Los Angeles County
Metropolitan Transportation Authority

Appendix D Biological Resources Impacts Report

GOLD LINE EASTSIDE TRANSIT CORRIDOR PHASE 2

Metro

Prepared for
Los Angeles Metropolitan
Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012

June 2022

Appendix D

Biological Resources Impacts Report

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Prepared for:
Los Angeles County Metropolitan Transportation Authority
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Acronyms

2020 RTP/SCS	Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy
BMP	Best Management Practice
BNSF	Burlington Northern Santa Fe
BRSA	Biological Resources Study Area
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
dbh	diameter at breast height
DSA	detailed study area
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
GSA	general study area
I	Interstate
IOS	Initial Operating Segment
IPaC	Information for Planning and Consultation
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LRT	light rail transit
LRTP	Long Range Transportation Plan
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority

MSE	mechanically stabilized earth
MSF	maintenance and storage facility
MUTCD	Manual of Uniform Traffic Control Devices
NOAA	National Oceanic and Atmospheric Administration
NWI	National Wetlands Inventory
OCS	overhead catenary system
OHWM	ordinary high water mark
Project	Eastside Transit Corridor Phase 2 Project
ROW	right-of-way
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SEA	Significant Ecological Areas
SR	State Route
U.S.	United States of America
TBM	tunnel boring machine
TPSS	traction power substation
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

This impacts report discusses the Eastside Transit Corridor Phase 2 Project (Project) setting in relation to biological resources. It describes existing conditions, current applicable regulatory setting, and potential impacts from operation and construction of the Build Alternatives and the No Project Alternative. This study was conducted in compliance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, California Code of Regulations Section 15000 et seq.

The Project would extend the Los Angeles County Metropolitan Transportation Authority (Metro) L (Gold) Line, a light rail transit (LRT) line, from its current terminus at the Atlantic Station in the unincorporated community of East Los Angeles to the city of Whittier. It would extend the existing Metro L (Gold) Line approximately 3.2 to 9.0 miles, depending on the Build Alternative.

The Project area of analysis includes a general study area (GSA) that is regional in scope and scale, and a detailed study area (DSA) that encompasses an approximately two-mile area from the Project alignment in eastern Los Angeles County. Additionally, specialized study areas were developed for certain environmental impact categories where the potential impacts would occur within an area that varies from the GSA or DSA. All specialized study areas are contained within the GSA. The biological resources specialized study area, known as the biological resources study area (BRSA), for each of the Build Alternatives is the area within a 500-foot buffer of the LRT guideway and includes the station and MSF footprints. The BRSA for each of the Build Alternatives is described further in Chapter 4.

A diverse mix of land uses are located within the GSA and DSA, including single- and multi-family residences, commercial and retail uses, industrial development, parks and recreational, health and medical uses, educational institutions, and vacant land. The Project would traverse densely populated, low-income, and heavily transit-dependent communities with major activity centers within the Gateway Cities subregion of Los Angeles County.

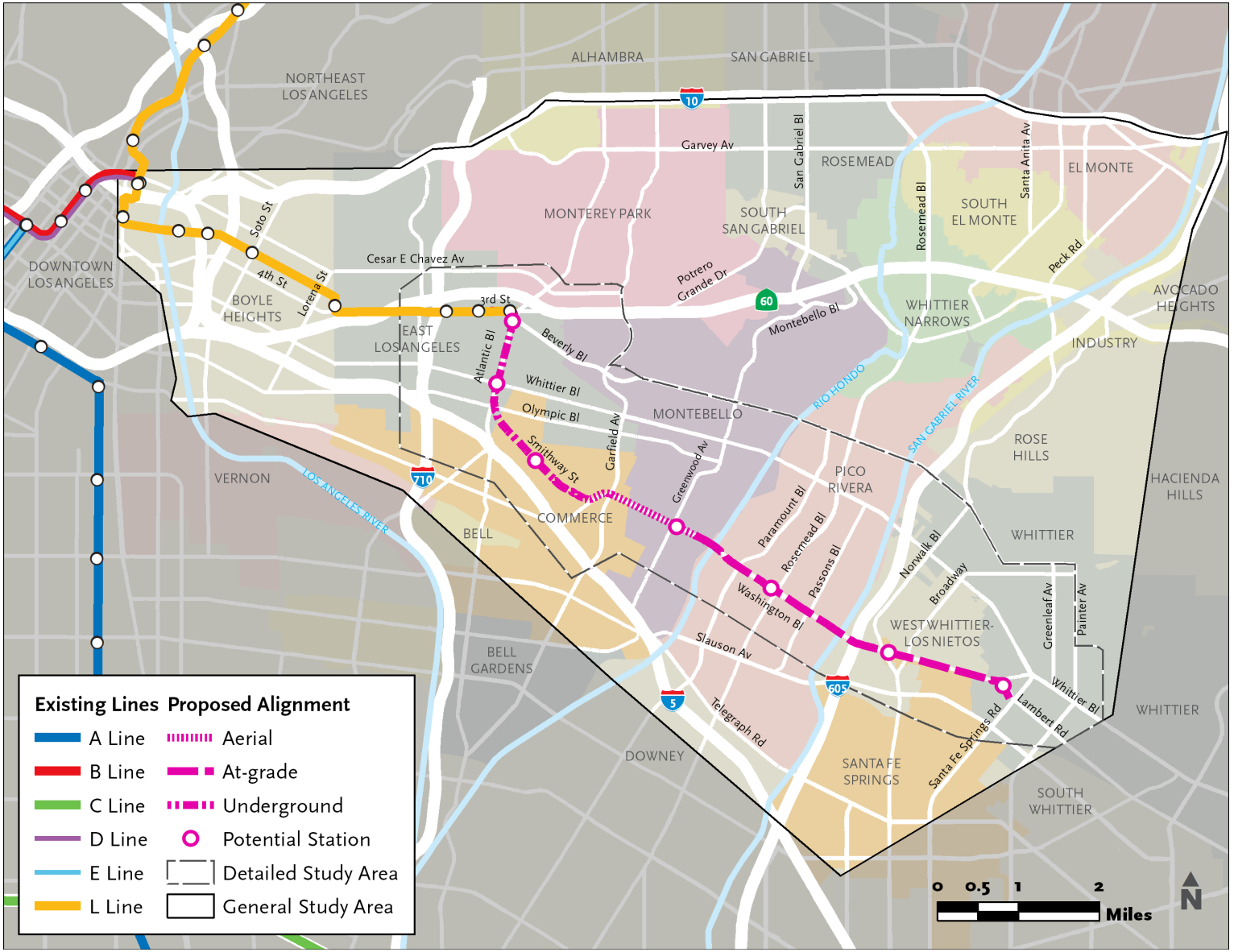
2.0 PROPOSED PROJECT AND ALTERNATIVES

2.1 Project Setting and Description

This impacts report evaluates potential environmental impacts of three Build Alternatives and a No Project Alternative. The Build Alternatives are: Alternative 1 Washington (Alternative 1), Alternative 2 Atlantic to Commerce/Citadel Initial Operating Segment (IOS) (Alternative 2), and Alternative 3 Atlantic to Greenwood IOS (Alternative 3).

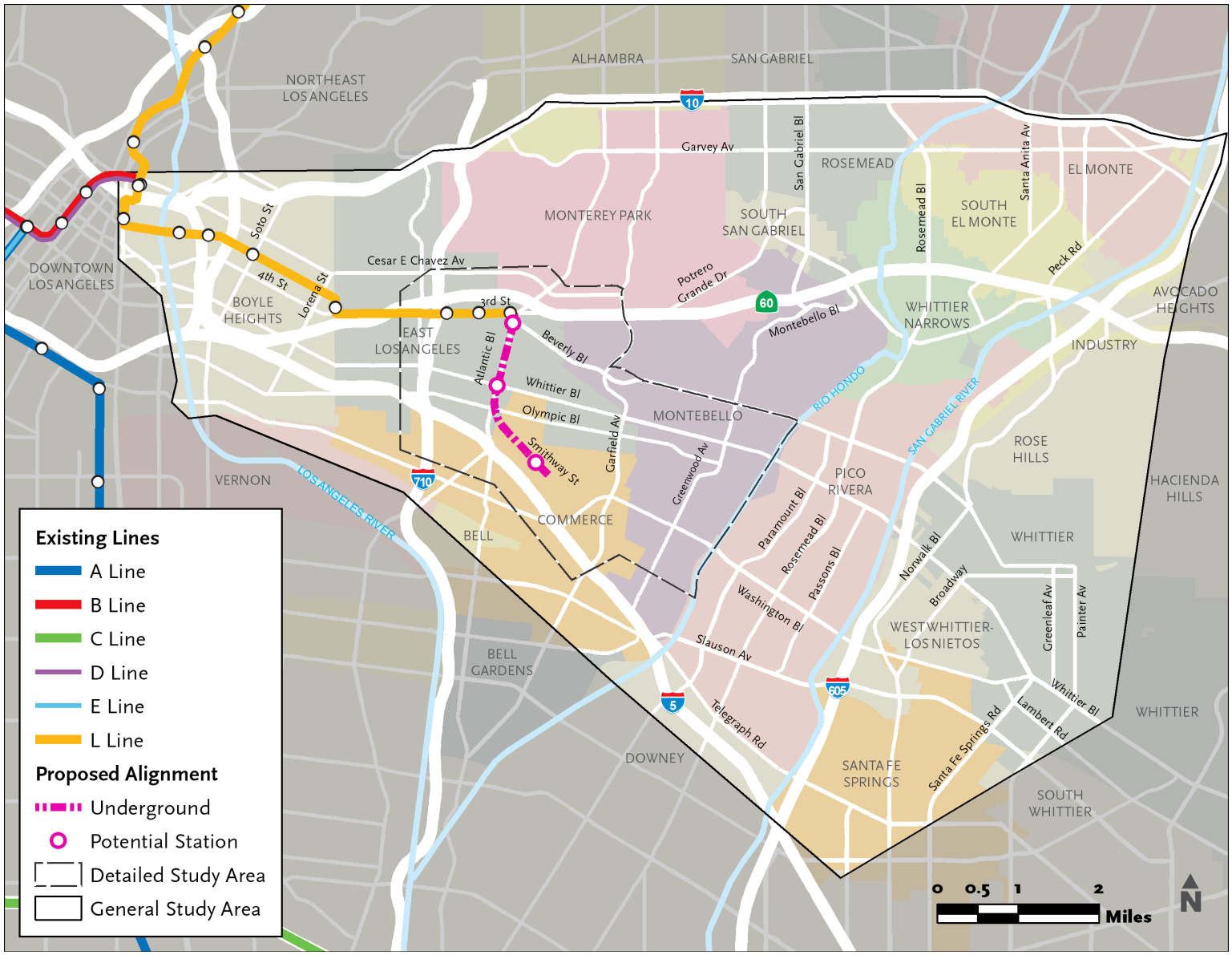
For purposes of describing the Project, two study areas have been defined. The GSA is regional in scope and scale, whereas the DSA encompasses an approximately two-mile area from the Project alignment's centerline. The GSA is the same for all three of the Build Alternatives. The purpose of the GSA is to establish the study area for environmental resources that are regional in scope and scale, such as regional transportation, including vehicle miles traveled (VMT) and regional travel demands, population, housing, or employment. The GSA consists of several jurisdictions within Los Angeles County including the cities of Bell, Commerce, El Monte, Industry, Los Angeles, Montebello, Monterey Park, Pico Rivera, Rosemead, South El Monte, Santa Fe Springs, Whittier, unincorporated areas of Los Angeles County, which includes East Los Angeles and West Whittier-Los Nietos, and other cities within the San Gabriel Valley. It is generally bounded by Interstate (I) 10 to the north, Peck Road in South El Monte and Lambert Road in Whittier to the east, I-5 and Washington Boulevard to the south, and I-710 to the west. **Figure 2.1**, **Figure 2.2**, and **Figure 2.3** present the boundaries of the GSA for each of the three Build Alternatives.

The DSA establishes a study area to evaluate environmental resources that are more sensitive to the physical location of the Build Alternatives. The DSA for Alternative 1 Washington generally includes the area within a half-mile to two-mile distance from the guideway centerline, as shown in **Figure 2.1**. It encompasses five cities, Commerce, Montebello, Pico Rivera, Santa Fe Springs, and Whittier, and communities of unincorporated East Los Angeles and Whittier-Los Nietos. The DSA for Alternative 2 Atlantic to Commerce/Citadel IOS and Alternative 3 Atlantic to Greenwood IOS, does not extend as far to the east. As shown in **Figure 2.2** and **Figure 2.3** for Alternative 2 and Alternative 3 respectively, the DSA extends to the Rio Hondo and includes Commerce, Montebello, and unincorporated East Los Angeles.



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 2.1. Alternative 1 Washington GSA and DSA



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 2.2. Alternative 2 Atlantic to Commerce/Citadel IOS GSA and DSA

Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 2.3. Alternative 3 Atlantic to Greenwood IOS GSA and DSA

2.2 Build Alternatives

This impacts report evaluates the potential environmental impacts of three Build Alternatives which have the same guideway alignment east of the existing terminus at Atlantic Station but vary in length. Alternative 1 has the longest alignment at approximately 9.0 miles with seven stations (one relocated/reconfigured and six new), two maintenance and storage facility (MSF) site options and would terminate at Lambert station on Lambert Road in the city of Whittier. Alternative 2 is approximately 3.2 miles in length with three stations, one MSF site option, and would terminate at the Commerce/Citadel station in the city of Commerce, with non-revenue lead tracks extending further into the city of Commerce to connect to the Commerce MSF site option. Alternative 3 is approximately 4.6 miles in length with four stations, two MSF site options, and would terminate at Greenwood station in the city of Montebello.

There are also design options under consideration for each of the three Build Alternatives that consist of a variation in the design of the relocated/reconfigured Atlantic Station (applicable to Alternatives 1, 2, and 3) and a variation in the station and alignment profile in Montebello (applicable to Alternatives 1 and 3). Construction and operation of one or both design options are considered and evaluated for Alternative 1 and Alternative 3.

To differentiate the impacts evaluation of a Build Alternative with or without the design option(s) incorporated, a Build Alternative without the design option(s) is referred to as the "base Alternative" (i.e., base Alternative 1). A Build Alternative with a design option incorporated is referred to by using the design option name (e.g., Alternative 1 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option). The three Build Alternatives and the design options are described in greater detail below

2.2.1 Alternative 1 Washington

Alternative 1 would extend the Metro L (Gold) Line LRT approximately 9.0 miles east from the current at-grade station at Atlantic Boulevard to an at-grade terminus at Washington Boulevard/Lambert Road in the city of Whittier. This alternative would include a relocated/reconfigured Atlantic station in an underground configuration and six new stations: Atlantic/Whittier (underground), Commerce/Citadel (underground), Greenwood (aerial), Rosemead (at-grade), Norwalk (at-grade), and Lambert (at-grade). The base Alternative 1 alignment would transition from the existing at-grade alignment to an underground configuration and would transition to an aerial configuration in the city of Commerce before transitioning to at-grade at Montebello Boulevard. The alignment includes approximately 3.0 miles of tunnel, 1.5 miles of aerial, and 4.5 miles of at-grade alignment.

The Alternative 1 alignment crosses the Rio Hondo and San Gabriel River and the Rio Hondo Spreading Grounds. The existing San Gabriel River and Rio Hondo bridges would be replaced with new bridges designed to carry both the LRT facility and the four-lane roadway.

An MSF and other ancillary facilities would also be constructed as part of the Project, including overhead catenary system (OCS), cross passages, ventilation structures, traction power substation (TPSS) sites, crossovers, emergency generators, radio tower poles and equipment shelters, and other supporting facilities along the alignment.

Two design options for Alternative 1 are described below.

2.2.1.1 Guideway Alignment

Under Alternative 1, the guideway would begin at the eastern end of the existing East Los Angeles Civic Center Station, transitioning from at-grade to underground at the intersection of South La Verne Avenue and East 3rd Street. The guideway would turn south and run beneath Atlantic Boulevard to approximately Verona Street and Olympic Boulevard. The underground guideway would then curve southeast, running under Smithway Street near the Citadel Outlets in the city of Commerce. After crossing Saybrook Avenue, the guideway would daylight from underground to an aerial configuration. Depending on the MSF site option that is selected, the aerial guideway would continue parallel to Washington Boulevard, east of Garfield Avenue, and merge into the center median of Washington Boulevard (Commerce MSF site option) or merge into the center median of Washington Boulevard at Gayhart Street (Montebello MSF site option). The alignment would maintain an aerial configuration then transition to an at-grade configuration east of Carob Way and would remain at-grade in the center of Washington Boulevard. The at-grade alignment would terminate at Lambert station in the city of Whittier.

2.2.1.1.1 Design Options

The following design options are being considered for Alternative 1:

Atlantic/Pomona Station Option – The Atlantic/Pomona Station Option would relocate the existing Atlantic Station to a shallow open air underground station with two side platforms and a canopy (**Figure 2.4**). This station design option would be located beneath the existing triangular parcel bounded by Atlantic Boulevard, Pomona Boulevard, and Beverly Boulevard. The excavation depth of the station invert would be approximately 20 to 25 feet from the existing ground elevation.

This option would also impact the guideway alignment and location of the tunnel boring machine (TBM) extraction pit. The underground guideway would be located east of Atlantic Boulevard and require full property acquisitions at its footprint between Beverly Boulevard and 4th Street. The alignment would connect with the base Alternative 2 alignment just north of the proposed Atlantic/Whittier station. The TBM extraction pit would be east of Atlantic Boulevard between Repetto Street and 4th Street. Limits for the excavation would occur between the TBM extraction pit and the intersection of Pomona Boulevard and Beverly Boulevard.

Montebello At-Grade Option – This design option consists of approximately one mile of at-grade guideway along Washington Boulevard between Yates Avenue and Carob Way in the city of Montebello. In this design option, after crossing Saybrook Avenue, the LRT guideway would daylight from underground to an aerial configuration to avoid disrupting existing Burlington Northern Santa Fe (BNSF) Railway tracks. The aerial guideway would continue parallel to Washington Boulevard, then merge into the center median east of Garfield Avenue. At Yates Avenue, the guideway would transition from aerial to an at-grade configuration and remain at-grade until terminating near Lambert Road in the city of Whittier. This design option includes an at-grade Greenwood station located west of Greenwood Avenue. The lead tracks to the MSF site option would also be at-grade. Alternative 1 with the Montebello At-Grade Option would have approximately 3.0 miles of underground, 0.5 miles of aerial, and 5.5 miles of at-grade alignment.

Source: Metro; ACE Team, January 2022.

Figure 2.4. Atlantic/Pomona Station Option

2.2.2 Alternative 2 Atlantic to Commerce/Citadel IOS

Alternative 2 would extend the Metro L (Gold) Line approximately 3.2 miles from the current terminus at Atlantic Boulevard to an underground terminal station at the Commerce/Citadel station in the city of Commerce with lead tracks connecting to the Commerce MSF site option. Alternative 2 would include a relocated/reconfigured Atlantic station and two new stations: Atlantic/Whittier (underground), and Commerce/Citadel (underground). The base Alternative 2 alignment includes approximately 3.0 miles of underground, 0.1 miles of aerial, and 0.1 miles of at-grade alignment.

An MSF and other ancillary facilities would also be constructed as part of the Project, including OCS, tracks, cross passages, ventilation structures, TPSSs, track crossovers, emergency generators, radio tower poles and equipment shelters, and other facilities along the alignment.

2.2.2.1 Guideway Alignment

Under Alternative 2, the guideway would follow the same alignment as under Alternative 1. The guideway would begin at the eastern end of the existing East Los Angeles Civic Center Station, transitioning from at-grade to underground at the intersection of South La Verne Avenue and East 3rd Street. The guideway would turn south and run beneath Atlantic Boulevard to approximately Verona Street and Olympic Boulevard. The underground guideway would then curve southeast, running under Smithway Street near the Citadel Outlets in the city of Commerce. The alignment would terminate at the Commerce/Citadel station with non-revenue lead tracks connecting to the Commerce MSF site option.

2.2.2.1.1 Design Option

One design option, the Atlantic/Pomona Station Option described in **Section 2.2.1.1.1** and shown on **Figure 2.4** is being considered for Alternative 2.

2.2.3 Alternative 3 Atlantic to Greenwood IOS

Alternative 3 would extend the Metro L (Gold) Line approximately 4.6 miles east from the current terminus at Atlantic Boulevard to an aerial terminal station at the Greenwood station in the city of Montebello. This alternative would include a relocated/reconfigured Atlantic station and three new stations: Atlantic/Whittier (underground), Commerce/Citadel (underground), and Greenwood (aerial). The base Alternative 3 alignment includes approximately 3.0 miles of underground, 1.5 miles of aerial, and 0.1 miles of at-grade alignment.

An MSF and other ancillary facilities would also be constructed as part of the Project, including OCS, tracks, cross passages, ventilation structures, TPSSs, track crossovers, emergency generators, radio tower poles and equipment shelters, and other facilities along the alignment.

Two design options for Alternative 3 are described below.

2.2.3.1 Guideway Alignment

Under Alternative 3, the guideway would follow the same alignment as under Alternative 1. The guideway would begin at the eastern end of the existing East Los Angeles Civic Center Station, transitioning from at-grade to underground at the intersection of South La Verne Avenue and East 3rd Street. The guideway would then turn south and run beneath Atlantic Boulevard to approximately Verona Street and Olympic Boulevard. The underground guideway would then curve southeast, running under Smithway Street near the Citadel Outlets in the city of Commerce. After crossing Saybrook Avenue, the guideway would daylight from underground to an aerial configuration. Depending on the MSF site option that is selected, the aerial guideway would continue parallel to Washington Boulevard, east of Garfield Avenue, and merge into the center median of Washington Boulevard (Commerce MSF site option) or merge into the center media of Washington Boulevard at Gayhart Street (Montebello MSF site option). The aerial guideway would terminate at the Greenwood station in the city of Montebello.

2.2.3.1.1 Design Option

Two design options described in **Section 2.2.1.1.1**, the Atlantic/Pomona Station Option and the Montebello At-Grade Option are being considered for Alternative 3. Alternative 3 with the Montebello At-Grade Option would have approximately 3.0 miles of underground, 0.5 miles of aerial, and 1.1 miles of at-grade alignment.

2.3 Maintenance and Storage Facilities

The Project has two MSF site options: the Commerce MSF site option and the Montebello MSF site option. One MSF site option would be constructed. The MSF would provide equipment and facilities to clean, maintain, and repair rail cars, vehicles, tracks, and other components of the system. The MSF would enable storage of light rail vehicles (LRVs) that are not in service and would connect to the mainline with one lead track. The MSF would also provide office space for Metro rail operation staff, administrative staff, and communications support staff. The MSF would be the primary physical employment centers for rail operation employees, including train operators, maintenance workers, supervisors, administrative, security personnel and other roles.

The Commerce MSF site option is located in the city of Commerce, and the Montebello MSF site option is located in the city of Montebello. The Commerce MSF site option is located where it could support any of the three Build Alternatives. The Montebello MSF site option is located where it could support either Alternative 1 or Alternative 3.

2.3.1 Commerce MSF

The Commerce MSF site option is located in the city of Commerce, west of Washington Boulevard and north of Gayhart Street. The site is approximately 24 acres and is bounded by Davie Avenue to the east, Fleet Street to the north, Saybrook Avenue to the west, and an unnamed street to the south. Additional acreage would be needed to accommodate the lead track and construction staging. As shown in a dashed line on **Figure 2.5**, the guideway alignment with the Commerce MSF site option would daylight from an underground to aerial configuration west of the intersection of Gayhart Street

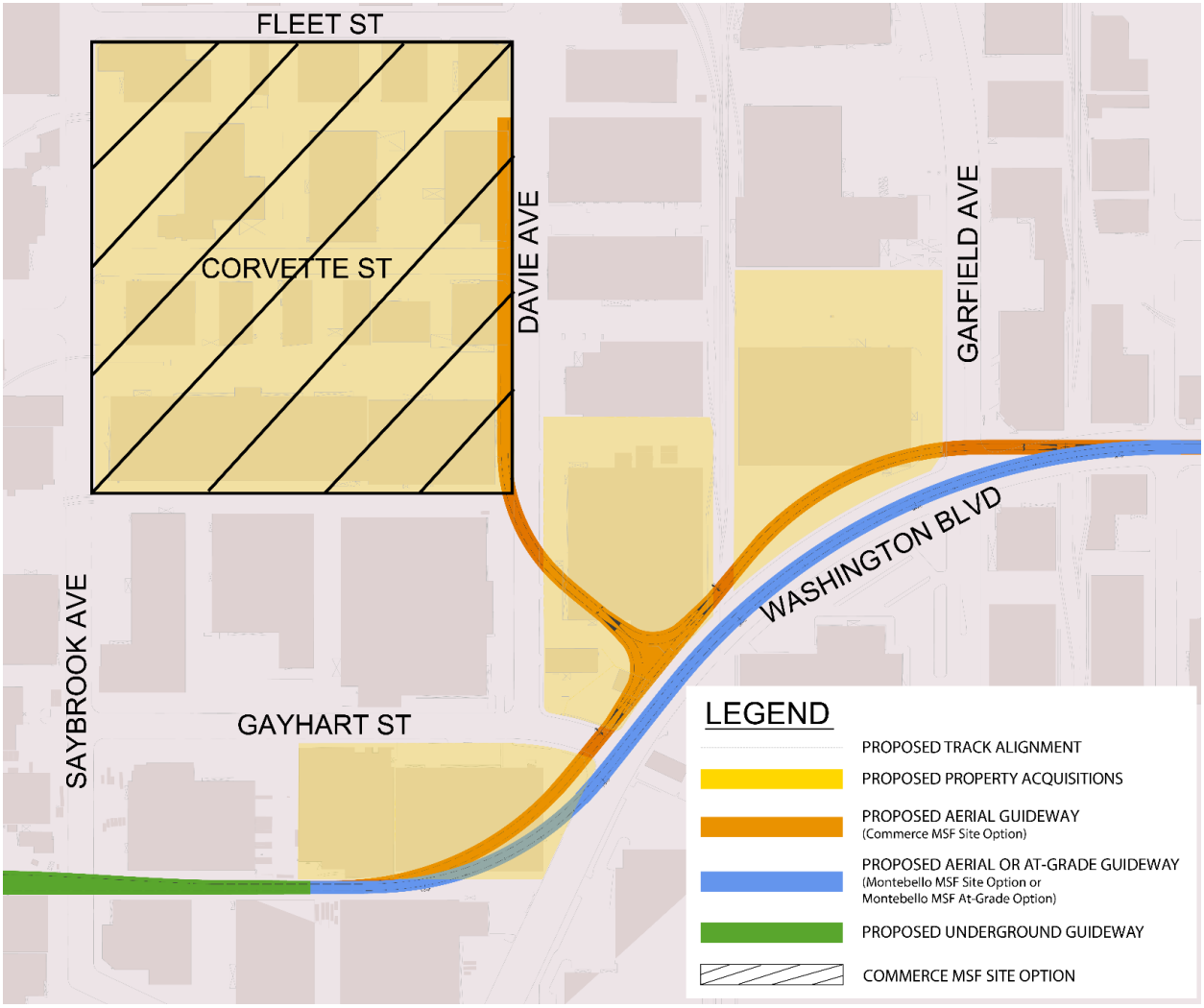
and Washington Boulevard and would run parallel to Washington Boulevard from Gayhart Street to Yates Avenue. The lead tracks to the Commerce MSF site option would be located northeast of the intersection of Gayhart Street and Washington Boulevard and extend in an aerial configuration and then would transition to at-grade within the MSF after crossing Davie Avenue. To construct and operate the Commerce MSF site option, Corvette Street would be permanently closed between Saybrook Avenue and Davie Avenue. Corvette Street is an undivided two-lane road and is functionally classified as a local street under the California Road System. The facility would accommodate storage for approximately 100 LRVs.

2.3.2 Montebello MSF

The Montebello MSF site option is located in the city of Montebello, north of Washington Boulevard and south of Flotilla Street between Yates Avenue and S. Vail Avenue. The site is approximately 30 acres in size and is bounded by S. Vail Avenue to the east, a warehouse structure along the south side of Flotilla Street to the north, Yates Avenue to the west, and a warehouse rail line to the south. Additional acreage would be needed to accommodate the lead track and construction staging. As shown on in a solid line on **Figure 2.5**, as with the Commerce MSF site option, the guideway alignment with the Montebello MSF site option would daylight from an underground to an aerial configuration west of intersection of Gayhart Street and Washington Boulevard. The alignment would be located further east than the alignment with the Commerce MSF site option. The aerial guideway for the Montebello MSF site option would transition to the median of Washington Boulevard at Gayhart Street. Columns that would provide structural support for the aerial guideway would be installed in the median of Washington Boulevard and would require roadway reconfiguration and striping on Washington Boulevard.

The lead tracks would be in an aerial configuration from Washington Boulevard, parallel S. Vail Avenue, and then transition to at-grade as it approaches the MSF. The facility would accommodate storage for approximately 120 LRVs.

The Montebello MSF At-Grade Option includes an at-grade configuration for the lead tracks to the Montebello MSF. This design option would be necessary if the Montebello At-Grade Option is selected under Alternative 1 or Alternative 3. In this design option, the lead tracks would be in an at-grade configuration from Washington Boulevard, paralleling S. Vail Avenue and remain at-grade to connect to the Montebello MSF site option. For this design option, through access on Acco Street to Vail Avenue would be eliminated and cul-de-sacs would be provided on each side of the lead tracks to ensure that access to businesses in this area is maintained. Acco Street is an undivided two-lane road and is functionally classified as a local street under the California Road System.



Source: Metro; ACE Team, January 2022.

Figure 2.5. Montebello MSF S-Curve Alignment

2.4 Ancillary Facilities

The Build Alternatives would require a number of additional elements to support vehicle operations, including but not limited to the OCS, tracks, crossovers, cross passages, ventilation structures, TPSS, train control houses, electric power switches and auxiliary power rooms, communications rooms, radio tower poles and equipment shelters, and an MSF. Alternatives 1, 2, and 3 would have an underground alignment of approximately 3 miles in length between La Verne and Saybrook Avenue. Per Metro's Fire Life Safety Criteria, ventilation shafts and emergency fire exits would be installed along the tunnel portion of the alignment. These would be located at the underground stations or public right-of-way (ROW). The alignment for Alternative 1 and Alternative 3 would travel along the median of the roadway for most of the route. The precise location of ancillary facilities would be determined in a subsequent design phase.

2.5 Proposed Stations

The following stations would be constructed under Alternative 1:

- Atlantic (Relocated/Reconfigured) – The existing Atlantic Station would be relocated and reconfigured to an underground center platform station located beneath Atlantic Boulevard south of Beverly Boulevard in East Los Angeles. The existing parking structure located north of the 3rd Street and Atlantic Boulevard intersection would continue to serve this station.
    - Atlantic Pomona Station Option – The Atlantic/Pomona Station Option would relocate the existing Atlantic Station to a shallow underground open-air station with two side platforms and a canopy. This station design option would be located beneath the existing triangular parcel bounded by Atlantic Boulevard, Pomona Boulevard, and Beverly Boulevard. The existing parking structure located north of the 3rd Street and Atlantic Boulevard intersection would continue to serve this station.
- Atlantic/Whittier – This station would be underground with a center platform located beneath the intersection of Atlantic and Whittier Boulevards in East Los Angeles. Parking would not be provided at this station.
- Commerce/Citadel – This station would be underground with a center platform located beneath Smithway Street near the Citadel Outlets in the city of Commerce. Parking would not be provided at this station.
- Greenwood – This station would be aerial with a side platform located in the median of Washington Boulevard east of Greenwood Avenue in the city of Montebello. This station would provide a surface parking facility near the intersection of Greenwood Avenue and Washington Boulevard.
    - Under the Montebello At-Grade Option, Greenwood station would be an at-grade station located west of the intersection at Greenwood and Washington Boulevard.
- Rosemead – This station would be at-grade with a center platform located in the center of Washington Boulevard west of Rosemead Boulevard in the city of Pico Rivera. This station would provide a surface parking facility near the intersection of Rosemead and Washington Boulevards.
- Norwalk – This station would be at-grade with a center platform located in the median of Washington Boulevard east of Norwalk Boulevard in the city of Santa Fe Springs. This station would provide a surface parking facility near the intersection of Norwalk and Washington Boulevards.
- Lambert – This station would be at-grade with a center platform located south of Washington Boulevard just west of Lambert Road in the city of Whittier. This station would provide a surface parking facility near the intersection of Lambert Road and Washington Boulevard.

Alternative 2 would include Atlantic (Relocated/Reconfigured), Atlantic/Whittier, and Commerce/Citadel stations as described above.

Alternative 3 would include Atlantic (Relocated/Reconfigured), Atlantic/Whittier, Commerce/Citadel, and Greenwood stations as described above.

Station amenities would include items in the Metro Systemwide Station Standards Policy (Metro 2018) such as station pin signs, security cameras, bus shelters, benches, emergency/information telephones, stairs, map cases, fare collection, pedestrian and street lighting, hand railing, station landscaping, trash receptacles, bike racks and lockers, emergency generators, power boxes, fire hydrants, and artwork. Escalators and elevators would be located in aerial and underground stations. Station entry portals would be implemented at underground stations. Station access would be ADA-compliant and also have bicycle and pedestrian connections. Details regarding most of these items, including station area planning and urban design, would be determined at a later phase.

2.6 Description of Construction

Construction of the Project would include a combination of elements dependent upon the locally preferred alternative. The major construction activities include guideway construction (at-grade, aerial, underground); decking and tunnel boring for the underground guideway; station construction; demolition; utility relocation and installation work; street improvements including sidewalk reconstruction and traffic signal installation; retaining walls; LRT operating systems installation including TPSS and OCS; parking facilities; an MSF; and construction of other ancillary facilities. Alternative 1 would include construction of bridge replacements over the San Gabriel and Rio Hondo Rivers.

In addition to adhering to regulatory compliance, the development of the Project would employ conventional construction methods, techniques, and equipment. All work for development of the LRT system would conform to accepted industry specifications and standards, including Best Management Practices (BMP). Project engineering and construction would, at minimum, be completed in conformance with the regulations, guidelines, and criteria, including, but not limited to, Metro Rail Design Criteria (MRDC) (Metro 2018), California Building Code, Metro Operating Rules, and Metro Sustainability Principles.

The construction of the Project is expected to last approximately 60 to 84 months. Construction activities would shift along the corridor so that overall construction activities should be relatively short in duration at any one point. Most construction activities would occur during daytime hours. For specialized construction tasks, it may be necessary to work during nighttime hours to minimize traffic disruptions. Traffic control and pedestrian control during construction would follow local jurisdiction guidelines and the Manual of Uniform Traffic Control Devices (MUTCD) standards. Typical roadway construction traffic control methods and devices would be followed including the use of signage, roadway markings, flagging, and barricades to regulate, warn, or guide road users. Properties adjacent to the Project's alignment would be used for construction staging. The laydown and storage areas for construction equipment and materials would be established in the vicinity of the Project within parking facilities, and/or on parcels that would be acquired for the proposed stations and MSF site options. Construction staging areas would be used to store building materials, construction equipment, assemble the TBM, temporary storage of excavated materials, and serve as temporary field offices for the contractor.

2.7 Description of Operations

The operating hours and schedules for Alternatives 1, 2, and 3 would be comparable to the weekday, Saturday and Sunday, and holiday schedules for the Metro L (Gold) Line (effective 2019). It is anticipated that trains would operate every day from 4:00 am to 1:30 am. On weekdays, trains would operate approximately every 5 to 10 minutes during peak hours, every 10 minutes mid-day and until 8:00 pm, and every 15 minutes in the early morning and after 8:00 pm. On weekends, trains would operate every 10 minutes from 9:00 am to 6:30 pm, every 15 minutes from 7:00 am to 9:00 am and from 6:30 pm to 7:30 pm, and every 20 minutes before 7:00 am and after 7:30 pm. These operational headways are consistent with Metro design requirements for future rail services.

2.8 No Project Alternative

The No Project Alternative establishes impacts that would reasonably be expected to occur in the foreseeable future if the Project were not approved. The No Project Alternative would maintain existing transit service through the year 2042. No new transportation infrastructure would be built within the GSA aside from projects currently under construction or funded for construction and operation by 2042 via the 2008 Measure R or 2016 Measure M sales taxes. The No Project Alternative would include highway and transit projects identified for funding in Metro's 2020 Long Range Transportation Plan (LRTP) and Southern California Association of Governments (SCAG) *Connect SoCal 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy* (2020 RTP/SCS). The No Project Alternative includes existing projects from the regional base year (2019) and planned regional projects in operation in the horizon year (2042).

3.0 REGULATORY FRAMEWORK

3.1 Federal

3.1.1 Endangered Species Act

The federal Endangered Species Act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. As a state-chartered special jurisdictional, non-federal government agency, Metro is responsible for evaluating potential effects on listed species and designated critical habitat under Section 10 of the Endangered Species Act. The United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA) are responsible for administration of the Endangered Species Act.

3.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) decrees that all migratory birds and their parts (including eggs, nests, and feathers) are fully protected. Nearly all native North American bird species are protected by the MBTA. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Projects that are likely to result in the taking of birds protected under the MBTA would require the issuance of take permits from the USFWS. Activities that would require such a permit include destruction of migratory bird nesting habitat during the nesting season when eggs or young are likely to be present. Under the MBTA, surveys are required to determine if nests will be disturbed and if so, a buffer area with a specified radius around the nest would be established so that no disturbance or intrusion would be allowed until the young had fledged and left the nest. If not otherwise specified in the permit, the size of the buffer area would vary depending on species and local conditions (e.g., presence of busy roads), and would be based on the professional judgment of a monitoring biologist.

3.1.3 Clean Water Act

Section 404 of the Clean Water Act (CWA) authorizes the United States Army Corps of Engineers (USACE) to issue permits for the discharge of dredged or fill material into waters of the United States of America (U.S.), including wetlands (33 USC 1344). The United States Environmental Protection Agency guidelines (40 CFR 230 et seq.) and USACE regulatory guidelines (33 CFR 320 et seq.) are the substantive environmental criteria used to evaluate permit applications submitted to USACE. The USACE evaluation of proposed impacts on waters of the U.S. includes an analysis of practicable alternatives and the effects of the proposed action on the physical, chemical, biological, and human use characteristics of a site, which are the primary screening mechanisms used to determine the appropriateness of permitting a discharge. Section 404(b)(1) guidelines prohibit discharges of dredged or fill material into waters of the U.S., including wetlands, if a practicable alternative to the proposed discharge exists that would have less adverse impacts on the aquatic ecosystem (provided that the alternative does not cause other significant adverse environmental impacts) (40 CFR 230[a]).

In the event that a proposed alternative requires permitting under the CWA Section 404, a Water Quality Certification is required under CWA Section 401. In California, the State Water Resources Control Board and Regional Water Quality Control Boards are responsible for reviewing proposed projects and issuing Water Quality Certifications. The Project falls within the Los Angeles Regional Water Quality Control Board jurisdiction. CWA permitting is discussed in more detail in the Eastside Transit Corridor Phase 2 Hydrology and Water Quality Impacts Report.

3.2 State

3.2.1 California Endangered Species Act

The California Department of Fish and Wildlife (CDFW) is responsible for administration of the California Endangered Species Act. Unlike the federal Endangered Species Act, there are no state agency consultation procedures under the California Endangered Species Act. For projects that affect a species that is both state and federally listed, compliance with the federal Endangered Species Act will satisfy the California Endangered Species Act if CDFW determines that the federal incidental take authorization is "consistent" with the California Endangered Species Act. Projects that result in a take of a state-only listed species require a take permit under the California Endangered Species Act. The state act also lends protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration, particularly with regard to protection of isolated populations, nesting or den locations, communal roosts, and other essential habitat.

3.2.2 California Fish and Game Code Sections 3500 - 3705, Migratory Bird Protection

Sections 3500 through 3705 of the California Fish and Game Code regulate the taking of migratory birds and their nests. These codes prohibit the taking of nesting birds, their nests, eggs, or any portion thereof during the nesting season. In southern California, some bird species can nest throughout the year. However, the typical breeding/nesting season is from February 15 through August 15. Depending on each year's seasonal factors, the breeding season can start earlier and/or end later.

3.2.3 California Fish and Game Code Section 1600, Streambed Alterations

Section 1600 et seq. of the California Fish and Game Code, as administered by CDFW, mandates that "it is unlawful for any person to substantively 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, without first notifying the department of such activity." Proposed streambed alterations must be permitted by CDFW through a Streambed Alteration Agreement. CDFW defines streambeds as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life" and lakes as "natural lakes and man-made reservoirs." CDFW jurisdiction includes ephemeral, intermittent, and perennial

watercourses and can extend to habitats adjacent to watercourses. Wetlands near watercourses would also be considered "habitats adjacent to watercourses."

3.2.4 California Fish and Game Code Section 4150

Section 4150 et seq. of the California Fish and Game Code, as administered by CDFW, prohibits the "take" of nongame mammals, including common bats, stating that a "mammal occurring naturally in California that is not a game mammal, fully protected mammal, or fur-bearing mammal is a nongame mammal. A nongame mammal may not be taken or possessed except as provided in this code or in accordance with regulations adopted by the commission." In addition, bats can often form maternity colonies large enough to be considered significant local breeding populations under CEQA.

3.3 Local

3.3.1 Los Angeles County Significant Ecological Areas Program and Ordinance

Los Angeles County designates areas within the county that contain irreplaceable biological resources as Significant Ecological Areas (SEAs). Los Angeles County's SEA ordinance establishes regulations to conserve biological and physical diversity of natural communities found within SEAs by requiring development to avoid and minimize impacts on SEA resources (Los Angeles County 2019c).

The Los Angeles County 2035 General Plan identifies SEAs containing irreplaceable biological resources and sets forth the goal of conserving these areas (Los Angeles County 2019a). Although development within a SEA is not prohibited, the Los Angeles County 2035 General Plan and SEA Ordinance requires development to be limited and controlled in order to avoid impacting valuable biological resources (Los Angeles County 2019c).

3.3.2 Tree Protection Policies and Municipal Codes

Los Angeles County and the cities within the Build Alternative BRSAs have local regulations pertaining to the protection of native or locally important trees and/or street trees in public areas. These regulations include the relevant general plan policies, ordinances, and municipal codes of Los Angeles County, and the cities of Commerce, Montebello, Pico Rivera, Santa Fe Springs, and Whittier, which are discussed below. All the various general plan policies and municipal codes are very similar; generally, they all require the protection of street trees and have a permit or review process to evaluate proposed impacts on street trees. Most of the municipalities do not have specific replacement requirements and mitigation is developed on a case-by-case basis within each jurisdiction.

