sufficient nesting habitat to support the owl population at the Airport (Albion Environmental, Inc. 1997). A total of 64.9 acres of management areas are currently present at the Airport on the airfield and at the VOR site (Figure 8). From 1997 to approximately 2012–2014, new artificial burrows were installed in the management areas as mitigation when burrowing owls were evicted from occupied burrows on the airfield (Albion Environmental, Inc. 1997, USGS 2018). By approximately 2014, all artificial burrows had been moved from the management areas at the airfield to a new 8.9-acre management area at the VOR site north of the Airport (Campos 2019), which includes a 4.0-acre mitigation site for impacts on 4.0 acres of burrowing owl habitat at the airfield that occurred in 2012 (City of San José 2010) (Figure 8).

Management areas on the airfield continue to provide foraging habitat for owls northeast of Runway 12R-30L and nesting and roosting habitat for owls southwest of Runway 12R-30L; however, the management area at the VOR site does not provide nesting or roosting habitat for owls due to the absence of high-quality burrows (the artificial burrows have not been maintained). Amendment projects will permanently remove 19.9 acres (35.5%) of management areas at the airfield, leaving a remaining total of 36.1 acres of management areas on the airfield and an 8.9-acre management area at the VOR site following the construction of Amendment projects.

A summary of existing habitat acreages and extent of impacts is provided in Table 4 below. Collectively, these impacts will permanently remove habitat that is important to the Airport's resident population of owls, and are expected to result in a reduction in the number of pairs of owls that nest on the airfield in future years. Based on the number and locations of owls that have nested in the Amendment impact areas over the past three years, we anticipate that Amendment projects will cause habitat loss that may then result in the loss of three nesting pairs from the Airport's subpopulation as a result of the permanent removal or fragmentation of infields W9, W12, W14, and W15.

These impacts will further result in a reduction in reproductive effort as the displaced owls are forced to disperse to other areas to nest, and suitable nesting habitat in the region may be sufficiently limited that these owls may be relegated to lower-quality habitat. Displaced owls (estimated at up to three pairs total, as discussed above) would not be able return to the habitat they formerly occupied and establish sustainable nesting territories due to the reduction in habitat area at the airfield.

The increase in air passenger aircraft operations under the Amendment is expected to increase the disturbance of owls that occupy the airfield by aircraft and airfield operations. However, the owls that occur on the airfield are acclimated to the existing high levels of disturbance, which currently fluctuates throughout the day, week, and year based on demand. Due to the owls' resiliency for these high levels of disturbance, demonstrated by their continued persistence within grassland infields along runways at the airfield, we do not expect an increase in noise and visual disturbances to affect the owls' continued presence at the airfield.

Table 4. Summary of Burrowing Owl Impact and Mitigation Acreages in the Study Area

	Airfield Acreages			VOR Site Acreages
	Existing Conditions	Project Impacts	Future Conditions	Existing Conditions
Burrowing Owl Habitat				
Nesting/Roosting:	115.9 acres	32.4 acres (27.9%)	83.4 acres	0.0 acres
Foraging:	132.9 acres	2.1 acres (1.6%)	130.9 acres	23.6 acres
Total:	248.8 acres	34.5 acres (13.9%)	214.3 acres	23.6 acres
Burrowing Owl Management Areas¹:	56.0 acres	19.9 acres (35.5%)	36.1 acres	8.9 acres

Burrowing owls have high site fidelity, and at least some of the owls that currently nest on the airfield are likely to attempt to nest in remaining habitat areas following the implementation of Amendment projects. However, in addition to the loss of habitat supporting up to three pairs of owls, as described above, we anticipate that the airfield as a whole will support fewer pairs of nesting owls over the long term due to a reduction in the value of the remaining owl nesting, roosting, and foraging habitat compared to existing conditions. The remaining habitat will be more isolated within smaller infields, which may reduce owls' use of those infields. Edge effects, which occur where lower-quality habitat is present along infield edges compared to the interiors, are expected to increase following the fragmentation and reduction in size of occupied infields. Owls nesting and roosting near infield edges would be located closer to disturbances from humans and aircraft, and are more likely to need to be excluded from burrows due to higher-intensity squirrel control along pavement edges (which is regularly performed to prevent damage to pavement). These owls may also be more vulnerable to collisions with aircraft due to their closer proximity to runways and taxiways. Reducing the size of infields will increase the proportion of remaining infield habitat that is subject to these edge effects, thereby lowering overall habitat quality for owls. As a result of these combined effects, the 83.4 acres of burrowing owl nesting, roosting, and foraging habitat that will remain southwest of Runway 12R-30L following Amendment implementation are likely to support even fewer than three nesting pairs. The regional decline of the species is anticipated to further reduce the number of pairs of owls that nest at the Airport over the 20-year Amendment term.

In addition, the owls inhabiting the airfield will be subject to increased mortality as a result of increased collisions with aircraft as growth at the Airport continues. Specifically, when compared to 2018 conditions, the City is projecting a 37% increase in aircraft operations by 2037. California ground squirrels are controlled more intensively along runways compared to other portions of the airfield, and owls are evicted from Runway Safety Areas outside the nesting season to reduce the number of owl collisions with aircraft. Nevertheless, owls regularly nest within the Runway Safety Areas (Figure 7). Further, the removal and fragmentation of owl nesting areas in the southwest portion of the airfield may result in an increase in owl use of infields W2, W3, W4, W5, W6, and W7, which are located adjacent to Runway 12R-30L. As a result, the Airport's owl population is expected to experience an increase in collisions with aircraft as a result of both the increase in aircraft operations and, possibly, the owls' increased reliance on infields near runways following Amendment implementation. An average of 5.0 annual burrowing owl collisions with aircraft have been reported at the Airport over the most recent three years for which data are available (USDA 2016, 2017, and 2018). The number of burrowing owl collisions with aircraft may increase commensurate with the increase in aircraft operations (i.e., approximately 37%) as a result of Amendment implementation, which would increase the average number of strikes to approximately 6.9 owls per year (i.e., an increase of 1.9 individuals killed annually, on average).

In our opinion, the permanent removal of 32.4 acres of nesting habitat, the direct loss of habitat supporting up to three nesting pairs of owls, and degradation of remaining habitat (potentially resulting in the further loss of nesting burrowing owls) represent significant impacts on the regional population of burrowing owls in San José. As the availability of grassland habitat used for nesting in the South San Francisco Bay are continues to dwindle because of development, the South Bay nesting population of burrowing owls faces extirpation caused by lack of sufficient suitable nesting habitat and nesting-season foraging habitat, isolation from other populations and habitat areas, and demographic effects (such as difficulty in finding mates and inbreeding)

resulting from low population sizes. Therefore, impacts on occupied nesting habitat and loss of nesting pairs of burrowing owls would contribute to (and possibly exacerbate) the broader-scale decline in regional burrowing owl populations, which represents a significant impact under CEQA due to the downward trajectory in this species' population in the region in recent decades. In addition, due to the rarity of the burrowing owl in the region and the effects on the South Bay burrowing owl population of the loss of any individuals, the degradation of the remaining 83.4 acres of nesting and roosting habitat at the airfield, as well as the increased annual loss of individual burrowing owls due to aircraft collisions, would be significant under CEQA.

The implementation of Mitigation Measure 8 below would address the direct loss of habitat, the degradation of remaining habitat, and increased impacts due to owl collisions with aircraft as a result of the proposed Amendment by providing nesting, roosting, and foraging habitat for owls elsewhere in the South Bay to help increase their numbers in the region. This mitigation will be sufficient to ensure the improved long-term viability of nesting burrowing owls in the South Bay by providing additional areas of suitable habitat and facilitating the expansion of owl populations in reserve areas to off-set the numbers of owls killed each year at the Airport. Assuming that at least one pair remains nesting on the Airport, and that lands provided as compensatory mitigation support up to five pairs, this mitigation would ensure that the Airport's contribution to regional populations would not be reduced as a result of Amendment activities.

Some of the burrowing owls that occur at the Airport during the nonbreeding season likely represent migrants or wintering owls from nesting populations outside the San Francisco Bay area. Amendment activities will also result in a reduction in habitat for these birds. However, burrowing owls are known to occur more widely in the South San Francisco Bay region in winter than they do during the nesting season, using habitats within Coyote Valley and adjacent foothills that are not used for nesting by birds within the South Bay nesting population (ICF International 2012). Given the vast extent of grassland and ruderal habitat within the foothills of the Diablo Range and Santa Cruz Mountains (and to some extent on the valley floor in southern Santa Clara County) that provide suitable wintering habitat for owls, the loss of habitat at the Airport resulting from Amendment projects is not expected to have a substantial impact on populations of burrowing owls that winter in the South Bay but nest outside the region.

Impacts from projects under the Amendment may directly affect individual burrowing owls during construction activities. Because they roost underground, burrowing owls (especially adults in burrows) may be killed or injured during development activities from trampling by construction personnel or equipment. Construction activities that occur in close proximity to active burrows may disturb owls to the point of abandoning their burrows. In addition, clearing and grading could result in the direct loss of individuals through the disturbance of grassland areas that support ground squirrel burrows. Due to the rarity of the burrowing owl in the region and the effects on burrowing owl populations of the loss of any individuals, the loss of individual burrowing owls or active burrowing owl burrows would be significant under CEQA. The implementation of Mitigation Measure 9 below will reduce these impacts to less than significant levels under CEQA.

Mitigation Measure 8. Provide Compensatory Mitigation for Permanent Impacts on Burrowing Owl Nesting Habitat. Compensatory mitigation shall be provided for permanent loss of 32.4 acres of occupied

burrowing owl nesting habitat, as well as for the degradation of the remaining 83.4 acres of nesting and roosting habitat at the airfield and the expected increase in annual mortality of burrowing owls due to collisions with aircraft following Amendment implementation. Compensatory mitigation shall be provided via the payment of VHP burrowing owl fees for all 32.4 acres of direct, permanent impacts on occupied habitat. Because Amendment projects are located within the VHP area, even though these projects are not considered “covered activities” under the VHP, it is our opinion that the payment of VHP burrowing owl fees would be appropriate in lieu of providing on-site and/or off-site mitigation. This mitigation approach would be consistent with the Voluntary Fee Payments Policy of the Habitat Agency, which states that such voluntary burrowing owl fees paid as mitigation “will be applied toward burrowing owl management agreements, burrowing owl habitat management and monitoring, as well as burrowing owl habitat restoration and land acquisition.” Payment of the full, per-acre VHP burrowing owl fee for all 32.4 acres of direct, permanent impacts would satisfy Mitigation Measure 8.

Compensatory mitigation for impacts to burrowing owls (i.e., the payment of VHP burrowing owl fees) may be phased in accordance with phasing of impacts, so that the amount of mitigation provided equals or exceeds that required based on the acreage of impacts. However, compensatory mitigation for impacts to a certain acreage of burrowing owl habitat must be implemented prior to those impacts occurring.

Mitigation Measure 9. Update and Implement the Management Plan. The Management Plan was developed based on 1997 site conditions and owl management and monitoring methodologies. To improve management for burrowing owls at the Airport, the Airport will implement the following updates to Section 3.2 of the Management Plan:

- **Conduct Preconstruction Surveys for Burrowing Owls.** The Management Plan requires preconstruction surveys for burrowing owls and suitable owl burrows prior to ground-disturbing activities, with one survey occurring during the prior fall/winter season and one survey occurring within 30 days of the start of construction. However, if the preconstruction survey is conducted 30 days in advance of the proposed activity, there is some potential for owls to change locations between the survey and the activity and potentially occur within the ground disturbance area, or close enough to this area to be disturbed by the activity. In order to ensure that take avoidance measures are successful, the Management Plan will be updated to require preconstruction surveys to be conducted per VHP survey requirements for take avoidance, which represent the latest methodology that is accepted by resource agencies (i.e., the City of San José, CDFW, and USFWS).

Preconstruction surveys for burrowing owls will be conducted prior to the initiation of all Amendment construction activities within suitable burrowing owl nesting and roosting habitat (i.e., ruderal grassland habitat with burrows of California ground squirrels) at the airfield, or within 250 feet of this habitat. During the initial site visit, a qualified biologist will survey the entire activity area and (to the extent that access allows) areas within 250 feet by walking transects with centerlines no more than 50 feet apart and ensure complete visual coverage and looking for suitable burrows that could be used by burrowing owls for nesting or roosting. If no suitable burrowing owl habitat (i.e., ruderal grasslands with burrows of California ground

squirrels) is present, no additional surveys are required. If suitable burrows are determined to be present within 250 feet of the work area, a qualified biologist will conduct a minimum of two additional surveys to determine whether owls are present in areas where they could be affected by proposed activities. The surveys will last a minimum of three hours, beginning one hour before sunrise and continuing until 2 hours after sunrise or beginning 2 hours before sunset and continuing until 1 hour after sunset. Additional time may be required if the work area is very large. The first survey may occur up to 14 days prior to the start of construction activities in any given area, and the final survey will be conducted within two days prior to the start of construction activities.

- **Implement Buffer Zones for Burrowing Owls.** The Management Plan does not include the option to maintain disturbance-free buffers around active owl burrows (rather, the eviction of owls from burrows within and near work areas is assumed). This measure minimizes project impacts on owls by providing the option to avoid owl burrows, rather than requiring the eviction of any owls that may be present near work areas.

If burrowing owls are detected during the pre-activity survey, a 250-foot buffer, within which no newly initiated construction-related activities will be permissible, will be maintained between construction activities and occupied burrows. Owls present between February 1 and August 31 will be assumed to be nesting, and the 250-foot protected area will remain in effect until August 31.

- **Monitor Owls during Construction.** If maintaining a 250-foot buffer around active owl burrows is not feasible, the buffer may be reduced if (1) the nest is not disturbed, and (2) the City develops an avoidance, minimization, and monitoring plan that will be reviewed and approved by the CDFW and USFWS prior to project description. The plan will include the following measures:
 - A qualified biologist will monitor the owls for at least three days prior to construction as well as during construction.
 - If the biologist observes no change in the owls' nesting and foraging behavior, construction activities may proceed.
 - If changes in the owls' behaviors as a result of work activities are observed, activities will cease within 250 feet of the active burrow location(s). Work activities may resume when the burrows are no longer occupied.
 - If monitoring indicates that the burrow is no longer in use by owls, the disturbance-free buffer may be removed.
- **Passive Relocation².** If construction activities will directly impact occupied burrows, a qualified biologist will passively evict owls from burrows during the non-nesting season (September 1 to January 31). No burrowing owls will be evicted during the nesting season (February 1 through August 31) except with the

² The passive relocation of burrowing owls is not currently permitted under the VHP because a positive growth trend in the owls' regional population has not yet been achieved. However, we are including passive relocation as a mitigation measure here because (1) Airport projects are not covered under the VHP, and (2) the proposed Amendment improvements are necessary to address human safety concerns at the Airport.