3.3.2.1 East Los Angeles and Unincorporated Los Angeles County

Unincorporated East Los Angeles is governed by Los Angeles County. As such, the goals and policies of the Los Angeles County 2035 General Plan for preservation of SEAs apply to this area. In addition, the East Los Angeles Community Plan establishes the goal of ensuring that hillside development is compatible with the surrounding natural environment and minimizes the amount of land alteration (Los Angeles County 1988).

The Los Angeles County Municipal Code Section 22.46.2100 recognizes oak trees as significant historical, aesthetic, and ecological resources (Los Angeles County 2013). The ordinance requires development projects to obtain an oak tree permit in order to preserve and maintain healthy oak trees in the community. Any oak over 8 inches in diameter at breast height (dbh), or 12 inches dbh combined for multiple trunks, may not be damaged, removed, or encroached upon (within 5 feet of the drip line or 15 feet from the trunk) without an oak tree permit. Oak trees must be protected during and after development by installation of a 4-foot-high chain link fence around the protected zone of trees that is in place prior to development activities.

Permit applications must include a site plan with landscaping, irrigation, construction, excavation, grading, and/or landfills specified along with the location of all oak trees to be removed within 200 feet of proposed construction, grading, landfill, or other activity. The applicant may be required to replace oaks removed with 15-gallon minimum size indigenous oak trees in a ratio of 2:1. Replacement trees must be maintained for two years and replaced if mortality occurs. When replacement or relocation of oak trees on the Project site is inappropriate, the applicant may be required to pay into the oak forests special fund to plant new trees on public lands, maintain oaks on public lands, purchase prime oak woodlands, or purchase oaks of cultural significance.

Los Angeles County municipal code Chapter 16.76 requires a permit to trim, prune, cut, break, deface, destroy, burn, or remove any shade or ornamental tree, hedge, plant, shrub, or flower growing on any public highway, public ground, or public property within the Los Angeles County. The permit is issued either by the Department of Parks and Recreation for public property or public grounds, or by the Department of Public Works, Road Maintenance Division for public highways. The permit requires replacement of any removed tree with another tree of a type and quality to be determined by either the Director of Parks and Recreation or the Assistant Deputy Director of the Road Maintenance Division of the Department of Public Works (Los Angeles County 1983).

Additionally, Los Angeles County Municipal Section 22.44.1240 provides vegetation management and landscaping requirements for new development and associated fuel modification. Requirements include, but are not limited to, developing landscaping management plans, restricting vegetation clearing, removing invasive plant species, and using drip irrigation systems (Los Angeles County 2019b).

3.3.2.2 Commerce

The city of Commerce 2020 General Plan (City of Commerce 2008) includes Resource Management Policy 4.3 regarding street trees that states:

The city of Commerce will implement a definitive street tree program that, at a minimum, calls for landscaping along major rights-of-way and within industrial and commercial developments.

The Commerce Municipal Code, Chapter 12.06, sets forth the requirements for protection and maintenance of street trees (City of Commerce 2020). Planting, trimming, or removal of any tree within or upon any public street or ROW requires approval from the Director of the Public Services Department. There are no special protections or requirements regarding native tree species. Chapter 19.23 provides landscaping standards for all new construction, expansion, renovation, conversion, and alteration of existing uses or structures in all zone districts and land uses including requirements for planting and maintaining trees and other vegetation (City of Commerce 2000).

3.3.2.3 Montebello

The *Montebello General Plan* Open Space Element (City of Montebello 1973) recognizes the importance of open space areas within the city as habitat for wildlife and for groundwater recharge. The Rio Hondo Spreading Grounds west of the Rio Hondo are primarily within Montebello's city limits. The general plan identifies the Rio Hondo and its spreading grounds as ecologically important open spaces and sets forth policies requiring the protection of these resources. The Montebello Conservation Element (City of Montebello 1975) seeks to preserve and protect natural and environmental resources, such as the outstanding and unique plant life in the community and habitats for desirable birds and mammals.

Montebello Municipal Code, Chapter 12.08, sets forth the requirements of the Street Tree Division of the city of Montebello regarding street trees and prohibits the planting, trimming, or removal of any tree within public areas without approval of the superintendent (City of Montebello 2012). There are no special protections or requirements regarding native tree species. Replacement of trees removed during construction may be required. Chapter 17 provides landscaping standards for development in various land use zones, including planting and maintaining trees and other vegetation (City of Montebello No Date).

3.3.2.4 Pico Rivera

The *Pico Rivera General Plan* (City of Pico Rivera 2014) recognizes that biological resources within the city are generally limited, stating: "The Whittier Narrows Recreation Area effectively isolates the city from the significant wildlife habitat areas on the dam's upstream side. This location and the disturbed condition of the vegetation in Pico Rivera combine to minimize the amount of wildlife in the city."

However, the plan still aims to preserve the city's open space and biological resources and recognizes that there are many species of plants and animals found just north of the city and in the two riverbeds that surround the city. The majority of the Rio Hondo Spreading Grounds east of the Rio Hondo and the entirety of the San Gabriel Spreading Grounds are within Pico Rivera's city limits. It will be important to consider any impacts new development may have on these natural habitats. The General Plan Environmental Resources Element includes the following applicable policies:

- Policy 8.6-1 Open Space Conservation. Conserve areas that serve as interim and permanent open space in the city, including the Rio Hondo and San Gabriel river corridors and their spreading grounds, other publicly maintained open space, and utility corridors.

- Policy 8.6-2 Valuable Natural Resources. Preserve and restore unique and valuable natural resources and associated habitats, primarily located along the Rio Hondo and San Gabriel river channels and spreading grounds, including special-status species, in coordination with federal, state, and local resource agencies.

- Policy 8.6-3 New Development. Require discretionary development proposals that could potentially impact natural resources to conduct a biological resource assessment to ensure that project-related impacts are considered and mitigated consistent with federal, state, and local regulations.

- Policy 8.6-5 Wildlife Movement. Preserve and enhance interconnected open space and natural areas along the river corridors and spreading basins, and its connections to the Whittier Narrows Recreation Area, to provide for wildlife movement.

- Policy 8.6-6 Native Plants. Use native and drought tolerant plants and trees in all public and private landscaping.

Pico Rivera Municipal Code, Chapter 12.40, sets forth the requirements for protection and maintenance of street trees (City of Pico Rivera n.d.). A permit is required from the Director of Public Works to plant, cut down, pull up, burn, destroy, remove, trim, skin, deface, or remove the outer trunk surface or bark of any roadside tree. A permit is also required to trim or prune any such roadside tree in a manner that results in the tree being defaced, injured, destroyed, or its life or uniform growth endangered. There are no special protections or requirements regarding native tree species. Replacement of trees removed during construction may be required.

3.3.2.5 Santa Fe Springs

The Open Space and Conservation Element of the *Re-Imagine Santa Fe Springs 2040 General Plan* (City of Santa Fe Springs 2021) recognizes the importance of city programs that encourage street tree preservation and new tree planting and maintenance to preserve the beauty and function of trees on public property. The following policies are applicable to the Project:

- Policy COS-5.1: Native Plants. Encourage the use of native and climate-appropriate tree and plant species.

- Policy COS-5.2: Urban Forest. Create a diverse and healthy urban forest on public and private lands utilizing drought tolerant, shade trees with non-invasive root systems that are compatible with sidewalks and do not produce excessive debris. Select tree species that are not easily damaged by the high-profile trucks that predominate on the City's roadways.

- Policy COS-5.3: Tree Canopy. Expand the urban tree canopy along streets and within expansive parking lots— connecting parks, schools, activity areas, commercial centers, and transit stops—to create comfortable walking conditions.

- Policy COS-5.4: Green Buffers. Expand trees and landscaping to build an extensive green buffer between residential neighborhoods and freeways, rail corridors, and industrial zones to

help reduce air pollution impacts. Prioritize residential neighborhoods that are designated as disadvantaged communities.

- Policy COS-5.6: Bird Nesting. Protect migratory and native bird nesting sites on trees and landscaping during construction and/or tree removal or trimming, with special considerations during bird nesting season and within parkland, easements, or flood control areas along the San Gabriel River and tributaries.

Section 96.130 to 96.140 of the Santa Fe Springs Municipal Code sets forth protection of street trees and requires a permit from the Director of Public Works to cut, trim, prune, plant, remove, injure, or interfere with any tree, shrub, or plant upon any street, alley, or public ROW within the city (City of Santa Fe Springs 1971). There are no special protections or requirements regarding native tree species. Replacement of trees removed during construction may be required. Additionally, Section 155.545 to 155.559 provides landscaping requirements, including the planting and maintenance of vegetation, for any property that has a building or structure or an established land use (City of Santa Fe Springs 1986).

3.3.2.6 Whittier

The *Envision Whittier General Plan* (City of Whittier 2021) Resource Management Element recognizes that the most prominent natural resource in the city is the Puente Hills Preserve along the city's northern edge. Specifically, the plan states:

> *Over 70 percent of Whittier's total park acreage comprises natural parks within the Puente Hills Preserve. Five major vegetation communities within the Puente Hills Preserve are coastal sage scrub, chapparal, grassland, riparian, and woodland. These communities support a rich diversity of wildlife – including species either protected or threatened.*

The plan establishes several goals and policies regarding the preservation of open space areas that support wildlife habitat and vegetation management within the city, including the following:

- RM-1.1: Preserve open space areas with a diversity of habitats and plants native to Whittier while balancing the community's recreational, scientific, economic, educational, and scenic needs.

- RM-1.3: Control invasive and non-native vegetation in natural open space areas.

- RM-1.7: Continue collaborations with Los Angeles County and natural resource agencies for evaluating proposed developments in areas adjacent to and within sensitive habitats for Whittier, including the Puente Hills, with an aim to reduce impacts to ecosystem services and wildlife habitat.

- RM-4.1: Select or identify appropriate trees for Whittier, focusing on native tree types and established tree types along corridors.

Whittier Municipal Code, Chapter 12.40 (City of Whittier 2016a), requires a tree permit issued by the Director of Parks to cut, trim, prune, plant, remove, injure, or interfere with any tree, shrub, or plant upon any street, park, alley, or public place of the city as outlined in the Parkway Tree Manual (City of Whittier 2016b). There are no special protections or requirements regarding native tree species. Replacement of trees removed during construction may be required.

4.0 METHODOLOGY

The methodology used to evaluate potential impacts on biological resources followed several steps starting with a review of existing data sources, followed by field investigations to establish the presence and existing condition of resources within the Build Alternative BRSAs. The BRSA for each Build Alternative encompasses the area within a 500-foot buffer from the proposed alignment and includes the footprints of the stations, TPSS, construction staging, and MSFs. Thus, the BRSAs used for this analysis are different than the GSA and DSA described in **Section 2.0**; the BRSA for each Build Alternative is shown in **Figure 4.1** and **Figure 4.2**. The analysis then evaluated whether operation and/or construction of each Build Alternative or the No Project Alternative would potentially affect any of the identified resources.

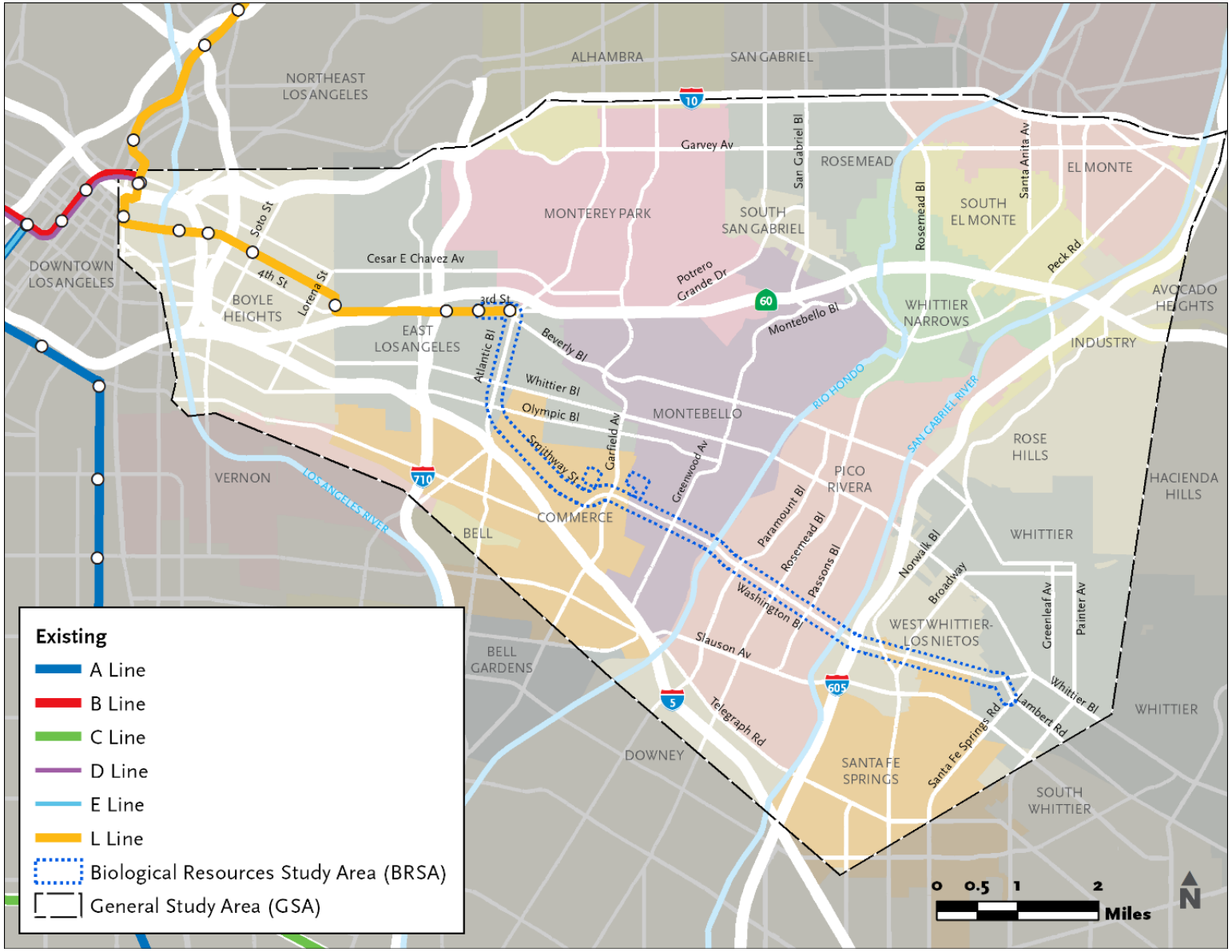
Site investigations, consisting of field reviews of parks and other public open spaces within 500 feet of either side of the proposed alignment and stations were conducted in 2010 and 2011. In 2014, CDFW provided comments on the Draft Environmental Impact Statement (EIS)/EIR, which directed additional field investigations, including a focused wetland delineation, rare plant surveys, vegetation community mapping, and bat surveys as described in **Section 4.2**. Additional field surveys were also completed in 2015 and 2016. CDFW provided additional comments in July 2019, which reiterated the need for the additional field investigations and directed the supplemental impact analysis, which is described in **Section 4.3.1**. Two site visits were conducted in spring 2021 to collect photo documentation of existing conditions, as described in **Section 4.2.6**.

4.1 Desktop Review

The methodology included a review of the California Natural Diversity Database (CNDDB) to identify special-status plants and animals with the potential to occur in the BRSAs. The CNDDB is a program administered by CDFW that inventories the status and locations of rare plants and animals in California. The Build Alternatives are located within the Los Angeles, South Gate, and Whittier 7.5-minute United States Geological Survey (USGS) topographic quadrangles. A 7.5-minute quadrangle is an area that spans 7.5 minutes of latitude and 7.5 minutes of longitude, and which ranges from 64 square miles at latitude 30 degrees north to 49 square miles at latitude 49 degrees north. Because of the highly urbanized and developed condition of the Los Angeles and South Gate quadrangles, only the Whittier quadrangle was included in the CNDDB search.

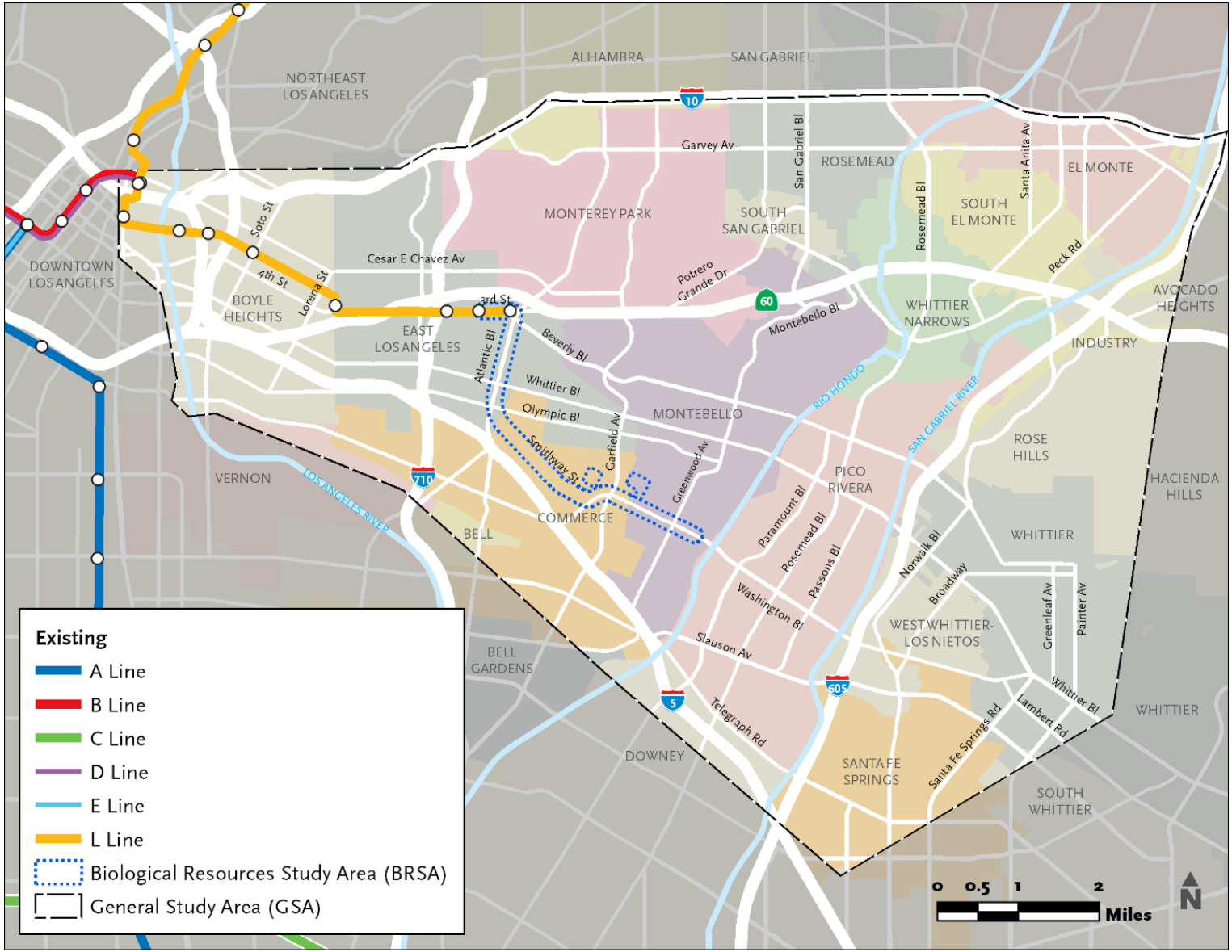
A search of the USFWS critical habitat mapper was also conducted to identify designated critical habitat for federally listed species in the BRSAs (USFWS 2021a). For wetlands, existing data were obtained from the USFWS National Wetlands Inventory (NWI) mapper (USFWS 2021b). The USFWS Information for Planning and Consultation (IPaC) tool was also used to generate a list of federally listed species with potential to occur in the BRSAs (USFWS 2021c).

In addition, other existing sources of information were consulted, including the Rio Hondo Watershed Management Plan (Rivers and Mountains Conservancy 2004), the State of the Watershed Report for the San Gabriel River Watershed (Los Angeles Regional Water Quality Control Board 2000), the San Gabriel River Corridor Master Plan (Los Angeles County Department of Public Works [LACDPW] [LACDPW 2006]), and the Lower San Gabriel River Watershed Management Program (Lower San Gabriel River Watershed Group 2015).



Metro; CDM Smith/AECOM JV 2021.

Figure 4.1. Alternative 1 Biological Resources Study Area



Metro; CDM Smith/AECOM JV 2021.

Figure 4.2. Alternatives 2 and 3 Biological Resources Study Area

4.2 Field Investigations

Field reviews of parks and other public open spaces within 0.25 mile of either side of the proposed alignment and stations were conducted in 2010 and 2011. Trees located along the proposed alignment and within the footprints of the proposed stations were counted and visually identified by species.

During these reviews, general field reconnaissance work was conducted to identify wetlands and other habitat features within the BRSAs. Aerial photographs were used to evaluate existing mapped wetlands and to help identify potential sensitive habitat areas that were not included on existing wetland maps or inventories. Potential wetlands within 200 feet of either side of the Build Alternatives were assessed to identify wetland resources that may require implementation of avoidance buffers that intersect the BRSAs. The area immediately surrounding a wetland is referred to as the wetland buffer and is an area that may need to remain undeveloped to protect the wetland functions (e.g., providing habitat, improving water quality, reducing flood damage, providing recreation opportunities) and values (a measurement of the benefit these wetland functions provide to society) from the impacts of surrounding land uses. Wetland buffer sizes vary depending on a variety of factors that may include wetland size, complexity, health, and local regulations. For the 2014 Draft EIS/EIR, reconnaissance level wetland assessments were completed, and no formal wetland delineations were conducted.

Based on site visits in spring 2021 (discussed in **Section 4.2.6**) and a desktop review of existing conditions, there have been no substantial changes to habitats, vegetative conditions, special-status species, wetlands, street trees, or other biological resources in the BRSA since the completion of the previous field surveys as documented in Attachment A and Attachment B.

4.2.1 Bat Surveys

Daytime and evening bat surveys were conducted in September 2015 at the Alternative 1bridges over the Rio Hondo and San Gabriel River. See Attachment A for details of the methods used during bat surveys.

4.2.2 Rare Plant Surveys

A survey for rare plants was conducted in May 2016 when the majority of the plants with potential to occur, based on the desktop evaluation, would be in their blooming periods. During the survey, biologists walked accessible areas of the proposed Build Alternatives' alignment and potential construction zones that support vegetation. Existing vegetation and habitats were visually observed for the presence of rare plants.

4.2.3 Vegetation Community Mapping

In May 2016, vegetation communities within 500 feet of the proposed alignment were identified and mapped according to A Manual of California Vegetation, Second Edition (Sawyer et al. 2009). This included identification and mapping of any Sensitive Natural Communities (CDFW 2021b). In addition, natural communities and wildlife habitats along the proposed alignment were assessed to

determine if suitable habitat was present for special-status species. See Attachment A for details of the methods used during vegetation community mapping.

4.2.4 Focused Wetland Investigation

In May 2016, additional field investigations were conducted to identify and delineate wetlands and other waters that may be affected by the Project. Wetland investigations were focused on areas identified during previous field investigations as having the potential to support wetlands and other waters, including areas with wetland vegetation, depressional areas, and areas with standing water. The delineation methodology conformed to the guidelines presented in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987) and the 2008 USACE Regional Supplement for the Arid West Region (Version 2.0) (USACE 2008). To qualify as a wetland under the jurisdiction of USACE, all the following wetland parameters must be present: hydric soils, wetland hydrology, and at least 50 percent of the dominant plant species designated as obligate, facultative wet, or facultative. At each potential wetland area, vegetation was observed, soil sampling was conducted, and indicators of wetland hydrology were noted. Hydrophytic vegetation was assessed through identification of dominant species present in a wetland patch and compared with the National List of Wetland Plants for the Arid West region (USACE 2016). Aerial maps were used to determine potential water sources and where to extend the search for wetland hydrology. United States Department of Agriculture Natural Resources Conservation Service soil mapping was used, if available, to locate areas of potential hydric soils. Potential wetlands were classified in accordance with the Cowardin et al. (1979) classification.

Waters of the U.S. are under the jurisdiction of USACE in accordance with Section 404 of the CWA. Waters of the U.S. include wetlands and other waters including but not limited to rivers, lakes, streams, wetlands, harbors, bays, stock ponds, and irrigation ditches. The portion of waters of the U.S. considered as jurisdictional by the USACE usually consists of those areas contained below the ordinary high water mark (OHWM) or that meet the definitions of special aquatic areas such as wetlands. The OHWM is defined as the line where the incised portion of the bank meets the terrestrial vegetation (USACE 2005).

Waters of the State include all surface water or groundwater, including saline waters, within the boundaries of the State of California. Streams, lakes, and riparian vegetation that provide habitat for fish and other wildlife species are subject to jurisdiction by CDFW under Sections 1600-1616 of the California Fish and Game Code. It should be noted that areas of USACE jurisdiction are a subset of CDFW jurisdiction. Although the two may be contiguous, as is the case in many smaller, ephemeral streams lacking riparian plant communities, the CDFW jurisdictional area will never be smaller than that defined using the USACE OHWM criterion.

See Attachment B for details of the methods used during the 2016 wetland investigation.

4.2.5 Street Tree Survey

A survey of street trees was conducted in May 2019 to obtain an updated estimate of the number and species of street trees that may be affected by construction for aerial and at-grade portions of the alignment. The survey was conducted from the pedestrian ROW and included trees located along the proposed alignment and within the footprints of the proposed stations. Tree counts performed

through a desktop review using aerial imagery in 2022 were performed for the proposed below ground segments, including areas where cut and cover methods would be used, areas where the alignment would transition from above ground to below ground, areas where tunnel boring equipment would be used, and the proposed MSF site options.

See Attachment A for details of the tree count survey and estimates.

4.2.6 Site Visits

Site visits were conducted on March 28, 2021 and April 9, 2021 to document existing conditions with photographs. Site visit activities included driving by the industrial areas proposed for the MSF, walking the San Gabriel River Spreading Grounds and bike trail, walking across and under San Gabriel River bridge (via the trailhead), walking under San Gabriel River bridge via the trailhead, and walking across the Rio Hondo bridge overlooking Rio Hondo Spreading Grounds and bike trail. Photos were taken at each of these locations. Photos from this site visit are included in Attachment C.

4.3 Impact Analysis Methodology

Results of the field investigations were used to characterize the biological resources, including wetlands, special-status species, sensitive natural communities, wildlife migratory corridors, street trees, and other protected resources within the BRSAs that could be affected by the Project. If the Project could potentially impact biological resources, through effects on species or habitat, there would be a potential for adverse impacts and mitigation measures would be required to address those impacts.

For Alternative 1, the analysis of potential impacts on biological resources included potential impacts associated with crossing the Rio Hondo and the San Gabriel River. The associated spreading grounds located adjacent to these river channels provide important biological resources, especially for migratory birds. The evaluation of potential impacts on biological resources included both long-term operational effects of the Project and potential construction effects. The potential for impacts on bats that use the Washington Boulevard bridges over the Rio Hondo and San Gabriel River were evaluated for Alternative 1 based on the findings of surveys for bats and bat habitat at the bridges.

Potential permanent and temporary impacts on natural communities, based on the vegetation community mapping conducted during the field investigations, were considered for all Build Alternatives. Permanent impacts would be limited to areas where there would be permanent loss of habitat from installation of the at-grade LRT tracks, columns to support the aerial guideway, stations, structures, and hardscaping. An estimate of permanent and temporary impacts on vegetation communities was based on preliminary conceptual engineering design and there was no double counting between permanent and temporary impact areas. Potential impacts on vegetation communities from the introduction and/or spread of invasive plant species was also considered.

Based on the findings of the wetland investigations, potential operation and maintenance impacts on wetlands were evaluated. Potential permanent and temporary impacts on wetlands were also evaluated for the Build Alternatives. Permanent impacts would be limited to the LRT alignment for at-grade portions, areas where there would be installation of columns for an aerial guideway, and areas where bridge piers might be replaced, whereas temporary impacts are those that could occur during

construction. Estimation of the area of permanent and temporary impacts on wetlands was based on preliminary conceptual engineering design and there was no double-counting between permanent and temporary impact areas. Non-wetland waters of the U.S., such as rivers and streams, are discussed in the Eastside Transit Corridor Phase 2 Hydrology and Water Quality Impacts Report.

The evaluation of potential effects included potential disturbance of trees and other vegetation that may provide potential nesting sites for migratory birds, including raptors. These trees may be located in natural areas and parks located along the Build Alternatives and near stations. Migratory bird species use a variety of habitats and may nest within virtually any type of vegetation. Impacts on street trees located along the proposed alignment and within the footprints of the proposed stations and MSF site options were also considered to identify requirements for compliance with local street tree protection ordinances.

4.3.1 CDFW Comments

In a July 2019 comment letter, CDFW directed that the impact analysis for biological resources should also include the following:

- Potential impacts from fuel modification (i.e., thinning or removal of vegetation and irrigation to prevent wildfire)
- Potential impacts from rodenticide use
- Potential impacts from the use of invasive/exotic plants during revegetation/landscaping
- Potential impacts related to lighting, noise, human activity, and exotic species
- Potential impacts from pile driving near waterways during construction

The impact analysis (**Section 7.0**) considers project impacts related to the spread of invasive/exotic plants, lighting, noise, human activity, and pile driving on biological resources. Fuel modification and rodenticide use are not part of the project description and are not analyzed further.

5.0 THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the State CEQA Guidelines, an Alternative would have a significant impact related to Biological Resources if it would:

Impact BIO 1: 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 CDFW or USFWS;

Impact BIO-2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;

Impact BIO-3: 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;

Impact BIO-4: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or

Appendix G of the State CEQA Guidelines includes a significance criterion for impacts on state or federally protected wetlands. Based on the focused wetland investigation described in **Section 4.2.4**, and as discussed in **Section 6.6**, no wetlands occur within the BRSAs of Alternatives 1, 2, or 3, or the Commerce MSF or Montebello MSF site options. Therefore, no impacts on wetlands would occur from operation or construction of the Project and this criterion was not evaluated.

Appendix G of the State CEQA Guidelines also includes a significance criterion for impacts relating to the potential for a project to conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. The Project is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan such as a SEA; therefore, this criterion is not applicable and was not evaluated.

6.0 EXISTING SETTING

This section describes the ecosystems and biological resources within the Build Alternative BRSAs. Information in this section was obtained from sources such as database searches, mapping applications, and field investigations described in **Section 4.1** and **Section 4.2**.

Existing biological resources within the BRSAs primarily include the trees and shrubs that exist along the streets of the proposed alignment and within the footprints of the proposed stations. This vegetation provides limited habitat for wildlife, primarily migratory birds. Wildlife habitats that exist are mainly associated with the BRSA of Alternative 1 where it crosses the Rio Hondo and the San Gabriel River and the Rio Hondo Spreading Grounds. The remainder of the land within the Build Alternative BRSAs, including the proposed MSF site options, is highly developed and covered with impervious surfaces such as parking facilities and buildings. Biological resources identified within the BRSAs for the Build Alternatives are described in the sections below.

6.1 Biological Resources Study Area

For potential impacts on ecosystems and biological resources, the Build Alternative BRSAs were evaluated as described in **Section 4.0** and shown in **Figure 4.1** and **Figure 4.2**. The biological resources analysis is focused on the areas where biological impacts would most likely occur, which is different than the general and DSAs described in **Section 2.0.**

6.2 Natural Areas Supporting Biological Resources in the BRSAs

6.2.1 Rio Hondo Spreading Grounds

The Rio Hondo Spreading Grounds, located at the Washington Boulevard crossing of the Rio Hondo, consist of approximately 570 acres and are the largest of the spreading grounds owned and operated by the LACDPW (LACDPW n.d.a). Water is diverted from the concrete-lined, Rio Hondo channel into adjacent spreading grounds with highly permeable soils for groundwater recharge. The Washington Boulevard crossing of the Rio Hondo extends across the concrete-lined river channel **(Figure 6.1)** west to the adjacent spreading basin, which is unlined and contains some aquatic vegetation.

Figure 6.1. Rio Hondo Looking South from Washington Boulevard, May 2010

The Rio Hondo Spreading Grounds provide aquatic habitat for an abundance of wintering waterbirds (loons, grebes, herons, ducks, and geese) and shorebirds. During the field review in 2016, water was present in the spreading grounds located to the east of the Rio Hondo and on both sides of the Washington Boulevard crossing. Bird species frequently observed in this area of the spreading grounds include great blue heron, great egret, snowy egret, mallard, gulls, white-faced ibis, and black-necked stilt **(Figure 6.2).**

Figure 6.2. Great Egret at Rio Hondo Spreading Grounds, May 2010

During a site visit in late March and early April 2021, site conditions in the portion of the Rio Hondo Spreading Grounds west of the Rio Hondo were documented, as shown in **Figure 6.3** and **Figure 6.4**).

Figure 6.3. Rio Hondo Spreading Grounds Looking South from Washington Boulevard Bridge, March/April 2021

Figure 6.4. Rio Hondo Spreading Grounds Looking North from Bluff Road, March/April 2021

Native fish species would not be expected to inhabit the concrete-lined channel of the Rio Hondo. In addition, other aquatic species, including common amphibian species, are unlikely to occur due to the lack of vegetation within the spreading grounds. Special-status riparian bird species are unlikely to occur due to the lack of high-quality riparian vegetation.

6.2.2 San Gabriel Coastal Spreading Grounds

Alternative 1 also crosses the San Gabriel River Coastal Spreading Grounds, which are approximately 128 acres in size (LACDPW n.d.b). These spreading grounds are used by the LACDPW for groundwater recharge by diverting water from the river into adjacent spreading grounds. Although this reach of the San Gabriel River is channelized throughout with concrete banks, it has a soft (mud) bottom. Water levels within this reach of the San Gabriel River are heavily managed using small inflatable dams. At the Washington Boulevard crossing, the San Gabriel River is a wide channel containing grass and other non-native vegetation with some riparian vegetation, including willow, along the concrete-lined sides (**Figure 6.5**).

Vegetation in this reach is generally of moderate quality in the vicinity of Alternative 1. There is also some low- to medium-quality alluvial sage scrub habitat in this reach (LACDPW 2006). The term "alluvial" refers to soil deposited by a waterway.

Figure 6.5. San Gabriel River Looking South from Washington Boulevard, May 2010

Non-native fish expected to occur in the reach of the San Gabriel River in the BRSA of Alternative 1 include channel catfish, common carp, red shiner, fathead minnow, rainwater killifish, and western mosquitofish. Common amphibian species expected to occur include the western toad, Pacific treefrog, black-bellied slender salamander, California treefrog, and bullfrog (LACDPW 2006).

Special-status wildlife species in this reach would include species associated with riparian or alluvial sage scrub habitats (LACDPW 2006). Riparian bird species such as the Western, yellow-billed cuckoo and Least Bell's vireo may use this area during migration but are not likely to breed there due to a lack of sufficient cover. Further, the river and adjacent floodplain habitats are highly altered and managed and, as such, are unlikely to support alluvial sage scrub species.

6.2.3 Significant Ecological Areas

No SEAs exist within the BRSAs (Los Angeles County 2019a).

6.3 Special-Status Species

Special-status species include those federally and/or state-listed as threatened, endangered, proposed, and/or candidate wildlife and plant species as well as those identified as species of concern by CDFW (for wildlife) and ranked as rare and/or sensitive by the California Native Plant Society (CNPS) (for plants). **Table 6-1** presents special-status wildlife and plant species listed on the CNDDB and IPaC as having the potential to occur within the 7.5-minute USGS topographic quadrangle associated with the BRSAs (i.e., the Whittier quadrangle). CNDDB and IPaC search results are included in Attachment D.

Table 6-1. Special-Status Wildlife and Plant Species Potentially in the BRSA

Common Name	Scientific Name	Status / CNPS Rank	Potential to Occur in the Study Area
PLANTS			
California Orcutt grass	*Orcuttia californica*	FE, CT, 1B.1*	Very low or no potential to occur. Suitable vernal pool habitat does not occur in the BRSAs.
Coulter's goldfields	*Lasthenia glabrata ssp.*	1B.2*	Very low or no potential to occur. Suitable wetland or vernal pool habitat does not occur in the BRSAs.
Intermediate mariposa-lily	*Calochortus weedii var. intermedius*	1B.2*	Very low or no potential to occur. Suitable edaphic conditions do not occur in the BRSAs.
Lucky morning-glory	*Calystegia felix*	1B.1*	Very low or no potential to occur. Suitable conditions are very limited within the BRSAs.
Many-stemmed dudleya	*Dudleya mutlicaulis*	1B.2*	Low potential to occur. Suitable conditions are very limited within the BRSAs.
Nevin's barberry	*Mahonia nevinii*	FE, CE, 1B.1*	Very low or no potential to occur. Suitable conditions are very limited within the BRSAs.
Parish's brittlescale	*Atriplex parishii*	1B.1*	Very low or no potential to occur. Suitable vernal pool habitat does not occur in the BRSAs.
Plummer's mariposa-lily	*Calochortus plummerae*	4.2*	Very low or no potential to occur. Suitable conditions are very limited within the BRSAs.
Prostrate vernal pool navarretia	*Navarretia prostrata*	1B.2*	Very low or no potential to occur. Suitable vernal pool habitat does not occur in the BRSAs.
San Bernardino aster	*Symphyotrichum defoliatum*	1B.2*	Low potential to occur. Suitable conditions are limited within the BRSAs.

Common Name	Scientific Name	Status / CNPS Rank	Potential to Occur in the Study Area
AMPHIBIANS AND REPTILES			
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	CSC	Low potential to occur. Suitable habitat is very limited within the BRSAs.
Western spadefoot toad	*Spea hammondii*	CSC	Low potential to occur. Suitable habitat is very limited within the BRSAs.
INSECTS			
Crotch's bumble bee	*Bombus crotchii*	CCE	Very low or no potential to occur. Suitable floral resources and open scrub/grassland habitat do not occur in the BRSAs.
MOLLUSKS			
San Gabriel chestnut snail	*Glyptostoma gabrielense*	None	Very low or no potential to occur. Suitable habitat is very limited within the BRSAs.
BIRDS			
Bank swallow	*Riparia*	CT	Potential to occur transiently near Rio Hondo Channel and San Gabriel River crossings. Suitable foraging habitat is limited within the BRSAs.
Burrowing owl	*Athene cunicularia*	CSC	Low potential to occur transiently. Suitable foraging habitat is very limited within the BRSAs.
Coastal California gnatcatcher	*Polioptila californica*	FT, CSC	Low potential to occur transiently. Suitable sage-scrub foraging habitat is very limited within the BRSAs.
Least Bell's vireo	*Vireo bellii pusillus*	FE, CE	Low potential to occur transiently. Suitable riparian foraging habitat is very limited within the BRSAs.
Western yellow-billed cuckoo	*Coccyzus americanus occidentalis*	FT, CE	Low potential to occur transiently. Suitable riparian foraging habitat is very limited within the BRSAs.
MAMMALS			
Western mastiff bat	*Eumops perotis californicus*	CSC	Low potential to occur. Species requires high cliff faces which are not present within the BRSAs.

Source: CDFW 2021a.
Notes:
* – indicates CNPS Rare Plant Rank
None – No official status but considered rare or tracked on CNDDB
Key:
FE = Federally Endangered; FT = Federally Threatened; CE = California State Endangered; CCE = California State Candidate Endangered; CSC = California State Species of Special Concern

The Whittier 7.5-minute quadrangle encompasses approximately 60 square miles and extends outside the BRSAs. Thus, not all species identified by the CNDDB or IPaC for the quadrangle would be expected to occur within the BRSAs. In addition, the CNDDB considers historical sightings as evidence that species still exist; however, many of the observations are based on historical sightings that pre-date significant alteration of the habitat. Given that much of the BRSAs are now highly developed, the rivers have been channelized, and habitats have been altered and degraded, many of these species are not expected to currently occur in the BRSAs.

Twenty special-status plant and animal species were identified from the CNDDB and IPaC search within the Whittier quadrangle. Each of these species' potential to occur within the BRSAs was evaluated against the presence of suitable habitat.

Table 6-1 identifies the likelihood for each species listed by the CNDDB and IPaC to occur within the BRSAs. In addition to those species identified in the desktop review and listed in **Table 6-1**, other special-status bird species may occur transiently in the BRSAs (USACE 2009; National Audubon Society 2010).

During field investigations, habitat within the BRSA for Alternative 1 was visually assessed to determine if suitable habitat was present for special-status species. No special-status species or rare plants were observed during field investigations. There are no known occurrences of special-status species in the BRSA for Alternative 1, and suitable habitat for special-status species was not observed during field investigations.

Cliff swallows were observed nesting under the Washington Boulevard bridge during surveys in May 2016. While not a special-status species, these and other native birds are protected under the MBTA.

6.4 Bats

Habitat for many bat species occurs within the BRSAs, particularly the BRSA of Alternative 1, including trees, bridges, culverts, buildings, and other structures (Western Bat Working Group 2019). Street trees along the urbanized Alternative 1 would not be expected to support roosting bats; however, bridges over the Rio Hondo and San Gabriel River provide suitable bat roosting habitat. Surveys for bats and bat habitat were conducted in September 2015 at the Washington Boulevard bridges over the Rio Hondo and San Gabriel River, as discussed in **Section 4.2.1**. Also see Attachment A for details on the bat surveys.

Suitable bat roosting habitat was observed at the Washington Boulevard bridge over the Rio Hondo and the Washington Boulevard bridge over the San Gabriel River. Structural elements providing potential roosting habitat included expansion joints, weep holes, concrete cracks, and other crevices and openings in the bridges. Swallow nests present on all bridges are also commonly used by bats for roosting when not occupied by birds. In addition, there are several large trees at all three bridges that could also serve as roosting habitat. This habitat could be suitable for both daytime and nighttime roosting.