CDFW's concurrence that evidence demonstrates that nesting is not actively occurring (e.g., because the owls have not yet begun nesting early in the season, or because young have already fledged late in the season). Eviction will occur through the use of one-way doors inserted into the occupied burrow and all burrows within impact areas that are within 250 feet of the occupied burrow (to prevent occupation of other burrows that will be impacted). One-way doors will be installed by a qualified biologist and left in place for at least 48 hours before they are removed. The burrows will then be back-filled to prevent re-occupation. Although relocation of owls may be necessary to avoid the direct injury or mortality of owls during construction, relocated owls may suffer predation, competition with other owls, or reduced health or reproductive success as a result of being relegated to more marginal habitat. However, the benefits of such relocation, in terms of avoiding direct injury or mortality, would outweigh any adverse effects.

- **Compensatory Mitigation.** Because the number of burrows that are present on the airfield does not appear to limit the existing population of owls at the airfield, compensatory mitigation for the eviction of owls for Amendment projects will be provided as described in Mitigation Measure 8 above rather than on a case-by-case basis each time an owl is evicted from a burrow. This mitigation will maintain sufficient numbers of burrows in the mitigation areas over the long term to provide habitat for any owls that may be evicted from the airfield as a result of Amendment projects.

The City will continue to implement the Management Plan, with the updates described above.

6.1.9 Impacts Due to Bird Collisions (Less than Significant with Mitigation)

Under existing conditions, terrestrial land uses and habitat conditions in the study area and in surrounding areas consist primarily of developed areas such as the Airport, commercial and residential buildings (primarily of one or two stories), parking lots, and roads. Away from the Guadalupe River, vegetation in most of the surrounding areas is absent or very limited in extent, and consists primarily of non-native landscaped trees and shrubs. Non-native vegetation supports fewer of the resources required by native birds than native vegetation, and the structural simplicity of the vegetation (without well-developed ground cover, understory, and canopy layers) further limits resources available to birds (Anderson et al. 1977, Mills et al. 1989). Thus, although a number of bird species will regularly use the vegetation in developed portions of the study area and surrounding developed areas, they typically do so in low numbers, and particularly rare species or species of conservation concern are not expected to occur in developed portions of the study area. As a result, the number of individual landbirds that inhabit and regularly use vegetation within developed portions of the study area at any given time is relatively low under existing conditions.

The extent and species of future landscape vegetation to be installed under the Amendment are unknown; however, because the study area is located at an Airport (where birds are generally discouraged due to the potential for collisions with airplanes and landscaped vegetation is accordingly minimal), any trees and landscaped areas that will be planted in the study area in the future are expected to provide similar (i.e., minimal) habitat structure and foraging opportunities for landbirds compared to existing conditions. Landbirds that will occur on the site and in the vicinity will be attracted to any trees and landscaped areas that are planted, and some will make use of new developed structures. These birds will move between the site and habitats in the

surrounding vicinity (e.g., the riparian vegetation along the Guadalupe River). No substantive changes in the number of songbirds inhabiting developed portions of the study area are expected to result from projects under the Amendment.

However, riparian habitats in California, such as the habitat along the Guadalupe River that bisects the study area, generally support exceptionally rich bird communities and contribute a disproportionately high amount to landscape-level species diversity. The presence of year-round water and abundant invertebrate fauna provide foraging opportunities, and the diverse habitat structure provides cover and nesting opportunities. Due to the moderately high quality of habitat along the Guadalupe River compared to habitats in surrounding urban areas, songbirds that migrate along the Pacific Flyway disperse and forage along the Guadalupe River in relatively large numbers (Cornell Lab of Ornithology 2019, South-Bay-Birds List Serve 2019). Resident birds that are present in the vicinity year-round are similarly attracted to this riparian habitat in relatively large numbers for foraging and nesting opportunities compared to regional populations (Cornell Lab of Ornithology 2019, South-Bay-Birds List Serve 2019).

Amendment projects that will occur near the Guadalupe River include the construction of five additional fuel storage tanks on the Fuel Farm site; removal of the existing Economy Lot 1 surface parking lot and its replacement with a new public long-term parking garage with up to 6,000 spaces; construction of a new short-term parking garage and a multi-story business hotel across from Terminal B; and the removal, relocation, and/or renovation of existing facilities and construction of new facilities along Airport Boulevard. Birds using riparian habitat along the Guadalupe River, such as migrants that are initially attracted to the study area vicinity as a migratory stopover location due to the abundance of riparian vegetation, may then disperse outward from the river into vegetated areas within these newly constructed areas. During such dispersal, some birds will move toward and onto the study area (i.e., towards the buildings) to look for feeding and resting opportunities in landscape vegetation.

The extent to which the proposed new buildings and other structures will incorporate glazing on their façades is unknown, as these structures have not yet been designed. It has been well documented that glass windows and building façades can result in injury or mortality of birds due to birds' collisions with these surfaces (Klem 2009, Sheppard and Phillips 2015). Because birds do not perceive glass as an obstruction the way humans do, they may collide with glass when the sky or vegetation is reflected in glass (e.g., they see the glass as sky or vegetated areas); when transparent windows allow birds to perceive an unobstructed flight route through the glass (such as at corners); and when the combination of transparent glass and interior vegetation (such as in planted atria) results in attempts by birds to fly through glass to reach that vegetation. The greatest risk of avian collisions with buildings occurs in the area within 40–60 feet of the ground, because this is the area in which most bird activity occurs (San Francisco Planning Department 2011, Sheppard and Phillips 2015). Very tall buildings (e.g., buildings 500 feet or more high) may pose a threat to birds that are migrating through the area, particularly to nocturnal migrants that may not see the buildings or that may be attracted to lights on the buildings (San Francisco Planning Department 2011), but no buildings taller than 500 feet are proposed under the Amendment.

If newly constructed buildings and other structures within the study area have extensive glass façades, birds are likely to collide with these façades for the following reasons:

- Under the Amendment, it is possible that trees and other landscaping will be present immediately adjacent to a building's glass façades. Such vegetation is expected to attract birds. Once birds are using that vegetation, they may not perceive the glass as a solid structure. The vegetation would reflect in the glass of the building's façades, potentially causing birds to attempt to fly in to the reflected "vegetation" and strike the glass. As a result, some birds that are attracted to the trees and other landscaping that is adjacent to the glass façades are expected to collide with the glass.
- Night lighting associated with new buildings has some potential to disorient birds, especially during inclement weather when night migrating birds descend to lower altitudes. As a result, some birds moving through the project site at night may be disoriented by night lighting and potentially collide with buildings.

Thus, some of the birds using trees and other landscape vegetation that is to be planted within the study area in the future are expected to strike the buildings, resulting in injury or death. Building collisions are a leading cause of anthropogenic-related avian mortality in the United States, second only to predation by free-ranging domestic cats (Loss et al. 2014). Buildings are estimated to result in the mortality of 365 to 988 million birds per year, or 2–9% of all North American birds, with low-rise buildings such as those to be constructed under the Amendment accounting for the mortality of between 62 and 664 million birds per year (Loss et al. 2014). Most birds that are vulnerable to collisions with low-rise buildings are migrants that move through during the spring and fall (Loss et al. 2014). However, certain groups of birds are also more vulnerable to collisions, including hummingbirds, swifts, waxwings, warblers, nuthatches, tits, and creepers (Loss et al. 2014), all of which occur in the riparian habitat along the Guadalupe River either as migrants or year-round residents. Considering the close proximity of the Guadalupe River, relatively large numbers of birds compared to other areas of San José and surrounding areas can potentially be attracted to the site over the long term. As a result, construction of new buildings and structures under the Amendment can potentially result in the mortality of large numbers of birds relative to the size of regional populations, and enough individuals of common bird species can potentially strike the buildings over the long term to result in a significant impact according to CEQA. Mitigation Measure 10 below would incorporate bird-safe design elements into building designs, reducing this impact to a less-than-significant level.

Mitigation Measure 10. Implement Bird-Safe Building Design. Due to the potential for buildings within the study area to result in high numbers of bird collisions, projects under the Amendment will implement the following bird-safe building design considerations for all buildings constructed or modified within 300 feet³ of the Guadalupe River:

³ The 300-foot distance is based on the guidance provided in the City of San Francisco's Standards for Bird-Safe Buildings (San Francisco Planning Department 2011), which specifies that buildings located within 300 feet of an urban bird refuge, such as the habitat along the Guadalupe River, should incorporate bird-safe design elements to mitigate a higher risk of bird collisions.

- The extent of glass on the façades of new buildings and additions shall be minimized to the extent feasible.
- No more than 10% of the surface area of the façades of buildings that face the Guadalupe River shall have untreated glazing between the ground and 60 feet above ground. Bird-safe glazing treatments may include fritting, netting, permanent stencils, frosted glass, exterior screens, and/or physical grids placed on the exterior of glazing or ultraviolet patterns visible to birds. Vertical elements of the window patterns will be at least 1/4-inch wide at a maximum spacing of 4 inches, or have horizontal elements at least 1/8-inch wide at a maximum spacing of 2 inches (Klem et al. 2009).
- No more than 10% of the surface area of façades facing the Guadalupe River and/or façade areas within 12 vertical feet above and/or below landscaped terraces shall have untreated glazing.
- All glazing panels at corners of façades that face the Guadalupe River between the ground and 60 feet above ground and/or within 12 vertical feet above and/or below landscaped terraces (regardless of their height above ground) will be 100% treated.
- Exterior lighting on the sides of buildings facing the Guadalupe River will be minimized to the extent feasible, except as needed for safety. All exterior lights shall be directed toward facilities on the project site (e.g., rather than directed upward or outward) and shielded to ensure that light is not directed outward toward the Guadalupe River.
- Exterior up-lighting shall not be used.
- Occupancy sensors or other switch control devices shall be installed on interior lights, with the exception of emergency lights or lights needed for safety purposes.

6.1.10 Nitrogen Deposition Impacts on Bay Checkerspot Butterfly/Serpentine Habitat

The USFWS has identified critical habitat for the federally threatened Bay checkerspot butterfly (*Euphydryas editha bayensis*) (73 FR 50406) south of U.S. Route 101 and Yerba Buena Road in San José, approximately 7 miles southeast of the Airport. The conservation of critical habitat is considered essential for the conservation of a federally listed species. Critical habitat for the Bay checkerspot butterfly occurs on extensive areas of nutrient-poor serpentine or serpentine-like grasslands that support at least one of the three butterfly's larval host plants, dwarf plantain (*Plantago erecta*), dense flower owl's clover (*Castilleja densiflora*) and purple owl's clover (*Castilleja exserta*). Non-native grasses have been reported to increase in these habitats, crowding out the native forbs needed by the Bay checkerspot butterfly, due to increased nitrogen deposition from human sources throughout San José and the greater Bay Area.

Nitrogen deposition contribution estimates in Santa Clara County were made as a part of the development of the Santa Clara Valley Habitat Plan (Appendix E of the VHP, 2012). About 46% of nitrogen deposition on habitat areas of concern for the base years (2005–2007) was estimated to come from existing development and traffic generated locally within the VHP study area, which includes all of San José. The remainder of Santa Clara County was estimated to contribute a substantially smaller amount (17% of the nitrogen deposition) while the other eight Bay Area counties account for about 11%. Nitrogen deposition modeling completed for future years

(2035 and 2060) as a part of the VHP process assumed that urban and rural development in the County and broader San Francisco Bay Area is expected to increase air pollutant emissions due to an increase in passenger and commercial vehicle trips and other new industrial and nonindustrial sources.

Many activities associated with the Airport produce nitrogen oxides (NOx). Sources of NOx emissions include aircraft, ground service equipment, auxiliary power units, ground traffic, and boilers. These emissions contribute to the deposition of nitrogen on serpentine habitats from sources throughout the Bay Area, resulting in the above-described impacts.

As described previously, activity levels at the Airport are projected to increase between 2018/baseline and year 2037. As an example, annual passenger levels are projected to increase from 14.3 million to 22.5 million during that timeframe. This increased activity will result in an increase in NOx emissions, which in turn will contribute to the effects of nitrogen deposition on the serpentine grassland ecosystem. (Significant Impact)

To mitigate for this impact, a conservation strategy in the VHP includes collection of fees within the VHP area based upon the generation of new vehicle trips to fund acquisition and management of serpentine grasslands in the Coyote Ridge area. The goal of this strategy is to improve the viability of existing Bay checkerspot butterfly populations, increase the number of populations, and expand the geographic distribution to ensure the long-term persistence of the species in the VHP area.

A nexus study was completed for the VHP to assist with identifying appropriate fees to fund measures in the VHP. The nitrogen deposition fee was calculated and adopted based on VHP costs related to mitigating the impacts of airborne nitrogen deposition from covered activities in the VHP area. The amount of the fee is based on the number of new daily vehicle trips generated by a covered activity. The fee-per-vehicle-trip is a surrogate that captures the overall effects of a project, recognizing that vehicle trips are not the only source of a project's NOx emissions.

Mitigation Measure 11. Payment of VHP Nitrogen Deposition Fees. Although the Airport is owned and operated by the City of San José, a Local Partner in the VHP, and the Airport is located within the boundaries of VHP area, improvement projects at the Airport are excluded as covered activities under the VHP. Irrespective of this fact, as mitigation, the City could pay the nitrogen deposition fee based on new daily vehicle trips that applies to covered activities. [Note: Per the Project's traffic analysis, the Project will generate 29,332 new daily vehicle trips (Hexagon Transportation, 2019)]. According to the Santa Clara Valley Habitat Agency, the fees collected from covered activities do not fully cover the costs related to mitigating nitrogen deposition impacts due to new development. Therefore, the Habitat Agency accepts fees from non-covered activities and its Voluntary Fee Payments Policy states that "nitrogen deposition voluntary fee payments will be applied toward land acquisition, management, and monitoring for Bay checkerspot butterfly and serpentine covered plant species."⁴

⁴ Source: Santa Clara Valley Habitat Agency, Voluntary Fee Payments Policy, 2014.

6.2 Impacts on Sensitive Communities: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFW or USFWS (Less Than Significant)

6.2.1 Impacts on Riparian Habitat or Other Sensitive Natural Communities

The CDFW defines sensitive natural communities and vegetation alliances using NatureServe's standard heritage program methodology (CDFW 2019), as described above in Section 4.3. Furthermore, aquatic, wetland and riparian habitats are also protected under applicable federal, state, or local regulations, and are generally subject to regulation, protection, or consideration by the USACE, RWQCB, CDFW, and/or the USFWS. Project impacts on sensitive natural communities, vegetation alliances/associations, or any such community identified in local or regional plans, policies, and regulations, were considered and evaluated. While no sensitive habitats fall within the impact footprint, they are present adjacent to the project footprint. Guadalupe River flows from south to north along the length of the project footprint, and in some areas its riparian zone comes within 30 feet of the impact footprint. Therefore, there is the potential for indirect effects to occur on riparian areas adjacent to the project footprint, if runoff from project areas increased in intensity or frequency. However, required construction period BMPs and post-construction stormwater requirements will apply to Amendment projects as discussed above in Section 6.1.3, and these requirements would avoid and reduce these impacts to a less-than-significant level.