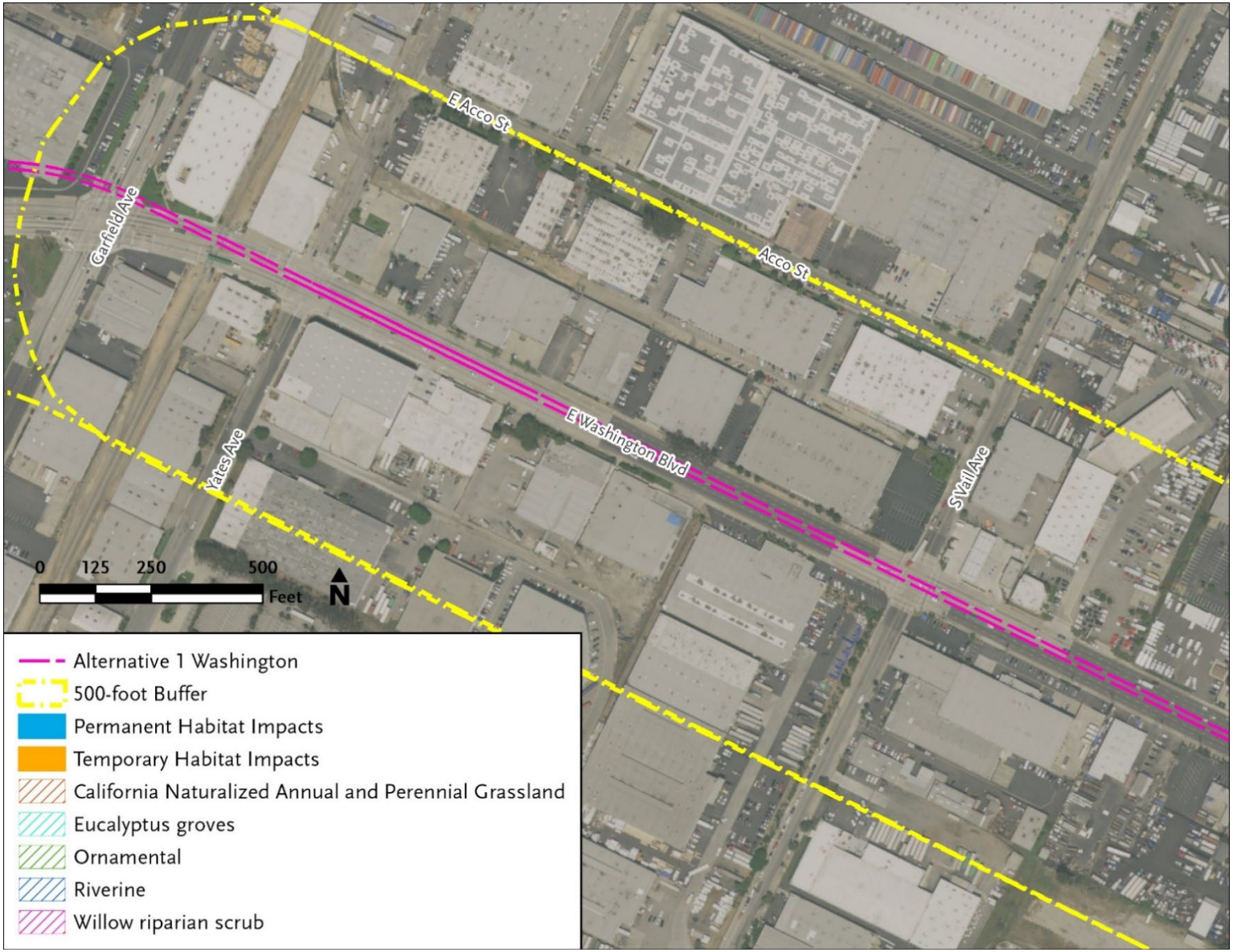
At the Washington Boulevard bridge over the Rio Hondo, no bats were visually observed; however, four bat calls were detected with acoustic detectors. All these calls were very faint, which suggests that they may have come from bats further away from the surveyors; however, other factors such as bat species, orientation of detectors, atmospheric conditions (temperature, humidity, wind), and other conditions may also affect the volume of calls detected.

At the Washington Boulevard bridge over the San Gabriel River, no bats were observed visually; however, between four and six bat calls were detected with acoustic detectors. Five confirmed bat calls were recorded, including four calls at the northwest corner of the bridge, and one at the southeast corner of the bridge. Several of the bat calls detected at the northwest corner of the bridge were identified as characteristic of the "feeding buzz" exhibited by foraging bats, which may have been passing through the site or foraging locally. One bat species, the Mexican free tailed bat, was recorded and positively identified at the Washington Boulevard bridge over the San Gabriel River.

While none of the bat species positively identified within Alternative 1 are listed as threatened, endangered, or species of concern, all bat species are protected under state law as nongame mammal species.

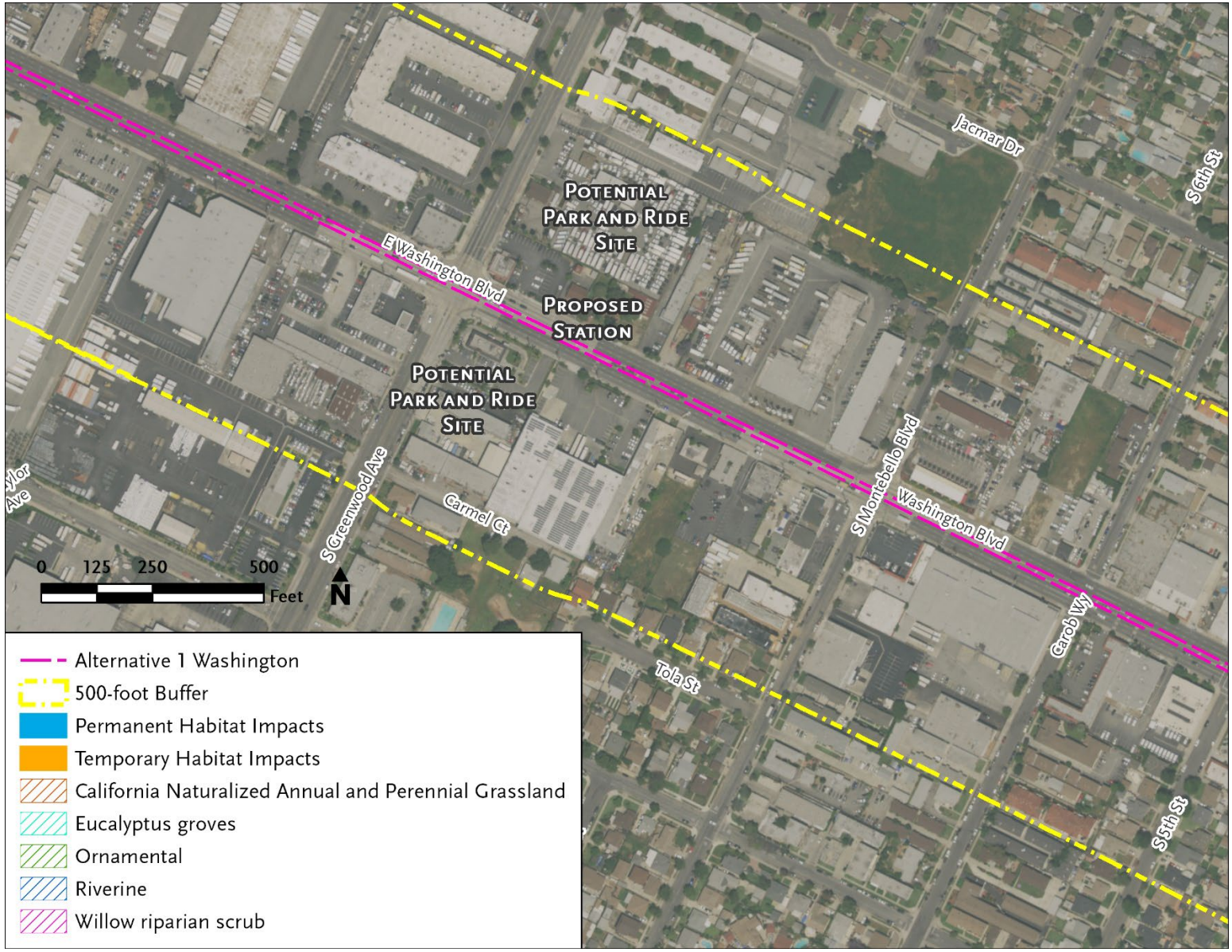
6.5 Sensitive Vegetation Communities

The majority of the areas that could be affected by the Build Alternatives are developed and consist of buildings, structures, roads, parking facilities, driveways, sidewalks, and other hardscaped areas. The proposed MSF site options mainly consist of parking facilities and buildings and contain little to no vegetation, with the exception of a few street trees (as discussed in **Section 6.7**). Individual street trees were not considered a vegetation community unless they were grouped together to form a canopy; in these cases, street trees were counted as ornamental vegetation. The most common vegetation communities are Ornamental, California Naturalized Annual and Perennial Grassland, and Eucalyptus, as shown on **Figure 6.6** through **Figure 6.14**. Small patches of willow riparian habitat exist along the San Gabriel River at the spreading grounds near Alternative 1. These consist of a small number of arroyo willow trees along the channel margin, with numerous non-native and invasive plant species. This community is mapped as willow riparian scrub, as shown on **Figure 6.11**. CDFW has ranked natural communities according to their rarity within the state of California. Natural communities with ranks of S1, S2, and S3 are considered Sensitive Natural Communities (CDFW 2021b). No sensitive vegetation communities were identified along the alignment for Alternatives 1, 2, or 3, or the MSF site options. **Figure 6.6** through **Figure 6.14** provide vegetation maps of areas within 500 feet of the at-grade and aerial segments of Alternative 1 and Alternative 3.



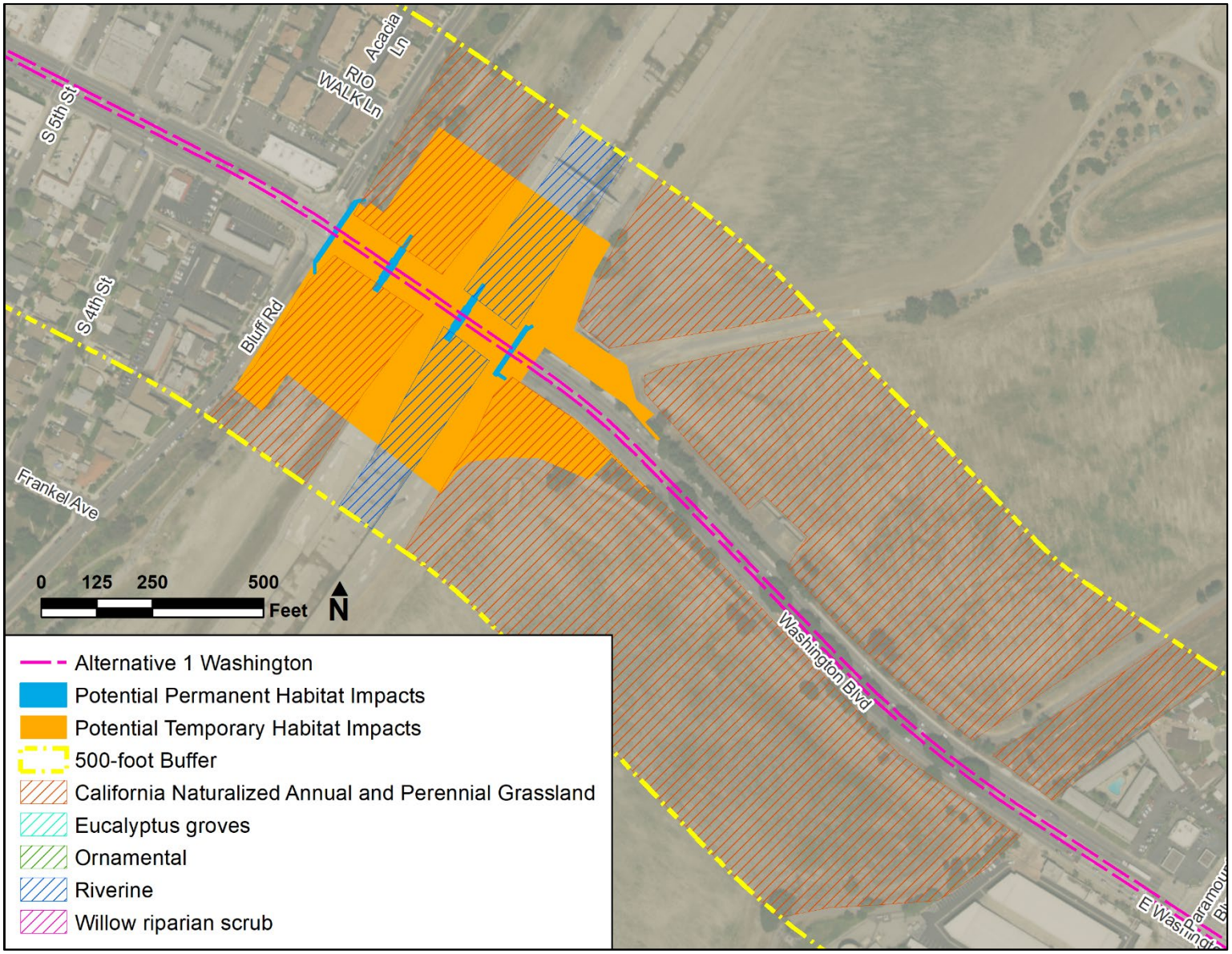
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.6. Vegetation Map A of Alternative 1 and Alternative 3



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.7. Vegetation Map B of Alternative 1 and Alternative 3



Source: Metro; CDM Smith/AECOM JV, 2021.

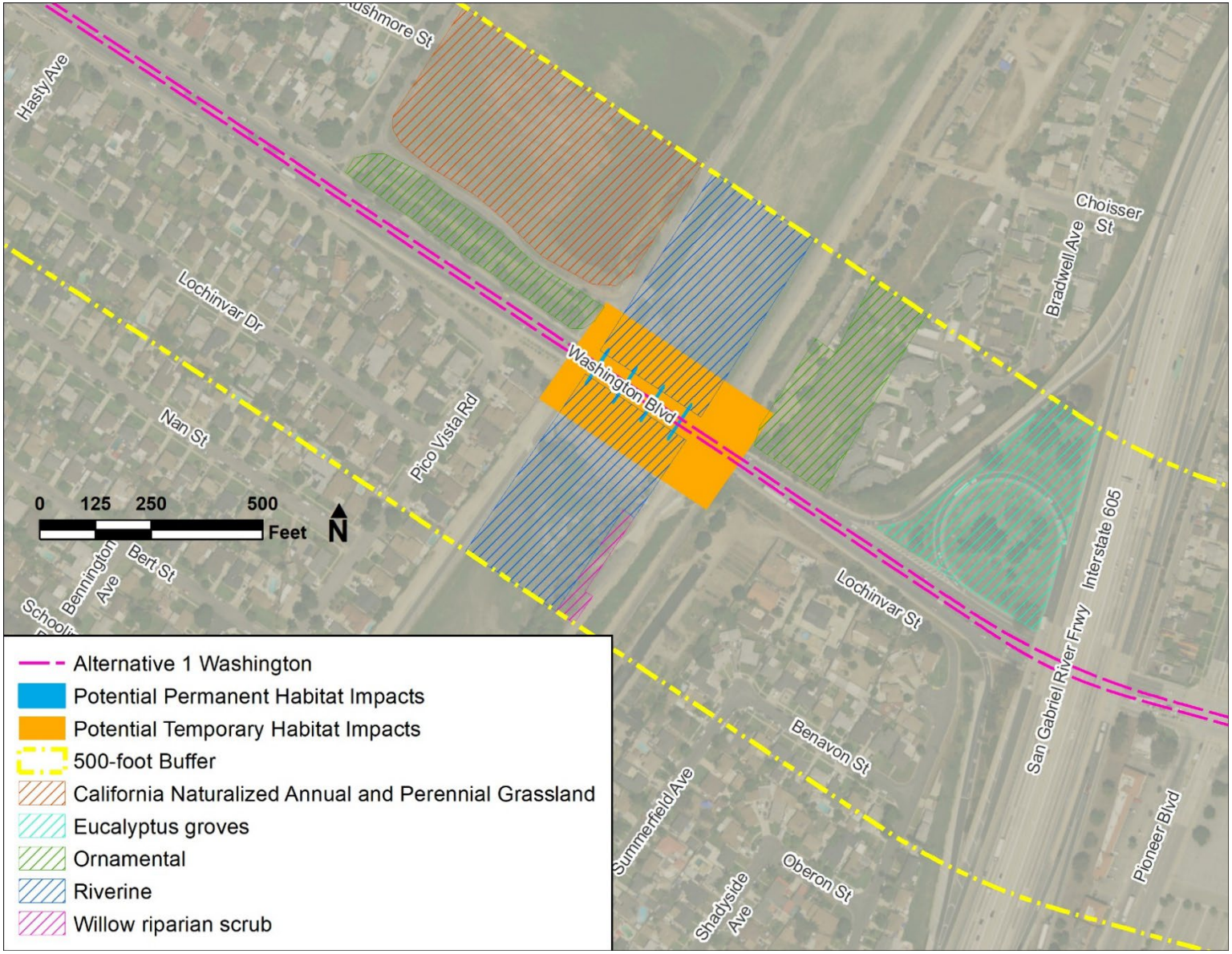
Figure 6.8. Vegetation Map C of Alternative 1

Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.9. Vegetation Map D of Alternative 1

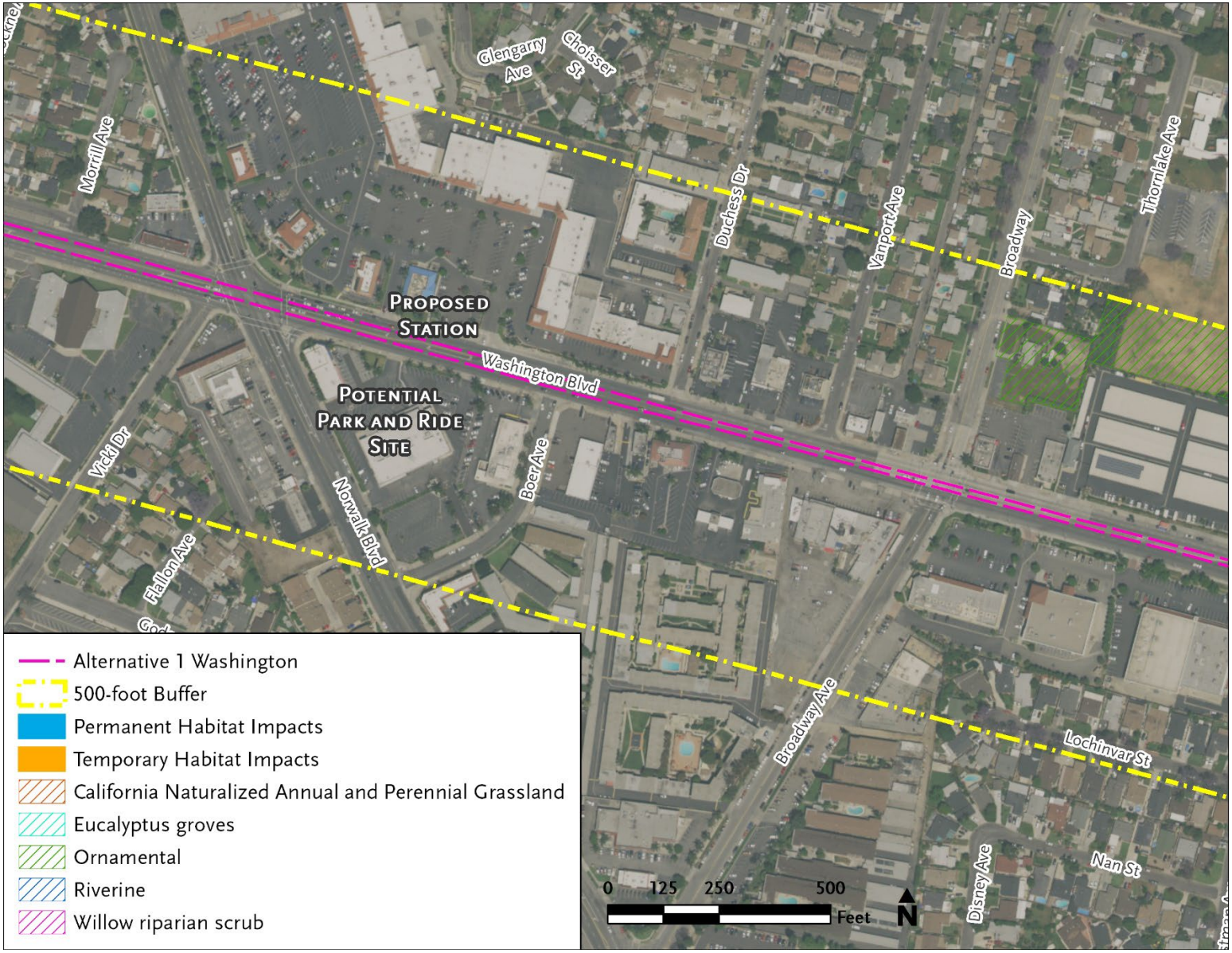
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.10.Vegetation Map E of Alternative 1



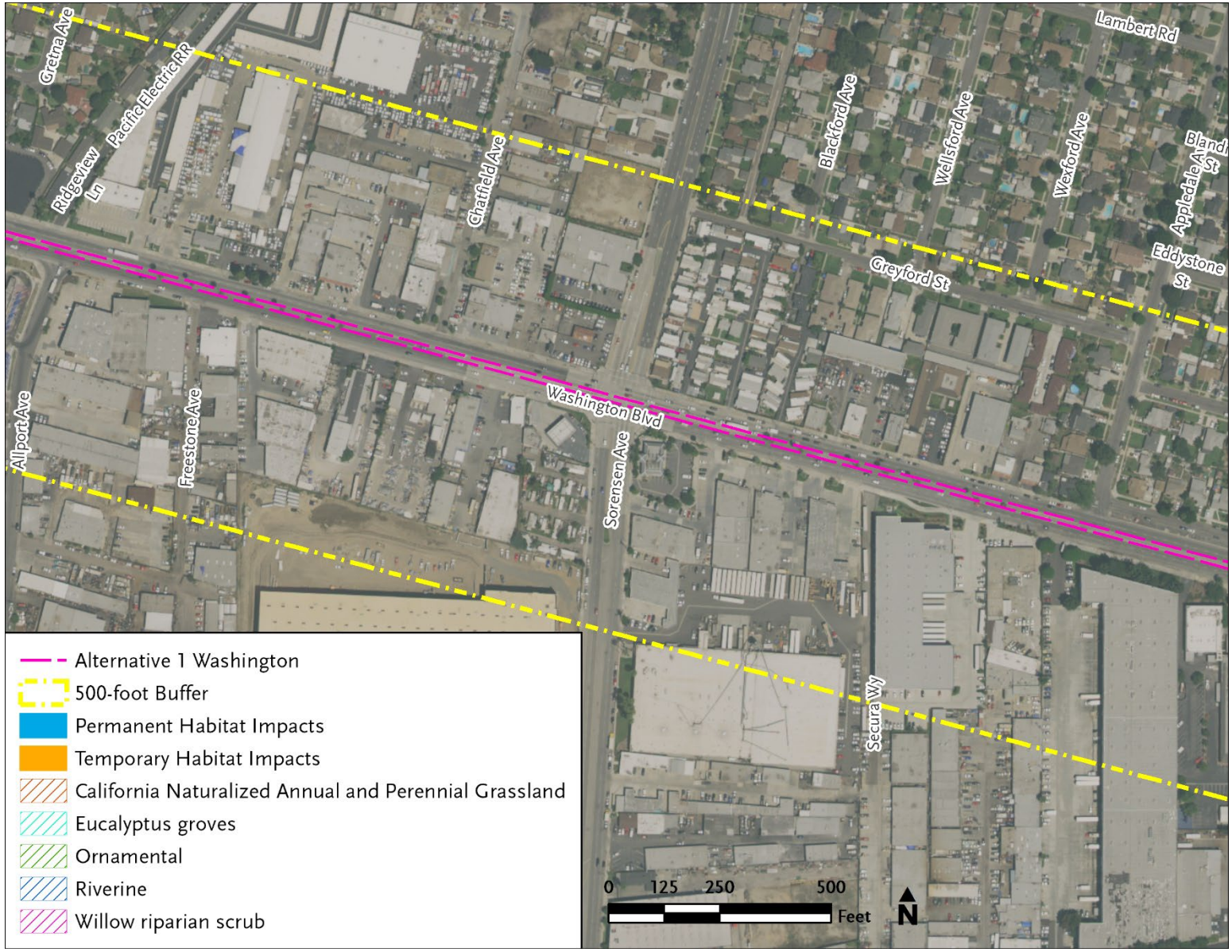
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.11. Vegetation Map F of Alternative 1



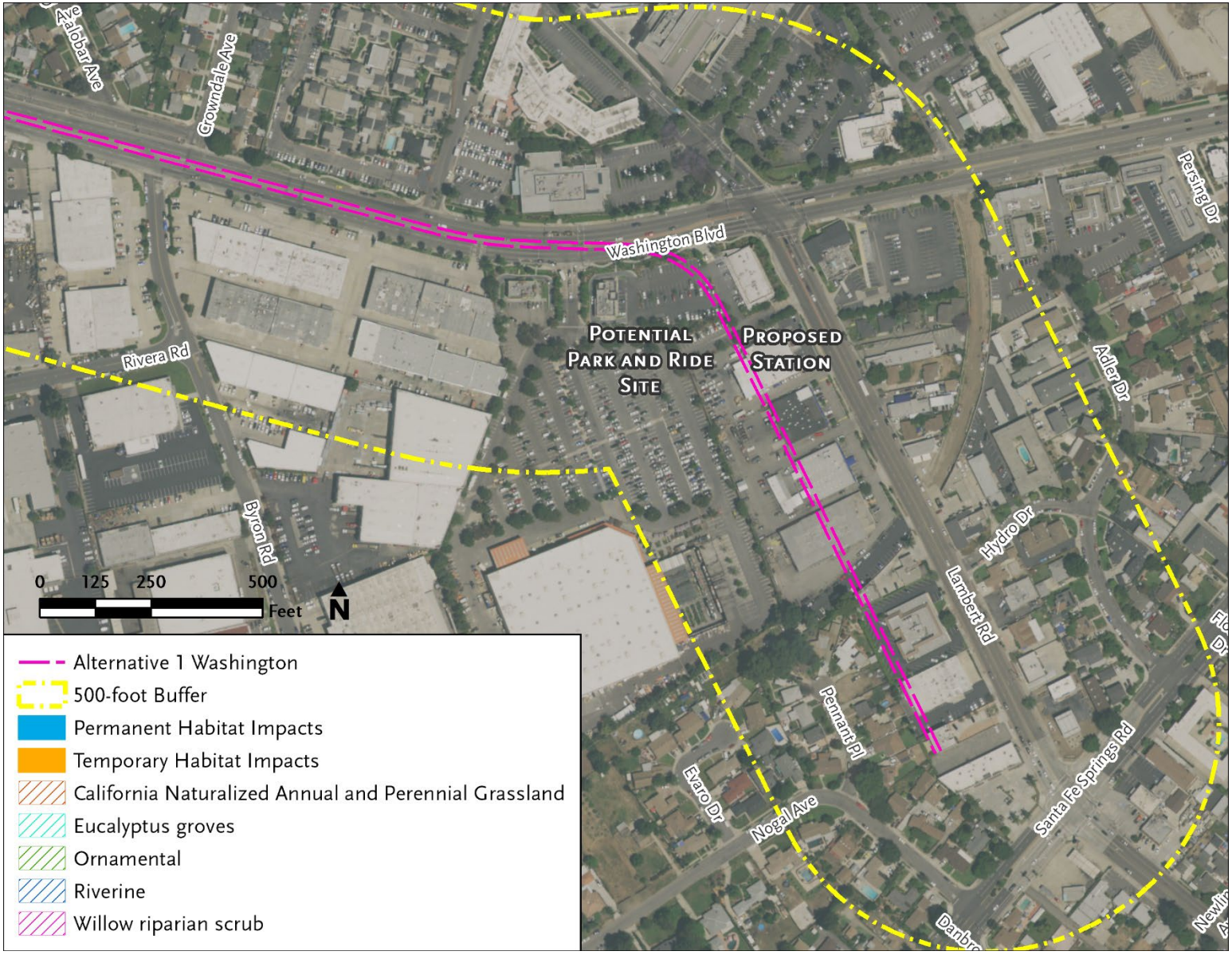
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.12. Vegetation Map G of Alternative 1



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.13. Vegetation Map H of Alternative 1



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.14. Vegetation Map I of Alternative 1

6.6 Wetlands and other Waters

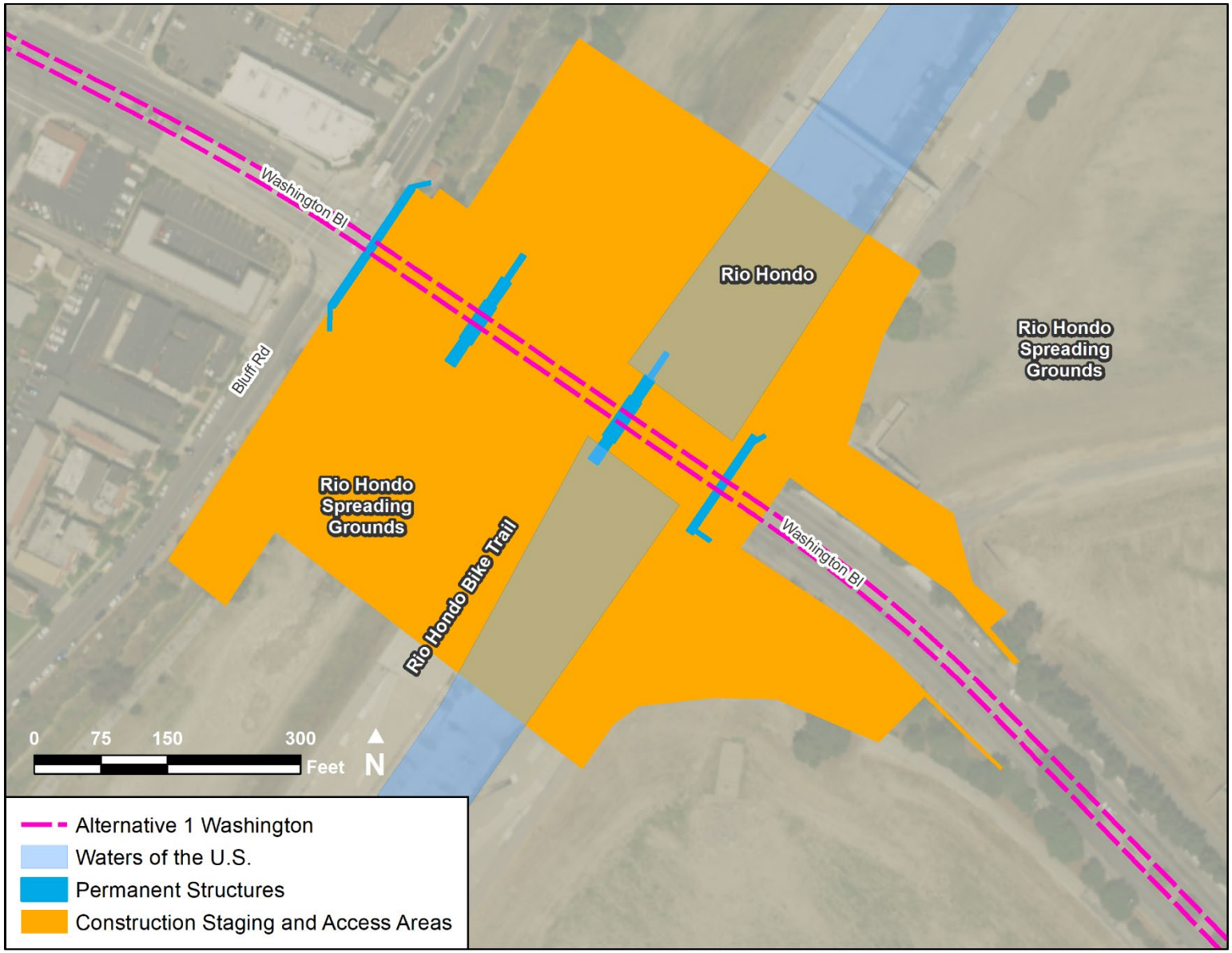
Alternative 1 crosses the Rio Hondo and spreading grounds, and the San Gabriel River. The rivers are channelized, and high flows are directed to the adjacent spreading grounds where the water infiltrates into the ground. Alternative 1 was investigated for the presence of wetlands, waters of the U.S. and waters of the State in May 2016, as described in **Section 4.2.4**. Waters of the U.S. and waters of the State were only identified at the crossings of the Rio Hondo and San Gabriel River. No wetlands occur within the BRSA of Alternative 1; thus, no wetlands occur in the BRSAs of Alternatives 2 or 3. See Attachment B for additional details of the methods used and additional photos.

6.6.1 Alternative 1 Crossing of Rio Hondo

At the Washington Boulevard crossing, the Rio Hondo is completely concrete-lined and was mostly dry at the time of the wetland investigation. Waters of the U.S. and waters of the State consist of the active Rio Hondo channel (**Figure 6.15**). No wetlands were observed in the river or the associated spreading grounds.

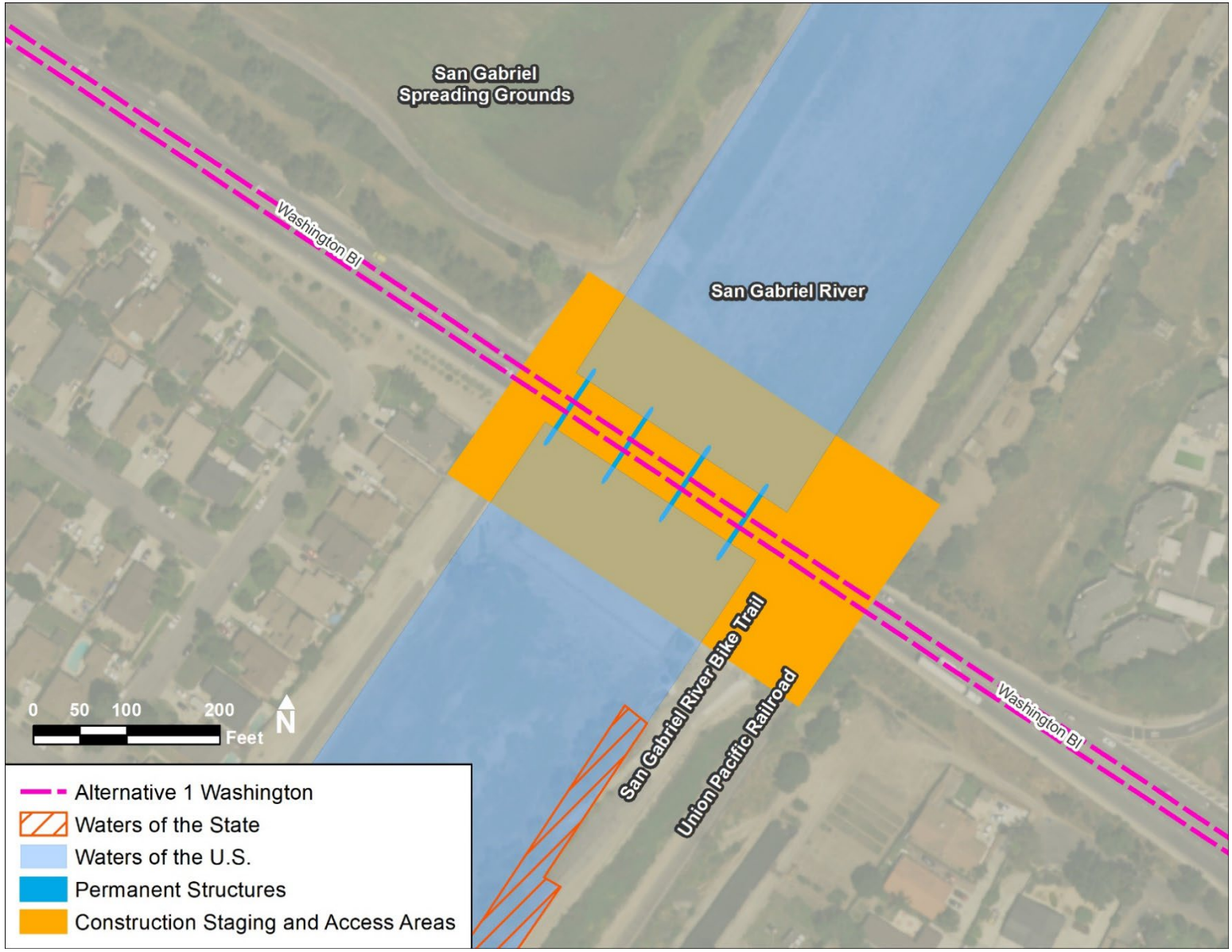
6.6.2 Alternative 1 Crossing of San Gabriel River

At the Washington Boulevard crossing, the San Gabriel River is lined with riprap armor on the banks. The river channel is soft-bottomed (LACDPW 2006) and vegetation consisting of smartweed (Polygonum sp.) was observed within the channel. Water flow through this stretch of the San Gabriel River is controlled by a series of rubber dams. The Los Angeles County Flood Control District (LACFCD) retains water behind these dams to increase infiltration of water into the riverbed and adjacent spreading grounds. The water is managed to maximize water depth and thus infiltration within short sections, and it is not uncommon for only one section at a time to be holding water while the sections up and downstream are completely dry. Waters of the U.S. at this location consist of the active San Gabriel River channel. Waters of the State would include the patches of riparian vegetation along the bank (**Figure 6.16**). No wetlands were observed along the river or in the adjacent spreading grounds.



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.15. Alternative 1 Crossing of the Rio Hondo



Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 6.16. Alternative 1 Crossing of the San Gabriel River

6.7 Trees Within Proposed Construction Areas

Mature trees that line surface streets along the proposed alignment and within roadway medians provide some limited habitat. Due to their mobility, some migratory bird species may use these mature trees within the BRSAs during migration. In addition, there is the potential for migratory birds, including raptors, to use existing mature trees within the BRSAs for breeding. For instance, many resident and migratory bird species are known to nest in palm trees, including hooded oriole, barn owl, and Northern flicker. Red-tailed hawk, Cooper's hawk, great-horned owl, and other raptors may nest in large pines. Smaller songbird species including lesser goldfinch, house finch, western scrub jay, bushtit, northern mockingbird, and American robin may nest in mature trees and shrubs in urban environments. Some species, such as cliff swallows, use bridges and other structures for nesting.

During the field investigations, trees located along the proposed alignment and within the footprints of the proposed stations were counted and identified by species. An updated estimate of trees potentially affected by construction was conducted in May 2019. In addition to trees located in landscaped areas, naturally vegetated areas were noted, including the relative density and type of trees and shrubs associated with each. Based on the field investigations, the majority of the proposed alignment traverses a highly developed area where biological resources consist only of street trees. In addition to the trees surveyed along the aerial and at-grade alignment and proposed stations in 2019, trees along the underground alignment and the Commerce MSF site option and Montebello MSF site option were counted using aerial imagery. Trees along Alternatives 2 and 3 were estimated based on the tree counts for Alternative 1. Total trees along the Build Alternatives and within the MSF site options are summarized in **Table 6-2**. More information about tree counts is included in Attachment A.

Table 6-2. Tree Counts Along the Build Alternatives and MSF Site Options

Alternative	Total Trees (approximate)
Alternative 1 alignment and station footprints	1,100
Alternative 2 alignment and station footprints	310
Alternative 3 alignment and station footprints	600
Commerce MSF site option	35
Montebello MSF site option	10

Notable findings of the field investigations and desktop review include:

- Approximately 300 trees were located along the underground alignment, which extends from the Atlantic station to where the underground alignment in the city of Commerce transitions to aboveground. These trees were estimated using aerial imagery.
- Approximately 600 trees are located in landscaped areas along the sidewalks and/or within center medians of Alternative 1 starting where the underground alignment in the city of Commerce transitions to aboveground then east to Lambert Avenue. Of the trees noted within the aboveground portion of the proposed alignment, 50 were identified as native trees and/or shrub species, including California sycamore, cottonwood, toyon, yucca, and flannel

bush. Non-native trees include palm, ficus, jacaranda, pine, eucalyptus, magnolia, sweet gum, Chinese elm, bottle brush, olive, tree of heaven, and tulip poplar.

- Approximately 160 non-native trees are located within the footprints of proposed at-grade and aerial stations. There are no native trees in the footprints of the stations. Trees that could be disturbed by surface ground disturbance for construction of the underground stations were included in the survey. Non-native trees include palm, ficus, jacaranda, pine, eucalyptus, magnolia, sweet gum, Chinese elm, bottle brush, olive, tree of heaven, and tulip poplar.

Based on aerial imagery and photo documentation from the site visits in 2021, a few street trees are located within the proposed MSF sites; the MSF sites are largely covered by roads, other paved areas, and buildings. **Figure 6.17** shows a view from the middle of the Commerce MSF, and **Figure 6.18** shows the area near the proposed Montebello MSF, which is also very similar to conditions within the Montebello MSF.

Figure 6.17. Proposed Commerce MSF Site Option from Davie Avenue near Corvette Street, March/April 2021

Figure 6.18. Proposed Montebello MSF Site Option from the Intersection of Washington Boulevard and Yates Avenue, March/April 2021

As described in **Section 3.3.2**, the street trees located along Alternatives 1, 2, and 3 and within the Commerce MSF and Montebello MSF site options are protected by local ordinances and municipal codes.

7.0 IMPACTS

7.1 Impact BIO-1: Protected Species

Impact BIO-1: Would a Build Alternative 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 CDFW or USFWS?

7.1.1 Alternative 1 Washington

7.1.1.1 Operational Impacts

Natural habitat that could support special-status species along Alternative 1 is limited to the Rio Hondo and San Gabriel River and associated spreading grounds. Large numbers of migratory water birds are known to utilize the transient open water habitat in these areas for foraging and resting. The migratory water birds that would be expected to use the spreading grounds do not include any of the special-status bird species that might be found in the BRSA of Alternative 1.

Riparian vegetation associated with the spreading grounds is limited to patches of trees and shrubs that line the shores of the retention basins and riparian habitat quality is low. Thus, special-status birds that could occur in the vicinity would not likely nest at the spreading grounds as they require dense, high-quality riparian habitat.

Special-status species associated with aquatic habitats would not be expected to occur within the spreading grounds due to the regular disturbance from water and vegetation management activities that result in water level fluctuations and a lack of permanent areas for refuge. Therefore, there would be no impacts on special-status wildlife species from operation of Alternative 1.

Similarly, special-status plant species are not likely to occur within the Alternative 1 crossings of the Rio Hondo and the San Gabriel River due to lack of suitable habitat and regular disturbance. No other suitable habitat for special-status plants occurs along the proposed alignment. For these reasons, there would be no impacts on special-status plant species from operation of Alternative 1.