6.3 Impacts on Wetlands: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means (No Impact)

No wetland habitat is present within or adjacent to the study area, and thus none will be impacted directly or indirectly by Amendment projects.

6.4 Impacts on Wildlife Movement: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites (Less than Significant)

For many species, the landscape is a mosaic of suitable and unsuitable habitat types. Environmental corridors are segments of land that provide a link between these different habitats while also providing cover. Development that fragments natural habitats (i.e., breaks them into smaller, disjunct pieces) can have a twofold impact on wildlife: first, as habitat patches become smaller they are unable to support as many individuals (patch size); and second, the area between habitat patches may be unsuitable for wildlife species to traverse (connectivity).

The Guadalupe River and the associated riparian corridor provides an important movement pathway for both aquatic and terrestrial wildlife species, connecting the associated wetlands to the San Francisco Bay. Common, urban-adapted species such as raccoons and striped skunks may use the vegetation along the river to move north and south through the San José area. Small mammals, such as mice and shrews, will also use this vegetation to move between habitats. Proposed development under the Amendment along the river will not result in any loss of aquatic, wetland, or riparian habitat along the Guadalupe River or in any substantial reduction in the value of the Guadalupe River corridor for wildlife movement. Thus, aquatic and terrestrial species would continue to be able to move north to south along the Guadalupe River following development under the Amendment. Therefore, Amendment projects would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites, and this impact is determined to be less than significant.

6.5 Impacts due to Conflicts with Local Policies: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance (Less than Significant with Mitigation)

6.5.1 Impacts Due to the Removal of Ordinance-Sized Trees (Less than Significant)

Implementation of the proposed project would likely result in the removal of a small number of ordinance-sized trees that are present at the Airport. Because this type of tree removal conflicts with the City of San Jose Municipal Code, it would be considered a significant impact under CEQA (Criterion I). While the City of San Jose is not required to submit permit applications for tree removal for its own projects, it does comply with the requirements of the tree ordinance. In accordance with the provisions of the San Jose Municipal Code, the Standard Permit Conditions listed below would be implemented by the project.

Standard Permit Conditions

- Trees impacted by the Amendment will be replaced in accordance with all applicable laws, policies or guidelines, including Chapter 13 of the San José Municipal Code, General Plan policies MS-21.4, MS-21.5, MS-21.6, and CD-1.24, and City tree replacement ratios outlined in Table 5 below.

Table 5. City of San José Standard Tree Replacement Ratios

Diameter of Tree to Be Removed	Type of Tree to be Removed¹			Minimum Size of Each Replacement Tree
	Native	Non-Native	Orchard	
18 inches or greater	5:1	4:1	3:1	24-inch box
12-18 inches	3:1	2:1	none	24-inch box
Less than 12 inches	1:1	1:1	none	15-gallon container

1:x = tree replacement to tree loss ratio; Trees greater than 18" diameter shall not be removed unless a Tree Removal Permit, or equivalent, has been approved for the removal of such trees.

- Where applicable, the City will implement a Tree Protection Plan and include measures to implement during project construction to minimize impacts to trees to remain. The measures include marking trees to remain in place in project plans and have tree protection zones established around the canopy drip line zone to avoid serious injury or loss.
- Table 5 shows tree replacement ratios required by the City. The species of trees to be planted shall be determined in consultation with the City Arborist and the Department of Planning, Building and Code Enforcement.

In the event the project site does not have sufficient area to accommodate the required tree mitigation, one or more of the following measures would be implemented during the final design phase of any Master Plan project that removes trees, to the satisfaction of the City Arborist and the Director of Planning, Building and Code Enforcement:

- During the final design phase, the size of a 15-gallon replacement tree may be increased to 24-inch box and count as two replacement trees to be planted on the project site.
- Pay Off-Site Tree Replacement Fee(s) to the City, prior to the issuance of Public Works grading permit(s), in accordance to the City Council approved Fee Resolution. The City will use the off-site tree replacement fee(s) to plant trees at alternative sites.

6.5.2 Impacts Due to Encroachment into the Stream/Riparian Buffer (Less than Significant with Mitigation)

To protect the ecological functions and values of a stream, buffers are often prescribed between new development and the stream (or its banks or associated riparian habitat). These buffers provide habitat for plants and animals associated with the stream, provide habitat connectivity (i.e., areas used for wildlife movement, including flight paths for birds), reduce indirect effects of adjacent development (e.g., noise, lighting, human activity, or invasive species) on the natural stream and riparian habitats, allow for the possible future expansion of natural habitat, help to maintain site hydrology, and in some areas allow for runoff to be treated (e.g., by flowing through vegetated areas) before it enters the stream. In addition, along streams such as the Guadalupe River, vegetative communities within stream buffers may provide important refugia for animals associated with wetland and riparian habitats along the river during flood events, when little to no such refugia may be present within the banks of the river itself.

In general, larger buffers protect more of the ecological functions and values of the stream than smaller buffers. Encroachment into the riparian buffer, such as development within the buffer, or landscaping or planting with non-native vegetation within the buffer, would represent a significant impact because of the currently high ecological value of the Guadalupe River and the degradation to that value that would occur due to encroachment.

The City of San José's riparian buffer policy is administered through use of a Riparian Corridor Policy Study document that describes suggested buffer widths (City of San José 1999). The study, which was incorporated

into the City's Envision San José 2040 General Plan (City of San José 2011) and further clarified by the Riparian Corridor Protection and Bird Safe Design Council Policy (City of San José 2016), states that riparian setbacks for the types of projects proposed under the Amendment should be measured 100 feet from the outside edges of riparian habitat or the top of bank, whichever is greater. However, the study also states that setback distances for individual sites may vary if consultation with the City and a qualified biologist, or other appropriate means, indicates that a smaller or larger setback is more appropriate for consistency with riparian preservation objectives (City of San José 1999). Goal E2.2 of the City's General Plan also requires a 100-foot setback in all but a limited number of circumstances, which are only applicable if no significant environmental impacts would occur from reduction of the setback distance (City of San José 2011).

In our opinion, based on the moderately high quality of the riparian habitat and the native bird community present at this location, coupled with the ecological value of the Guadalupe River on the scale of the Santa Clara Valley, a 100-foot standard setback is appropriate between new building construction and the Guadalupe River within the study area to maintain suitable riparian functions and values. For the purposes of Amendment projects, the standard 100-foot setback extends landward from the outer edge of the riparian habitat or top of bank, whichever is farther, along the Guadalupe River (Figure 3).

However, under CEQA it is appropriate to analyze the effects of future development in the study area relative to the existing conditions, and currently, limited development (i.e., paved vehicle and pedestrian areas without buildings) is present within all areas of the 100-foot setback at Economy Lot 1 and along Airport Boulevard in the southeastern portion of the Airport within the study area. Under the Amendment, projects within the riparian setback will include the construction of additional fuel tanks at the Fuel Farm and a parking garage at Economy Lot 1. Constructing more intensive development (e.g., new buildings) within the setback would be considered an adverse impact because of the high ecological value of the Guadalupe River as a whole (even taking into account the moderate quality of this particular reach of riparian habitat) and the degradation to that value that would occur due to encroachment. Encroachment of the project within the 100-foot standard riparian setback would result in the following impacts on the adjacent riparian communities along the Guadalupe River:

- Wildlife using the Guadalupe River may get the sense that they are “hemmed in” by development and unsuitable habitat if tall buildings are constructed very close to the Guadalupe River (i.e., within the 100-foot standard setback), potentially reducing wildlife use of the adjacent portion of the river (Chamberlain et al. 2007, Fontana et al. 2011). Research on riparian birds along South Bay streams (including the Guadalupe River) has found that distance between riparian habitat and buildings, and the percent cover by buildings in the vicinity of riparian habitat, influences the abundance of certain bird species and affects the overall riparian bird community (Rottenborn 1997, 1999). Birds may be less likely to use areas that are in close proximity to tall buildings that they cannot see over when using a habitat area, or that they will have to fly around/between when moving to and from the habitat area. As a result, bird use of the adjacent habitat is expected to decline following the construction of tall buildings within the riparian setback due to the proximity of the new structures to the riparian habitat.

- The new parking garage at the Economy Lot 1 site will be located on the northeast side of the Guadalupe River, and this garage will cast shade on the adjacent riparian habitat throughout all or most of the morning year-round. Shading of the riparian habitat by the garage will reduce the amount of light received by riparian trees and plants, potentially affecting the health and growth of these plants, and we expect some degradation of the riparian habitat over time as a result.
- If any of the proposed structures within the riparian setback include glazing, some birds using the habitat along the Guadalupe River are expected to collide with the new structures, thus reducing bird diversity and abundance in this area (this impact is discussed in greater detail under *Impacts due to Bird Collisions* above).

Therefore, impacts of encroachment into the riparian buffer would be significant for the Amendment (due to the ecological impacts of closer development to sensitive riparian communities) if new development is located any closer to the baseline than existing conditions. This baseline varies in different sections of the study area, as follows:

- At the Fuel Farm, no development is present within the 100-foot setback (Figure 3). Therefore, any new development or nonnative landscaping located within this setback would be considered a significant impact under CEQA due to encroachment within the riparian buffer.
- At Economy Lot 1, all areas of the 100-foot setback are currently developed as paved parking and pedestrian areas (Figure 3). Therefore, the replacement of these paved areas with similar paved areas and/or nonnative landscape vegetation would not be considered an encroachment impact. However, the construction of the new parking garage within this area would be considered a significant impact under CEQA due to encroachment of more substantial structures, potentially shading riparian vegetation and preventing wildlife from moving through the parking lot, within the riparian buffer.

Development features compatible with open space and/or maintenance of water quality functions within the Guadalupe River and nearby sensitive habitats, such as vegetated retention basins, biotreatment swales, and areas with native landscape vegetation that are installed within the 100-foot setback as part of Amendment projects are considered a beneficial use and would not be considered a significant impact.

Implementation of Mitigation Measure 12, and Mitigation Measure 13 if necessary, would reduce any riparian buffer encroachment impacts to less-than-significant levels.

Mitigation Measure 12. Avoid and Minimize Riparian Buffer Encroachment. Detailed plans for the structures that may be constructed in or near the 100-foot riparian buffers along the Guadalupe River have not yet been prepared. As a result, it may be feasible for Amendment projects to be planned in such a way that encroachment into the riparian buffer can be avoided altogether. If the Airport needs to encroach into the riparian buffer, then the extent to which encroachment occurs (as determined both by the distance between the proposed development and the riparian baseline and by the acreage of encroachment into the buffer) should be minimized. If encroachment is avoided, so that no new, more intensive types of development occur within 100 feet of the buffer baseline, or any closer to the buffer baseline than existing development already occurs

(e.g., buildings constructed within the 100-foot setback where only paved areas are currently present), no further mitigation for riparian buffer encroachment impacts will be necessary. If any encroachment is proposed, Mitigation Measure 13 will be implemented to reduce the residual impact to less-than-significant levels.

Mitigation Measure 13. Provide Compensatory Mitigation for Riparian Buffer Encroachment. If any encroachment into the riparian buffer is proposed, compensatory mitigation shall be provided to offset the impacts on the ecological functions and values of the riparian corridor. Such compensatory mitigation will be provided in one of two ways:

- (1) At a minimum ratio of 1:1 (compensation : impact), on an acreage basis, existing development (e.g., buildings or hardscape) along the Guadalupe River, either on-site or off-site, will be removed, and the developed area restored to native habitats and dedicated to natural habitat (rather than active human uses such as urban park). For example, if a portion of the study area were subject to riparian buffer encroachment, but a commensurate acreage of existing developed areas adjoining the Guadalupe River levee in other parts of the study area were restored to native habitat, that would compensate for the riparian buffer encroachment impact.
- (2) At a minimum ratio of 2:1 (compensation : impact) on an acreage basis, riparian woodland habitat will be restored or created as described below to provide ecological functions and values that offset those lost due to riparian buffer encroachment.

To compensate for encroachment into the riparian buffer, riparian woodland habitat will be restored or created at a minimum ratio of 2.5:1 (compensation : impact) on an acreage basis, based on canopy area. This ratio is not higher due to the moderately high quality of the riparian woodland adjacent to the study area relative to more extensive, less fragmented riparian woodland elsewhere in the region, but is not lower due to the temporal loss of riparian functions and values that will result from the lag between impacts to the woodland adjacent to the study area and maturation of the mitigation habitat.

Compensation will be provided by planting riparian habitat so as to achieve the 2.5:1 ratio somewhere in the Santa Clara Valley, preferably along the Guadalupe River but along another stream if appropriate. Mitigation habitat may be hydrologically isolated from the stream in question as long as it is located within 300 feet of the stream, is not separated from the stream by development other than a trail or levee, and is dominated by native riparian trees. Mitigation to satisfy this measure may occur in portions of Guadalupe Gardens that are within 300 feet of the Guadalupe River. A qualified biologist shall develop a “Riparian Habitat Mitigation and Monitoring Plan” describing the mitigation, which will contain the following components (or as otherwise modified by regulatory agency permitting conditions):

- Summary of habitat impacts and proposed mitigation ratios
- Goal of the restoration to achieve no net loss of habitat functions and values
- Location of mitigation site(s) and description of existing site conditions

- Mitigation design:
 - Existing and proposed site hydrology
 - Grading plan if appropriate, including bank stabilization or other site stabilization features
 - Soil amendments and other site preparation elements as appropriate
 - Planting plan
 - Irrigation and maintenance plan
 - Remedial measures and adaptive management
- Monitoring plan (including final and performance criteria, monitoring methods, data analysis, reporting requirements, and monitoring schedule). Success criteria will include quantifiable measurements of riparian vegetation type (e.g., dominance by natives) and extent appropriate for the riparian restoration location, and provision of ecological functions and values equal to or exceeding those in the riparian habitat affected. At a minimum, success criteria will include following:
 - At Year 10 post-planting, canopy closure at the mitigation site will be at least 60% of the canopy closure at a nearby reference site (i.e., a site supporting the same habitat type as that being established at the mitigation site).

The Riparian HMMP must be approved by the City of San José prior to riparian setback encroachment under the Amendment, and it must be implemented within one year following impacts.