Permanent loss of bat roosting sites at bridges over the Rio Hondo and/or San Gabriel River is not anticipated, as the new bridges are likely to have crevices in the substructure of the bridges where bats could roost. During operation of Alternative 1, bats roosting at bridges over the Rio Hondo and/or San Gabriel River would experience noise and vibration from the regular passage of the trains. Bats roosting in these locations under existing conditions are adapted to the regular noise and vibration from vehicular traffic. The additional recurring train movement would not result in percussive noise or levels of noise or vibration that would inhibit bat roosting. In addition, maintenance would likely entail periodic activities such as painting and pressure washing but would not entail replacement of the bridge structures. Therefore, there would be less than significant impacts on bats from operation of Alternative 1.

Operation of the proposed Alternative 1 would not result in noise, vibration, or other disturbance that would alter existing nesting behavior of nesting birds or cliff swallows, which are known to nest directly

under the bridges for both the Rio Hondo and San Gabriel River crossings. This is because the alignment would run along existing roads through a highly urbanized environment with limited habitat for nesting birds and noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. Maintenance of LRT facilities is not likely to entail removal of vegetation or of cliff swallow nesting habitat at the bridges but could involve tree trimming. Any tree trimming along Alternative 1 during the bird nesting season, which generally runs from January 1 through September 1, would result in potentially significant impacts on migratory birds. Thus, there would be potentially significant impacts on migratory birds from operation of Alternative 1. Implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season as discussed in **Section 9.1.1** would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 1 to less than significant. See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

Alternative 1 with the Atlantic/Pomona Station Option would not affect special-status species differently than the base Alternative 1, as special-status species are unlikely to occur in the area. Therefore, there would be no impacts on special-status species from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Under Alternative 1 with the Atlantic/Pomona Station Option, the operation of the Rio Hondo and San Gabriel bridges would remain the same as under the base Alternative 1. Bats roosting at bridges over the Rio Hondo and/or San Gabriel River would experience noise and vibration from the regular passage of the trains that is similar to the existing noise and vibration from vehicular traffic. In addition, maintenance would likely entail periodic activities such as painting and pressure washing but would not entail modification of the bridge structures. Therefore, there would be less than significant impacts on bats from operation of Alternative 1 with the Atlantic/Pomona Station Option.

The proposed alignment is located in an urbanized environment, which currently experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. Maintenance of LRT facilities is not likely to entail removal of vegetation or of cliff swallow nesting habitat at the bridges but could involve tree trimming. Any tree trimming along Alternative 1 with the Atlantic/Pomona Station Option during the bird nesting season would result in potentially significant impacts on migratory birds. Thus, there would be significant impacts on migratory birds from operation of Alternative 1 with the Atlantic/Pomona Station Option. Implementation of MM BIO-4, as summarized above and discussed in **Section 9.1.1,** would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 1 to less than significant. See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option would not affect special-status species differently than an aerial crossing at this location. Special-status species are unlikely to occur in the area because of a lack of suitable habitat. Therefore, there would be no impacts on special-status species from operation of Alternative 1 with the Montebello At-Grade Option.

Under the Montebello At-Grade Option, the operation of the Rio Hondo and San Gabriel bridges would remain the same as under Alternative 1. Bats roosting at bridges over the Rio Hondo and/or San Gabriel River would experience noise and vibration from the regular passage of the trains that is similar to the existing noise and vibration from vehicular traffic. In addition, maintenance would likely entail periodic activities such as painting and pressure washing but would not entail modification of the bridge structures. Therefore, there would be less than significant impacts on bats from operation of Alternative 1 with the Montebello At-Grade Option.

The proposed alignment is located in an urbanized environment, which currently experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. Maintenance of LRT facilities is not likely to entail removal of vegetation or of cliff swallow nesting habitat at the bridges but could involve tree trimming. Any tree trimming along Alternative 1 with the Montebello At-Grade Option during the bird nesting season would result in a potentially significant impacts on migratory birds. Thus, there would be potentially significant impacts on migratory birds from operation of Alternative 1 with the Montebello At-Grade Option. Implementation of MM BIO-4, as summarized above and discussed in **Section 9.1.1,** would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 1 to less than significant. See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.1.2 Construction Impacts

Because of the developed nature of the BRSA of Alternative 1 and lack of suitable habitat along the alignment, as discussed in **Section 7.1.1.1,** there would be no impacts on special-status species from construction of Alternative 1.

Construction of the Alternative 1 would involve construction across the Rio Hondo and San Gabriel River and the Rio Hondo Spreading Grounds. This would require activities such as installing the foundation and pouring the concrete for the superstructure. A total of one bridge column within the Rio Hondo, one column within the Rio Hondo Spreading Grounds, and four columns within the San Gabriel River would be replaced. If groundwater is encountered during excavation for bridge piers, the excavation would be supported with the use of drilling muds, or the "wet method of construction." With this method, the hole is kept filled with a drilling fluid during the entire operation of drilling the hole and placing the reinforcing and concrete. The drilling fluid may consist of water if the hole is stable against collapse, or a prepared slurry designed to maintain stability of the hole. The drilling slurry is formed by adding either mineral bentonite or synthetic polymers to water and is maintained inside the drilled hole at least five or more feet higher than the groundwater level. The expelled slurry would be pumped out of the hole and contained for disposal. It is anticipated that the cast-in-drilled-hole method would be used for construction of bridge piers, although pile driving would be used if this method is not feasible. As discussed above, no special-status wildlife or plant species have been identified in these locations due to lack of suitable habitat; therefore, there would be no impact on special-status species related to construction of the replacement bridges.

As discussed in **Section 6.4**, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Replacing one bridge column within the Rio Hondo, one column in the Rio Hondo Spreading Grounds, and four bridge columns within the San Gabriel River would result in potentially significant adverse effects on bat species, including temporary loss of bat roosting sites and noise from pile driving if this method is used for construction of bridge piers. Implementation of MM BIO-1 through MM BIO-3, which require pre-demolition bat surveys at each affected bridge site, removal of

cliff swallow nests that provide or could provide bat habitat, and the development of alternative bat habitat or implementation of bat exclusion measures as needed, would minimize the impact on bats from construction activities and ensure that bats have alternative habitat options to the bridges during construction. Thus, the implementation of MM BIO-1 through MM BIO-3 would reduce impacts on bats from construction of Alternative 1 to less than significant.

As discussed in **Section 6.7**, nesting habitat for migratory birds along Alternative 1 is limited to trees and other vegetation along streets and near the bridges over the Rio Hondo and San Gabriel River. Cliff swallows are known to nest directly under the bridges for both the Rio Hondo and the San Gabriel River crossings, so construction at the bridges during the nesting season would result in adverse effects on these migratory birds. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. In addition, pile driving near active bird nests would result in potentially significant impacts on nesting migratory birds. Therefore, there would be significant impacts on migratory birds from construction of Alternative 1. Implementation of MM BIO-4, which requires preconstruction nesting bird surveys and avoidance of active nests during the bird nesting season, would reduce potential impacts on migratory birds to less than significant.

See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 1, special-status species are unlikely to occur in or near the Atlantic/Pomona Station Option and remainder of Alternative 1 because of the lack of suitable habitat; thus, no impacts on special-status species would occur.

As with the base Alternative 1, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Replacing the bridges and bridge columns in the rivers and spreading grounds would result in potentially significant impacts on bat species, including temporary loss of bat roosting sites and noise from pile driving if this method is used for construction of bridge piers. Implementation of MM BIO-1 through MM BIO-3, as summarized above and identified in **Section 9.1.1**, would minimize the impact on bats from construction activities and ensure that bats have alternative habitat options to the bridges during construction. Thus, the implementation of MM BIO-1 through MM BIO-3 would reduce impacts on bats from construction of Alternative 1 with the Atlantic/Pomona Station Option to less than significant.

Some migratory birds could nest in street trees along the Atlantic/Pomona Station Option and remainder of Alternative 1. Cliff swallows were observed nesting under the Washington Boulevard bridge during surveys in May 2016. Disturbances to vegetation and structures along the alignment that provide bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. In addition, pile driving near active bird nests would result in potentially significant impacts on nesting migratory birds. Implementation of MM BIO-4, as summarized above and identified in **Section 9.1.1**, would reduce potential impacts on migratory birds to less than significant.

See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

As with the base Alternative 1, special-status species are unlikely to occur in or near the Montebello At-Grade Option and remainder of Alternative 1 because of the lack of suitable habitat; thus, no impacts on special-status species would occur.

As with the base Alternative 1, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Replacing the bridges and bridge columns in the rivers and spreading grounds would result in potentially significant impacts on bat species, including temporary loss of bat roosting sites and noise from pile driving if this method is used for construction of bridge piers. Implementation of MM BIO-1 through MM BIO-3, as summarized above and identified in **Section 9.1.1**, would minimize the impact on bats from construction activities and ensure that bats have alternative habitat options to the bridges during construction. Thus, the implementation of MM BIO-1 through MM BIO-3 would reduce impacts on bats from construction of Alternative 1 with the Montebello At-Grade Option to less than significant.

Some migratory birds could nest in street trees along the Montebello At-Grade Option and remainder of Alternative 1. Cliff swallows were observed nesting under the Washington Boulevard bridge during surveys in May 2016. Disturbances to vegetation and structures along the alignment that provides bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. In addition, pile driving near active bird nests would result in potentially significant impacts on nesting migratory birds. Implementation of MM BIO-4, as summarized above and identified in **Section 9.1.1**, would reduce potential impacts on migratory birds to less than significant.

See **Section 9.1.1** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.2 Alternative 2 Atlantic to Commerce/Citadel IOS

7.1.2.1 Operational Impacts

Special-status species are unlikely to occur within Alternative 2 as it is highly developed and does not cross the Rio Hondo and San Gabriel River or their associated spreading grounds. Thus, there would be no impacts on special-status species from operation of Alternative 2.

As discussed in **Section 6.4** suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Alternative 2 would not operate over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from operation of Alternative 2.

As discussed in **Section 6.7**, migratory birds could nest in street trees. Potential impacts on nesting birds could result from increased noise or vibration associated with ongoing operations, such as increased concentration of human activity at stations. However, Alternative 2 is in a highly urbanized environment, which already experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. The majority of the proposed alignment would run under existing roads, so operation of the proposed Alternative 2 would not likely alter existing nesting behavior within the BRSA of Alternative 2. Maintenance of LRT facilities is not likely to entail removal of vegetation but could involve tree trimming at surface facilities and above-ground portions of the

alignment. Any tree trimming along Alternative 2 during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 2 to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Option

Atlantic/Pomona Station Option

Operation of Alternative 2 with the Atlantic/Pomona Station Option would not affect protected species differently than the base Alternative 1. Because of the developed nature of the BRSA and lack of suitable habitat along the alignment, there would be no impacts on special-status species from construction of Alternative 2 with the Atlantic/Pomona Station Option.

As discussed in **Section 6.4**, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Alternative 2 would not operate over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from operation of Alternative 2 with the Atlantic/Pomona Station Option.

As discussed in **Section 6.7** migratory birds could nest in street trees. Any tree trimming along Alternative 2 with the Atlantic/Pomona Station Option during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 2 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.2.2 Construction Impacts

Because the BRSA of Alternative 2 is highly developed and does not support habitat for special-status species, there would be no impacts on special-status species from construction of Alternative 2.

Alternative 2 would not require bridge work over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from construction of Alternative 2.

As discussed in **Section 6.7**, migratory birds could nest in trees or other vegetation located within the construction area. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of Alternative 2 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Option

Atlantic/Pomona Station Option

As with the base Alternative 2, Alternative 2 with the Atlantic/Pomona Station Option is highly developed and does not support habitat for special-status species; thus, there would be no impacts on special-status species from construction of Alternative 2 with the Atlantic/Pomona Station Option.

No bridge work would be required over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from construction of Alternative 2 with the Atlantic/Pomona Station Option.

As discussed in **Section 6.7**, migratory birds could nest in trees or other vegetation located within the construction area. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of Alternative 2 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.3 Alternative 3 Atlantic to Greenwood IOS

7.1.3.1 Operational Impacts

The BRSA of Alternative 3 does not support habitat for special-status species as it is highly developed. Thus, there would be no impacts on special-status species from operation of Alternative 3.

As discussed in **Section 6.4**, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. Alternative 3 would not operate over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from operation of Alternative 3.

As discussed in **Section 6.7**, migratory birds could nest in street trees. Potential impacts on nesting birds could result from increased noise or vibration associated with ongoing operations, such as increased concentration of human activity at stations. However, Alternative 3 is in a highly urbanized environment, which already experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. The majority of the proposed alignment would run under and along existing roads. Thus, operation of the proposed Alternative 3 would not likely alter existing nesting behavior within the BRSA. Maintenance of LRT facilities is not likely to entail removal of vegetation but could involve tree trimming at surface facilities and above-ground portions of the alignment. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 3 to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

Operation of Alternative 3 with the Atlantic/Pomona Station Option would not affect protected species differently than the base Alternative 3. Because of the developed nature of the BRSA and lack of suitable habitat along the alignment, there would be no impacts on special-status species from construction of Alternative 3 with the Atlantic/Pomona Station Option. Alternative 3 would not operate over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from operation of Alternative 3 with the Atlantic/Pomona Station Option.

As discussed in **Section 6.7**, migratory birds could nest in street trees. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 3 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option would generally have similar impacts on protected species as the aerial crossing at this location. Because of the developed nature of the BRSA and lack of suitable habitat along the alignment, there would be no impacts on special-status species from construction of Alternative 3 with the Montebello At-Grade Option. Thus, there would be no impacts on special-status species or bats from operation of Alternative 3 with the Montebello At-Grade Option.

The proposed alignment is located in an urbanized environment, which already experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. The At-Grade segment would have similar noise levels to existing conditions. As with an aerial crossing in Montebello, under the Montebello At-Grade Option, maintenance could involve tree trimming at surface facilities and above-ground portions of the alignment. As discussed in **Section 6.7**, migratory birds could nest in street trees. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of Alternative 3 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.3.2 Construction Impacts

Because the BRSA of Alternative 3 is highly developed and does not support habitat for special-status species, there would be no impacts on special-status species from construction of Alternative 3.

Alternative 3 would not require bridge work over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from construction of Alternative 3.

As discussed in **Section 6.7**, migratory birds could nest in trees or other vegetation located within the construction area. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of Alternative 3 to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 3, Alternative 3 with the Atlantic/Pomona Station Option is highly developed and does not support habitat for special-status species; thus, there would be no impacts on special-status species from construction of Alternative 3 with the Atlantic/Pomona Station Option.

No bridge work would be required over the Rio Hondo or San Gabriel River where bats are most likely to occur; thus, there would be no impacts on bats from construction of Alternative 3 with the Atlantic/Pomona Station Option.

As discussed in **Section 6.7**, migratory birds could nest in trees or other vegetation located within the construction area. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of Alternative 3 with the Atlantic/Pomona Station Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

Construction of the Montebello At-Grade Option would generally have similar impacts to protected species as the aerial crossing at this location. Because of the developed nature of the BRSA and lack of suitable habitat along the alignment, there would be no impacts on special-status species from construction of Alternative 3 with the Montebello At-Grade Option. Furthermore, this design option would not require bridge work over the Rio Hondo or San Gabriel River where bats are most likely to occur. Therefore, there would be no impacts on special-status species or bats from construction of Alternative 3 with the Montebello At-Grade Option.

As discussed in **Section 6.7**, migratory birds could nest in trees or other vegetation located within the construction area. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of Alternative 3 with the Montebello At-Grade Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.4 Maintenance and Storage Facilities

7.1.4.1 Operational Impacts

7.1.4.1.1 Commerce MSF

The Commerce MSF site option and surrounding area is highly developed and does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from operation of the Commerce MSF site option.

Potential impacts on nesting birds could result from increased noise or vibration associated with ongoing operations. The Commerce MSF site option would be in a highly urbanized environment that already experiences noise and vibration levels that likely discourage birds from nesting close to the proposed location. Operation of the MSF would not likely alter existing nesting behavior within the BRSA. Therefore, there would be no impacts on nesting birds due to noise or vibration during operation. However, there are a few street trees within the MSF site option and, as discussed in **Section 6.7**, migratory birds could nest in street trees. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of the Commerce MSF to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.4.1.2 Montebello MSF

The Montebello MSF site option and surrounding area is highly developed and does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from operation of the Montebello MSF site option.

Potential impacts on nesting birds could result from increased noise or vibration associated with ongoing operations. The Montebello MSF site option would be in a highly urbanized environment, which already experiences noise and vibration levels that likely discourage birds from nesting close to the proposed alignment. Operation of the MSF would not likely alter existing nesting behavior within the BRSA. Therefore, there would be no impacts on nesting birds due to noise or vibration during operation. There are a few street trees within the MSF site option and, as discussed in **Section 6.7**, migratory birds could nest in street trees. Maintenance is not expected to involve vegetation removal but could involve tree trimming. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of the Montebello MSF to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Option

Montebello MSF At-Grade Option

Operation of the Montebello MSF At-Grade Option would generally have similar impacts to protected species as the aerial crossing at this location. The Montebello MSF At-Grade Option, specifically the connection between the alignment and Montebello MSF, would be within a highly developed area and does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from operation of the Montebello MSF At-Grade Option.

As with an aerial crossing in Montebello, the Montebello MSF At-Grade Option could require maintenance activities that involve tree trimming. Any tree trimming during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during maintenance activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from operation of the Montebello MSF to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.4.2 Construction Impacts

7.1.4.2.1 Commerce MSF

The Commerce MSF site option and surrounding area does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from construction of the Commerce MSF site option.

Migratory birds could nest in street trees within the proposed MSF site option. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of the Commerce MSF site option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.1.4.2.2 Montebello MSF

The Montebello MSF site option and surrounding area does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from construction of the Montebello MSF site option.

Migratory birds could nest in street trees within the proposed MSF site option. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of the Montebello MSF site option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

Design Option

Montebello MSF At-Grade Option

Construction of the Montebello MSF At-Grade Option would generally have similar impacts to protected species as the aerial crossing at this location. Construction of the Montebello MSF At-Grade Option, specifically the connection between the alignment and MSF, is in a highly developed location that does not contain habitat for special-status species or bats. Thus, there would be no impacts on special-status species or bats from construction of the Montebello MSF At-Grade Option.

Migratory birds could nest in street trees within the proposed Montebello MSF At-Grade Option. Disturbances to vegetation and structures providing bird nesting habitat during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 7.1.1.1** and identified in **Section 9.0**, would ensure that bird nests would be avoided during construction activities. Thus, the implementation of MM BIO-4 would reduce impacts on migratory birds from construction of the Montebello MSF At-Grade Option to less than significant. See **Section 9.0** for the proposed mitigation and impacts after incorporation of mitigation.

7.2 Impact BIO-2: Riparian Habitat/Sensitive Natural Communities

Impact BIO 2: Would a Build Alternative have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?

7.2.1 Alternative 1 Washington

7.2.1.1 Operational Impacts

As discussed in **Section 6.5**, no sensitive vegetation communities exist within the BRSA of Alternative 1; therefore, there would be no impacts on sensitive vegetation communities from operation of Alternative 1.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities, such as painting and pressure washing, would primarily occur within developed or paved areas. Thus, it is unlikely that operation of Alternative 1 would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 1.

Design Options

Atlantic/Pomona Station Option

Operation of Alternative 1 with the Atlantic/Pomona Station Option would not affect sensitive vegetation communities differently than the base Alternative 1. As discussed in **Section 6.5**, no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 1. Thus, there would be no impacts on sensitive vegetation communities from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of Alternative 1 with the Montebello At-Grade Option would not affect protected species differently than an aerial crossing at this location. As discussed in **Section 6.5**, no sensitive vegetation communities exist within the Montebello At-Grade Option alignment or the remainder of Alternative 1. Thus, there would be no impacts on sensitive vegetation communities from operation of Alternative 1 with the Montebello At-Grade Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 1 with the Montebello At-Grade Option.

7.2.1.2 Construction Impacts

No impacts on sensitive vegetation communities would occur as no sensitive vegetation communities exist along Alternative 1. Small patches of willow riparian scrub habitat along the San Gabriel River at the spreading grounds would not be affected by construction. Approximately 3.95 acres of non-native (California naturalized annual and perennial) grassland and 0.01 acre of ornamental vegetation would be affected by temporary impacts during construction of Alternative 1, as shown in **Figure 6.8** and **Figure 6.11**. There would be permanent impacts on 0.01 acre of non-native (California naturalized annual and perennial) grassland from construction of Alternative 1.

The proposed bridge over the Rio Hondo and spreading grounds would be approximately 24 feet wider than the existing bridge and the proposed bridge over the San Gabriel River would be 32 feet wider than the existing bridge; thus, these replacement bridges would shade a larger area. However, because there are no sensitive vegetation communities in this area, there would be no impacts on sensitive vegetation communities from construction of Alternative 1.

Many species of invasive plants were observed in the areas where construction would occur. Along the underground, at-grade, and aerial portions of the alignment, construction equipment would likely be

operated within areas of exposed dirt, for activities such as excavation and staging. The possible introduction or spread of invasive plants during construction from use of equipment, which could spread invasive plant seeds from one area of exposed soil to another, would result in a potentially significant impact on native vegetation communities and habitat. Implementation of MM BIO-5, which requires the contractor to clean construction vehicles with compressed air or water within a designated containment area, and MM BIO-6, which requires the contractor to wash soil and plant material off all equipment tires and tread before moving to areas of exposed soils, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.1** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

Construction of Alternative 1 with the Atlantic/Pomona Station Option would not affect sensitive vegetation communities differently than the base Alternative 1. No impacts on sensitive vegetation communities would occur as no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 1. A small area of non-native grassland may be impacted from construction in the spreading grounds. Thus, there would be no impacts on sensitive vegetation communities from construction of Alternative 1 with the Atlantic/Pomona Station Option.

As with the base Alternative 1, there would be a potentially significant impact from the possible introduction or spread of invasive plants from use of construction equipment in areas of exposed soil. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.1**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.1** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

Construction of the Montebello At-Grade Option would not affect sensitive vegetation communities differently than an aerial crossing at this location. No impacts on sensitive vegetation communities would occur as no sensitive vegetation communities exist along the Montebello At-Grade Option or the remainder of Alternative 1. A small area of non-native grassland may be impacted from construction in the spreading grounds. Thus, there would be no impacts on sensitive vegetation communities from construction of Alternative 1 with the Montebello At-Grade Option.

As with the base Alternative 1, there would be a potentially significant impact from the possible introduction or spread of invasive plants from use of construction equipment in areas of exposed soil. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.1**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.1** for the proposed mitigation and impacts after incorporation of mitigation.

7.2.2 Alternative 2 Atlantic to Commerce/Citadel IOS

7.2.2.1 Operational Impacts

No sensitive vegetation communities exist along Alternative 2; therefore, there would be no impacts on sensitive vegetation communities from operation of Alternative 2.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities, such as painting and pressure washing, would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 2.

Design Option

Atlantic/Pomona Station Option

As with the base Alternative 2, no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 2. Thus, there would be no impacts on sensitive vegetation communities from operation of Alternative 2 with the Atlantic/Pomona Station Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 2 with the Atlantic/Pomona Station Option.

7.2.2.2 Construction Impacts

No sensitive vegetation communities exist along Alternative 2; therefore, there would be no impacts on sensitive vegetation communities from construction of Alternative 2.

Many species of invasive plants were observed in the areas where construction would occur. Although the majority of Alternative 2 would be underground, construction equipment would likely be operated within areas of exposed dirt for activities such as excavation and staging. The possible introduction or spread of invasive plants during construction from equipment use would result in a potentially significant impact on native vegetation communities and habitat in surrounding areas. Thus, there would be a potentially significant impact from invasive species spread caused by construction of Alternative 2. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.2**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.2** for the proposed mitigation and impacts after incorporation of mitigation.

Design Option

Atlantic/Pomona Station Option

As with the base Alternative 2, no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 2. Thus, there would be no impacts on sensitive vegetation communities from construction of Alternative 2 with the Atlantic/Pomona Station Option.

The possible introduction or spread of invasive plants during construction from equipment use would result in a potentially significant impact on native vegetation communities and habitat in surrounding areas. Thus, there would be a potentially significant impact from invasive species spread caused by construction of Alternative 2 with the Atlantic/Pomona Station Option. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.2**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.2** for the proposed mitigation and impacts after incorporation of mitigation.

7.2.3 Alternative 3 Atlantic to Greenwood IOS

7.2.3.1 Operational Impacts

Similar to Alternative 1, no sensitive vegetation communities exist along Alternative 3; therefore, there would be no impacts on sensitive vegetation communities from operation of Alternative 3.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities, such as painting and pressure washing, would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants and there would be less than significant impacts from operation of Alternative 3.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 3, no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 3. Thus, there would be no impacts on sensitive vegetation communities from operation of Alternative 3 with the Atlantic/Pomona Station Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants; there would be less than significant impacts from operation of Alternative 3 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of Alternative 1 with the Montebello At-Grade Option would not affect protected species differently than an aerial crossing at this location. No impacts on sensitive vegetation communities

would occur as no sensitive vegetation communities exist along the Montebello At-Grade Option alignment or the remainder of Alternative 3; there would be no impacts on sensitive vegetation communities from operation of Alternative 3 with the Montebello At-Grade Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, maintenance activities, such as painting and pressure washing, would primarily occur within developed or paved areas. Thus, it is unlikely that maintenance of LRT facilities would introduce or spread invasive plants and there would be less than significant impacts from operation of Alternative 3 with the Montebello At-Grade Option.

7.2.3.2 Construction Impacts

No sensitive vegetation communities exist along Alternative 3; therefore, there would be no impacts on sensitive vegetation communities from construction of Alternative 3.

Many species of invasive plants were observed in the areas where construction would occur. Construction equipment would likely be operated within areas of exposed dirt for activities such as excavation and staging. These activities would be required for construction of the at-grade segment, as well as the remainder of Alternative 3. The introduction or spread of invasive plants during construction from equipment use would result in a potentially significant impact on native vegetation communities and habitat in surrounding areas. Thus, there would be a potentially significant impact from invasive species spread caused by construction of Alternative 3. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.3**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.3** for the proposed mitigation and impacts after incorporation of mitigation.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 3, no sensitive vegetation communities exist within the Atlantic/Pomona Station Option or the remainder of Alternative 3. Thus, there would be no impacts on sensitive vegetation communities from construction of Alternative 3 with the Atlantic/Pomona Station Option.

Many species of invasive plants were observed in the areas where construction would occur. Construction equipment would likely be operated within areas of exposed dirt for activities such as excavation and staging. The introduction or spread of invasive plants during construction from equipment use would result in a potentially significant impact on native vegetation communities and habitat in surrounding areas. Thus, there would be a potentially significant impact from invasive species spread caused by construction of Alternative 3 with the Atlantic/Pomona Station Option. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.3**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.3** for the proposed mitigation and impacts after incorporation of mitigation.

Montebello At-Grade Option

Construction of Alternative 3 with the Montebello At-Grade Option would not affect sensitive vegetation communities differently than an aerial crossing at this location. No impacts on sensitive vegetation communities would occur as no sensitive vegetation communities exist within the Montebello At-Grade Option or along Alternative 3. Thus, there would be no impacts on sensitive vegetation communities from construction of Alternative 3 with the Montebello At-Grade Option.

Many species of invasive plants were observed in the areas where construction would occur. Construction equipment would likely be operated within areas of exposed dirt for activities such as excavation and staging. The introduction or spread of invasive plants during construction from equipment use would result in a potentially significant impact on native vegetation communities and habitat in surrounding areas. Thus, there would be a potentially significant impact from invasive species spread caused by construction of Alternative 3 with the Montebello At-Grade Option. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 7.2.1.2** and identified in **Section 9.2.3**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant. See **Section 9.2.3** for the proposed mitigation and impacts after incorporation of mitigation.

7.2.4 Maintenance and Storage Facilities

7.2.4.1 Operational Impacts

7.2.4.1.1 Commerce MSF

No sensitive vegetation communities exist at or near the Commerce MSF site option, so there would be no impacts on sensitive vegetation communities from operation of the MSF site option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. Because the proposed site option is mostly paved, it is unlikely that maintenance of the MSF would introduce or spread invasive plants; there would be less than significant impacts from operation of the Commerce MSF site option.

7.2.4.1.2 Montebello MSF

No sensitive vegetation communities exist at or near the Montebello MSF site option, so there would be no impacts on sensitive vegetation communities from operation of the MSF site option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, because the proposed site option is mostly paved, it is unlikely that maintenance of the MSF would introduce or spread invasive plants; thus, there would be less than significant impacts from operation of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

The operation of the Montebello MSF At-Grade Option connection between the alignment and Montebello MSF would not directly impact sensitive vegetation communities, as none exist in the area. Thus, there would be no impacts on sensitive vegetation communities from operation of the Montebello MSF At-Grade Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. However, since this area is mostly paved, it is unlikely that maintenance would introduce or spread invasive plants; thus, there would be less than significant impacts from operation of the Montebello MSF At-Grade Option.

7.2.4.2 Construction Impacts

7.2.4.2.1 Commerce MSF

The construction of the Commerce MSF site option would not directly impact sensitive vegetation communities, as none exist at or near the MSF site option. Thus, there would be no impacts on sensitive vegetation communities from construction of the Commerce MSF site option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. Because the MSF site option will be mostly paved, it is unlikely that construction would introduce or spread invasive plants; thus, there would be less than significant impacts from construction of the Commerce MSF site option.

7.2.4.2.2 Montebello MSF

The construction of the Montebello MSF site option would not directly impact sensitive vegetation communities, as none exist at or near the MSF site option. Thus, there would be no impacts on sensitive vegetation communities from construction of the Montebello MSF site option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. Because the MSF site option will be mostly paved, it is unlikely that construction would introduce or spread invasive plants; thus, there would be less than significant impacts from construction of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

The construction of the Montebello MSF At-Grade Option connection between the alignment and MSF would not directly impact sensitive vegetation communities, as none exist in the area. Thus, there would be no impacts on sensitive vegetation communities from construction of the Montebello MSF At-Grade Option.

Equipment used for maintenance activities, such as painting and pressure washing, has the potential to transport invasive plant seeds if used in areas of exposed soil. Since this area will be mostly paved, it is unlikely that construction would introduce or spread invasive plants; thus, there would be less than significant impacts from construction of the Montebello MSF At-Grade Option.

7.3 Impact BIO-3: Movement of Fish and Wildlife Species

Impact BIO 3: Would a Build Alternative 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?

7.3.1 Alternative 1 Washington

7.3.1.1 Operational Impacts

The Rio Hondo and San Gabriel River may provide for movement of fish and other aquatic or semi-aquatic native wildlife species. No in-water activities are expected to occur as part of regular operation and maintenance activities. Operation of Alternative 1 would not restrict fish and wildlife movement within rivers beyond existing conditions. Additionally, no established terrestrial wildlife corridors are located along Alternative 1. Thus, there would be no impact on the movement of fish and wildlife species from operation of Alternative 1.

Design Options

Atlantic/Pomona Station Option

Operation of the Atlantic/Pomona Station Option would not affect the movement of fish and wildlife species differently than the base Alternative 1. Similar to Alternative 1, no in-water activities are expected to occur as part of regular operation and maintenance activities. The Atlantic Pomona Station Option would not restrict movement of fish and wildlife beyond existing conditions. Additionally, no established terrestrial wildlife corridors are located along the alignment. Thus, there would be no impact on the movement of fish and wildlife species from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option would not affect the movement of fish and wildlife species differently than an aerial crossing at this location. Similar to Alternative 1, no in-water activities are expected to occur as part of regular operation and maintenance activities. The Montebello At-Grade Option would not restrict movement of fish and wildlife beyond existing conditions. Additionally, no established terrestrial wildlife corridors are located along the alignment. Thus, there would be no impact on the movement of fish and wildlife species from operation of Alternative 1 with the Montebello At-Grade Option.

7.3.1.2 Construction Impacts

Construction of Alternative 1 would involve construction across the Rio Hondo and San Gabriel River and the Rio Hondo Spreading Grounds. A total of one column within the Rio Hondo, one column within the Rio Hondo Spreading Grounds, and four columns within the San Gabriel River would be replaced. As described by project measure PM HWQ-3 (**Section 8.0**), to the extent feasible, construction work within the Rio Hondo, Rio Hondo Spreading Grounds, and San Gabriel River would be scheduled to occur in the dry season when there is no water and the common aquatic species mentioned in **Section 6.0** would be unlikely to be present. If work occurs when water is present in the Rio Hondo and spreading grounds or the San Gabriel River, common aquatic species present in the water bodies would be able to readily move away from the in-water work. Therefore, there would be less than significant impacts on the movement of fish and wildlife species from construction of Alternative 1. The implementation of MM HWQ-1, as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would require the work area to be isolated so that construction does not occur in water which would further reduce impacts on fish and wildlife movement.

There are no terrestrial wildlife corridors within the BRSA of Alternative 1, so there would be no impacts on terrestrial wildlife corridors from construction of Alternative 1.

Design Options

Atlantic/Pomona Station Option

Construction of the Atlantic/Pomona Station Option would not affect movement of fish and wildlife differently than the base Alternative 1. Construction of the Atlantic/Pomona Station Option would require the same construction across the Rio Hondo and San Gabriel River and associated spreading basins as the base Alternative 1. As described by project measure PM HWQ-3 (**Section 8.0**), to the extent feasible, construction work within the Rio Hondo, Rio Hondo Spreading Grounds, and San Gabriel River would be scheduled to occur in the dry season when there is no water and the common aquatic species mentioned in **Section 6.0** would be unlikely to be present. If work occurs when water is present in the Rio Hondo and spreading grounds or the San Gabriel River, common aquatic species present in the water bodies would be able to readily move away from the in-water work. Therefore, there would be less than significant impacts on the movement of fish and wildlife species from construction of Alternative 1 with the Atlantic/Pomona Station Option. The implementation of MM HWQ-1, as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would further reduce impacts on fish and wildlife movement.

There are no terrestrial wildlife corridors within the BRSA of Alternative 1, so there would be no impacts on terrestrial wildlife corridors from construction of Alternative 1 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Construction of the Montebello At-Grade Option would not affect movement of fish and wildlife differently than an aerial crossing at this location. Construction of the Montebello At-Grade Option would require the same construction across the Rio Hondo and San Gabriel River and associated spreading basins as the aerial crossing. As described by project measure PM HWQ-3 (**Section 8.0**), to the extent feasible, construction work within the Rio Hondo, Rio Hondo Spreading Grounds, and San

Gabriel River would be scheduled to occur in the dry season when there is no water and the common aquatic species mentioned in **Section 6.0** would be unlikely to be present. If work occurs when water is present in the Rio Hondo and spreading grounds or the San Gabriel River, common aquatic species present in the water bodies would be able to readily move away from the in-water work. Therefore, there would be less than significant impacts on the movement of fish and wildlife species from construction of Alternative 1 with the Montebello At-Grade Option. The implementation of MM HWQ-1, as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would further reduce impacts on fish and wildlife movement.

There are no terrestrial wildlife corridors within the BRSA of Alternative 1, so there would be no impacts on terrestrial wildlife corridors from construction of Alternative 1 with the Montebello At-Grade Option.

7.3.2 Alternative 2 Atlantic to Commerce/Citadel IOS

7.3.2.1 Operational Impacts

Alternative 2 would not cross the Rio Hondo or San Gabriel River and there are no aquatic corridors within the alignment. No established terrestrial wildlife corridors exist within the BRSA of Alternative 2. Thus, there would be no impacts on the movement of fish and wildlife species from operation of Alternative 2.

Design Option

Atlantic/Pomona Station Option

As with the base Alternative 2, Alternative 2 with the Atlantic Pomona Station Option would not cross the Rio Hondo or San Gabriel River. No aquatic or terrestrial wildlife corridors exist within the BRSA of Alternative 2, including the Atlantic/Pomona Station Option. Thus, there would be no impacts on the movement of fish and wildlife species from operation of Alternative 2 with the Atlantic/Pomona Station Option.

7.3.2.2 Construction Impacts

Alternative 2 would not cross the Rio Hondo or San Gabriel River and no work would be required in the rivers. No aquatic or terrestrial wildlife corridors exist within the BRSA of Alternative 2. Thus, there would be no impacts on the movement of fish and wildlife species from construction of Alternative 2.

Design Option

Atlantic/Pomona Station Option

As with the base Alternative 2, Alternative 2 with the Atlantic Pomona Station Option would not cross or affect the Rio Hondo or San Gabriel River. No aquatic or terrestrial wildlife corridors exist within the

BRSA of Alternative 2, including the Atlantic/Pomona Station Option. Thus, there would be no impacts on the movement of fish and wildlife species from construction of Alternative 2 with the Atlantic/Pomona Station Option.

7.3.3 Alternative 3 Atlantic to Greenwood IOS

7.3.3.1 Operational Impacts

Alternative 3 would not cross the Rio Hondo or San Gabriel River and there are no other aquatic corridors in the alignment. No established terrestrial wildlife corridors exist within the BRSA of Alternative 3. Thus, there would be no impacts on the movement of fish and wildlife species from operation of Alternative 3.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 3, Alternative 3 with the Atlantic Pomona Station Option would not cross the Rio Hondo or San Gabriel River. No aquatic or terrestrial wildlife corridors exist within the BRSA of Alternative 3, including the Atlantic/Pomona Station Option. Thus, there would be no impacts on the movement of fish and wildlife species from operation of Alternative 3 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option would not affect the movement of fish and wildlife species differently than an aerial crossing at this location. No work would take place within any aquatic corridors or in an established wildlife corridor. Thus, there would be no impacts on the movement of fish and wildlife species from operation of Alternative 3 with the Montebello At-Grade Option.

7.3.3.2 Construction Impacts

Alternative 3 would not cross any aquatic corridors and no work would be required in the rivers. No established terrestrial wildlife corridors exist within the BRSA of Alternative 3. Thus, there would be no impacts on the movement of fish and wildlife species from construction of Alternative 3.

Design Options

Atlantic/Pomona Station Option

As with the base Alternative 3, Alternative 3 with the Atlantic Pomona Station Option would not cross or affect the Rio Hondo or San Gabriel River. No aquatic or terrestrial wildlife corridors exist within the BRSA of Alternative 3, including the Atlantic/Pomona Station Option. Thus, there would be no impacts on the movement of fish and wildlife species from construction of Alternative 3 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Construction of the Montebello At-Grade Option would not affect the movement of fish and wildlife species differently than an aerial crossing at this location. No work would take place within any aquatic corridors or in an established wildlife corridor. Thus, there would be no impacts on the movement of fish and wildlife species from construction of Alternative 3 with the Montebello At-Grade Option.

7.3.4 Maintenance and Storage Facilities

7.3.4.1 Operational Impacts

7.3.4.1.1 Commerce MSF

Because there are no aquatic or terrestrial corridors within the MSF, there would be no impact on the movement of fish or wildlife species from operation of the Commerce MSF.

7.3.4.1.2 Montebello MSF

Because there are no aquatic or terrestrial corridors within the MSF, there would be no impact on the movement of fish or wildlife species from operation of the Montebello MSF.

Design Option

Montebello MSF At-Grade Option

Operation of the Montebello MSF At-Grade Option would not impact the movement of fish and wildlife species differently than an aerial crossing at this location, because there are no aquatic or terrestrial wildlife corridors within the MSF. Thus, there would be no impact on the movement of fish or wildlife species from operation of the Montebello MSF At-Grade Option.

7.3.4.2 Construction Impacts

7.3.4.2.1 Commerce MSF

Because there are no aquatic or terrestrial corridors within the MSF, there would be no impact on the movement of fish or wildlife species from construction of the Commerce MSF site option.

7.3.4.2.2 Montebello MSF

Because there are no aquatic or terrestrial corridors within the MSF, there would be no impact on the movement of fish or wildlife species from construction of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

Construction of the Montebello MSF site option would not impact the movement of fish and wildlife species differently than an aerial crossing at this location, because there are no aquatic or terrestrial wildlife corridors within the MSF. Thus, there would be no impact on the movement of fish or wildlife species from construction of the Montebello MSF At-Grade Option.

7.4 Impact BIO-4: Policies/Ordinances

Impact BIO 4: Would a Build Alternative conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

7.4.1 Alternative 1 Washington

7.4.1.1 Operational Impacts

As discussed in **Section 3.3.2**, tree protection policies are in effect in each of the cities within the BRSA. Therefore, trees along the proposed alignment and within proposed stations would be protected by these local policies. No impacts on locally protected trees would occur during operation. If maintenance of LRT facilities entails tree trimming, local policies and municipal codes regarding protection of both native trees and street trees would be considered to ensure compliance requirements are met. Thus, Alternative 1 would not conflict with tree protection policies or other local policies or ordinances protecting biological resources and there would be no impact from operation of Alternative 1.

Design Options

Atlantic/Pomona Station Option

Operation of Alternative 1 with the Atlantic/Pomona Station Option would generally have the same impacts as the base Alternative 1. Maintenance activities such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with tree protection policies or other local policies or ordinances protecting biological resources. Thus, there would be no impact from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option would generally have the same impacts as an aerial crossing at this location. Maintenance activities such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with tree protection policies or other local policies or ordinances protecting biological resources. Thus, there would be no impact from operation of Alternative 1 with the Montebello At-Grade Option.

7.4.1.2 Construction Impacts

As discussed in **Section 6.7**, approximately 1,100 trees are located along Alternative 1. According to the tree survey conducted in 2019, approximately 600 trees are located in landscaped areas along the sidewalks and/or within center medians of aerial and at-grade portions of Alternative 1, of which 50 are native trees. Approximately 250 non-native trees are located within the footprints of the proposed at-grade and aerial stations. A subset of the trees observed within the BRSA would be removed or disturbed during construction. Local tree protection policies typically require tree removal permits which may include tree replacement or relocation under a plan prepared in compliance with tree protection policies.

It is unknown exactly how many trees would be affected, but not all trees along the alignment would be affected. Where the proposed alignment is in an aerial configuration, column placement could require tree removal and the overhead guideways may also require both tree removal and trimming to keep them clear of vegetation. At-grade segments would require tree removal from medians and could require both tree removal and tree trimming along sidewalks as streets are widened or sidewalks are reconfigured. Therefore, not all the trees along a block would be affected. As Project design progresses and construction plans are finalized it may be possible to minimize the number of affected trees by avoidance or fencing. Prior to construction, local policies and municipal codes regarding protection of both native trees and street trees would be considered to ensure compliance requirements are met. Thus, construction of Alternative 1 would not conflict with tree protection policies or other local policies or ordinances protecting biological resources. There would be less than significant impacts from construction of Alternative 1.

Design Options

Atlantic/Pomona Station Option

As discussed in **Section 6.7,** approximately 1,100 trees are located along the alignment and within the station footprints of Alternative 1 with the Atlantic/Pomona Station Option. As with the base Alternative 1, not all trees would be affected by construction. Construction of Alternative 1 with the Atlantic/Pomona Station Option would be conducted in accordance with local tree protection policies, which typically require tree removal permits and a plan for tree replacement or relocation. Thus, construction of Alternative 1 with the Atlantic/Pomona Station Option would not conflict with tree protection policies or other local policies and ordinances protecting biological resources, and there would be less than significant impacts.

Montebello At-Grade Option

As discussed in **Section 6.7** approximately 1,100 trees are located along the alignment and within the station footprints of Alternative 1 with the Montebello At-Grade Option. As with the base Alternative 1, not all trees would be affected by construction. Construction of the Montebello At-Grade Option would be conducted in accordance with local tree protection policies, which typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Thus, construction of Alternative 1 with the Montebello At-Grade Option would not conflict with tree protection policies or other local policies and ordinances protecting biological resources, and there would be less than significant impacts.

7.4.2 Alternative 2 Atlantic to Commerce/Citadel IOS

7.4.2.1 Operational Impacts

Similar to Alternative 1, any maintenance of LRT facilities that entails tree trimming would be conducted in accordance with local policies and municipal codes that protect both native trees and street trees, as outlined in **Section 3.3.2**. Therefore, the operation of Alternative 2 would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be no impact from operation of Alternative 2.

Design Option

Atlantic/Pomona Station Option

Operation of Alternative 2 with Atlantic/Pomona Station Option would generally have the same impacts as the base Alternative 2. Maintenance activities such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with tree protection policies or other local policies or ordinances protecting biological resources. Thus, there would be no impact from operation of Alternative 2 with the Atlantic/Pomona Station Option.

7.4.2.2 Construction Impacts

As discussed in **Section 6.7,** approximately 310 trees are located along the alignment and within the station footprints of Alternative 2. Construction of Alternative 2 may require tree removal or trimming. This work would be conducted in accordance with local policies and municipal codes that protect both native trees and street trees. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Therefore, the construction of Alternative 2 would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be less than significant impacts from construction of Alternative 2.

Design Option

Atlantic/Pomona Station Option

As discussed in **Section 6.7,** approximately 310 trees are located along the alignment and within the station footprints of Alternative 2 with the Atlantic/Pomona Station Option. Construction of Alternative 2 with the Atlantic/Pomona Station Option would be conducted in accordance with local tree protection policies, which typically require tree removal permits and a plan for tree replacement or relocation. Thus, construction of Alternative 2 with the Atlantic/Pomona Station Option would not conflict with tree protection policies or other local policies and ordinances protecting biological resources, and there would be less than significant impacts.

7.4.3 Alternative 3 Atlantic to Greenwood IOS

7.4.3.1 Operational Impacts

Similar to Alternative 1, any maintenance of LRT facilities that entails tree trimming would be conducted in accordance with local policies and municipal codes that protect native trees and street trees, as outlined in **Section 3.3.2**; therefore, the operation of Alternative 3 would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be no impact from operation of Alternative 3.

Design Options

Atlantic/Pomona Station Option

Operation of Alternative 3 with Atlantic/Pomona Station Option would generally have the same impacts as the base Alternative 3. Maintenance activities such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with tree protection policies or other local policies or ordinances protecting biological resources. Thus, there would be no impact from operation of Alternative 3 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

Operation of the Montebello At-Grade Option may involve tree trimming for maintenance; tree trimming would be conducted in accordance with tree protection policies and would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be no impact from operation of Alternative 3 with the Montebello At-Grade Option.

7.4.3.2 Construction Impacts

As discussed in **Section 6.7**, approximately 600 trees would be located along the alignment and within the station footprints of Alternative 3. Construction of Alternative 3 may require tree removal or trimming. This work would be conducted in accordance with local policies and municipal codes that protect both native trees and street trees. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Therefore, the construction of Alternative 3 would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be less than significant impacts from construction of Alternative 3.

Design Options

Atlantic/Pomona Station Option

As discussed in **Section 6.7**, approximately 600 trees would be located along the alignment and within the station footprints of Alternative 3 with the Atlantic/Pomona Station Option. Construction of Alternative 3 with the Atlantic/Pomona Station Option would be conducted in accordance with local

tree protection policies, which typically require tree removal permits and a plan for tree replacement or relocation. Thus, construction of Alternative 3 with the Atlantic/Pomona Station Option would not conflict with tree protection policies or other local policies and ordinances protecting biological resources, and there would be less than significant impacts.

Montebello At-Grade Option

As discussed in **Section 6.7**, approximately 600 trees would be located along the alignment and within the station footprints of Alternative 3 with the Montebello At-Grade Option. Construction of the Montebello At-Grade Option may require tree removal and trimming, which would be conducted in accordance with tree protection policies. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Therefore, the construction of Alternative 3 with the Montebello At-Grade Option would not conflict with tree protection policies and ordinances or other local policies and ordinances protecting biological resources, and there would be less than significant impacts.

7.4.4 Maintenance and Storage Facilities

7.4.4.1 Operational Impacts

7.4.4.1.1 Commerce MSF

Any maintenance of the Commerce MSF site option that entails tree trimming would be conducted in accordance with policies and codes protecting trees, as outlined in **Section 3.3.2**. Thus, operation of the Commerce MSF site option would not conflict with local policies and municipal codes protecting trees. There would be no impact from operation of the Commerce MSF site option.

7.4.4.1.2 Montebello MSF

Any maintenance of the Montebello MSF site option that entails tree trimming would be conducted in accordance with policies and codes protecting trees, as outlined in **Section 3.3.2**. Thus, operation of the Montebello MSF site option would not conflict with local policies and municipal codes protecting trees. There would be no impact from operation of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

Any maintenance of the Montebello MSF At-Grade Option that entails tree trimming would be conducted in accordance with policies and codes protecting trees. Thus, operation of the Montebello MSF At-Grade Option would not conflict with local policies and municipal codes protecting trees. There would be no impact from operation of the Montebello MSF At-Grade Option.

7.4.4.2 Construction Impacts

7.4.4.2.1 Commerce MSF

As discussed in **Section 6.7,** approximately 35 trees are within the Commerce MSF site option. Construction of the Commerce MSF site option may require tree removal or trimming. This work would be conducted in accordance with policies and codes protecting trees. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Thus, construction of the Commerce MSF site option would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be a less than significant impact from construction of the Commerce MSF site option.

7.4.4.2.2 Montebello MSF

As discussed in **Section 6.7,** approximately 10 trees are within the Montebello MSF site option. Construction of the Montebello MSF site option may require tree removal or trimming. This work would be conducted in accordance with policies and codes protecting trees. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Thus, construction of the Montebello MSF site option would not conflict with local policies or municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be a less than significant impact from construction of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

Construction of the Montebello MSF At-Grade Option may require tree removal or trimming. This work would be conducted in accordance with policies and codes protecting trees. Tree protection policies typically require tree removal permits and tree replacement or relocation under a plan prepared in compliance with these policies. Thus, construction would not conflict with local policies and municipal codes protecting trees or other local policies or ordinances protecting biological resources. There would be a less than significant impact from construction of the Montebello MSF At-Grade Option.

8.0 PROJECT MEASURES

Project measures are design features, best management practices, or other measures required by law and/or permit approvals. The project measure listed below is a component of the Project that is applicable to the base Alternative 1 or Alternative 1 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option.

PM HWQ-3: Avoidance of In-Water Work (Applies to Alternative 1 only). In-water work is discussed in more detail in Section 3.9, Hydrology and Water Quality.

- To the extent feasible, construction work within the Rio Hondo, Rio Hondo Spreading Grounds, and San Gabriel River shall be scheduled to occur in the dry season when there is no water.

9.0 MITIGATION MEASURES AND IMPACTS AFTER MITIGATION

9.1 Impact BIO-1: Protected Species

Impact BIO-1: Would a Build Alternative 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 CDFW or USFWS?

9.1.1 Alternative 1 Washington

As discussed in **Section 7.1.1**, the base Alternative 1 would have no impact on special-status species. Operation of the base Alternative 1 would have no impact on bats under Impact BIO-1. Construction of the base Alternative 1 would have a significant impact on bats under Impact BIO-1 from construction of replacement bridges over the Rio Hondo and San Gabriel River and their associated spreading grounds. Operation and construction of the base Alternative 1 would result in significant impacts on migratory birds if tree trimming disturbs vegetation or structures providing bird nesting habitat during the migratory bird nesting season.

9.1.1.1 Potential Operational or Construction Mitigation Measures

The following mitigation measures will be implemented to avoid, minimize, and/or mitigate potential impacts to a less than significant level. No additional mitigation is required for operation or construction of Alternative 1.

MM BIO-1: Up to a year prior to demolition work occurring at bridges, and in coordination with CDFW, bat emergence surveys and nighttime surveys shall be conducted at each affected bridge site to confirm whether bats are roosting on or within 100 feet of any of the bridges affected by construction activities. Surveys shall be scheduled by Metro or the contractor. Surveys shall be conducted using ultrasonic detectors and night vision technology in order to capture species and emergence locations. Surveys shall include species classification of detected bat calls to help identify bat species roosting within 100 feet of the construction area. If it is determined that bat species are roosting on or within 100 feet of the bridges affected by construction activities, MM BIO-3 shall be implemented.

MM BIO-2: Prior to demolition work occurring at bridges and outside of the bird nesting season for cliff swallows (February 15 to August 31), inactive swallow nests on or within 100 feet of the affected bridges shall be surveyed by a qualified biologist to determine whether they are occupied by roosting bats. If the nests are unoccupied, they shall be removed under the direction of a qualified biologist. Any nests occupied by bats shall be removed under supervision of a qualified biologist in consultation with CDFW during nighttime hours following the evening emergence of occupying bats.

MM BIO-3: If it is determined that bat species are roosting on or within 100 feet of the affected bridges, consultation with CDFW shall be conducted prior to initiating construction, a CDFW-approved bat exclusion plan shall be developed, and the following measures shall be implemented along with any additional measures required by CDFW to avoid impacts on bat species:

- At least six months prior to construction at the affected bridges, alternative roosting sites shall be researched and surveyed by a qualified biologist, and alternative bat habitat (e.g., concrete Oregon wedge enclosure, bat houses, etc.) shall be developed and installed, in coordination with CDFW, at nearby locations to provide alternative habitat for bats displaced by project construction.

- Bat exclusion measures shall be explored and implemented on the bridges and within 100 feet of the affected bridges, or as determined by a qualified bat biologist, to the maximum extent feasible to reduce the potential for bat presence during construction. Bat exclusionary measures could include expandable foam placed in expansion joints and crevices, and sheet plastic fitted with one-way exits in areas where bats are potentially roosting. Bat exclusion shall only be installed during the fall and winter seasons, generally after September 30, to avoid impacts on maternal and juvenile bats. No less than six weeks prior to construction, a qualified biologist shall survey the area to confirm that exclusionary measures have been successful and that no bats remain in the exclusion area. If any bats remain within the exclusion area, appropriate measures shall be developed and implemented, in coordination with CDFW prior to construction at the affected bridges, to prevent impacts on bats.

MM BIO-4: Prior to the implementation of construction activities (e.g., demolition of structures, excavation, grading, construction of access roads) that would result in removal of or disturbances to vegetation and structures providing bird nesting habitat, and prior to pile driving near active bird nests and maintenance activities (e.g., tree trimming) during the bird nesting season, which generally runs from January 1 through September 1, the following shall occur:

- One biological survey shall be conducted 72 hours prior to construction or maintenance that shall remove or disturb suitable nesting habitat during the breeding season. The survey shall be performed by a biologist with experience conducting breeding bird surveys. The biologist shall prepare a survey report within 24 hours of conducting the survey, documenting the presence or absence of any active nest of a migratory bird. If an active nest is located, an appropriate no-work buffer shall be established by CDFW and vegetation removal within the buffer shall be postponed until the nest is vacated and juveniles have fledged (minimum of six weeks after egg-laying) and when there is no evidence of a second attempt at nesting. Buffers may be as large as 300 feet for migratory bird nests and 500 feet for raptor nests.

9.1.1.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

MM BIO-1 through BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on roosting bats and migratory birds to a less than significant level. No additional mitigation is required for operation or construction of Alternative 1 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

MM BIO-1 through BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on roosting bats and migratory birds to a less than significant level. No additional mitigation is required for operation or construction of Alternative 1 with the Montebello At-Grade Option.

9.1.1.3 Impacts After Mitigation

9.1.1.3.1 Operational Impacts Determination

With implementation of MM BIO-4, impacts from operation of the base Alternative 1 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-4, impacts from operation of Alternative 1 with the Atlantic/Pomona Station Option under Impact BIO-1 would be reduced to a less than significant level.

Montebello At-Grade Option

With implementation of MM BIO-4, impacts from operation of Alternative 1 with the Montebello At-Grade Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.1.3.2 Construction Impacts Determination

With implementation of MM BIO-1 through MM BIO-4, construction impacts from the base Alternative 1 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-1 through MM BIO-4, construction impacts from Alternative 1 with the Atlantic/Pomona Station Option under Impact BIO-1 would be reduced to a less than significant level.

Montebello At-Grade Option

With implementation of MM BIO-1 through MM BIO-4, construction impacts from Alternative 1 with the Montebello At-Grade Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.2 Alternative 2 Atlantic to Commerce/Citadel IOS

As discussed in **Section 7.1.2**, the base Alternative 2 would have no impact on special-status species or bats. Operation and construction of the base Alternative 2 would result in significant impacts on migratory birds if tree trimming disturbs vegetation or structures providing bird nesting habitat during the migratory bird nesting season.

9.1.2.1 Potential Operational or Construction Mitigation Measures

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds to a less than significant level. No additional mitigation is required for operation or construction of the base Alternative 2.

9.1.2.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds to a less than significant level. No additional mitigation is required for operation or construction of Alternative 2 with the Atlantic/Pomona Station Option.

9.1.2.3 Impacts After Mitigation

9.1.2.3.1 Operational Impacts Determination

With implementation of MM BIO-4, impacts from operation of the base Alternative 2 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-4, impacts from operation of Alternative 2 with the Atlantic/Pomona Station Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.2.3.2 Construction Impacts Determination

With implementation of MM BIO-4, impacts from construction of the base Alternative 2 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-4, impacts from construction of Alternative 2 with the Montebello At-Grade Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.3 Alternative 3 Atlantic to Greenwood IOS

As discussed in **Section 7.1.3**, the base Alternative 3 would have no impact on special-status species or bats. Operation and construction of the base Alternative 3 would result in significant impacts on migratory birds if tree trimming disturbs vegetation or structures providing bird nesting habitat during the migratory bird nesting season.

9.1.3.1 Potential Operational or Construction Mitigation Measures

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds to a less than significant level. No additional mitigation is required for operation or construction of the base Alternative 3.

9.1.3.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds to a less than significant level. No additional mitigation is required for operation or construction of Alternative 3 with the Atlantic/Pomona Station Option.

Montebello At-Grade Option

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds to a less than significant level. No additional mitigation is required for operation or construction of Alternative 3 with the Montebello At-Grade Option.

9.1.3.3 Impacts After Mitigation

9.1.3.3.1 Operational Impacts Determination

With implementation of MM BIO-4, impacts from operation of the base Alternative 3 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-4, impacts from operation of Alternative 3 with the Atlantic/Pomona Station Option under Impact BIO-1 would be reduced to a less than significant level.

Montebello At-Grade Option

With implementation of MM BIO-4, impacts from operation of Alternative 3 with the Montebello At-Grade Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.3.3.2 Construction Impacts Determination

With implementation of MM BIO-4, impacts from construction of the base Alternative 3 under Impact BIO-1 would be reduced to a less than significant level.

Design Option

Atlantic/Pomona Station Option

With implementation of MM BIO-4, impacts from construction of Alternative 3 with the Atlantic/Pomona Station Option under Impact BIO-1 would be reduced to a less than significant level.

Montebello At-Grade Option

With implementation of MM BIO-4, impacts from construction of Alternative 3 with the Montebello At-Grade Option under Impact BIO-1 would be reduced to a less than significant level.

9.1.4 Maintenance and Storage Facilities

As discussed in **Section 7.1.4**, construction and operation of the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would have no impact on special-status species and bats. Operation and construction would result in significant impacts on migratory birds if tree trimming disturbs vegetation or structures providing bird nesting habitat during the migratory bird nesting season.

9.1.4.1 Commerce Potential Operational or Construction Mitigation Measures

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds during to a less than significant level. No additional mitigation is required for operation or construction of the Commerce MSF site option.

9.1.4.2 Montebello Potential Operational or Construction Mitigation Measures

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds during to a less than significant level. No additional mitigation is required for operation or construction of the Montebello MSF site option.

Design Option

Montebello MSF At-Grade Option

MM BIO-4 will be implemented to avoid, minimize, and/or mitigate potential impacts on migratory birds during to a less than significant level. No additional mitigation is required for operation or construction of the Montebello MSF At-Grade Option.

9.1.4.3 Impacts After Mitigation

9.1.4.3.1 Operational Impacts Determination

Commerce MSF

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

Montebello MSF

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

Design Option

Montebello MSF At-Grade Option

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

9.1.4.3.2 Construction Impacts Determination

Commerce MSF

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

Montebello MSF

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

Design Option

Montebello MSF At-Grade Option

Implementation of MM BIO-4 would reduce impacts on migratory birds to a less than significant level.

9.2 Impact BIO-2: Riparian Habitat/Sensitive Natural Communities

Impact BIO-2: Would a Build Alternative have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS?

9.2.1 Alternative 1 Washington

As discussed in **Section 7.2.1**, the base Alternative 1 could have a significant impact under Impact BIO-2 during construction. Significant impacts on native vegetation communities and habitat would occur from the spread of invasive species from equipment use during construction activities.

9.2.1.1 Potential Operational or Construction Mitigation Measures

The following mitigation measures will be implemented to avoid or minimize potential impacts from the spread of invasive plant species to a less than significant level:

MM BIO-5: To minimize the introduction of invasive plant species into construction areas, construction vehicles and equipment shall be cleaned with compressed water or air

within a designated containment area to remove pathogens, invasive plant seeds, or plant parts and dispose of them in an appropriate disposal facility.

MM BIO-6: The contractor shall wash soil and plant material off all equipment tires and treads before moving from one construction area, or area of exposed soil, to another (or moving to and from the staging area to the area of exposed soil).

9.2.1.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

MM BIO-5 and MM BIO-6 will be implemented to avoid or minimize potential impacts from the spread of invasive plant species to a less than significant level. No additional mitigation is required for operation or construction of Alternative 1 with the Atlantic Pomona Station Option.

Montebello At-Grade Option

MM BIO-5 and MM BIO-6 will be implemented to avoid or minimize potential impacts from the spread of invasive plant species to a less than significant level. No additional mitigation is required for operation or construction of Alternative 1 with the Montebello At-Grade Option.

9.2.1.3 Impacts After Mitigation

9.2.1.3.1 Operational Impacts Determination

The base Alternative 1 would have less than significant impacts under Impact BIO-2 and no mitigation is required.

Design Options

Atlantic/Pomona Station Option

Alternative 1 with the Atlantic/Pomona Station Option would have less than significant impacts under Impact BIO-2 and no mitigation is required.

Montebello At-Grade Option

Alternative 1 with the Montebello At-Grade Option would have less than significant impacts under Impact BIO-2 and no mitigation is required.

9.2.1.3.2 Construction Impacts Determination

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from Alternative 1 under Impact BIO-2 to a less than significant level.

Design Options

Atlantic/Pomona Station Option

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts to a less than significant level.

Montebello At-Grade Option

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts to a less than significant level.

9.2.2 Alternative 2 Atlantic to Commerce/Citadel IOS

As discussed in **Section 7.2.2**, the base Alternative 2 could have a significant impact under Impact BIO-2 during construction. Significant impacts on native vegetation communities and habitat would occur from the spread of invasive species from equipment used during construction activities.

9.2.2.1 Potential Operational or Construction Mitigation Measures

Mitigation measures MM BIO-5 and MM BIO-6, as described in **Section 9.2.1.1**, will be implemented.

9.2.2.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

Mitigation measures MM BIO-5 and MM BIO-6, as described in **Section 9.2.1.1**, will be implemented.

9.2.2.3 Impacts After Mitigation

9.2.2.3.1 Operational Impacts Determination

Operation of the base Alternative 2 would have less than significant impacts under Impact BIO-2 and no mitigation is required.

Design Option

Atlantic/Pomona Station Option

Operation of Alternative 2 with the Atlantic/Pomona Station Option would have less than significant impacts under Impact BIO-2 and no mitigation is required.

9.2.2.3.2 Construction Impacts Determination

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from the base Alternative 2 under Impact BIO-2 to a less than significant level.

Design Option

Atlantic/Pomona Station Option

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from Alternative 2 with the Atlantic/Pomona Station Option under Impact BIO-2 to a less than significant level.

9.2.3 Alternative 3 Atlantic to Greenwood IOS

As discussed in **Section 7.2.3**, the base Alternative 3 could have a significant impact under Impact BIO-2 during construction. Significant impacts on native vegetation communities and habitat would occur from the spread of invasive species from equipment used during construction activities.

9.2.3.1 Potential Operational or Construction Mitigation Measures

Mitigation measures MM BIO-5 and MM BIO-6, as described in **Section 9.2.1.1**, will be implemented.

9.2.3.2 Design Option Potential Operational or Construction Mitigation Measures

Atlantic/Pomona Station Option

Mitigation measures MM BIO-5 and MM BIO-6, as described in **Section 9.2.1.1**, will be implemented.

Montebello At-Grade Option

Mitigation measures MM BIO-5 and MM BIO-6, as described in **Section 9.2.1.1**, will be implemented.

9.2.3.3 Impacts After Mitigation

9.2.3.3.1 Operational Impacts Determination

Operation of the base Alternative 3 would have less than significant impacts under Impact BIO-2 and no mitigation is required.

Design Options

Atlantic/Pomona Station Option

Operation of Alternative 3 with the Atlantic/Pomona Station Option would have less than significant impacts under Impact BIO-2 and no mitigation is required.

Montebello MSF At-Grade Option

Operation of Alternative 3 with the Montebello MSF At-Grade Option would have less than significant impacts under Impact BIO-2 and no mitigation is required.

9.2.3.3.2 Construction Impacts Determination

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from the base Alternative 3 under Impact BIO-2 to a less than significant level.

Design Options

Atlantic/Pomona Station Option

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from Alternative 3 with the Atlantic/Pomona Station Option to a less than significant level.

Montebello MSF At-Grade Option

Implementation of MM BIO-5 and MM BIO-6 would reduce construction impacts from Alternative 3 with the Montebello MSF At-Grade Option to a less than significant level.

9.2.4 Maintenance and Storage Facilities

As discussed in **Section 7.2.4**, the construction and operation of either the Commerce MSF or Montebello MSF site option, or the Montebello MSF At-Grade Option, would have less than significant impacts under Impact BIO-2; therefore, no mitigation is required.

9.3 Impact BIO-3: Movement of Fish and Wildlife Species

Impact BIO 3: Would a Build Alternative 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?

9.3.1 Alternative 1 Washington

As discussed in **Section 7.3.1**, operation and construction of the base Alternative 1 or Alternative 1 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would have less than significant impacts on fish movement and no impacts on wildlife movement under Impact BIO-3; therefore, no mitigation is required.

9.3.2 Alternative 2 Atlantic to Commerce/Citadel IOS

As discussed in **Section 7.3.2**, operation and construction of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would have no impacts under Impact BIO-3; therefore, no mitigation is required.

9.3.3 Alternative 3 Atlantic to Greenwood IOS

As discussed in **Section 7.3.3**, operation and construction of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would have no impact under Impact BIO-3; therefore, no mitigation is required.

9.3.4 Maintenance and Storage Facilities

As discussed in **Section 7.3.4**, the operation and construction of either the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would have no impact under Impact BIO-3; therefore, no mitigation is required.

9.4 Impact BIO-4: Policies/Ordinances

Impact BIO 4: Would a Build Alternative conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

9.4.1 Alternative 1 Washington

As discussed in **Section 7.4.1**, operation and construction of the base Alternative 1 or Alternative 1 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would have no impact under Impact BIO-4; therefore, no mitigation is required.

9.4.2 Alternative 2 Atlantic to Commerce/Citadel IOS

As discussed in **Section 7.4.2**, operation and construction of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would have no impact under Impact BIO-4; therefore, no mitigation is required.

9.4.3 Alternative 3 Atlantic to Greenwood IOS

As discussed in **Section 7.4.3**, operation and construction of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would have no impact under Impact BIO-4; therefore, no mitigation is required.

9.4.4 Maintenance and Storage Facilities

As discussed in **Section 7.4.4**, operation and construction of either the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would have no impact under Impact BIO-4; therefore, no mitigation is required.

9.5 Mitigation Measure Applicability

As described above, one or more Build Alternatives, design options, and/or MSF site options have been identified as having significant biological impacts. Mitigation measures to address these impacts are also identified. **Table 9-1** summarizes which measures are applicable to each Build Alternative and MSF site option. Unless otherwise noted, the Build Alternative mitigation measures apply to the base alternative and design option, and the MSF mitigation measures apply to the Commerce MSF site option, the Montebello MSF site option, and the Montebello MSF At-Grade Option. If there would be no impact or less than significant impacts, no mitigation is required and therefore, as identified in **Table 9-1**, mitigation measures are not applicable (N/A).

See **Table 9-1** for summary of mitigation measures.

Table 9-1. Summary of Mitigation Measure Alternative Applicability

Mitigation Measure	Alternative 1	Alternative 2	Alternative 3	MSF
BIO-1 Special-Status Species				
MM BIO-1	Applicable	N/A	N/A	N/A
MM BIO-2	Applicable	N/A	N/A	N/A
MM BIO-3	Applicable	N/A	N/A	N/A
MM BIO-4	Applicable	Applicable	Applicable	Applicable
BIO-2 Riparian Habitat/Sensitive Natural Communities				
MM BIO-5	Applicable	Applicable	Applicable	N/A
MM BIO-6	Applicable	Applicable	Applicable	N/A
BIO-3 Movement of Fish and Wildlife Species				
None required	N/A	N/A	N/A	N/A
BIO-4 Policies/Ordinances				
None required	N/A	N/A	N/A	N/A

10.0 NO PROJECT ALTERNATIVE

10.1 No Project Alternative

10.1.1 Description

The No Project Alternative would maintain existing transit service through the year 2042. No new transportation infrastructure would be built within the DSA aside from projects currently under construction or funded for construction and operation by 2042 via the 2008 Measure R or 2016 Measure M sales taxes. This alternative would include the highway and transit projects in Metro's 2020 LRTP Update and the *2020 RTP/SCS*. Under the No Project Alternative, none of the proposed Build Alternatives, design options, or MSFs would be constructed or operated.

10.1.2 Impacts

10.1.2.1 Impact BIO-1 Special-Status Species

There would be no new Project-related transit operations or construction under the No Project Alternative and therefore, there would be no Project-related impacts from operation or construction on special-status species, bats, or migratory bird species.

10.1.2.2 Impact BIO-2 Riparian Habitat/Sensitive Natural Communities

There would be no new Project-related transit operations or construction under the No Project Alternative and therefore, there would be Project-related no impacts on riparian habitats or sensitive natural communities.

10.1.2.3 Impact BIO-3 Movement of Fish and Wildlife Species

There would be no new Project-related transit operations or construction under the No Project Alternative and therefore, there would be no Project-related impacts on the movement of fish and wildlife.

10.1.2.4 Impact BIO-4 Policies/Ordinances

There would be no new transit operations or construction under the No Project Alternative and therefore, there would be no Project-related impacts on local policies or ordinances protecting biological resources.

11.0 SUMMARY OF ALTERNATIVES

Table 11-1 provides a summary of impacts for the No Project Alternative, three Build Alternatives, and the MSF site options.

Table 11-1. Significant Impacts Remaining After Mitigation

Impact Topic	No Project Alternative	Alternative 1	Alternative 2	Alternative 3	MSF
Impact BIO-1: Special-Status Species	No impact	Less than significant impact	Less than significant impact	Less than significant impact	Less than significant impact
Impact BIO-2: Riparian Habitat/ Sensitive Natural Communities	No impact	Less than significant impact	Less than significant impact	Less than significant impact	No Impact
Impact BIO-3: Movement of Fish and Wildlife Species	No impact	Less than significant impact	No impact	No impact	No impact
Impact BIO-4: Policies/Ordinances	No impact	No impact	No impact	No impact	No impact

11.1 No Project

There would be no Project-related impacts on biological resources under the No Project Alternative.

11.2 Alternative 1 Washington + MSF

The operation and construction of the base Alternative 1 and the either the Commerce MSF or Montebello MSF site option would have a less than significant impact under Impact BIO-1 (Protected Species), Impact BIO-2 (Riparian Habitat/Sensitive Natural Communities), and Impact BIO-3 (Movement of Fish and Wildlife Species). Alternative 1 would have no impact under Impact BIO-4 (Policies and Ordinances).

11.2.1 Alternative 1 Washington + MSF + Design Options

The operation and construction of Alternative 1 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option and either the Commerce site option, Montebello MSF site option, or the Montebello MSF At-Grade Option would have a less than significant impact under Impact BIO-1 (Protected Species), Impact BIO-2 (Riparian Habitat/Sensitive Natural Communities), and Impact BIO-3 (Movement of Fish and Wildlife Species). There would be no impact under Impact BIO-4 (Policies and Ordinances).

11.3 Alternative 2 Atlantic to Commerce/Citadel IOS + MSF

The operation and construction of the base Alternative 2 and the Commerce MSF site option would result in less than significant impacts under Impact BIO-1 (Protected Species) and BIO-2 (Riparian Habitat/Sensitive Natural Communities). There would be no impacts under Impact BIO-3 (Movement of Fish and Wildlife Species) or BIO-4 (Policies and Ordinances).

11.3.1 Alternative 2 Atlantic to Citadel IOS + MSF + Design Option

The operation and construction of Alternative 2 with the Atlantic/Pomona Station Option and the Commerce MSF site option would result in less than significant impacts under Impact BIO-1 (Protected Species) and BIO-2 (Riparian Habitat/Sensitive Natural Communities). There would be no impact under Impact BIO-3 (Movement of Fish and Wildlife Species) or BIO-4 (Policies and Ordinances).

11.4 Alternative 3 Atlantic to Greenwood IOS + MSF

The operation and construction of the base Alternative 3 and either the Commerce MSF site option or Montebello MSF site option would result in less than significant impacts under Impact BIO-1 (Protected Species) and BIO-2 (Riparian Habitat/Sensitive Natural Communities). There would be no impacts under BIO-3 (Movement of Fish and Wildlife Species), or BIO-4 (Policies and Ordinances).

11.4.1 Alternative 3 Atlantic to Greenwood + MSF + Design Options

The operation and construction of Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option and either the Commerce site option, Montebello MSF site option, or the Montebello MSF At-Grade Option would have a less than significant impact under Impact BIO-1 (Protected Species) and Impact BIO-2 (Riparian Habitat/Sensitive Natural Communities). There would be no impact under Impact BIO-3 (Movement of Fish and Wildlife Species) or BIO-4 (Policies and Ordinances).

12.0 PREPARERS QUALIFICATIONS

Name	Title	Education	Experience (Years)
Kate Stenberg	Senior Biologist/Technical Specialist	PhD – Wildlife & Fisheries Science and Regional Planning, University of Arizona, 1988 M Admin – Environmental Administration (Land Use & Business Management), University of California, Riverside,1982 BA – Biology Environmental Studies, Whitman College, 1980	35
Jennifer Jones	Senior Biologist/Task Lead	MS – Environmental Science, Ohio State University, 1996 BA – Biology, Wittenberg University, 1990	20
Emma Argiroff	Environmental Planner	MUP – University of Washington, 2018 BA – Program in the Environment University of Michigan, 2015	4
Sam Bankston	Biologist	BS – Aquatic Biology, University of California at Santa Barbara, 2006	15

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ATTACHMENT A – EASTSIDE TRANSIT CORRIDOR PHASE 2 TERRESTRIAL BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

The Eastside Transit Corridor Phase 2 Biological Resources Impacts Report (the IR) discusses the Los Angeles County Metropolitan Transportation Authority (Metro) Eastside Transit Corridor Phase 2 Project (the Project) in relation to biological resources present in the specialized study area for biological resources (biological resources study area or BRSA). The purpose of this memo is to identify the Project documents that adequately describe the current biological resources in the BRSA.

As part of the Project, desktop reviews and field surveys were completed in 2015 and 2016 to document terrestrial and aquatic biological resources in the proposed project areas. The results of these evaluations are presented in the following documents attached to this memo:

- Attachment A: Tree Surveys and Eastside Transit Corridor Phase 2 Terrestrial Biological Resources Technical Memorandum. This memo includes the Bat Survey Report as an appendix.
- Attachment B: Eastside Transit Corridor Phase 2 Aquatic Biological Resources Technical Memorandum.

Since completion of these evaluations, the alternatives under consideration as part of the proposed project have been revised. The State Route 60 (SR-60) Alternative, and the Combined Alternative are no longer part of the Project. The Washington Alternative is now being considered as Alternative 1. Alternatives 2 and 3 follow the same alignment as Alternative 1 but end at the proposed Commerce/Citadel station and Greenwood station, respectively. The proposed Commerce Maintenance and Storage Facility (MSF) is still under consideration; however, the Santa Fe MSF has been removed and a new MSF site is proposed in the city of Montebello. The project description is summarized in more detail in Section 2.0 of the IR. The terrestrial and aquatic biological resources along the Alternative 1 alignment were thoroughly evaluated in the previous reports; thus, these reports also cover the Alternative 2 and 3 alignments.

An updated desktop review was performed in 2021 to re-evaluate the current status of biological resources in the BRSA. The updated desktop review included a review of aerial imagery, the California Natural Diversity Database (CNDDB), and the U.S. Fish and Wildlife Service (USFWS) critical habitat mapper, Information for Planning and Consultation (IPaC) tool, and National Wetlands Inventory (NWI) mapper. It also included review of recent site photos from April 2021 (Attachment C) and project reports and planning documents from federal, state, and local agencies and organizations that pertained to biological resources within the BRSA. The special-status species identified in the IPaC and CNDDB reviews as having potential to occur in the Project area are listed in Attachment D. The updated desktop review included a review of the trees located along the underground portion of the alignment to supplement a tree survey previously conducted for the aerial and at-grade options of the alignment. The tree surveys are included in Attachment A. The results of the updated desktop review are further discussed in the updated IR.

Based on the desktop review, it was determined that there have been no substantial changes to habitats, vegetative conditions, special-status species, wetlands, street trees, or other biological resources in the project area since completion of the previous field surveys. The previous surveys adequately described the biological resources in the study area, and the information contained in the previous terrestrial and aquatic biological resource reports is reflective of the existing conditions in the Project area as it is currently defined. Therefore, no new field surveys or updates to the biological resource reports were performed for preparation of the updated IR.

Table 1 Alternative 1 (Aerial and At-Grade Alignment) Tree Count[1]

Aerial and At-Grade Alternative 1 Alignment	Total Trees
Garfield Station to Garfield/Whittier Station	206
Garfield/Whittier Station to Greenwood Station	75
Greenwood Station	31
Greenwood Station to Rosemead Station	193
Rosemead Station	38
Rosemead Station to Norwalk Station	96
Norwalk Station	16
Norwalk Station to Lambert Station	50
Lambert Station	80
ALL Locations along the Aerial and At-Grade Alternative 1 Alignment	785

Note:
1 Tree count estimated during 2019 site visit.

Table 2 Alternative 1 (Aerial and At-Grade Alignment) Tree Type[1]

Aerial and At-Grade Alternative 1 Tree Types	Tree Totals
native trees (not at stations)	50
all trees at stations or P&R	165
all trees not at stations or P&R	620
native trees at stations or P&R	5

Note:
1 Tree type count estimated during 2019 site visit.

Table 3 Alternative 1 (Underground Alignment) Tree Count[1]

Underground Alternative 1 Alignment	Tree Totals
Base Alternative	311
Atlantic Pomona Design Option	306

Note:
1 Tree count estimated through a Google Earth desktop review.

Table 4 Summary Tree Count for Build Alternatives and MSF Site Options

Alternative	Total Trees (approximate)
Alternative 1 alignment and station footprints	1,100
Alternative 2 alignment and station footprints	310
Alternative 3 alignment and station footprints	600
Commerce MSF site option	35
Montebello MSF site option	10

Table 5 Alternative 4 – Aerial/At-Grade Tree Survey Field Count[1]

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Palm	3	Corner of Garfield and Via Campo	Garfield Station would be located on east sidewalk of Garfield Ave
Landscaped trees and shrubs	Ficus	6	Park & Ride area	
Landscaped trees and shrubs	Liquid Amber	5	Park& Ride area	
Landscaped trees and shrubs	California Sycamore (native)	5	Park&Ride area	south and east of bank
Landscaped trees and shrubs	Palm	2	within or near station footprint	
Landscaped trees and shrubs	Ficus	5	east side of Garfield Ave	Garfield Station to Via Paseo
Landscaped trees and shrubs	Ficus	2	west side of Garfield Ave	Garfield Station to Via Paseo
Landscaped trees and shrubs	Eucalyptus	5	west side of Garfield Ave	Garfield Station to Via Paseo
Landscaped trees and shrubs	Pine	23	west side of Garfield Ave	Garfield Station to Via Paseo - Montebello Municipal Golf Course further back along Garfield
Landscaped trees and shrubs	Pine	26	west side of Garfield Ave	Via Paseo to Via Altamira
Landscaped trees and shrubs	Magnolia	12	east side of Garfield Ave	Via Paseo to Via Altamira
Landscaped trees and shrubs	Magnolia	8	east side of Garfield Ave	Via Altamira to Via San Delaro
Landscaped trees and shrubs	Pine	16	west side of Garfield Ave	Via Altamira to Via San Delaro
Landscaped trees and shrubs	Ficus	6	west side of Garfield Ave	Via San Delaro to Via San Carlo
Landscaped trees and shrubs	Magnolia	10	east side of Garfield Ave	Via San Delaro to Via Acosta
Landscaped trees and shrubs	Magnolia	8	west side of Garfield Ave	Via San Carlo to Via Acosta
Landscaped trees and shrubs	California Sycamore (native)	3	east side of Garfield Ave	Intersection of Garfield and Via Acosta
Landscaped trees and shrubs	California Sycamore (native)	3	west side of Garfield Ave	Intersection of Garfield and Via Acosta
Landscaped trees and shrubs	Palm	3	west side of Garfield Ave	Via Acosta to Beverly
Landscaped trees and shrubs	Ficus	6	east side of Garfield Ave	Via Acosta to Beverly

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Bottle brush	3	east side of Garfield Ave	Beverly to Via Corona
Landscaped trees and shrubs	Unknown non-native tree	1	west side of Garfield Ave	Beverly to Via Corona
Landscaped trees and shrubs	Pine	5	east side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Unknown non-native tree	1	west side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Liquid Amber	2	west side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Chinese elm	3	east side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Liquid Amber	3	east side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Chinese elm	4	east side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Unknown non-native tree	2	east side of Garfield Ave	Via Corona to Hay Street
Landscaped trees and shrubs	Olive	11	east side of Garfield Ave	Hay Street to Madison Ave
Landscaped trees and shrubs	Ficus	16	west side of Garfield Ave	Hay Street to Madison Ave
Landscaped trees and shrubs	Chinese elm	8	east side of Garfield Ave	Madison to Repetto Blvd
Landscaped trees and shrubs	Ficus	1	east side of Garfield Ave	Madison to Repetto Blvd
Landscaped trees and shrubs	Ficus	12	west side of Garfield Ave	Madison to Repetto Blvd
Landscaped trees and shrubs	Ficus	1	Park&Ride area-east of Garfield	Garfield/Whittier Station on both sides of Garfield Ave
Landscaped trees and shrubs	Palm	15	Park&Ride area-east of Garfield	
Landscaped trees and shrubs	Unknown non-native tree	2	Park&Ride area-east of Garfield	
Landscaped trees and shrubs	Ficus	7	Park&Ride area-west of Garfield	
Landscaped trees and shrubs	Palm	1	Park&Ride area-west of Garfield	
Landscaped trees and shrubs	Unknown non-native tree	3	east side of Garfield Ave	Garfield/Whittier Station to Flotilla
Landscaped trees and shrubs	Chinese elm	2	east side of Garfield Ave	

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Magnolia	2	east side of Garfield Ave	
Landscaped trees and shrubs	Jacaranda	4	east side of Garfield Ave	
Landscaped trees and shrubs	Ficus	1	west side of Garfield Ave	
Landscaped trees and shrubs	Unknown non-native tree	5	west side of Garfield Ave	
Landscaped trees and shrubs	Jacaranda	3	west side of Garfield Ave	
Landscaped trees and shrubs	Magnolia	1	west side of Garfield Ave	
Landscaped trees and shrubs	No street trees	0	none	Flotilla to Washington
Landscaped trees and shrubs	Eucalyptus	5	west side of Washington	Washington just west of Yates
Landscaped trees and shrubs	Palm	12	east side of Washington	Yates to Vail Ave
Landscaped trees and shrubs	Bottle brush	2	east side of Washington	
Landscaped trees and shrubs	Eucalyptus	3	east side of Washington	
Landscaped trees and shrubs	Juniper	6	east side of Washington	
Landscaped trees and shrubs	Pine	7	east side of Washington	
Landscaped trees and shrubs	Palm	1	east side of Washington	
Landscaped trees and shrubs	Juniper	2	west side of Washington	
Landscaped trees and shrubs	Eucalyptus	1	west side of Washington	
Landscaped trees and shrubs	Palm	3	within center median of Washington	at Montebello sign (see photo)
Landscaped trees and shrubs	No street trees	0	none	Vail to Maple
Landscaped trees and shrubs	Palm	2	within center median of Washington	Just west of Greenwood Ave
Landscaped trees and shrubs	Palm	10	Park&Ride on north side of Washington	Greenwood Station is on both sides of Washington
Landscaped trees and shrubs	orange	1	Park&Ride on north side of Washington	
Landscaped trees and shrubs	Palm	20	Park&Ride on south side of Washington	