6.6 Impact due to Conflicts with an Adopted Habitat Conservation

Plan: Conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan (Less Than Significant with Mitigation)

The Santa Clara Valley Habitat Agency leads the implementation of the VHP. The VHP is a regional partnership between six local partners (i.e., the County of Santa Clara, the Santa Clara Valley Transportation Authority, Valley Water, and the Cities of San José, Gilroy, and Morgan Hill), the CDFW, and the USFWS. In 2013, the VHP was adopted by all local participating agencies, and permits were issued from the USFWS and CDFW. The VHP is both a habitat conservation plan and natural community conservation plan. The planning document helps private and public entities plan and conduct projects and activities in ways that lessen impacts on natural resources, including specific threatened and endangered species. The VHP identifies regional lands (called reserves) to be preserved or restored to benefit at-risk species, and it describes how reserves would be managed and monitored to ensure that they benefit those species. In providing a long-term, coordinated planning effort for habitat restoration and conservation, the VHP aims to enhance the viability of threatened and endangered species throughout the Santa Clara Valley.

All portions of the study area that are located within San José fall within the VHP permit area (ICF International 2012). However, Airport projects were excluded from the VHP impact analysis, and projects at the Airport are not “covered projects” under the VHP (ICF International 2012). Thus, Amendment projects are not considered covered activities under the VHP.

Nevertheless, the VHP’s conservation strategy does relate directly to Amendment activities in one respect. One goal of the VHP is to increase the size, sustainability, and distribution of the burrowing owl population in the VHP area, and the VHP identifies the Airport as a key nesting area for owls in the region, as it supports one of the three largest remaining colonies within the VHP area (ICF International 2012). Due to the importance of the Airport’s burrowing owl population, the VHP uses performance data for this population (in combination with data from the other two large colonies in the region) as an index for population performance within the larger VHP area. The VHP’s population analyses determined the most likely means of achieving a positive growth rate for burrowing owls in the VHP area is through an increase in the number of adult burrowing owls at the Airport and other large colony sites. Thus, the VHP recognizes that effects (either beneficial or adverse) on the burrowing owl population at the Airport precipitate population-level effects at a regional scale.

To support the population of burrowing owls at the Airport until permanent protection for burrowing owls can be established in the reserve system, the VHP’s conservation strategy incorporates conservation actions to stabilize the existing burrowing owl population at the Airport, as practicable, for a minimum of 10 years (i.e., through 2023). The Santa Clara Valley Habitat Agency is required to acquire or manage (e.g., through temporary 10–20 year agreements) a minimum of 5,300 acres of occupied and potential burrowing owl habitat in order to maintain nesting and foraging areas, including lands within 2 miles of the Airport per conservation action LAND-G7:

- **LAND-G7:** Acquire or obtain easements on burrowing owl nesting habitat within 2 miles of San José International Airport or other important northern San José nesting sites.

Because the Airport represents a key nesting area for burrowing owls in San José that is central to maintaining the regional population, and the number of burrowing owls inhabiting the South Bay has dwindled substantially in recent years, the reduction in occupied owl nesting and foraging habitat, and reduction in numbers of nesting pairs of owls, at the Airport as a result of the Amendment conflicts with the goals of the VHP. While the VHP acknowledges that the population of burrowing owls at the Airport may not be viable over the long term, the goals of the VHP rely on maintaining a nesting population of owls at the Airport in the near-term while the Santa Clara Valley Habitat Agency has the opportunity to create a stable population of owls within designated preserves. Proposed Amendment impacts are likely to cause the Airport’s population of owls to decline earlier than anticipated, such that (1) the Airport may no longer be a key nesting area for burrowing owls in the region, (2) regional declines in the burrowing owl population will be exacerbated, and (3) the likelihood that the Habitat Agency will be able to achieve a positive population growth rate in the region is reduced. Thus, impacts of the Amendment on burrowing owls at the Airport will hinder the Habitat Agency’s burrowing owl conservation efforts in the region over the near term.

Nevertheless, implementation of Mitigation Measures 8 and 9 would ensure that the Airport's contribution to regional burrowing owl populations (relative to CEQA baseline levels) would not be reduced as a result of Amendment activities. Therefore, with successful implementation of Mitigation Measures 8 and 9, the Amendment will allow the Airport to continue to provide habitat for similar numbers of owls compared to existing conditions, either on the airfield and at burrowing owl mitigation sites or via the payment of VHP fees, reducing conflicts with the VHP to a less than significant level.

6.7 Cumulative Impacts

Cumulative impacts arise due to the linking of impacts from past, current, and reasonably foreseeable future projects in the region. Future development activities in the City of San José will result in impacts on the same habitat types and species that will be affected by the proposed Amendment. Projects under the Amendment, in combination with other projects in the area and other activities that impact the species that are affected under the Amendment, could contribute to cumulative effects on special-status species. Other projects in the area include both development and maintenance projects that could adversely affect these species and restoration projects that will benefit these species.

The cumulative impact on biological resources resulting from development under the Amendment in combination with other projects in the larger region would be dependent on the relative magnitude of adverse effects of these projects on biological resources compared to the relative benefit of impact avoidance and minimization efforts prescribed by planning documents, CEQA mitigation measures, and permit requirements for each project; and compensatory mitigation and proactive conservation measures associated with each project. In the absence of such avoidance, minimization, compensatory mitigation, and conservation measures, cumulatively significant impacts on biological resources would occur.

However, the San José General Plan and VHP contain conservation measures that would benefit biological resources, as well as measures to avoid, minimize, and mitigate impacts on these resources. Many projects in the region that impact resources similar to those impacted by development under the proposed Amendment will be covered activities under the VHP and will mitigate impacts on sensitive habitats and many special-status species through that program, which will require payment of fees for habitat restoration.

Further, the Amendment would implement a number of BMPs and mitigation measures to reduce impacts on both common and special-status species, as described above. Thus, provided that this Amendment successfully incorporates the mitigation measures described in this biological resources report, the Amendment will not contribute to substantial cumulative effects on biological resources.

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Appendix A. Plants Observed

Family	Scientific Name	Common Name
Amaranthaceae	<i>Salsola tragus</i>	Russian thistle
Anacardiaceae	<i>Schinus molle</i>	Peruvian pepper
Apiaceae	<i>Foeniculum vulgare</i>	Sweet fennel
Araliaceae	<i>Hedera helix</i>	English ivy
Arecaceae	<i>Washingtonia robusta</i>	Mexican fan palm
Asteraceae	<i>Baccharis pilularis</i>	coyote brush
Asteraceae	<i>Centaurea solstitialis</i>	yellow star thistle
Asteraceae	<i>Erigeron canadensis</i>	Canada horseweed
Asteraceae	<i>Helminthotheca echioides</i>	bristly ox-tongue
Asteraceae	<i>Taraxacum officinale</i> spp. <i>officinale</i>	common dandelion
Brassicaceae	<i>Brassica nigra</i>	black mustard
Fabaceae	<i>Medicago polymorpha</i>	bur clover
Fabaceae	<i>Vicia villosa</i>	hairy vetch
Lamiaceae	<i>Lamium amplexicaule</i>	giraffe head
Malvaceae	<i>Malva nicaeensis</i>	bull mallow
Malvaceae	<i>Malva parviflora</i>	cheeseweed mallow
Poaceae	<i>Avena</i> sp.	Wild oats
Poaceae	<i>Bromus diandrus</i>	ripgut brome
Poaceae	<i>Cortaderia jubata</i>	Jubata grass
Poaceae	<i>Festuca myuros</i>	rattail sixweeks grass
Poaceae	<i>Holcus lanatus</i>	velvet grass
Poaceae	<i>Hordeum</i> sp.	barley
Poaceae	<i>Lolium multiflorum</i>	Italian ryegrass
Poaceae	<i>Stipa miliaceae</i> var. <i>miliaceae</i>	smilo grass
Polygonaceae	<i>Rumex crispus</i>	curly dock
Urticaceae	<i>Urtica dioica</i>	stinging nettle