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Palm	4	north side of Washington	Greenwood Station to Montebello Blvd
Landscaped trees and shrubs	Chinese elm	1	south side of Washington	
Landscaped trees and shrubs	Palm	2	north side of Washington	Montebello to 5th St
Landscaped trees and shrubs	Palm	2	south side of Washington	
Landscaped trees and shrubs	Palm	2	within center median of Washington	5th St to S. Bluff Road
Landscaped trees and shrubs	Unknown non-native tree	1	Bluff and Washington- northeast corner	Rio Hondo Spreading Basin
Landscaped trees and shrubs	Palm	1	Bluff and Washington- northeast corner	
Landscaped trees and shrubs	Cottonwood (native)	2	Bluff and Washington- northeast corner- on lower slope	
Landscaped trees and shrubs	Cottonwood (native)	2	west slope of western spreading basin (west of main concrete channel)	
Landscaped trees and shrubs	Eucalyptus	1	north side of Washington	
Landscaped trees and shrubs	California Sycamore (native)	5	At entrance to spreading basin (south of Washington)	
Landscaped trees and shrubs	Chinese elm	1	At entrance to spreading basin (south of Washington)	
Landscaped trees and shrubs	Pine	4	At entrance to spreading basin (south of Washington)	
Landscaped trees and shrubs	Pine	3	At entrance to spreading basin (north of Washington)	
Landscaped trees and shrubs	Unknown non-native tree	1	At entrance to spreading basin (north of Washington)	
Landscaped trees and shrubs	California Sycamore (native)	5	east of entrance- south of Washington	
Landscaped trees and shrubs	Toyon (native)	4	east of entrance- south of Washington	
Landscaped trees and shrubs	Chinese elm	5	east of entrance- south of Washington	
Landscaped trees and shrubs	Cottonwood (native)	3	east of entrance- North of Washington	

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Eucalyptus	1	east of entrance- North of Washington	
Landscaped trees and shrubs	Ficus	14	within center median of Washington	east of entrance to Paramount
Landscaped trees and shrubs	Jacaranda	3	within center median of Washington	east of entrance to Paramount
Landscaped trees and shrubs	Pine	24	east of entrance to Paramount (north side of Washington)	
Landscaped trees and shrubs	Jacaranda	4	east of entrance to Paramount (south side of Washington)	
Landscaped trees and shrubs	Eucalyptus	4	east of entrance to Paramount (south side of Washington)	
Landscaped trees and shrubs	Flannel bush (native shrub)	2	east of entrance to Paramount (north side of Washington)	other native shrubs here include ceanothus, toyon, mallow- both sides of Washington
Landscaped trees and shrubs	Cottonwood (native)	7	east of entrance to Paramount (north side of Washington)	
Landscaped trees and shrubs	Unknown non-native tree	7	within center median of Washington	small trees
Landscaped trees and shrubs	Cottonwood (native)	6	east of entrance to Paramount (south side of Washington)	
Landscaped trees and shrubs	Palm	7	north side of Washington	Paramount to Candace Ave
Landscaped trees and shrubs	Olive	2	north side of Washington	Paramount to Candace Ave
Landscaped trees and shrubs	Jacaranda	3	south side of Washington	Paramount to Candace Ave
Landscaped trees and shrubs	Unknown non-native tree	3	south side of Washington	small trees
Landscaped trees and shrubs	California Sycamore (native)	6	within center median of Washington	Candace Ave to Bollenbacher
Landscaped trees and shrubs	Magnolia	3	north side of Washington	Candace Ave to Bollenbacher
Landscaped trees and shrubs	Unknown non-native tree	12	south side of Washington	Candace Ave to Bollenbacher
Landscaped trees and shrubs	Jacaranda	6	south side of Washington	Bollenbacher to Towne Center (Crossway Dr)
Landscaped trees and shrubs	Unknown non-native tree	2	north side of Washington	Bollenbacher to Towne Center (Crossway Dr)

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	California Sycamore (native)	3	within center median of Washington	Bollenbacher to Towne Center (Crossway Dr)
Landscaped trees and shrubs	Palm	3	north side of Washington	Towne Center (Crossway Dr) to Rosemead Station
Landscaped trees and shrubs	Olive	7	north side of Washington	Towne Center (Crossway Dr) to Rosemead Station
Landscaped trees and shrubs	Unknown non-native tree	15	south side of Washington	Towne Center (Crossway Dr) to Rosemead Station-small trees
Landscaped trees and shrubs	Unknown non-native tree	10	Park&Ride on north side of Washington	Rosemead Station in center median of Washington
Landscaped trees and shrubs	Palm	22	Park&Ride on north side of Washington	
Landscaped trees and shrubs	Eucalyptus	4	Park&Ride on north side of Washington	
Landscaped trees and shrubs	Jacaranda	2	Park&Ride on south side of Washington	
Landscaped trees and shrubs	Palm	3	north side of Washington	1st block east of Rosemead
Landscaped trees and shrubs	Unknown non-native tree	2	north side of Washington	1st block east of Rosemead
Landscaped trees and shrubs	Unknown non-native tree	10	south side of Washington	1st block east of Rosemead
Landscaped trees and shrubs	Jacaranda	1	south side of Washington	1st block east of Rosemead
Landscaped trees and shrubs	No street trees	0	no street trees to Kilgary Ave	
Landscaped trees and shrubs	Unknown non-native tree	1	south side of Washington	Kilgary to Passons
Landscaped trees and shrubs	Liquid Amber	5	north side of Washington	Passons to Hasty
Landscaped trees and shrubs	California Sycamore (native)	1	south side of Washington	Passons to Hasty- small tree
Landscaped trees and shrubs	Liquid Amber	5	south side of Washington	Passons to Hasty
Landscaped trees and shrubs	Pine	2	south side of Washington	Passons to Hasty
Landscaped trees and shrubs	Unknown non-native tree	3	south side of Washington	Passons to Hasty
Landscaped trees and shrubs	Liquid Amber	8	north side of Washington	Hasty to Pico Vista (north)
Landscaped trees and shrubs	Unknown non-native tree	4	north side of Washington	Hasty to Pico Vista (north)

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Liquid Amber	9	south side of Washington	Hasty to Pico Vista (north)
Landscaped trees and shrubs	Unknown non-native tree	3	south side of Washington	Hasty to Pico Vista (north)
Landscaped trees and shrubs	Brazilian pepper	16	north side of Washington	Pico Vista (north) to Pico Vista (south)
Landscaped trees and shrubs	Chinese elm	1	south side of Washington	Pico Vista (south) to San Gabriel River
Riparian	Cottonwood (native)	0	south side of Washington	San Gabriel River- set back from bridge
Landscaped trees and shrubs	Eucalyptus	2	north side of Washington	San Gabriel River to 605 Fwy
Landscaped trees and shrubs	Eucalyptus	4	south side of Washington	
Landscaped trees and shrubs	Yucca (native)	2	south side of Washington	
Landscaped trees and shrubs	Tree of Heaven	2	south side of Washington	
Landscaped trees and shrubs	No street trees	0	none	Danby to Morill
Landscaped trees and shrubs	Magnolia	1	north side of Washington	Morill to Norwalk
Landscaped trees and shrubs	Pine	11	south side of Washington	Morill to Norwalk
Landscaped trees and shrubs	Tulip poplar	1	Park&Ride on south side of Washington	Norwalk Station within center median of Washington
Landscaped trees and shrubs	Palm	15	Park&Ride on south side of Washington	
Landscaped trees and shrubs	Unknown non-native tree	3	north side of Washington	Broadway to Westman
Landscaped trees and shrubs	Liquid Amber	2	south side of Washington	Westman to Allport
Landscaped trees and shrubs	Palm	1	south side of Washington	Westman to Allport
Landscaped trees and shrubs	Palm	6	within center median of Washington	Westman to Allport
Landscaped trees and shrubs	Palm	7	within center median of Washington	Sorensen to Appledale
Landscaped trees and shrubs	Palm	4	south side of Washington	Sorensen to Appledale
Landscaped trees and shrubs	Jacaranda	1	south side of Washington	Sorensen to Appledale

Habitat Description	Tree Species	Tree Numbers	Specific location	General location
Landscaped trees and shrubs	Pine	1	south side of Washington	Sorensen to Appledale
Landscaped trees and shrubs	Eucalyptus	3	south side of Washington	Sorensen to Appledale
Landscaped trees and shrubs	Unknown non-native tree	4	south side of Washington	Appledale to Calobar
Landscaped trees and shrubs	Bottle brush	1	south side of Washington	Calobar to Lambert
Landscaped trees and shrubs	Palm	10	south side of Washington	Calobar to Lambert
Landscaped trees and shrubs	Unknown non-native tree	2	north side of Washington	Just west of Lambert
Landscaped trees and shrubs	Pine	5	north side of Washington	Just west of Lambert
Landscaped trees and shrubs	Liquid Amber	5	Park&Ride for Lambert Station	Lamber Station in middle of Lambert Road
Landscaped trees and shrubs	Unknown non-native tree	63	Park&Ride for Lambert Station	small trees
Landscaped trees and shrubs	palm	7	North side of Lambert Station	
Landscaped trees and shrubs	Unknown non-native tree	1	North side of Lambert Station	
Landscaped trees and shrubs	Palm	3	South side of Lambert Station	
Landscaped trees and shrubs	Unknown non-native tree	1	South side of Lambert Station	

Note:
1 Tree count was estimated during a field visit.

Eastside Transit Corridor Phase 2

Terrestrial Biological Resources Technical Memorandum

April 25, 2017

Prepared for

Los Angeles County Metropolitan Transportation Authority One

Gateway Plaza

Los Angeles, California 90012

State Clearinghouse Number: 2010011062

Metro

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TABLE OF CONTENTS

Tables

Figures

Appendices

ACRONYMS AND ABBREVIATIONS LIST

CDFW	California Department of Fish and Wildlife
CNDDB	California Natural Diversity Database
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
HMMP	Habitat Mitigation and Monitoring Plan
ITP	Incidental Take Permit
LBV	Least Bell's Vireo
LRT	Light Rail Transit
NSDV	North Side Design Variation
OII	Operating Industries, Inc.
ROW	right-of-way
SR	State Route
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

The purpose of this Technical Memorandum is to respond to comments provided by the California Department of Fish and Wildlife (CDFW) on the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Eastside Transit Corridor Phase 2 Project (CDFW 2014). This Technical Memorandum is meant to supplement the analysis of ecosystems and biological resources previously conducted and presented in the Draft EIS/EIR. Please refer to Section 4.10 of the draft EIS/EIR[1].

This Technical Memorandum presents the findings of surveys for terrestrial biological resources that could be affected by construction, operation and maintenance of the SR 60 North Side Design Variation (NSDV) Light Rail Transit (LRT) Alternative or the Washington Boulevard LRT Alternative. The survey included mapping of vegetation communities, assessment of potential habitat for state and federally listed species, and focused surveys for sensitive wildlife species, rare and natural communities, and rare plants. This report includes the findings of protocol-level surveys conducted by others in 2016 for federally listed species within the project area.

The Technical Memorandum also provides an evaluation of potential impacts on terrestrial biological resources from construction and operation of the proposed LRT alternatives. In addition, this Technical Memorandum outlines measures to be incorporated into the proposed project to avoid or reduce impacts from invasive species.

An evaluation of potential impacts on Waters of the U.S. and Waters of the State is presented in a separate technical memorandum focused on aquatic biological resources.

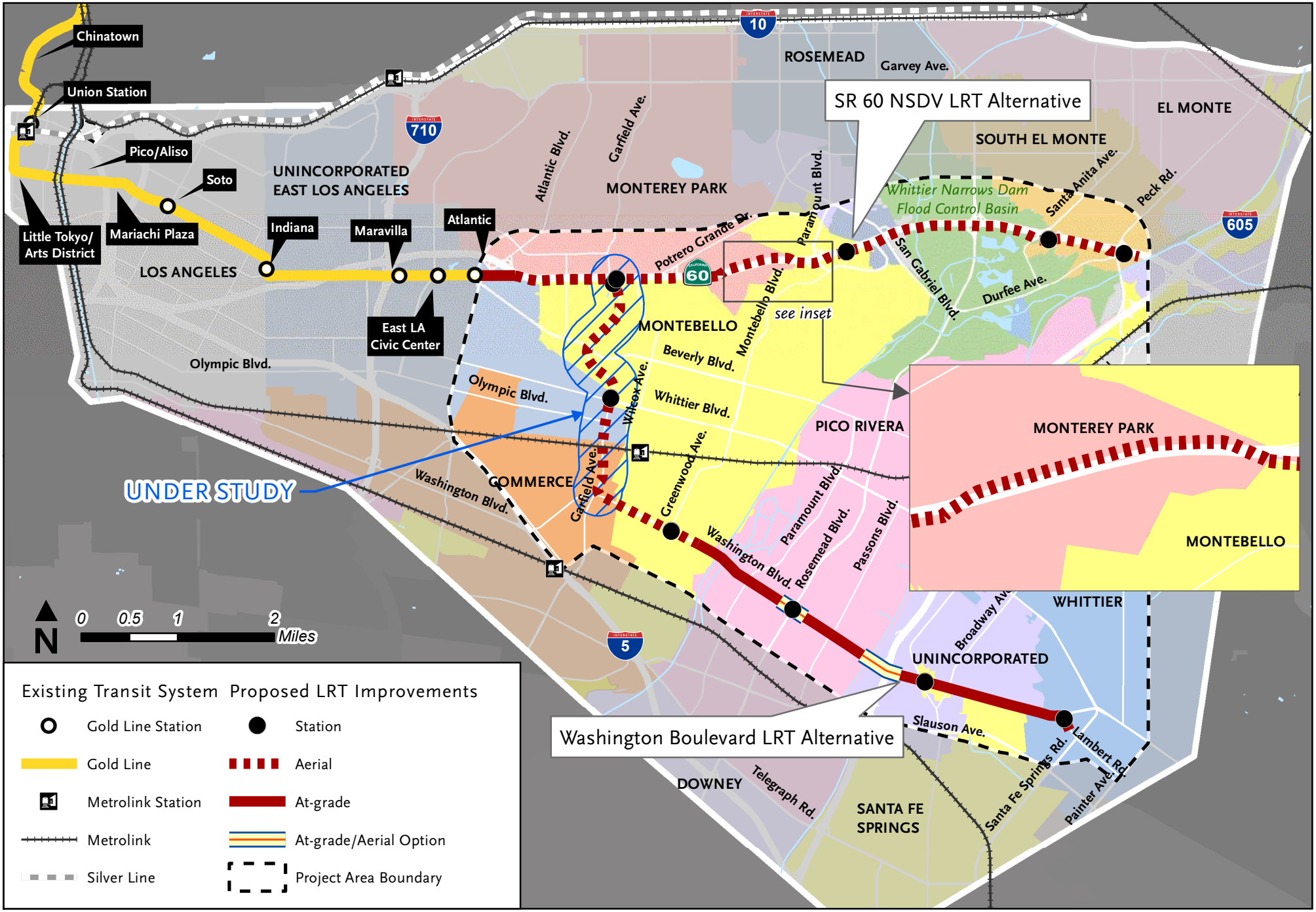
This evaluation encompasses the two LRT alternative alignments as part of the Eastside Transit Corridor Phase 2 project: the SR 60 NSDV LRT Alternative and the Washington Boulevard portion of the Washington Boulevard LRT Alternative east of Garfield Avenue. On November 5, 2014, the Metro Board eliminated the aerial configuration on Garfield Avenue of the Washington Boulevard LRT Alternative, between Via Campo and Whittier Boulevard, from further study and directed staff to identify an alternate north/south connection to Washington Boulevard. During the writing of this report, the investigation of alternate north/south connections to Washington Boulevard was still underway and a new north/south connection had not been selected by the Board. Therefore, only the Washington Boulevard portion of the Washington Boulevard LRT Alternative east of Garfield Avenue is evaluated in this report. Additional study of the terrestrial resources will be conducted in the next phase of the project if a new north/south connection option for the Washington Boulevard Alternative is carried forward in the environmental process.

[1] Section 4.10 of the draft EIS/EIR is available here: http://media.metro.net/projects_studies/eastside_phase2/images/draft_eiseir/report_eastside_section4-10.pdf

The SR 60 NSDV LRT Alternative would extend the existing Metro Gold Line from the Atlantic/Pomona Station approximately 6.9 miles eastward to Peck Road in the City of South El Monte, as shown in **Figure 1-1**. The SR 60 NSDV LRT Alternative would be located primarily along the southern side of the SR 60 Freeway right-of-way (ROW), with the exception of a segment that would pass near the Operating Industries, Inc. (OII) Landfill in Monterey Park.

To avoid potential impacts on the South Parcel of the OII Landfill, the SR 60 NSDV LRT Alternative alignment would transition to the north side of the SR 60 Freeway, just west of Greenwood Avenue, continue east along the north side of the SR 60 Freeway within the Caltrans ROW, and return to the south side of the SR 60 Freeway approximately one-quarter mile west of Paramount Boulevard. The proposed alignment would then cross the Rio Hondo River and associated riparian habitat to the south of the SR 60 Freeway. Staying within the ROW on the south side of the SR 60 Freeway, the alignment would pass north of a skeet shooting range (Triple B Clays) and Legg Lake recreational areas. The alignment would continue east on the south side of the SR 60 Freeway past Santa Anita Avenue, through a vacant field, which has been used for agriculture in the past and is restricted by a U.S. Army Corps of Engineers (USACE) flowage easement. The alignment would end with a terminus station at Peck Road.

The Washington Boulevard LRT Alternative studied in the Draft EIS/EIR would extend the existing Metro Gold Line from the Atlantic Station in unincorporated East Los Angeles, approximately 9.5 miles eastward, to Lambert Road in the City of Whittier, as shown in Figure 1-1. The portion of the Washington Boulevard Alternative alignment evaluated in this study begins east of Garfield Avenue in the City of Commerce and extends east, in an aerial configuration, along Washington Boulevard. At Montebello Boulevard the alternative would transition to an at-grade configuration within the center of Washington Boulevard crossing the Rio Hondo and San Gabriel Rivers and associated spreading grounds on the existing bridge structures, to a terminus station located south of Washington Boulevard just west of Lambert Road. The Washington Boulevard LRT Alternative is located within mostly developed, urban areas, although ornamental trees and vegetation exist along the proposed alignment.



Source: Metro, 2015

Figure 1-1

Eastside Transit Corridor Phase 2 Project Location

2.0 METHODS

This section describes the methods that were used to assess terrestrial biological resources in the project area. This survey builds upon the earlier surveys conducted for the Draft EIS/EIR.

A coordination meeting was held with Ms. Kelly Schmoker, CDFW on February 29, 2016, to discuss the scope and proposed methods for conducting the biological resources surveys. During the meeting, the scope of the survey and proposed methods were presented. A concurrence letter further outlining the survey approach as discussed during the February 29, 2016 meeting was submitted to CDFW. The methods that were used are described in this section.

2.1 Literature Review

Prior to the field work, a literature review was conducted for information on the distribution of special status wildlife and plant species and rare natural communities in the project area. This included a search of the California Natural Diversity Database (CNDDB). The CNDDB was consulted for the evaluation presented in the Draft EIS/EIR and the database was reviewed again for this report. Findings from the CNDDB search are presented under the appropriate results sections below.

In addition, other existing sources of information were consulted, including the Rio Hondo Watershed Management Plan (Rivers and Mountains Conservancy 2004), the State of the Watershed Report for the San Gabriel River Watershed (Los Angeles Regional Water Quality Control Board 2000), and the San Gabriel River Corridor Master Plan (County of Los Angeles 2006). USACE biologists conduct regular surveys for special status species and rare plants within the Whittier Narrows Flood Control Basin (Whittier Narrows Basin) and their survey results are also incorporated in this report (USACE 2016a) along with information on vegetation communities and wildlife (USACE 2016b). Information was also obtained from New Cure, Inc., which conducts special status species surveys at the OII Site.

2.2 Vegetation Survey and Mapping

Vegetation communities within 500 feet of the proposed alignments were identified and mapped according to *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf, and Evens 2009) (see **Appendix A**). During the survey, biologists walked accessible areas of the proposed LRT alternative alignments and potential construction zones that support vegetation as described below.

- SR 60 NSDV LRT Alternative:
    - Vegetation within Caltrans ROW north and south of the SR 60 Freeway at the OII site. The Caltrans ROW has an average width of approximately 302 feet from the north fence line to the south fence line in the area of the OII site.
    - Vegetation within Whittier Narrows Basin including:
        - Within 100 feet of the south side of the SR 60 Freeway bridge over the Rio Hondo (areas further south would not be affected by construction and access was restricted to protect sensitive species)

- Within the scrub area north of the bike path and northeast of the SR 60 Freeway bridge over the Rio Hondo
- Along the SR 60 Freeway fence line within Triple B Clays property just south of the SR 60 Freeway
- Along the parking lot for Legg Lake just south of the SR 60 Freeway
- Within the proposed Santa Anita Avenue station area south of the SR 60 Freeway

- Drainage channel and vegetation along slope north of Montebello Town Center
- Trees within Caltrans ROW both north and south of the SR 60 Freeway, primarily at freeway exits

- Washington Boulevard LRT Alternative:
  - Washington Boulevard crossing of Rio Hondo Spreading Grounds
  - Washington Boulevard crossing of San Gabriel River Spreading Grounds

2.2.1 Rare and Natural Communities

Rare and natural communities within 500 feet of the proposed alignments were identified and mapped.

2.2.2 Woodland Communities

Woodland communities within 500 feet of the proposed alignments were identified and mapped.

2.2.3 Rare Plants

A literature search was conducted to determine the likelihood of encountering rare plants within the project area. In addition, USACE biologist Tom Keeney and Colleen Mackay, Superintendent of the Whittier Narrows Nature Center, were contacted for additional information on the presence of rare plants within the Whittier Narrows Basin and/or at the Nature Center, respectively.

During the literature review phase of this study, Metro informed CDFW that a separate survey for Parish's gooseberry (*Ribes divaricatum* var. *parishii*), which blooms earlier than the other rare plants of potential concern in the project area, would not be conducted as that plant is presumed extirpated from California. CDFW recommended the rare plant survey be conducted in May when the majority of the plants would be in their blooming periods.

During the survey, the biologists walked accessible areas of the proposed LRT alternatives within the areas listed in Section 2.2. Existing vegetation and habitats were visually observed for the presence of rare plants. Thirteen rare plants were identified as having potential to occur in the project area based on a search of the CNDDB.

Table 2-1 provides the habitat requirements, blooming times, and documented occurrences for each of these species in the project area from the CNDDB.

Table 2-1 Rare Plants with Potential to Occur in the Project Area

Common Name	Scientific Name	Habitat Requirements	Bloom Period	Last Known Occurrence in the Project Area
Parish's brittlescale	*Atriplex parishii*	Vernal pools, chenopod scrub, playas	June-Oct	No documented observations in the project area.
Nevin's barberry	*Berberis nevinii*	Chaparral, cismontane woodland, coastal scrub, riparian scrub	February-June	Planted at Whittier Narrows Nature Center in landscaped area.
Plummer's mariposa-lily	*Calochortus plummerae*	Coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, lower montane coniferous forest	May-July	Recent (2005) observation in Turnbull Canyon, Hacienda Hills.
Intermediate mariposa-lily	*Calochortus weedii* var. *intermedius*	Coastal scrub, chaparral, valley and foothill grassland	May-July	Recent (2015) observation in Turnbull Canyon, Hacienda Hills.
Southern tarplant	*Centromadia parryi* ssp. *australis*	Marshes and swamps (margins), valley and foothill grassland, vernal pools	May-November	Recent (2015) observation in Whittier Narrows south of shooting range, along SCE powerlines, approximately 1,500 feet south of the SR 60 Freeway.
Mesa horkelia	*Horkelia cuneata* ssp. *puberula*	Chaparral, cismontane woodland, coastal scrub	February-September	No documented observations in the project area.
Coulter's goldfields	*Lasthenia glabrata* ssp. *coulteri*	Coastal salt marshes, playas, vernal pools	February-June	Historical observation in Norwalk, 1939
Orcutt's linanthus	*Linanthus orcuttii*	Chaparral, lower montane coniferous forest, pinyon and juniper woodland	May-June	No documented observations in the project area.
Prostrate vernal pool navarretia	*Navarretia prostrata*	Coastal scrub, valley and foothill grassland, vernal pools, meadows and seeps	April-July	Historical observation near Downey, 1895
California Orcutt grass	*Orcuttia californica*	Vernal pools	April-August	Historical observation near Downey, unknown date
Brand's star phacelia	*Phacelia stellaris*	Coastal scrub, coastal dunes	March-June	Historical observation in El Monte, 1935
Parish's gooseberry	*Ribes divaricatum* var. *parishii*	Riparian woodland	February-April	Historical observation in Whittier Narrows near the San Gabriel River, 1980 or 1981
Southern mountains skullcap	*Scutellaria bolanderi* ssp. *austromontana*	Gravelly soils on streambanks	June-August	Historical observation in El Monte, unknown date

Source: CNDDB 2016.

2.2.4 Trees Along Streets and ROWs

Vegetation along streets and the Caltrans ROW that could be affected by proposed construction or operation of either alternative was surveyed for the presence of native species.

2.3 Wildlife Species and Habitat Survey

The biological resources survey described in the 2014 Draft EIS/EIR included a visual survey of the complete alignments for the SR 60 NSDV LRT Alternative and the Washington Boulevard LRT Alternative. The habitat surveys conducted for the Draft EIS/EIR and a review of aerial photographs identified few areas with natural vegetation. Most of the proposed alignments and the surrounding lands are developed with commercial, industrial, and residential land uses. The supplemental survey efforts were focused on those areas identified that support vegetation, with an emphasis on areas of natural vegetation.

2.3.1 Federally Listed Wildlife Species

Based on the literature review described above, four federally listed wildlife species have the potential to occur in the project area for the SR 60 NSDV LRT Alternative. Two of these species: coastal California gnatcatcher (*Polioptila californica californica*), a federal threatened species and state species of concern, and Least Bell's vireo (*Vireo bellii pusillus*), a federal and state endangered species, are known to occur in the vicinity of Whittier Narrows Basin. No critical habitat has been designated within the proposed LRT alignments for either species. Designated critical habitat for California gnatcatcher occurs in the Whittier Narrows Basin, south of Montebello Boulevard and San Gabriel Boulevard, outside the area for the SR 60 NSDV LRT Alternative.

Protocol-level surveys for coastal California gnatcatcher were conducted in 2015 and 2016 at the OII Site by a contractor for Southern California Edison. Protocol-level surveys for Least Bell's vireo (LBV) were conducted in 2016 and in previous years at the Whittier Narrows Basin by USACE (USACE 2016a). No suitable habitat exists for either species in other portions of the proposed SR 60 NSDV LRT Alternative or along the proposed Washington Boulevard LRT Alternative as described in the Draft EIS/EIR. Therefore, additional protocol-level surveys were not necessary for the two proposed Eastside Phase 2 LRT alternatives.

Two other species, western yellow-billed cuckoo (*Coccyzus americanus occidentalis*), a federal threatened and state endangered species, and Southwestern willow flycatcher (*Empidonax traillii extimus*), a federal and state endangered species, may occur within the project area during migration but are not known to nest there (Tom Keeney, USACE, personal communication). The western yellow-billed cuckoo requires large contiguous areas of cottonwood-willow riparian habitat (USFWS 2001), which is not found within the proposed alignments. The southwestern willow flycatcher requires dense riparian habitat (USFWS 1995), which is also very limited within the proposed alignments. There are no recent documented observations of either species in the CNDDB records within either of the proposed LRT alignments.

2.3.2 Sensitive Wildlife Species

Table 2-2 presents the sensitive wildlife species, including state-listed species and species of concern that have the potential to occur in the project area based on the CNDDB search results. During the biological survey in May 2016, habitats along both proposed LRT alignments were assessed to determine if suitable habitat was present for these species.

Table 2-2 Sensitive Wildlife Species with Potential to Occur in the Project Area

Common Name	Scientific Name	Status	Habitat Requirements
Western spadefoot	*Spea hammondii*	CSC	Grasslands and valley-foothill hardwood woodlands with vernal pools.
Coastal whiptail	*Aspidoscelis tigris stejnegeri*	CSC	Deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas.
Western pond turtle	*Emys marmorata*	CSC	Ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation.
Coast horned lizard	*Phrynosoma blainvillii*	CSC	Lowlands along sandy washes with scattered low bushes.
Burrowing owl	*Athene cunicularia*	CSC	Open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.
Swainson's hawk	*Buteo swainsoni*	ST	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees.
Bank swallow	*Riparia riparia*	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert.
Western mastiff bat	*Eumops perotis californicus*	CSC	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral.
Pallid bat	*Antrozous pallidus*	CSC	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting.
Hoary bat	*Lasiurus cinereus*	Rare	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding.
Crotch bumble bee	*Bombus crotchii*	Rare	Food plant genera include Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.

Source: CNDDB 2016.
Key:
CSC = California Species of Special Concern
ST = State Threatened

Bat Surveys

Daytime and evening bat surveys were conducted in September 2015 at the SR 60 Freeway bridge over the Rio Hondo and at the Washington Boulevard alignment bridges over the Rio Hondo and San Gabriel Rivers (GPA Consulting 2015). The Bat Survey Results Report, which includes survey photos from the bat survey, is located in **Appendix C**.

The bat habitat surveys were performed on foot by qualified biologists. Surveys were conducted from accessible areas beneath the bridges. Surveyors evaluated the structure of each bridge and located potential bat roosting habitat, including expansion joints, weep holes, crevices, and other openings and spaces where bats might roost. The bridges were accessed from public roads, bike paths, and recreational trails, and were surveyed using un-aided vision, high-powered flashlights, and binoculars. Areas beneath the bridges that were not directly accessible were surveyed using binoculars from adjacent areas.

Evening bat emergence surveys were performed at the three bridge sites by surveyors who were stationed beneath the bridges or directly adjacent depending on access. The evening emergence surveys focused on areas where potential bat roosting habitat was observed during the daytime bat roosting habitat survey. Each biologist was equipped with acoustic bat detectors (Pettersson M500 and/or BatboxTM Baton), which are used to detect bat echolocation calls. Each evening bat emergence survey began approximately 10 minutes prior to sunset and lasted until approximately 45 minutes after sunset when the sky became completely dark. Following each survey, individual surveyor results, including the number of bats observed/recorded, time of observations, and whether bats were visually confirmed to be exiting the bridges or nearby locations, were recorded.

3.0 FINDINGS

This section presents the findings of the biological survey.

The project area is mostly urban and heavily developed. Vegetation within developed areas includes ornamental trees, shrubs, groundcovers, herbaceous cultivars (common flowering garden plants), and grass lawns along surface streets, sidewalks, and medians as well as surrounding commercial businesses and residences.

Open space and parklands in the project area support sensitive ecosystems and biological resources, particularly in the vicinity of the Rio Hondo River within the Whittier Narrows Basin located along the SR 60 Freeway. Also along the SR 60 Freeway, the OII Landfill provides open space that supports biological resources. In addition, the Rio Hondo and San Gabriel River spreading grounds provide habitat for water birds during wet seasons.

3.1 Vegetation Survey and Map

Figure 3-1a to Figure 3-1k and **Figure 3-2a to Figure 3-2i** (Appendix A) provide vegetation maps of the SR 60 NSDV LRT Alternative and the Washington Boulevard LRT Alternative alignments, respectively. Metro is conducting a study to identify a new north/south connection for refinement of the Washington Boulevard Alternative and therefore, Figure 3-2a to Figure 3-2i (Appendix A) only provide vegetation maps for the Washington Boulevard LRT Alternative east of Garfield Avenue.

A large portion of the project area is developed and consists of buildings, structures, roads, parking lots, driveways, sidewalks, and other hardscaped areas. Areas supporting vegetation within 500 feet were mapped to the extent possible in accordance with the vegetation classification system described in *A Manual of California Vegetation, Second Edition* (Sawyer, Keeler-Wolf, and Evens 2009).

Vegetation consisting of landscape plants is prevalent throughout the project area and was mapped as Ornamental because it is not dominated by a particular species. Some of these ornamental vegetation communities are densely vegetated and located on slopes such that they are generally undisturbed, while other areas are highly managed (i.e., mowed, sprayed, trimmed, etc.). In addition, several areas of non-native grassland occur within unpaved vacant lots, fields, and utility corridors. These were mapped as Non-native Grassland and are most closely aligned with the classification "Mediterranean California Naturalized Annual and Perennial Grassland Semi-Natural Stands;" although their habitat value varies considerably.

Patches of coastal sage scrub were observed along the SR 60 Freeway near the OII Site. This community was dominated by California buckwheat and mapped as California buckwheat scrub (Figure 3-1e, Appendix A). Riparian forest associated with the Rio Hondo at the SR 60 Freeway crossing was mapped as Arroyo willow thickets, although several other species are co-dominant (Figure 3-1h, Appendix A). Similarly, riparian scrub was mapped as mulefat scrub, although mulefat was sparsely scattered and many non-native and invasive species were prevalent in the community (Figure 3-1h, Appendix A).

3.1.1 Rare and Natural Communities Survey Results

Natural communities were observed during the biological survey, including coastal sage scrub, willow riparian forest, and riparian scrub. These natural communities are not considered of special concern (CDFW 2016). Based on the CNDDB results, no alluvial fan sage scrub or other rare natural communities have been documented in the project area (CNDDB 2016). The May 2016 field survey confirmed that this plant community is not present within the project area.

The CDFW comment letter on the 2014 Draft EIS/EIR indicated that CDFW would like a cumulative effects analysis be considered for alluvial fan sage scrub that could be impacted by the proposed project. Since no alluvial fan sage scrub is present in the project area, there is no potential for cumulative effects on this rare natural community.

3.1.1.1 Coastal Sage Scrub

During the biological survey, coastal sage scrub habitat was noted within the SR 60 Freeway ROW on the north side of the freeway at the OII Site. The habitat consists of patches of coastal sage scrub vegetation with many disturbed areas and a prevalence of non-native species. Coastal sage scrub plants were dominated by California buckwheat (*Eriogonum fasciculatum*) with scattered California sagebrush (*Artemisia californica*) and mulefat (*Baccharis salicifolia*). Non-native annual grasses and forbs included red brome (*Bromus* sp.), oat (*Avena* sp.), mustard (*Brassica nigra*), Russian thistle (*Kali tragus*), and redstem filaree (*Erodium cicutarium*). *Cryptantha* sp. was also observed. Other species included castor bean (*Ricinus communis*), tamarisk (*Tamarix* sp.), and tree of heaven (*Ailanthus altissima*). Non-native vegetation, including a large patch of ornamental fountain grass, is also prevalent further north along the fenceline of the OII property, which is on a terrace above the slope down to the freeway. A concrete drainage channel was observed along the top of the slope in one portion (**Appendix B**, Photo 1 to Photo 4).

At the OII Site, on the south side of and within the SR 60 Freeway ROW, vegetation consists primarily of invasive yellow star-thistle (*Centaurea solstitialis*) and non-native grasses. Vegetation in this area appeared to have been sprayed with herbicide and mowed or weed-whacked (Appendix B, Photo 5 to Photo 8).

Patches of coastal sage scrub were observed further south of the ROW on the OII Site property, but still within 500 feet of the proposed LRT alignment and are mapped as California buckwheat scrub on Figure 3-1e, Appendix A.

3.1.1.2 Riparian Forest/Riparian Scrub

Riparian vegetation at the SR 60 Freeway crossing of the Rio Hondo consists of a variety of native and non-native vegetation (Appendix B, Photo 9 to Photo 12). Willows, including arroyo willow (*Salix lasiolepsis*) are present, which is mapped as willow riparian forest (Figure 3-1h, Appendix A). Other native plants that contribute to the overstory include Fremont's cottonwood (*Populus fremontii)* and box elder (*Acer negundo*). However, many non-native tree and shrub species are prevalent within this riparian community, including English walnut (*Juglans regia*), common fig (*Ficus carica*), eucalyptus, and fan palm (*Washingtonia* sp.). Stands of mulefat occur on terraces. Understory vegetation consists largely of non-native species including castor bean, mustard, nightshade, Russian thistle, sweet pea, and non-native grasses.

During the survey in May 2016, there was a small amount of water flowing in the Rio Hondo through a narrow channel with numerous vegetated sandbars. A large storm event had recently caused the eastern bank of the river to fail, resulting in a highly incised and eroding slope. Riprap armor had been placed to stabilize the slope in that area and to protect the adjacent bike path.

Riparian scrub with scattered mulefat was observed on the floodplain east of the Rio Hondo and north of the SR 60 Freeway (Figure 3-1h, Appendix A). This sandy wash adjacent to the Rio Hondo north of the SR 60 Freeway was sparsely vegetated in some areas with telegraph weed (*Heterotheca grandiflora*). Mustard, Russian thistle, redstem filaree, and other non-native plant species were also present in this community (Appendix B, Photo 13 to Photo 16).

Small patches of willow riparian habitat exist along the San Gabriel River at the spreading grounds along the proposed Washington Boulevard LRT alignment. These consist of a small number of arroyo willow trees along the channel margin, with numerous non-native and invasive species such as castor bean (Appendix B, Photo 17 to Photo 20).

A discussion of the aquatic resources observed at the SR 60 Freeway crossing of the Rio Hondo and the Rio Hondo and San Gabriel River spreading grounds is provided in the Aquatic Biological Resources Technical Memorandum.

3.1.2 Woodland Community along the SR 60 Freeway ROW within Whittier Narrows Basin

In addition to the riparian communities associated with the Rio Hondo in the Whittier Narrows Basin and patches of riparian habitat associated with the Rio Hondo and San Gabriel River crossings along Washington Boulevard, there is a woodland community located just east of the Rio Hondo, south of the SR 60 Freeway and north of the Triple B Clays shooting range within Whittier Narrows Basin. This vegetation community is separated from the Rio Hondo by an approximately 10-foot high levee.

This woodland community consists of native and non-native vegetation that has been planted and managed. Therefore, it is mapped as ornamental (Figure 3-1h and Figure 3-1I, Appendix A). An irrigation system supplying water to the vegetation in this area was observed during the survey. Observed tree species included cottonwood (*Populus* sp.), willow (*Salix* sp.), valley oak (*Quercus lobata*), ash (*Fraxinus* sp.), eucalyptus, pepper tree (*Schinus molle*), tree-of-heaven (*Ailanthus altissima*), elderberry (*Sambucus mexicana*), pine (*Pinus* sp.) and various fruit trees. Several non-native species were present including castor bean, mustard, and thistle. A patch of invasive giant reed (*Arundo donax*) was noted. A large portion of this area was filled with fragments of clay skeet dumped onto the soil from the shooting range (Appendix B, Photo 21 to Photo 24).

A line of mature trees along the SR 60 Freeway ROW north of the parking area for Legg Lake within Whittier Narrows Basin consists of native western sycamore (*Platanus racemosa*) and non-native species. This vegetation was mapped as ornamental on Figure 3-1i and Figure 3-1j (Appendix A).

3.1.3 Trees Along the SR 60 Freeway ROW

Trees and other vegetation were observed within the SR 60 Freeway ROW along the proposed SR 60 NSDV LRT Alternative alignment (Appendix B, Photo 25 and Photo 26). This vegetation was primarily non-native and mapped as ornamental, with the exception of Eucalyptus stands which were mapped as such (Figure 3-1a to Figure 3-1k, Appendix A).

Some native tree species were observed along the SR 60 Freeway ROW and adjacent to off-ramps associated with Paramount and San Gabriel Boulevards. Native tree species in these areas include canyon oak (*Quercus chrysolepis*) and Western sycamore. These areas are highly managed and mapped as ornamental (Figure 3-1f thru Figure 3-1h, Appendix A). It was noted that several trees had recently been removed for the Caltrans SR 60 Freeway/Paramount Boulevard Interchange project (Appendix B, Photo 27 and Photo 28). These vegetated areas are either contained within highway on and off ramps or are isolated between the travel lanes of the freeway and adjacent developed urban land uses and would provide minimal habitat values.

3.1.4 Eucalyptus Stands Along the SR 60 Freeway

Stands of eucalyptus trees are located in several areas along the SR 60 Freeway (Figure -1, Appendix A).

3.1.5 Rio Hondo and San Gabriel River Spreading Grounds

The proposed Washington Boulevard LRT alignment crosses the flood control spreading grounds of the Rio Hondo and San Gabriel Rivers. The spreading grounds are large, constructed, flat, open areas that are allowed to flood during times of high water. The flood waters either infiltrate or flow back out into the main channels at a later time and the basins control downstream flooding. Vegetation is controlled (mowed, sprayed, etc.) within the spreading grounds and consists primarily of non-native grasses and forbs. The spreading grounds were dry at the time of the biological survey (Appendix B, Photo 29 to Photo 32).

A discussion of the aquatic resources present at the spreading grounds is provided in the separate Aquatic Biological Resources Technical Memorandum.

3.1.6 Rare Plant Survey Results

No rare plants were observed within the areas surveyed and there was no potential suitable habitat for rare plants within 500 feet of the proposed alignments. Given the disturbed nature of the project area and the lack of recent documented observations, it is unlikely that any rare plant species exist within 500 feet of the proposed alignments.

3.1.7 Street Trees

Numerous trees associated with residential and commercial properties, street ROWs, or within central medians were observed within or near both of the proposed LRT alignments. Street and ornamental trees are predominantly non-native species such as ficus and palm.

3.2 Wildlife Species Survey Results

This section presents the findings of surveys for wildlife and habitat within both of the proposed LRT alignments.

3.2.1 Federally Listed Wildlife Species

Two federally listed wildlife species, California gnatcatcher and Least Bell's vireo, are known to occur in the project area. Findings related to these species are presented below.

3.2.1.1 California Gnatcatcher

Protocol-level surveys were conducted within the south parcel of the OII Site in the spring of 2015 and 2016 in support of a Biological Assessment for an informal Section 7 consultation with the U.S. Fish and Wildlife Service (USFWS) (C. Thompson, AECOM, personal communication). California gnatcatchers were found to be nesting in 2015 and 2016 at the OII Site within coastal sage scrub approximately 150 feet south of the SR 60 Freeway. These surveys identified nesting territories, none of which are within the proposed LRT alignments.

In 2015, three pairs of California gnatcatchers with fledglings were observed in coastal sage and mulefat scrub in and adjacent to the North Parcel of the OII Site (LSA Associates 2015). Poor quality habitat was mapped adjacent to the north side of the freeway and better quality habitat further north and upslope along Greenwood Avenue (LSA 2015).

In addition, one gnatcatcher pair with fledglings was observed foraging in several coastal sage scrub patches within the South Parcel of the OII Site (AECOM 2015).

No California gnatcatchers were observed during the biological survey conducted along the proposed alignment for the SR 60 NSDV LRT Alternative on May 24, 2016. This survey noted habitats within the alignment and differences between areas within the LRT alignment and areas within identified California gnatcatcher territories.

Poor quality coastal sage scrub was observed along the SR 60 Freeway at the OII Site, as described in Section 3.1.1.1. There is frequent disturbance of the vegetation in this area from highway and landfill maintenance activities and a high prevalence of non-native and invasive species. Known nesting areas for California gnatcatcher are upslope on the north and south sides of the freeway and protected from much of the noise and disturbance associated with the busy freeway by distance and the topography. California gnatcatcher would not be expected to nest within the poor quality coastal sage scrub habitat located within the proposed LRT alignment.