Appendix B. Special-Status Plants Considered for Potential Occurrence

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
Santa Clara thorn-mint	<i>Acanthomintha lanceolata</i>	x	x	x	x
Howell's onion	<i>Allium howellii</i> var. <i>howellii</i>	x			
Bent flowered fiddleneck	<i>Amsinckia lunaris</i>	x			
California androsace	<i>Androsace elongata</i> ssp. <i>acuta</i>	x		x	x
Bonny doon manzanita	<i>Arctostaphylos silvicola</i>	x	x	x	
alkali milk-vetch	<i>Astragalus tener</i> var. <i>tener</i>	x	x		
brittlescale	<i>Atriplex depressa</i>	x			
lesser saltscare	<i>Atriplex minuscula</i>	x			
Mexican mosquito fern	<i>Azolla microphylla</i>	x			x
big-scale balsamroot	<i>Balsamorhiza macrolepis</i>	x	x	x	x
Brewer's calandrinia	<i>Calandrinia breweri</i>	x	x		x
Oakland star-tulip	<i>Calochortus umbellatus</i>	x	x	x	x
Santa cruz mtns. pussypaws	<i>Calyptridium parryi</i> var. <i>hesseae</i>	x		x	
South Coast Range morning-glory	<i>Calystegia collina</i> ssp. <i>venusta</i>	x	x	x	x
chaparral harebell	<i>Campanula exigua</i>	x	x	x	x
Congdon's tarplant	<i>Centromadia parryi</i> ssp. <i>congdonii</i>				
Dwarf soaproot	<i>Chlorogalum pomeridianum</i> var. <i>minus</i>	x			
Point Reyes bird's-beak	<i>Chloropyron maritimum</i> ssp. <i>palustre</i>	x	x	x	
Ben lomond spineflower	<i>Chorizanthe pungens</i> var. <i>hartwegiana</i>	x	x	x	
robust spineflower	<i>Chorizanthe robusta</i> var. <i>robusta</i>	x	x		x
Mt. Hamilton fountain thistle	<i>Cirsium fontinale</i> var. <i>campylon</i>	x	x	x	x
Brewer's clarkia	<i>Clarkia breweri</i>	x	x	x	x
Santa Clara red ribbons	<i>Clarkia concinna</i> ssp. <i>automixa</i>	x		x	x

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
San Francisco collinsia	<i>Collinsia multicolor</i>	x			x
clustered lady's-slipper	<i>Cypripedium fasciculatum</i>	x	x	x	x
Hospital Canyon larkspur	<i>Delphinium californicum ssp. interius</i>	x		x	x
western leatherwood	<i>Dirca occidentalis</i>	x			x
Santa Clara Valley dudleya	<i>Dudleya abramsii ssp. setchellii</i>	x	x	x	x
Tracy's eriastrum	<i>Eriastrum tracyi</i>	x		x	x
clay buckwheat	<i>Eriogonum argillosum</i>	x	x	x	x
bay buckwheat	<i>Eriogonum umbellatum var. bahiiforme</i>	x	x	x	x
Jepson's woolly sunflower	<i>Eriophyllum jepsonii</i>	x	x	x	x
Hoover's button-celery	<i>Eryngium aristulatum var. hooveri</i>	x			
San Francisco wallflower	<i>Erysimum franciscanum</i>	x	x		x
San Joaquin spearscale	<i>Extriplex joaquinana</i>	x	x		
stinkbells	<i>Fritillaria agrestis</i>	x	x		x
fragrant fritillary	<i>Fritillaria liliacea</i>	x	x		x
phlox-leaf serpentine bedstraw	<i>Galium andrewsii ssp. gatense</i>	x	x	x	x
Loma Prieta hoita	<i>Hoita strobilina</i>	x	x		x
coast iris	<i>Iris longipetala</i>	x			x
Satan's goldenbush	<i>Isocoma menziesii var. diabolica</i>	x			x
Contra Costa goldfields	<i>Lasthenia conjugens</i>	x			
bristly leptosiphon	<i>Leptosiphon acicularis</i>	x		x	x
serpentine leptosiphon	<i>Leptosiphon ambiguus</i>	x	x	x	x
large-flowered leptosiphon	<i>Leptosiphon grandiflorus</i>	x	x		x
woolly-headed lessingia	<i>Lessingia hololeuca</i>	x	x		x
smooth lessingia	<i>Lessingia micradenia var. glabrata</i>	x	x	x	x
spring lessingia	<i>Lessingia tenuis</i>	x		x	x
arcuate bush-mallow	<i>Malacothamnus arcuatus</i>	x			
Hall's bush-mallow	<i>Malacothamnus hallii</i>	x			x
dusky-fruited malacothrix	<i>Malacothrix phaeocarpa</i>	x		x	x
Mt. Diablo cottonweed	<i>Micropus amphibolus</i>	x	x	x	x
sylvan microseris	<i>Microseris sylvatica</i>	x	x	x	x

Common Name	Scientific Name	Suitable Habitat Absent	Edaphic Conditions Absent	Outside Elevation Range	Extirpated from Project Vicinity
elongate copper moss	<i>Mielichhoferia elongata</i>	x			x
San Antonio Hills monardella	<i>Monardella antonina</i> ssp. <i>antonina</i>	x		x	x
woodland woollythreads	<i>Monolopia gracilens</i>	x	x	x	x
cotula navarretia	<i>Navarretia cotulifolia</i>	x			x
prostrate vernal pool navarretia	<i>Navarretia prostrata</i>	x			
Dudley's lousewort	<i>Pedicularis dudleyi</i>	x	x		
Santa cruz mtns. beardtongue	<i>Penstemon rattanii</i> var. <i>kleei</i>	x	x	x	
White rayed pentachaeta	<i>Pentachaeta bellidiflora</i>	x	x	x	
Gairdner's yampah	<i>Perideridia gairdneri</i> ssp. <i>gairdneri</i>	x			x
White flowered rein orchid	<i>Piperia candida</i>	x			
narrow-petaled rein orchid	<i>Piperia leptopetala</i>	x		x	x
Michael's rein orchid	<i>Piperia michaelii</i>	x			x
Hickman's popcornflower	<i>Plagiobothrys chorisianus</i> var. <i>hickmanii</i>	x			x
hairless popcornflower	<i>Plagiobothrys glaber</i>	x		x	
Delta woolly-marbles	<i>Psilocarphus brevissimus</i> var. <i>multiflorus</i>	x			x
California alkali grass	<i>Puccinellia simplex</i>	x			x
chaparral ragwort	<i>Senecio aphanactis</i>	x		x	x
maple-leaved checkerbloom	<i>Sidalcea malachroides</i>	x	x		x
Long styled sand spurrey	<i>Spergularia macrotheca</i> var. <i>longistyla</i>	x	x		
Metcalf Canyon jewelflower	<i>Streptanthus albidus</i> ssp. <i>albidus</i>	x	x	x	x
most beautiful jewelflower	<i>Streptanthus albidus</i> ssp. <i>peramoenus</i>	x	x	x	x
slender-leaved pondweed	<i>Stuckenia filiformis</i> ssp. <i>alpina</i>	x		x	x
California seablite	<i>Suaeda californica</i>	x		x	
Santa cruz clover	<i>Trifolium buckwestiorum</i>	x	x		
saline clover	<i>Trifolium hydrophilum</i>	x	x		