3.2.1.2 Least Bell's Vireo

USACE conducts protocol-level surveys for Least Bell's vireo (LBV) in Whittier Narrows Basin (USACE 2016a). At the time of the biological survey in late May 2016, the known LBV territory south of the SR 60 Freeway crossing of the Rio Hondo was not yet occupied; however, LBV appear to be arriving later than typical to the area (Tom Keeney, USACE, personal communication). This nesting territory is approximately 150 feet south of the proposed alignment and construction zone. LBV were determined by USACE to be present within two territories north and northeast of the SR 60 Freeway crossing of the Rio Hondo at the time of the biological survey in late May 2016 (Tom Keeney, USACE,

personal communication). The closest nesting territory is adjacent to the north side of the SR 60 Freeway bridge over the Rio Hondo, approximately 137 feet north (the width of the bridge) of the proposed SR 60 NSDV LRT Alternative, which would be located along the south side of the freeway.

3.2.2 Sensitive Wildlife Species Survey Results

No sensitive wildlife species were observed in the project area during the biological survey conducted on May 23 through May 25, 2016. Lack of suitable habitat limits the potential for sensitive species to occur within either of the proposed LRT alignments.

Western spadefoot is unlikely to occur within or near either of the proposed LRT alignments due to lack of suitable vernal pools with surrounding grassland habitat. The most recent documented observation of western spadefoot near the project area was in temporary ponds within grazed non-native grassland in 1998 in the Puente Hills, approximately 4.5 miles southeast of the proposed SR 60 NSDV LRT alignment (CNDDB 2016).

Coastal whiptail is unlikely to occur within or near the proposed LRT alignments due to lack of arid open areas with sparse foliage. The most recent documented observation of coastal whiptail near the project area was in 2000 within the Sycamore Canyon area of the Puente Hills Landfill, over two miles south of the proposed SR 60 NSDV LRT alignment (CNDDB 2016).

Western pond turtle is unlikely to occur within or near the proposed LRT alignments, as the species prefers ponds and slower waters with basking and nesting sites, habitat that does not occur within the proposed LRT alignments. The most recent documented observation of western pond turtle near the project area was in a small pond located near the Whittier Narrows Nature Center in 1987 (CNDDB 2016).

Coast horned lizard (*Phrynosoma blainvillii*) may occur within areas of loose soil in the mulefat scrub habitat north of the SR 60 Freeway. However, there are no recent documented observations of coast horned lizard in the project area (CNDDB 2016). Suitable habitat does not occur south of the SR 60 Freeway in the proposed alignment or north of the SR 60 Freeway in the area of the north side design variation.

Two burrowing owls (*Athene cunicularia*) were documented wintering at the OII Site, approximately 500 feet south of the SR 60 Freeway, from October 2015 until February 2016 (C. Thompson, AECOM, personal communication). However, suitable nesting habitat for burrowing owls is not present in the project area.

Swainson's hawks and bank swallows may migrate through the project area but nesting is unlikely due to a lack of suitable habitat for either of these species (suitable habitat is described in Table 2-2). There are no recent documented observations of Swainson's hawk or bank swallow in the project area (CNDDB 2016).

Crotch bumblebee is unlikely to occur due to lack of suitable habitat as described in Table 2-2. There are no recent documented observations of the species in the project area (CNDDB 2016).

3.2.2.1 Bat Surveys

Suitable bat roosting habitat was observed on all three bridges surveyed. Structural elements providing potential roosting habitat included expansion joints, weep holes, concrete cracks, and other crevices and openings in the bridges. Swallow nests present on all bridges are also commonly used by bats for roosting when not occupied by birds. In addition, there are several large trees at all three bridges which could also serve as roosting habitat. This habitat could be suitable for both daytime and nighttime roosting.

At the SR 60 Freeway bridge over the Rio Hondo, multiple bats were observed visually at the southeast corner of the bridge, and numerous (approximately 30 to 35) calls were detected with Baton detectors between 7:10 p.m. and 7:40 p.m. at the northwest corner, southwest corner, and southeast corner of the bridge. Fifteen confirmed bat calls were recorded using Pettersson M500 microphones, including 12 calls recorded at the southeast corner of the bridge and three calls recorded at the northwest corner of the bridge. Three bat species, including the Mexican free-tailed bat (*Tadarida brasiliensis*), California Myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*), were recorded and positively identified at the SR 60 Freeway bridge over the Rio Hondo.

The greatest number of calls and visual observations were observed from the southeast corner of the SR 60 Freeway bridge, and there is a high probability that detected bats were emerging from the bridge structure near the surveyors. There are two structural elements in this area of the bridge, including the central expansion joint and numerous weep holes, that could provide exit points for bats. However, because of the low light conditions beneath the bridge, bats were not actually observed exiting from the bridge; rather, they were detected with ultrasonic detectors and then immediately observed flying overhead. Therefore, whether the bats were emerging from the bridge, and the exact location of the exit points, could not be determined.

At the Washington Boulevard bridge over the Rio Hondo, no bats were visually observed; however, four bat calls were detected with Baton detectors between 7:15 p.m. and 7:30 p.m. All of these calls were very faint, which suggests that they may have come from bats further away from the surveyors; however, other factors such as bat species, orientation of detectors, atmospheric conditions (temperature, humidity, wind), and other conditions may also affect the volume of calls detected.

At the Washington Boulevard bridge over the San Gabriel River, no bats were observed visually; however, between four and six bat calls were detected with Baton detectors between 7:15 p.m. and 7:40 p.m. Five confirmed bat calls were recorded using Pettersson M500 microphones, including four calls at the northwest corner of the bridge, and one at the southeast corner of the bridge. Several of the bat calls detected at the northwest corner of the bridge were identified as characteristic of the "feeding buzz" exhibited by foraging bats, which may have been passing through the site or foraging locally. One bat species, the Mexican free-tailed bat, was recorded and positively identified at the Washington Boulevard bridge over the San Gabriel River.

While none of the bat species positively identified within the proposed SR 60 NSDV LRT Alternative and the Washington Boulevard LRT Alternative alignments are listed as threatened or endangered, the presence of bat habitat at the bridges indicates that bat species could occur.

3.2.2.2 Migratory Birds

Several species of migratory birds were observed during the biological survey. Migratory birds associated with riparian habitats are likely to nest in willow riparian habitat within 500 feet of the proposed SR 60 NSDV LRT Alternative alignment near the Rio Hondo, and in patches of willow riparian habitat within 500 feet of the proposed Washington Boulevard LRT Alternative alignment near the San Gabriel River. Although not observed during the biological survey, Yellow-breasted chat (*Icteria virens*) and Yellow warbler (*Dendroica petechia*) have been observed by others in riparian habitat within Whittier Narrows (USACE 2009). Sensitive species including Tricolored blackbird (*Agelaius tricolor*) and Least bittern (*Ixobrychus exilis*) have been observed at Legg Lake (National Audubon Society 2013). Cliff swallow (*Petrochelidon pyrrhonota*) nests were observed under the SR 60 Freeway bridge over the Rio Hondo and the Washington Boulevard bridges over the Rio Hondo and San Gabriel River. Furthermore, migratory bird species utilize a variety of habitats and may nest within several of the vegetation communities within 500 feet of the proposed alignments as identified on Figure 3-1 and Figure 3-2 (Appendix A).

3.3 Limitations

The findings presented herein are based on the findings of biological surveys conducted for the 2014 Draft EIS/EIR and an additional biological survey that was conducted during three days in late May 2016 in response to CDFW comments on the 2014 Draft EIS/EIR. Some areas along the proposed alignments were private property and/or inaccessible by foot and were surveyed by car or through fences, which provided limited visibility. Design-level information on where construction impacts, including access and staging areas, could occur is preliminary, given that the project is in the early environmental planning phase and a locally preferred alternative has not yet been selected for the Eastside Transit Corridor Phase 2 Project.

4.0 CONSTRUCTION-RELATED IMPACTS

This section describes potential impacts on terrestrial biological resources associated with construction of the LRT alternatives. The Draft EIS/EIR provides the significance criteria for evaluation of impacts. It should be noted that the results of this survey do not change the fundamental conclusions of the Draft EIS/EIR, but allow for further refinement of proposed mitigation measures and comparisons of the alternatives.

Temporary impacts are those that could occur during construction. It is assumed that restoration of habitat would be required as mitigation for construction impacts. Therefore, permanent impacts would be limited to areas where there is permanent loss of habitat from installation of the at-grade LRT tracks, columns for aerial tracks, stations, Park and Ride areas, structures, and hardscaping. An estimation of temporary and permanent impacts was based on preliminary conceptual engineering design and there was no double-counting between temporary and permanent impact areas.

4.1 SR 60 NSDV LRT Alternative

Based on the biological survey, there is the potential for adverse effects on terrestrial biological resources during construction of the SR 60 NSDV LRT Alternative, as described in the following sections and illustrated on Figure 3-1 (Appendix A).

4.1.1 Vegetation Communities

Construction impacts would occur from removal of vegetation directly within the proposed alignment for the SR 60 NSDV LRT Alternative. The proposed alignment is shown in Figure 3-1 (Appendix A). Polygons of vegetation communities (other than ornamental) located within the proposed alignment were quantified.

4.1.1.1 Temporary Impacts

Construction would result in temporary impacts in areas where vegetation would be removed or trimmed for equipment access and staging, as shown in Figure 3-1 (Appendix A). There would be no temporary impact on willow riparian habitat adjacent to the Rio Hondo, along the south side of the SR 60 Freeway.

However, there would be temporary impacts on 1.6 acres of coastal sage (California buckwheat) scrub habitat along the north side of the SR 60 Freeway at the OII Site during construction. There would also be temporary impacts on 4.2 acres of non-native (California naturalized annual and perennial) grassland and 10.4 acres of eucalyptus stands.

4.1.1.2 Permanent Impacts

Permanent impacts would result from the loss of vegetation where at-grade LRT tracks, columns for aerial tracks, stations, Park and Ride areas, structures, and hardscaping would be installed, as shown in Figure 3-1 (Appendix A).

There would be no permanent impacts on willow riparian habitat adjacent to the Rio Hondo, along the south side of the SR 60 Freeway (Figure 3-1, Appendix A). The SR 60 Freeway bridge over the Rio Hondo is approximately 137 feet wide and elevated approximately 35 feet above the river. The SR 60 NSDV aerial LRT structure would be located immediately adjacent to the bridge. The LRT structure would add approximately 30 feet of additional width over the river; however, the river bed drops in elevation as it flows to the south. Therefore, the LRT structure would be approximately 45 feet above the river. By using the sun angles throughout the year, the distance under the new structure that full sun would reach was calculated. This analysis indicates that there would be a reduction in full sun only for a portion of the year under a portion of the LRT structure. Specifically, an area of approximately 5,800 square feet (0.1 acre) would be shaded by the LRT structure for about half the year.

As described in Section 3.1.1.2, many non-native tree and shrub species are prevalent within this riparian community. These non-native species are likely to be tolerant of shade. However, some native species may be adversely affected. Therefore, it was determined that shading from the proposed SR 60 NSDV Alternative aerial LRT track above could result in a small area of permanent impacts on the riparian community there.

There would be permanent impacts on 2.8 acres of coastal sage (California buckwheat) scrub habitat along the SR 60 Freeway at the OII Site. This would be a significant impact on a sensitive vegetation community. Therefore, mitigation would be required, as described in Section 6. There would also be permanent impacts on 9.7 acres of non-native (California naturalized annual and perennial) grassland, including the area proposed for the Santa Anita Avenue Station and Park and Ride structure. In addition, there would be permanent impacts on 0.07 acres of Eucalyptus stands along the SR 60 Freeway (Figure 3-1, Appendix A). Neither non-native grassland or Eucalyptus stands are considered sensitive communities, and given the relatively small area of impact to these communities compared to their prevalence in the region, these impacts are not considered a significant impact and no mitigation would be required.

The woodland habitat along the SR 60 Freeway ROW at the Triple B Clays property consists of native and non-native species, some of which may be removed for construction of the SR 60 NSDV LRT Alternative. While this is not a sensitive natural community, it does provide nesting habitat for migratory songbirds. There would be permanent impacts on native and non-native ornamental vegetation in this area. Similarly, small patches of native and non-native trees observed in other areas along the SR 60 Freeway ROW may be removed. Mitigation would be required for these impacts, as described in Section 6.

Many species of invasive plants were observed in the areas where construction would occur. Mitigation measures to avoid the spread of invasive plants would be required, as described in Section 6.

As described in the Draft EIS/EIR, there is also potential for removal of native trees along some streets and ROWs, and replacement of these trees may be required in accordance with local municipal ordinances.

4.1.2 Federally Listed Wildlife Species

California gnatcatchers have been observed nesting within coastal sage scrub habitat at the OII Site. Construction in the area of the OII site would be limited to within the SR 60 Freeway ROW and there would be no construction activities within known nesting areas. While this species would not be expected to nest within the poor quality coastal sage scrub habitat located in the proposed LRT alignment within the ROW of the SR 60 Freeway, mitigation measures would be implemented during construction in this area to avoid potential impacts, as described in Section 6. It should be noted, that grading activities associated with a commercial development located on the OII North Parcel are currently underway and will result in removal of the coastal sage scrub habitat located in the proposed LRT alignment within the ROW of the SR 60 Freeway, east of the New Cure, Inc. Landfill Gas Treatment System located east of the Greenwood Avenue bridge.

A Least Bell's vireo nesting territory is located approximately 150 feet south of the SR 60 Freeway bridge over the Rio Hondo (Tom Keeney, USACE, personal communication). Installation of columns to support aerial LRT tracks would occur closer to the bridge and outside of the current territory. However, there is potential for removal or trimming of riparian vegetation for equipment access, and construction noise and activity could disturb nesting vireos. Mitigation to avoid or reduce impacts on this species would be required, as described in Section 6.

4.1.3 Sensitive Wildlife Species

Removal or disturbance of riparian forest/riparian scrub habitat could result in adverse effects on sensitive wildlife species such as coast horned lizard. However, no construction is proposed on the north side of the SR 60 Freeway, where these habitats occur (i.e. east of the Rio Hondo crossing). Therefore, impacts on these species are not anticipated.

No pile driving would be conducted for the construction of the project. If groundwater or saturated soils are encountered during drilling of shafts for the support columns for the LRT bridge over the Rio Hondo, the "wet method of construction", a common construction method, would be used. With this method, the hole is kept filled with a drilling fluid during the entire operation of drilling the hole and placing the reinforcing and concrete. The drilling fluid may consist of water if the hole is stable against collapse, or a prepared slurry designed to maintain stability of the hole. The drilling slurry is formed by adding either mineral bentonite or synthetic polymers to water, and is maintained inside the drilled hole at least 5 or more feet higher than the groundwater level. The expelled slurry would be pumped out of the hole and contained for disposal. Pile driving is not necessary with this method. Therefore, there would be no impacts from pile driving.

Construction adjacent to the SR 60 Freeway bridge over the Rio Hondo could result in adverse effects on bat species. There would be no changes to the SR 60 Freeway bridge as a result of the LRT construction; therefore, only temporary activity and noise impacts would occur.

Removal or disturbance of vegetation, noise, and human activity during construction could result in adverse effects on nesting migratory birds depending on the timing of construction activities relative to the nesting season.

Mitigation measures to avoid or reduce these impacts, as described in Section 6, would be required.

4.2 Washington Boulevard LRT Alternative

Terrestrial resources within 500 feet of the Washington Boulevard LRT Alternative alignment primarily consist of ornamental vegetation, eucalyptus stands, and non-native grassland. These are not considered sensitive communities, and given the relatively small area of impact to these communities compared to their prevalence in the region, these impacts are not considered a significant impact and no mitigation would be required.

4.2.1 Temporary Impacts

Approximately 0.1 acres of ornamental vegetation and 1.3 acres of non-native (California naturalized annual and perennial) grassland would be affected by temporary impacts during construction of the Washington Boulevard LRT Alternative, as shown in Figure 3-2 (Appendix A). Temporary activity and noise impacts would result in disturbance of active bat roosting sites during construction of the Washington Boulevard LRT Alternative over the Rio Hondo and San Gabriel Rivers, which would result in adverse effects on bat species. Mitigation measures to avoid or reduce these impacts, as described in Section 6, would be required. If groundwater is encountered during excavation for strengthened or expanded bridge piers along the Washington Boulevard LRT alignment, the excavation would be supported with the use of drilling muds similar to the method described in Section 4.1.3. There would be no pile driving associated with this method and thus no impacts from pile driving. Work would be conducted during the dry season and would not require the use of coffer dams.

Due to the lack of habitat along the proposed alignment for the Washington Boulevard LRT Alternative, other impacts on wildlife during construction would be minor. However, removal or disturbance of vegetation, noise, and human activity during construction could result in adverse effects on nesting migratory birds. Mitigation measures to avoid or reduce this impact, as described in Section 6, would be required.

4.2.2 Permanent Impacts

There would be no permanent impacts on habitat from construction of the Washington Boulevard LRT Alternative as shown in Figure 3-2 (Appendix A). Along the Washington Boulevard LRT alignment, the support piers of the bridges over the Rio Hondo and San Gabriel Rivers may need to be strengthened or modified. However, strengthening or modification of the piers would not change the basic structure of the bridge that could result in permanent impacts on bat roosting sites. Therefore, no adverse effects on bat species would occur.

Many species of invasive plants were observed in the areas where construction would occur. Mitigation measures to avoid the spread of invasive plants would be required, as described in Section 6.

As with the SR 60 NSDV LRT Alternative, there is potential for removal of native trees along some streets and ROWs for the Washington Boulevard LRT Alternative, and replacement of these trees may be required in accordance with municipal ordinances.

5.0 OPERATION AND MAINTENANCE IMPACTS

This section describes potential impacts on terrestrial biological resources associated with operation and maintenance of the LRT alternatives.

5.1 SR 60 NSDV LRT Alternative

The proposed SR 60 NSDV LRT alignment would be located adjacent to existing roads and freeways, which already experience noise and vibration. Noise and vibration associated with operation of the proposed SR 60 NSDV LRT Alternative would not be expected to significantly alter existing conditions for federally listed species, migratory birds, or other sensitive species.

If maintenance activities entail the trimming or removal of vegetation along the LRT alignment, mitigation would be required to address potential impacts on federally listed species, migratory birds, or other sensitive species, as discussed in Section 6. If maintenance activities include work on the proposed LRT bridge over the Rio Hondo River, measures to protect bats potentially roosting in the adjacent existing freeway bridge and Least Bell's vireos potentially nesting in the riparian habitats below the LRT span would be required, as discussed in Section 6.

5.2 Washington Boulevard LRT Alternative

The Washington Boulevard LRT alternative alignment analyzed in this report would run along existing roads, which already experience noise and vibration. Noise and vibration associated with operation of the proposed Washington Boulevard LRT Alternative would not be expected to significantly alter existing conditions for migratory birds that may nest along the LRT alignment.

If maintenance activities entail the trimming or removal of vegetation along the LRT alignment, mitigation would be required to address potential impacts on migratory birds, as discussed in Section 6. If maintenance activities include work on the proposed Washington Boulevard bridges over the Rio Hondo and San Gabriel Rivers, measures to protect bats potentially roosting in the existing bridges would be required, as discussed in Section 6.

6.0 MITIGATION

This section describes the mitigation measures required to avoid or minimize temporary and permanent impacts on terrestrial biological resources associated with construction and operation and maintenance of the LRT alternatives. These mitigation measures are to be considered preliminary. Pending on the selection of the alternative, additional agency consultation could be needed to refine or further identify mitigation measures for the project corridor(s).

6.1 SR 60 NSDV LRT Alternative

6.1.1 Construction Mitigation Measures

6.1.1.1 Federally Listed Wildlife Species

California Gnatcatcher

If the SR 60 NSDV LRT Alternative is selected, mitigation measures for California gnatcatcher would be required, given the documented presence of the species on the South and North Parcels of the OII Site in the vicinity of the SR 60 NSDV LRT Alternative alignment. Construction in this area would be conducted outside of the California gnatcatcher breeding season (February 15 through August 30) to the extent feasible. If construction activities occur during the nesting season, protocol-level surveys would be conducted by a permitted biologist following USFWS survey guidelines and USFWS will be notified at least 10 days prior to the surveys. A permitted biologist would be required on site to monitor California gnatcatcher activity during the construction period. In the event that gnatcatcher nest building, egg incubation activities, or brood rearing activities are detected, then work will be postponed within 300 feet of the nesting pairs until the nest is determined either a success or failure by the permitted biologist.

If the species is nesting near the proposed alignment, it is likely that take authorization would be required. Consultation with USFWS and CDFW would be initiated if the SR 60 NSDV LRT Alternative is selected. This may require preparation of a Biological Assessment and an Incidental Take Permit (ITP) application, along with a proposal for a mitigation monitoring and reporting program. Measures required by USFWS and/or CDFW would likely include seasonal restrictions on construction and maintenance activities to avoid disturbing nesting birds, and restoration of nearby areas to mitigate for any loss of habitat. This would reduce impacts to a less than significant level.

Although the habitat within the proposed SR 60 NSDV LRT Alternative alignment adjacent to the OII Site is not suitable for nesting of California gnatcatchers, California gnatcatchers could use the area within the proposed SR 60 NSDV LRT Alternative alignment adjacent to the OII Site for foraging. Mitigation for restoration of coastal sage scrub under a Habitat Mitigation and Monitoring Plan (HMMP), as discussed under Section 6.1.1.3, Vegetation Communities below, would be required as a result of impacts to this habitat.

Least Bell's Vireo

Protocol level surveys indicate that LBV nesting territories are present at the SR 60 Freeway bridge over the Rio Hondo. Therefore, it is likely that take authorization for this species would be required prior to implementing the SR 60 NSDV LRT Alternative, including construction and maintenance activities. Consultation with USFWS and CDFW would be initiated if the SR 60 NSDV LRT Alternative is selected.

This may require preparation of a Biological Assessment and an Incidental Take Permit application, along with a proposal for a mitigation monitoring and reporting program. Measures required by USFWS and/or CDFW would likely include seasonal restrictions on construction and maintenance activities to avoid disturbing nesting birds, and restoration of nearby areas to mitigate for any loss of habitat. This would reduce impacts to a less than significant level.

6.1.1.2 Sensitive Wildlife Species

Biological Monitoring

Although sensitive wildlife species such as western pond turtle and coast horned lizard are not expected to occur within construction areas, the following mitigation measures would be implemented to avoid or minimize potential impacts on wildlife during project construction to a less than significant level:

- A qualified biological monitor would be present onsite to inspect construction areas for the presence of wildlife prior to initiation of and during all vegetation removal activities and ground disturbing activities within riparian, coastal sage scrub, and woodland vegetation communities

- If any wildlife is encountered during the course of construction, said wildlife would be allowed to leave the construction area unharmed. If the wildlife does not leave the project site, the qualified biological monitor shall make every effort to relocate the species out of harm's way to the extent feasible, and exclusionary devices would be installed to prevent the wildlife from returning to the work areas, if determined appropriate and feasible by the biological monitor.

- The biological monitor would conduct a daily biological awareness training for contractors prior to work. The training would include information on sensitive plant and animal species potentially occurring within the work areas and instructions for reporting any sightings immediately to the biological monitor.

Bats

The following mitigation measures would be implemented to avoid, minimize, and/or mitigate potential impacts on roosting bats during project construction to a less than significant level:

- Prior to construction, bat emergence surveys and nighttime surveys would be conducted at each affected bridge site to confirm whether bats are still roosting on or within 100 feet of any of the bridges affected by construction activities. Surveys would be conducted using ultrasonic detectors and night vision technology in order to capture species and emergence locations. Surveys would include species classification of detected bat calls to help identify bat species roosting within 100 feet of the construction area.

- Prior to construction and outside of the bird nesting season (February 15 to August 31), inactive swallow nests within 100 feet of the construction area would be surveyed by a qualified biologist to determine whether they are occupied by roosting bats. If the nests are unoccupied, they would be removed under the direction of a qualified biologist. Any nests occupied by bats would be removed under supervision of a qualified biologist during nighttime hours following the evening emergence of occupying bats.

- If it is determined that species are still roosting within 100 feet of the construction area, consultation with CDFW would be conducted prior to initiating construction, and the following measures shall be implemented along with any additional measures required by CDFW to avoid impacts on these species

    - At least six months prior to construction, alternative roosting sites would be researched and surveyed by a qualified biologist, and alternative bat habitat (e.g. concrete Oregon wedge enclosure, bat houses, etc.) would be developed and installed, in coordination with CDFW, at nearby locations to provide alternative habitat for bats displaced by project construction. Success of the alternative bat habitat would be monitored and assessed prior to, during, and following construction by a qualified biologist, in coordination with CDFW.

    - Bat exclusion measures would be explored and implemented on the bridges and within 100 feet of the construction area to the maximum extent feasible to reduce the potential for bat presence during construction. Bat exclusionary measures would include expandable foam placed in expansion joints and crevices, and sheet plastic fitted with one-way exits in areas where bats are potentially roosting. Bat exclusion would only be installed after September 30 to avoid impacts to maternal and juvenile bats. No less than six weeks prior to construction, a qualified biologist would survey the area to confirm that exclusionary measures have been successful and that no bats remain in the construction area. If any bats remain within the construction area, appropriate measures would be developed and implemented, in coordination with the CDFW prior to construction, to prevent impacts on bats.

Migratory Birds

The following mitigation measures would be implemented to avoid or minimize potential impacts on migratory birds during project construction or maintenance activities that would involve vegetation removal to a less than significant level:

- Two biological surveys would be conducted, one 15 days prior and a second 72 hours prior to construction and maintenance that would remove or disturb suitable nesting habitat. The surveys would be performed by a biologist with experience conducting breeding bird surveys. The biologist would prepare survey reports within 24 hours of conducting the surveys, documenting the presence or absence of any protected native bird in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). If a protected native bird is found, surveys would be continued in order to locate any nests. If an active nest is located, construction or maintenance vegetation removal within 300 feet of the nest (500 feet for raptor nests) would be postponed until the nest is vacated and juveniles have fledged (minimum of six weeks after egg-laying) and when there is no evidence of a second attempt at nesting.

6.1.1.3 Vegetation Communities

The following mitigation measures would be implemented to avoid, minimize, and/or mitigate potential impacts on vegetation communities to a less than significant level.

- Prior to construction, temporary orange fencing would be installed along the limits of construction areas, including staging and access roads, to protect existing vegetation communities. Temporary fencing would be shown on the proposed project plans. Prior to and during construction, the biological monitor would verify that protection fencing is properly installed and maintained.

- Prior to construction of either LRT alternative, a Habitat Mitigation and Monitoring Plan (HMMP) would be developed for restoration of temporary impacts on riparian, coastal sage scrub, and native woodland communities. The HMMP would set forth the required acreage of each community to be restored and would include a detailed planting palette and specifications, plant establishment and success criteria, and long-term monitoring requirements toward the goal of restoring habitat and ecological functions. The HMMP would be approved by CDFW prior to implementation of the project.

- Potential compensatory mitigation for permanent impacts may include restoration or enhancement of habitat outside of the construction footprint, such as the riparian scrub habitat associated with the Rio Hondo at the SR 60 Freeway bridge. Consultation with CDFW to determine compensatory mitigation requirements would be initiated once the LRT alternative is selected.

6.1.1.4 Invasive Species

The following mitigation measures would be implemented to avoid or minimize potential impacts from the spread of invasive plant species to a less than significant level:

- To minimize the introduction of invasive plant species into construction areas, construction vehicles and equipment would be cleaned with compressed water or air within a designated containment area to remove pathogens, invasive plant seeds, or plant parts and dispose of them in an appropriate disposal facility

- The contractor would wash soil and plant material off all equipment tires and treads before moving from one construction area to another (or moving to and from the staging area to the work area)

- The HMMP would detail maintenance activities to be conducted within restoration areas. This would include removal and control of invasive plants to meet native plant cover success criteria

6.1.2 Operation Mitigation Measures

If operation and maintenance activities include work within habitat for federally listed species, measures to protect the species and their habitat would be required, as described in Section 6.1.1.1.

If operation and maintenance activities include removal or trimming of vegetation, measures to protect nesting birds would be required, as described in Section 6.1.1.2.

If operation and maintenance activities entail work on existing bridges, measures to protect roosting bats would be required, as described in Section 6.1.1.2.

If operation and maintenance activities entail removal or alteration of sensitive vegetation communities, measures to protect these communities would be required, as described in Section 6.1.1.3. In addition, measures to protect sensitive vegetation communities from the introduction and/or spread of invasive species would be required, as described in Section 6.1.1.4.

6.2 Washington Boulevard LRT Alternative

6.2.1 Construction Mitigation Measures

6.2.1.1 Bats

The following mitigation measures are proposed to avoid, minimize, and/or mitigate potential impacts on roosting bats during project construction to a less than significant level:

- Prior to construction, bat emergence surveys and nighttime surveys would be conducted at each affected bridge site to confirm whether bats are still roosting on or within 100 feet of any of the bridges affected by construction activities. Surveys would be conducted using ultrasonic detectors and night vision technology in order to capture species and emergence location. Surveys would include species classification of detected bat calls to help identify bat species roosting within 100 feet of the construction area.

- Prior to construction and outside of the bird nesting season (February 15 to August 31), inactive swallow nests within 100 feet of the construction area would be surveyed by a qualified biologist to determine whether they are occupied by roosting bats. If the nests are unoccupied, they would be removed under the direction of a qualified biologist. Any nests occupied by bats would be removed under supervision of a qualified biologist during nighttime hours following the evening emergence of occupying bats.

- If it is determined that bat species are still roosting within 100 feet of the construction area, consultation with CDFW would be conducted prior to initiating construction, and the following measures shall be implemented along with any additional measures required by CDFW to avoid impacts on these species

- At least six months prior to construction, alternative roosting sites would be researched and surveyed by a qualified biologist, and alternative bat habitat (e.g. concrete Oregon wedge enclosure, bat houses, etc.) would be developed and installed, in coordination with CDFW, at nearby locations to provide alternative habitat for bats displaced by project construction. Success of the alternative bat habitat would be monitored and assessed by a qualified biologist prior to, during, and following construction by a qualified biologist, in coordination with CDFW.

- Bat exclusion measures would be explored and implemented on the bridges and within 100 feet of the construction area to the maximum extent feasible to reduce the potential for bat presence during construction. Bat exclusionary measures would include expandable foam placed in expansion joints and crevices, and sheet plastic fitted with one-way exits in areas where bats are potentially roosting. Bat exclusion would only be installed after September 30 to avoid impacts to maternal and juvenile bats. No less than six weeks prior to construction, a qualified biologist would survey the area to confirm that exclusionary measures have been successful and that no bats remain in the construction area. If any bats remain within the construction area, appropriate measures would be developed and implemented, in coordination with the CDFW prior to construction, to prevent impacts on bats.

6.2.1.2 Migratory Birds

The following mitigation measures would be implemented to avoid or minimize potential impacts on migratory birds during project construction or maintenance activities that would involve vegetation removal to a less than significant level:

- Two biological surveys would be conducted, one 15 days prior and a second 72 hours prior to construction and maintenance that would remove or disturb suitable nesting habitat. The surveys would be performed by a biologist with experience conducting breeding bird surveys. The biologist would prepare survey reports within 24 hours of conducting the surveys, documenting the presence or absence of any protected native bird in the habitat to be removed and any other such habitat within 300 feet of the construction work area (within 500 feet for raptors). If a protected native bird is found, surveys would be continued in order to locate any nests. If an active nest is located, construction or maintenance vegetation removal within 300 feet of the nest (500 feet for raptor nests) would be postponed until the nest is vacated and juveniles have fledged (minimum of six weeks after egg-laying) and when there is no evidence of a second attempt at nesting.

6.2.2 Operation Mitigation Measures

If operation and maintenance activities entail work on existing bridges, measures to protect roosting bats would be required, as described in Section 6.2.1.1.

If operation and maintenance activities include removal or trimming of vegetation, measures to protect nesting birds would be required, as described in Section 6.2.1.2.

7.0 REFERENCES

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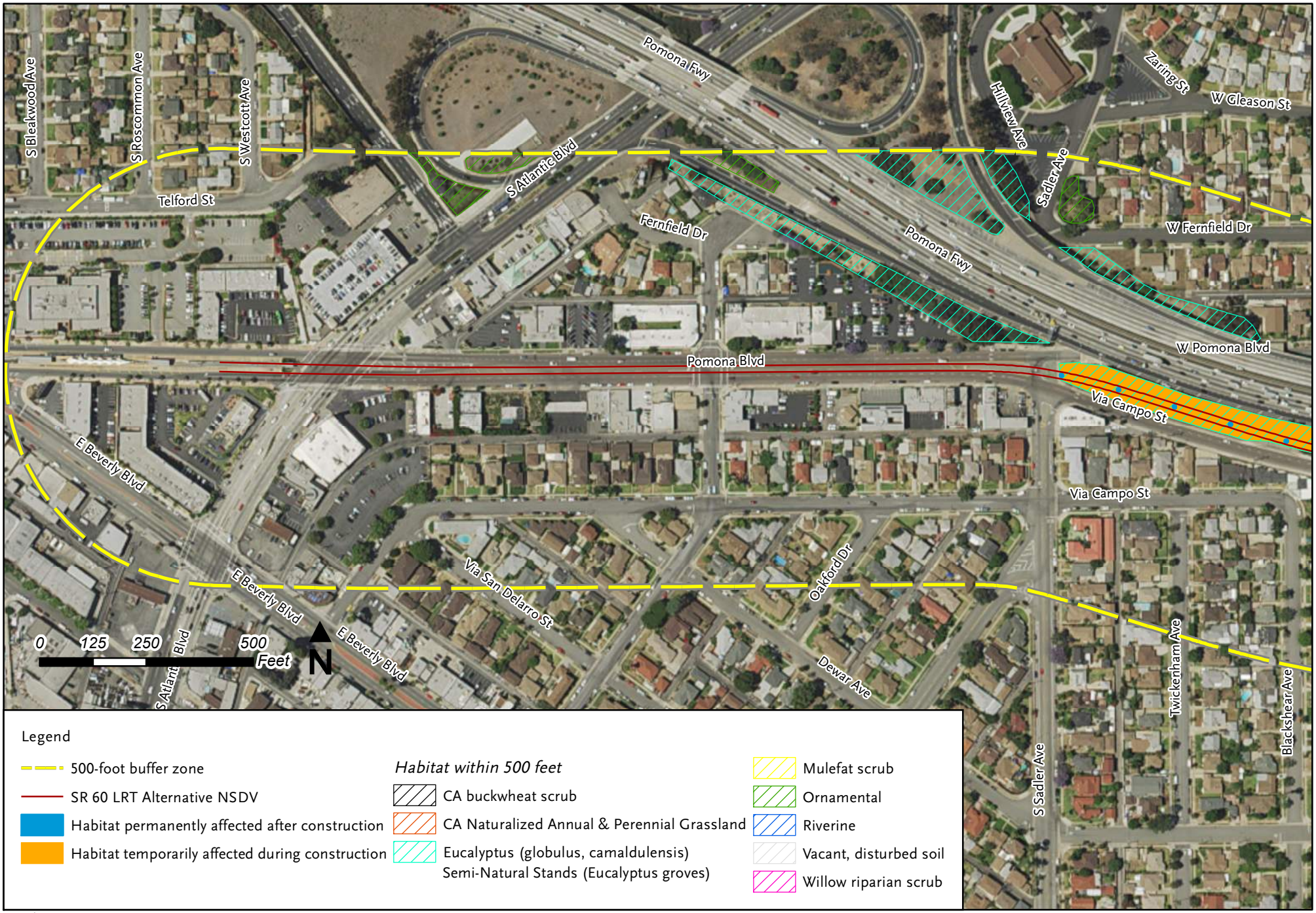
Appendix A
Figure 3-1a to Figure 3-1k and Figure 3-2a to Figure 3-2i



Aerial Source: NAIP 2014

Figure 3-1a

Vegetation Map of the SR 60 NSDV LRT Alternative

Aerial Source: NAIP 2014

Figure 3-1b

Vegetation Map of the SR 60 NSDV LRT Alternative

Aerial Source: NAIP 2014

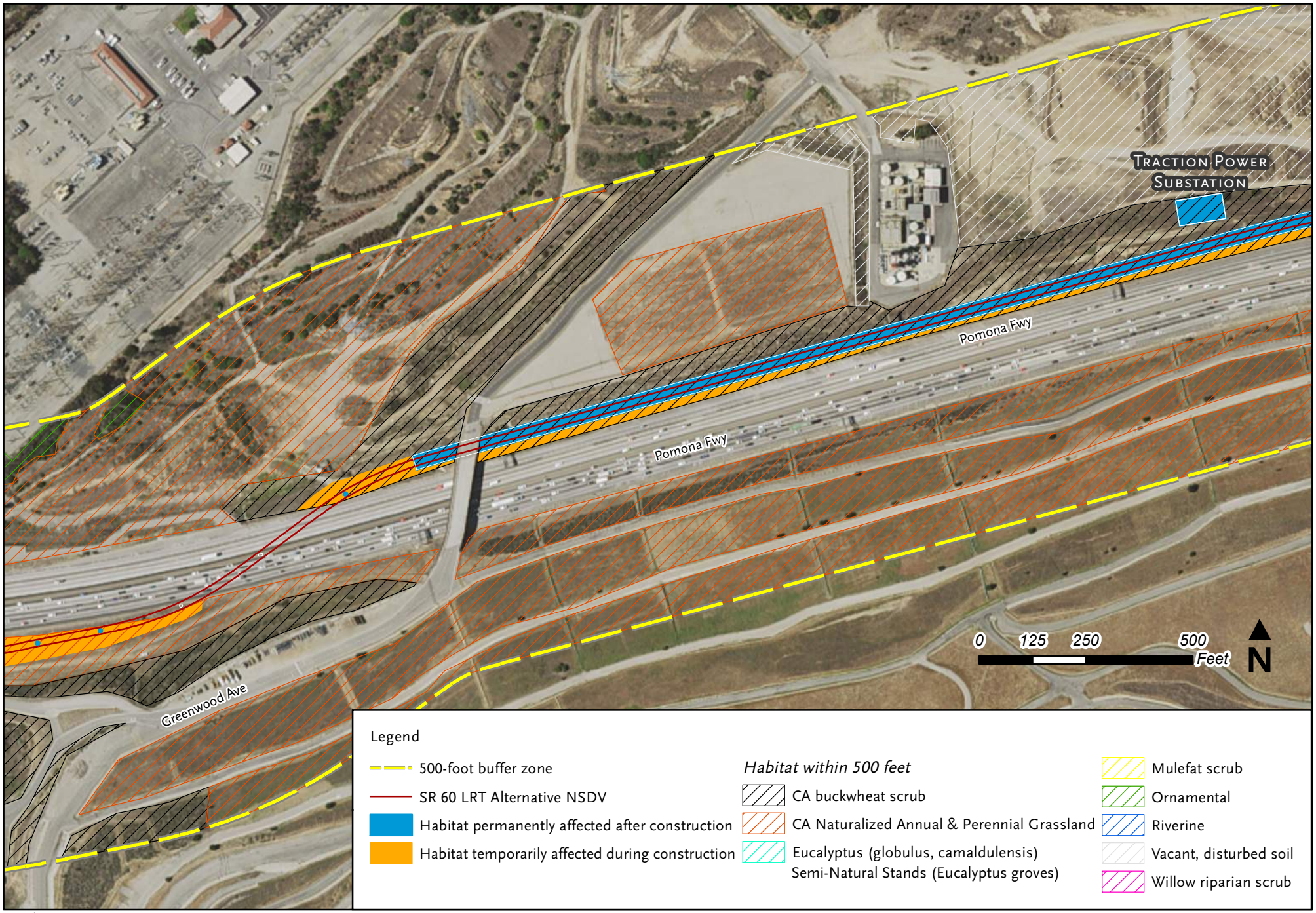
Figure 3-1c

Vegetation Map of the SR 60 NSDV LRT Alternative

Aerial Source: NAIP 2014

Figure 3-1d

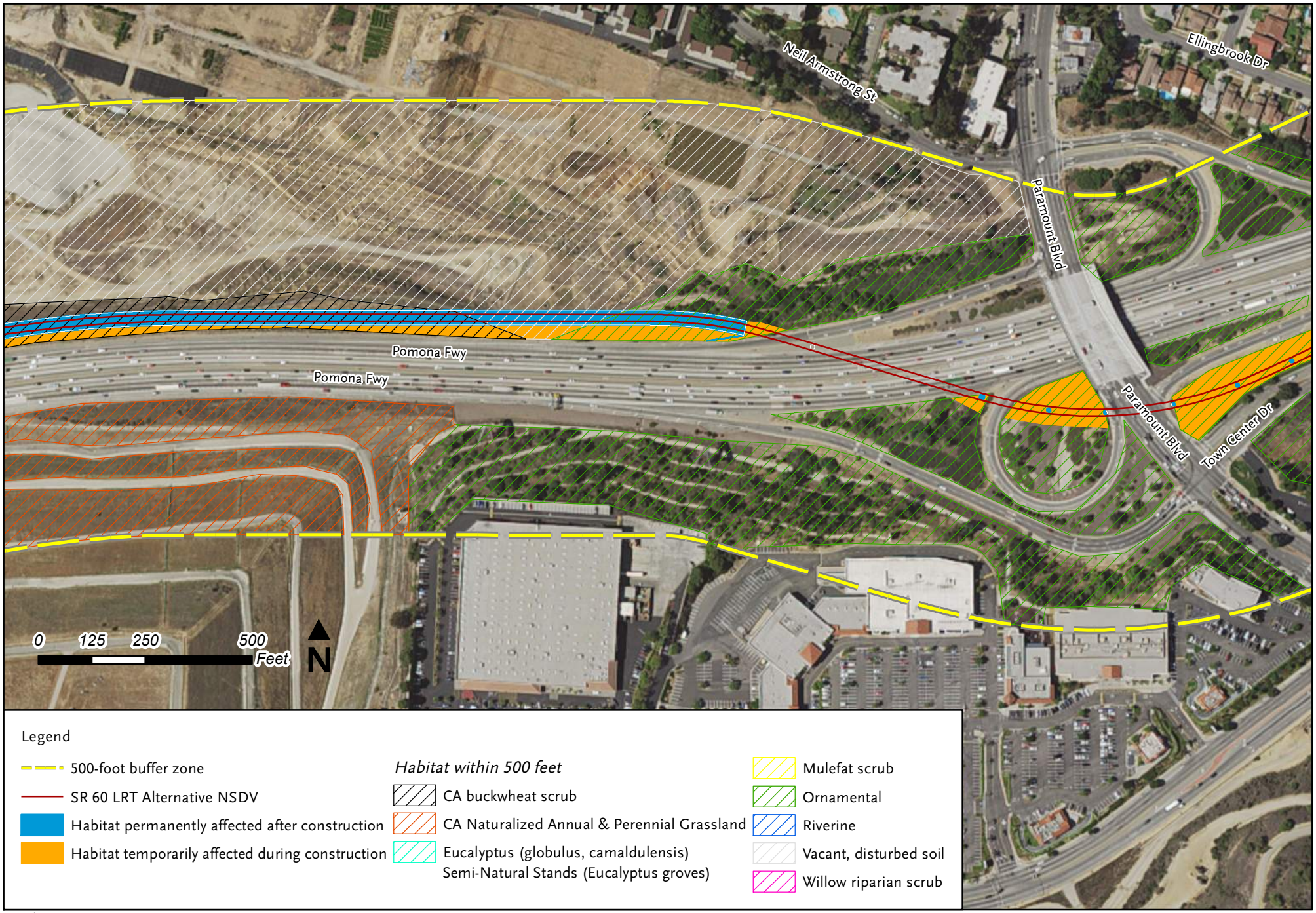
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-1e

Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

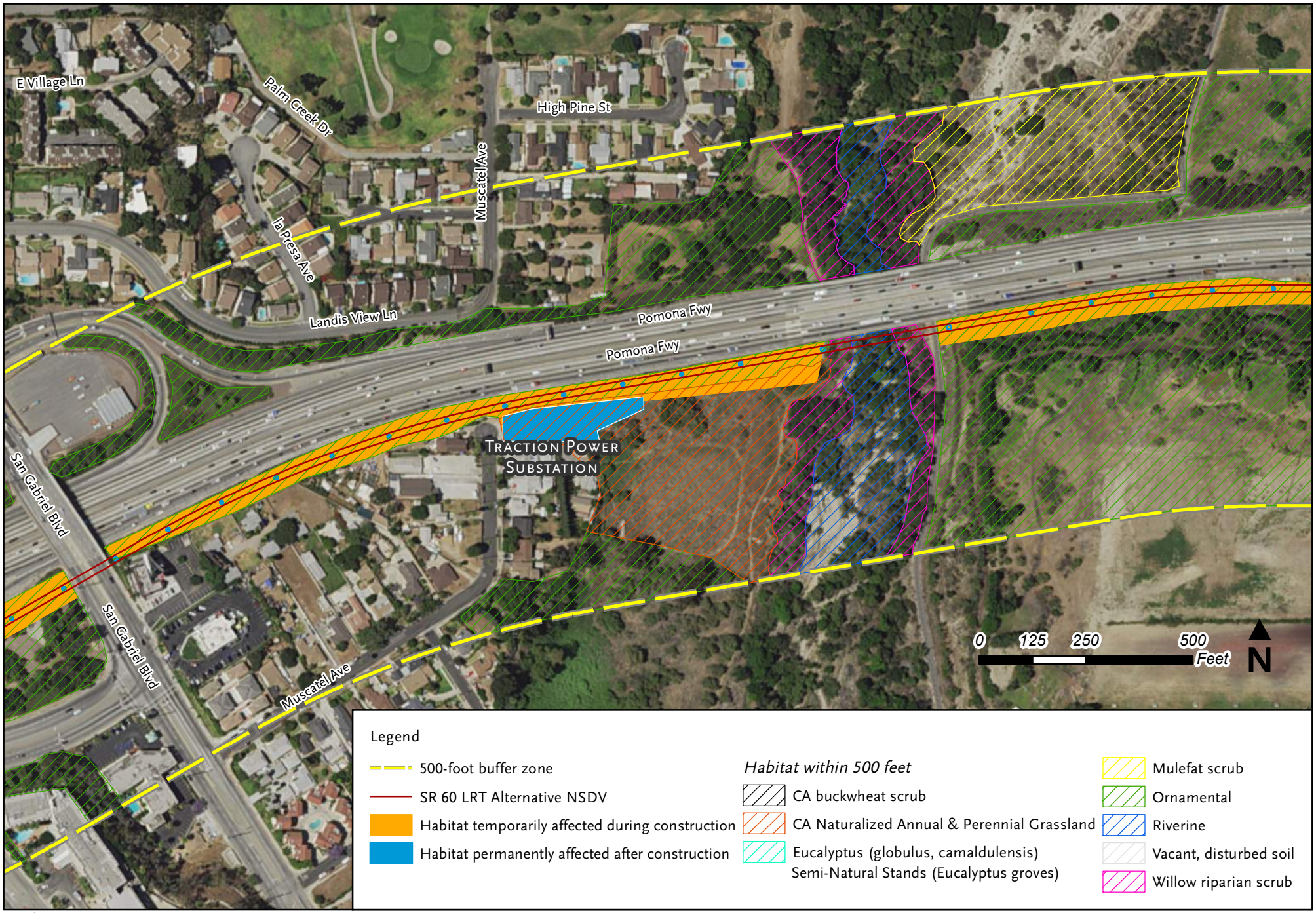
Figure 3-1f

Vegetation Map of the SR 60 NSDV LRT Alternative

Aerial Source: NAIP 2014

Figure 3-1g

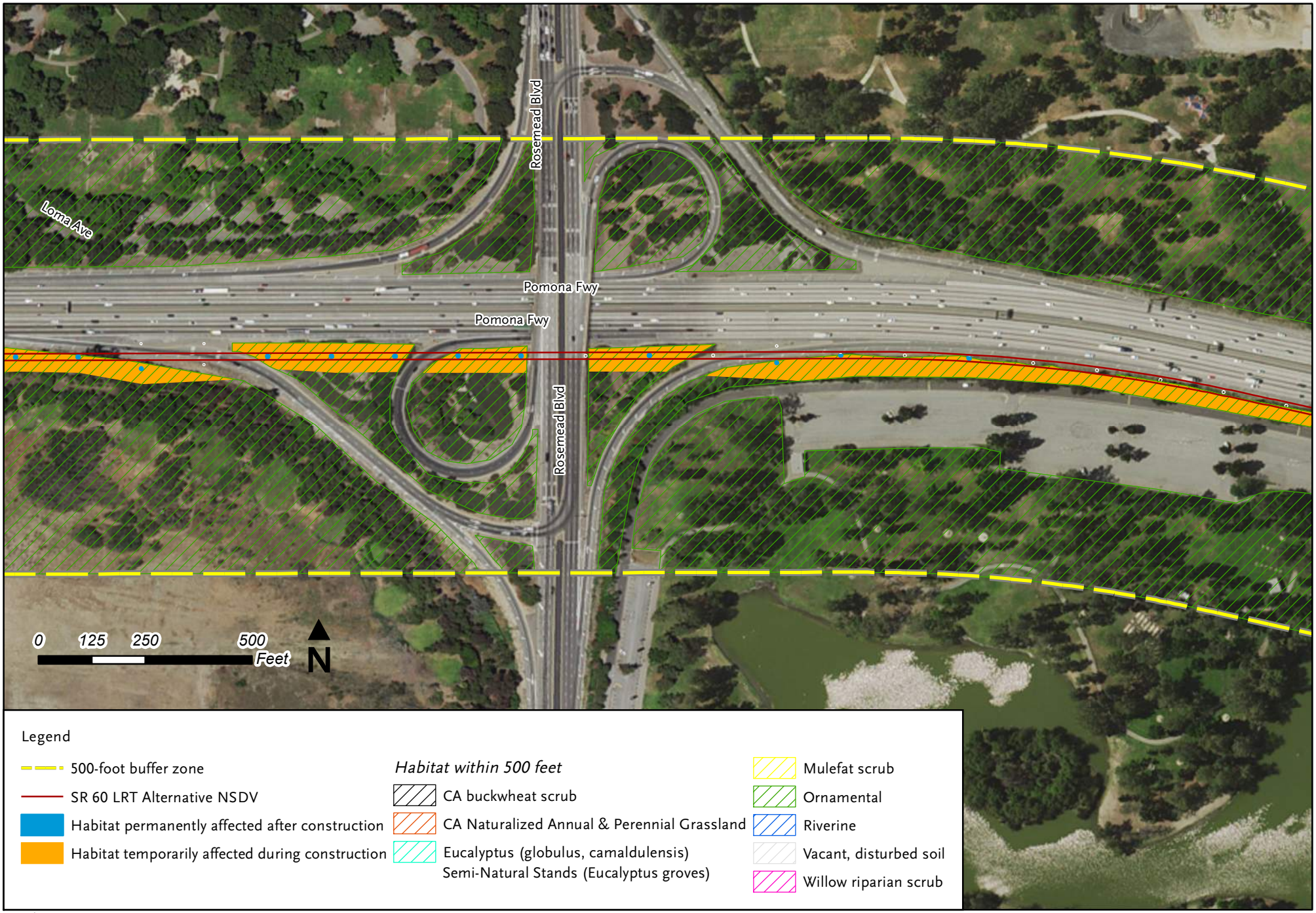
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-1h

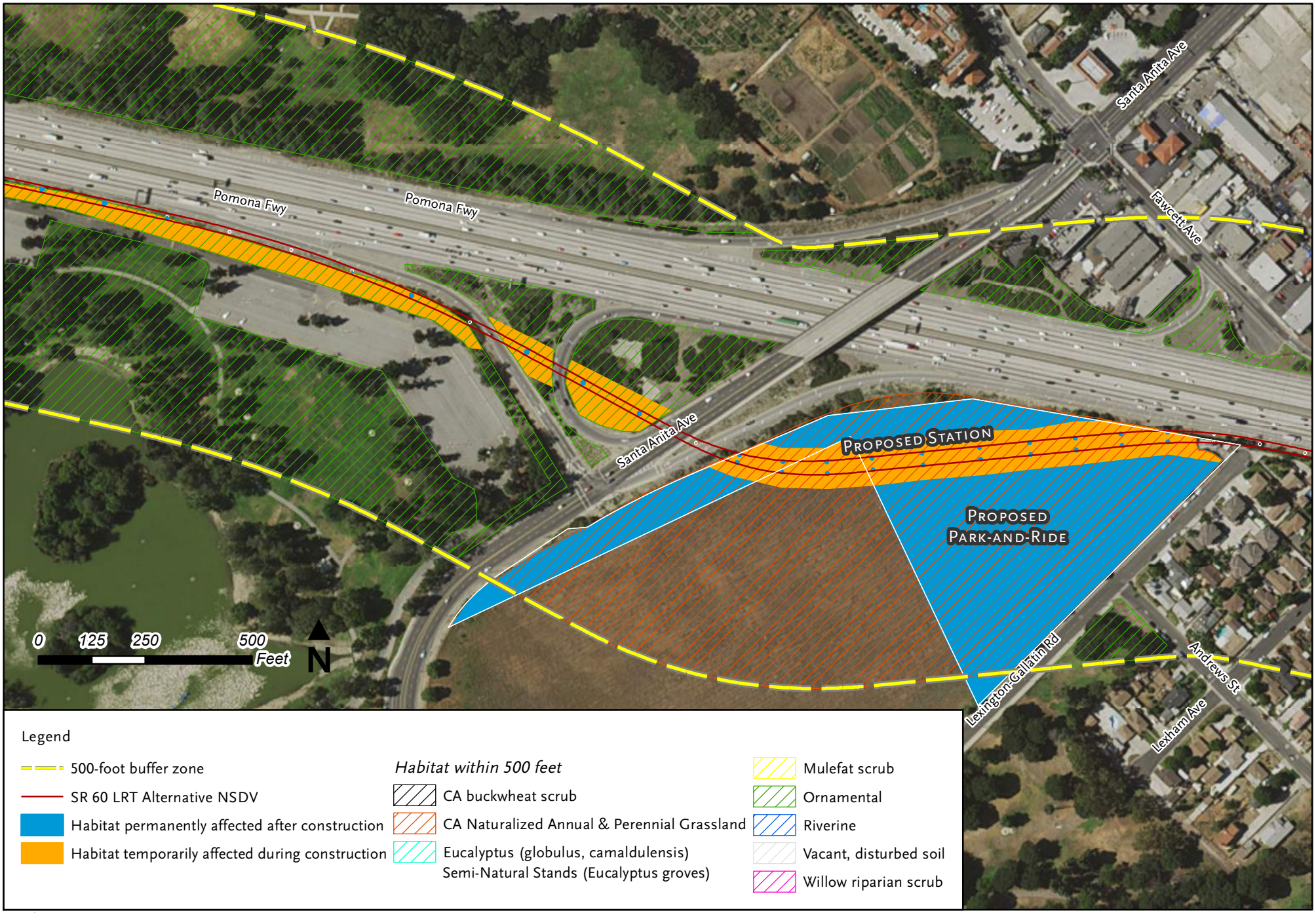
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-1i

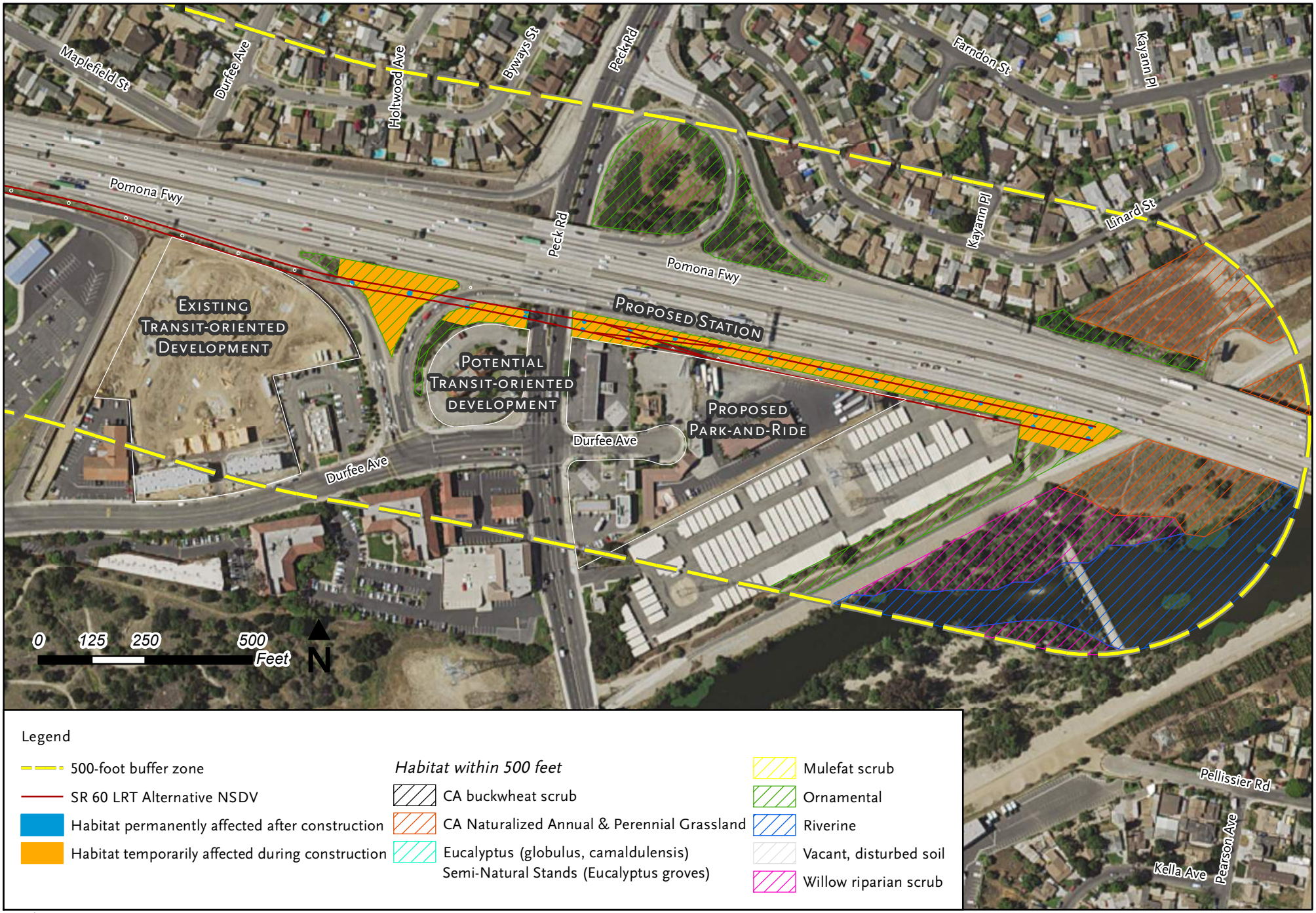
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-1j

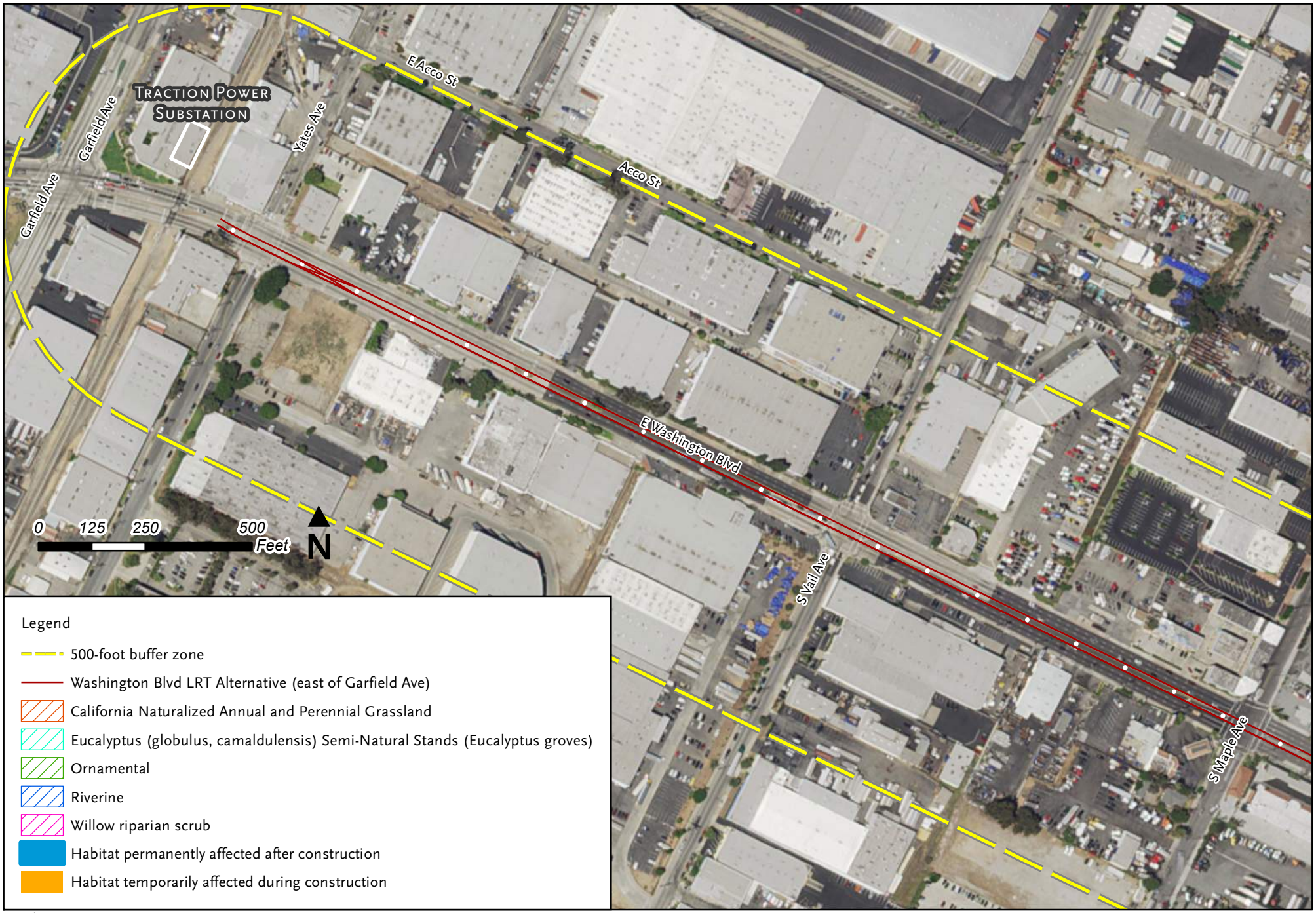
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-1k

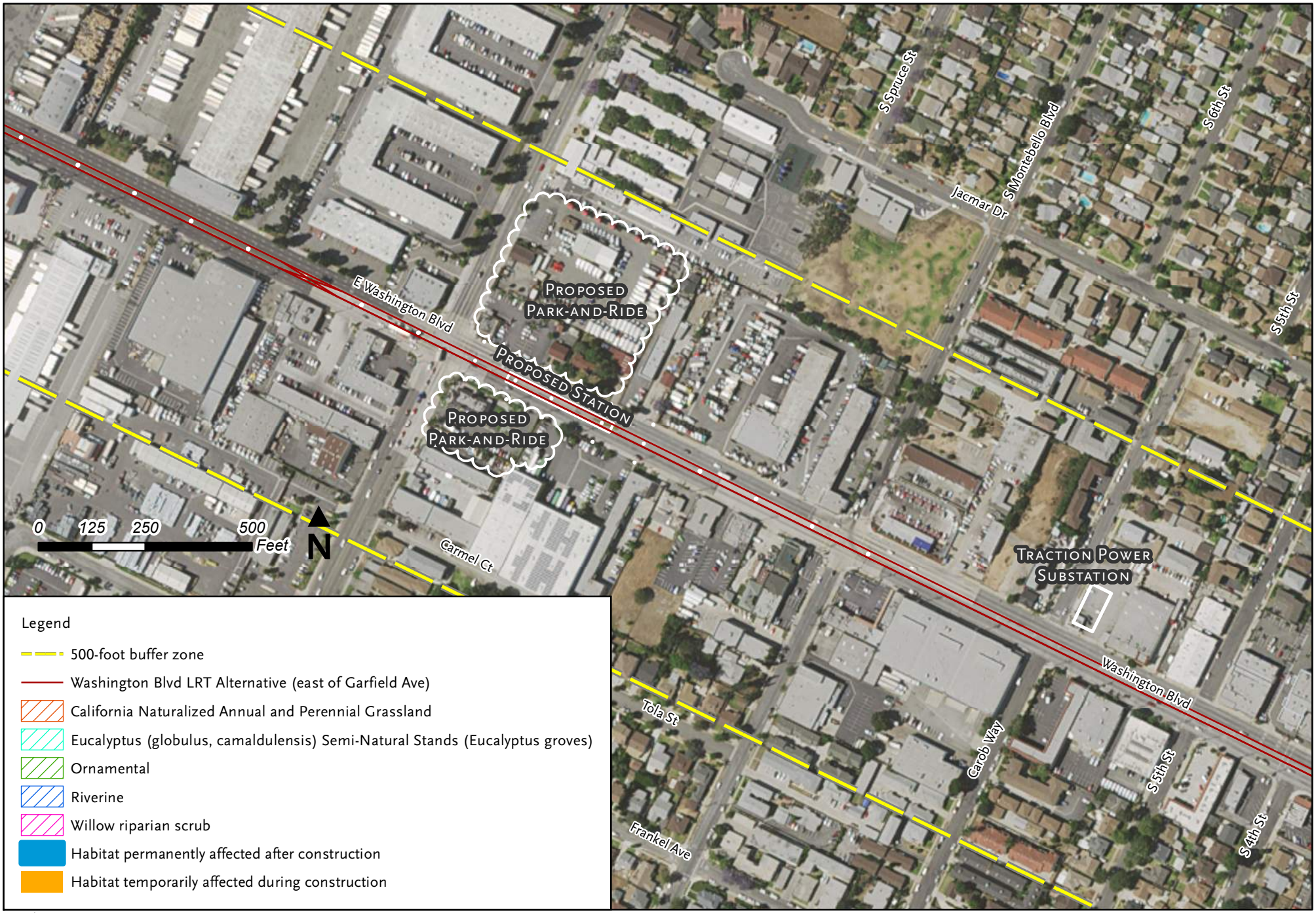
Vegetation Map of the SR 60 NSDV LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2a

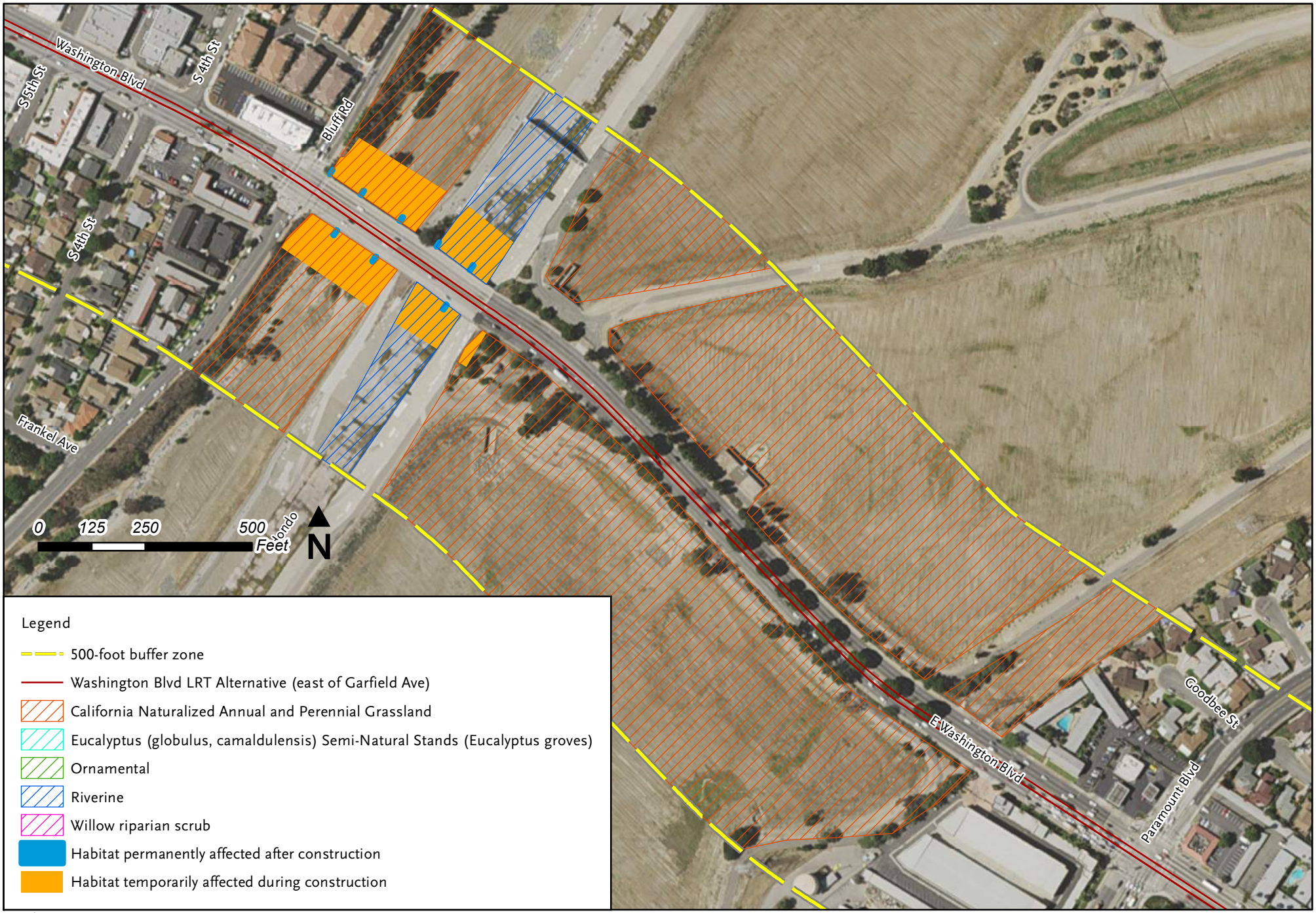
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2b

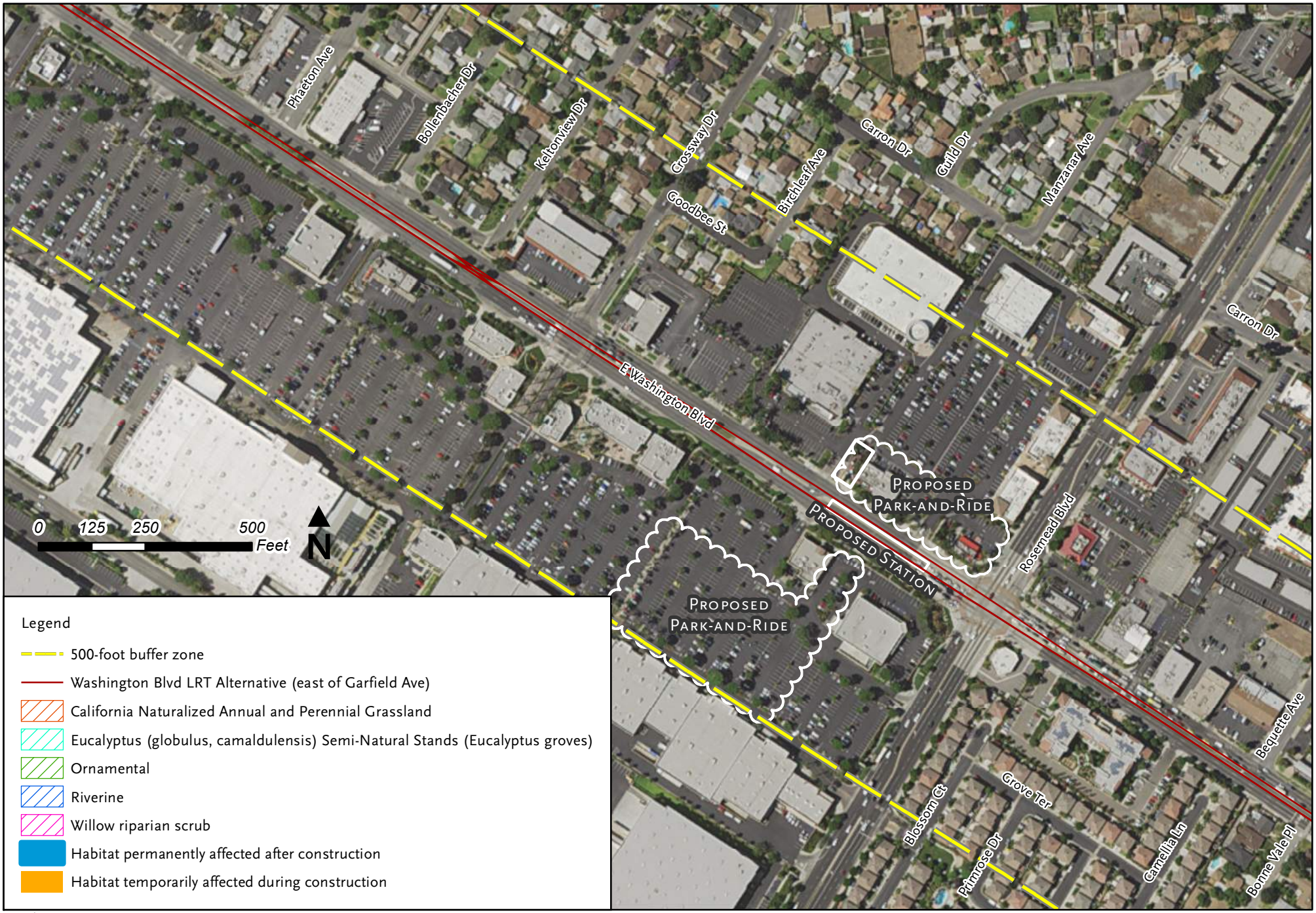
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2c

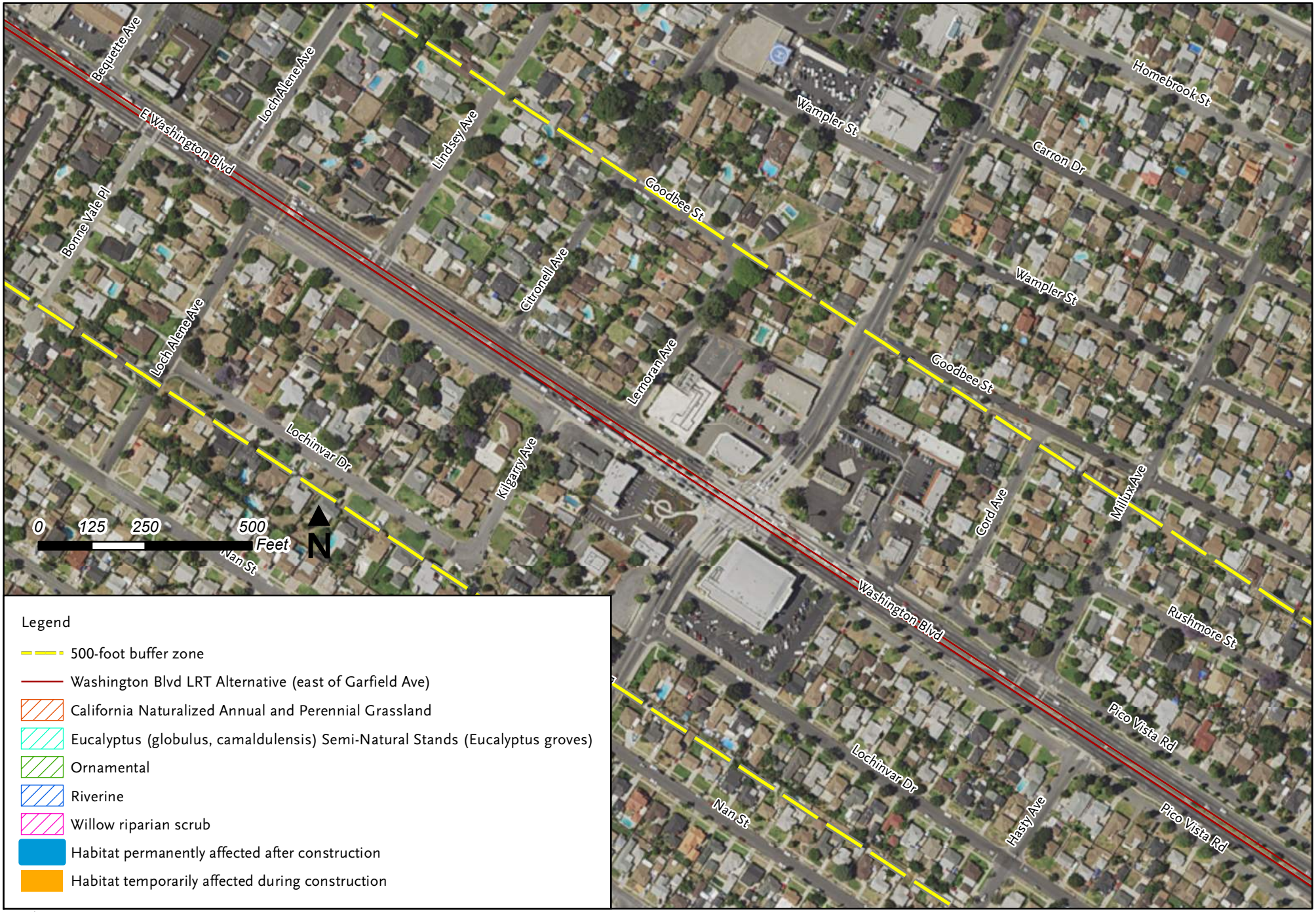
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2d

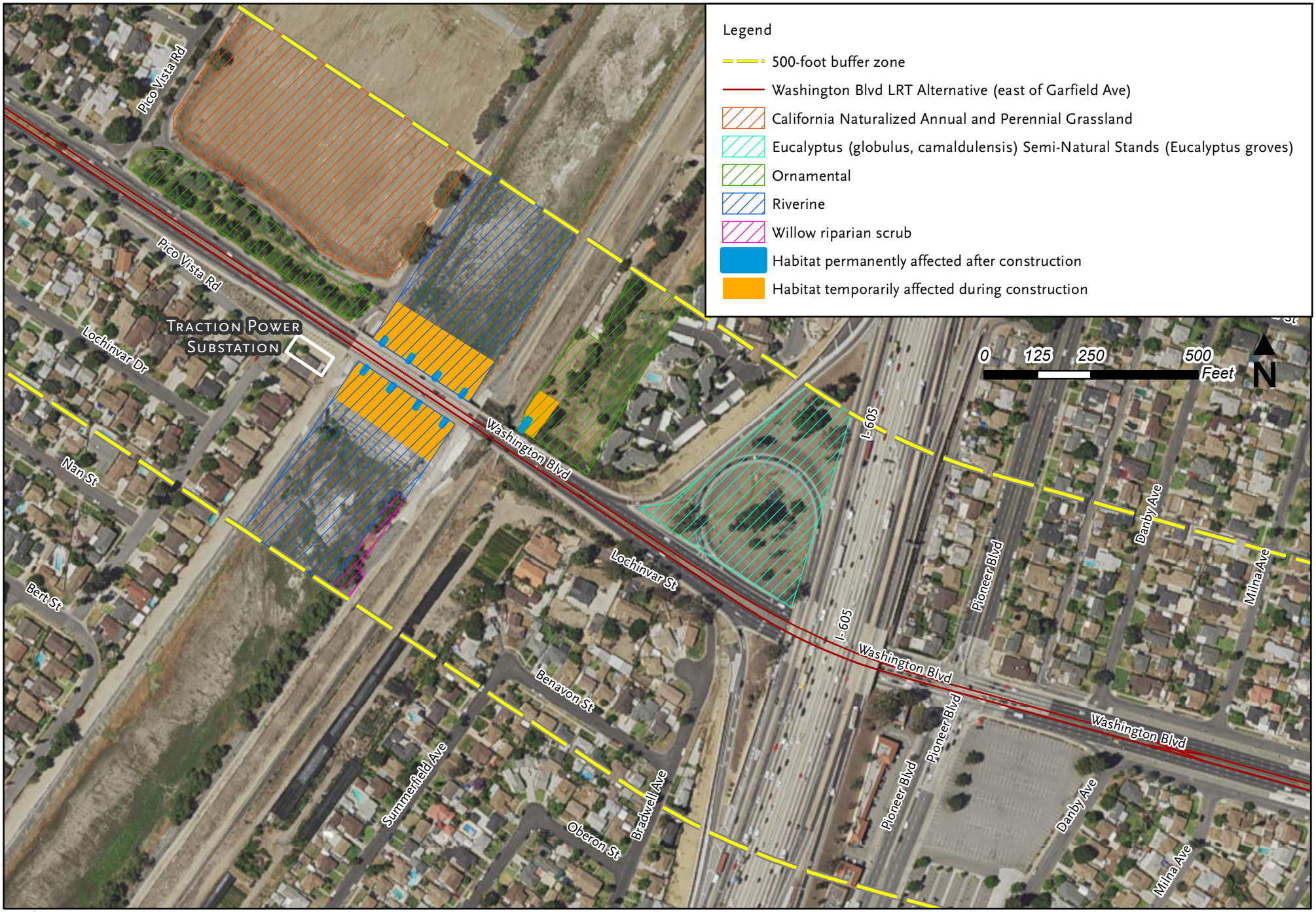
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2e

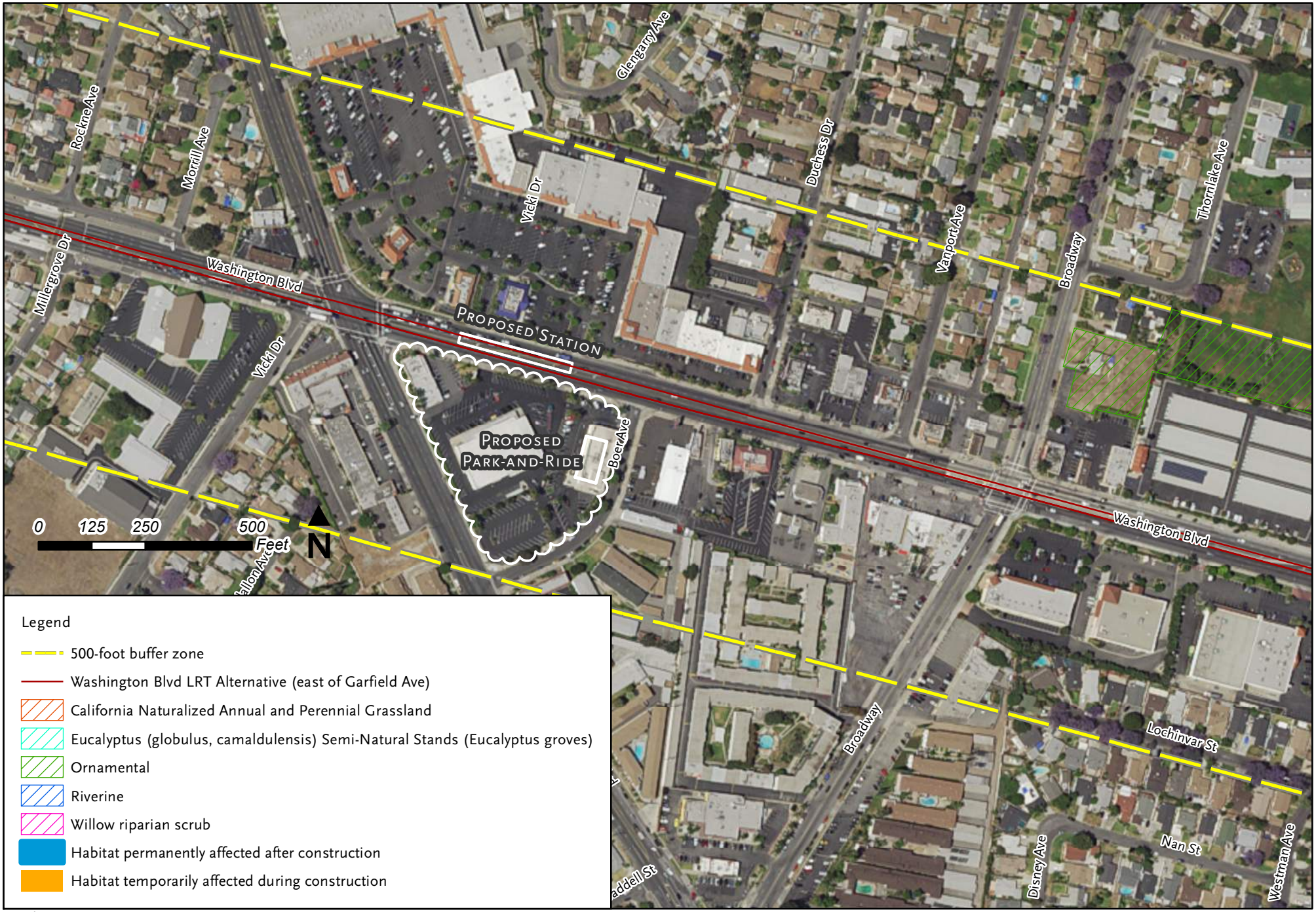
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2f

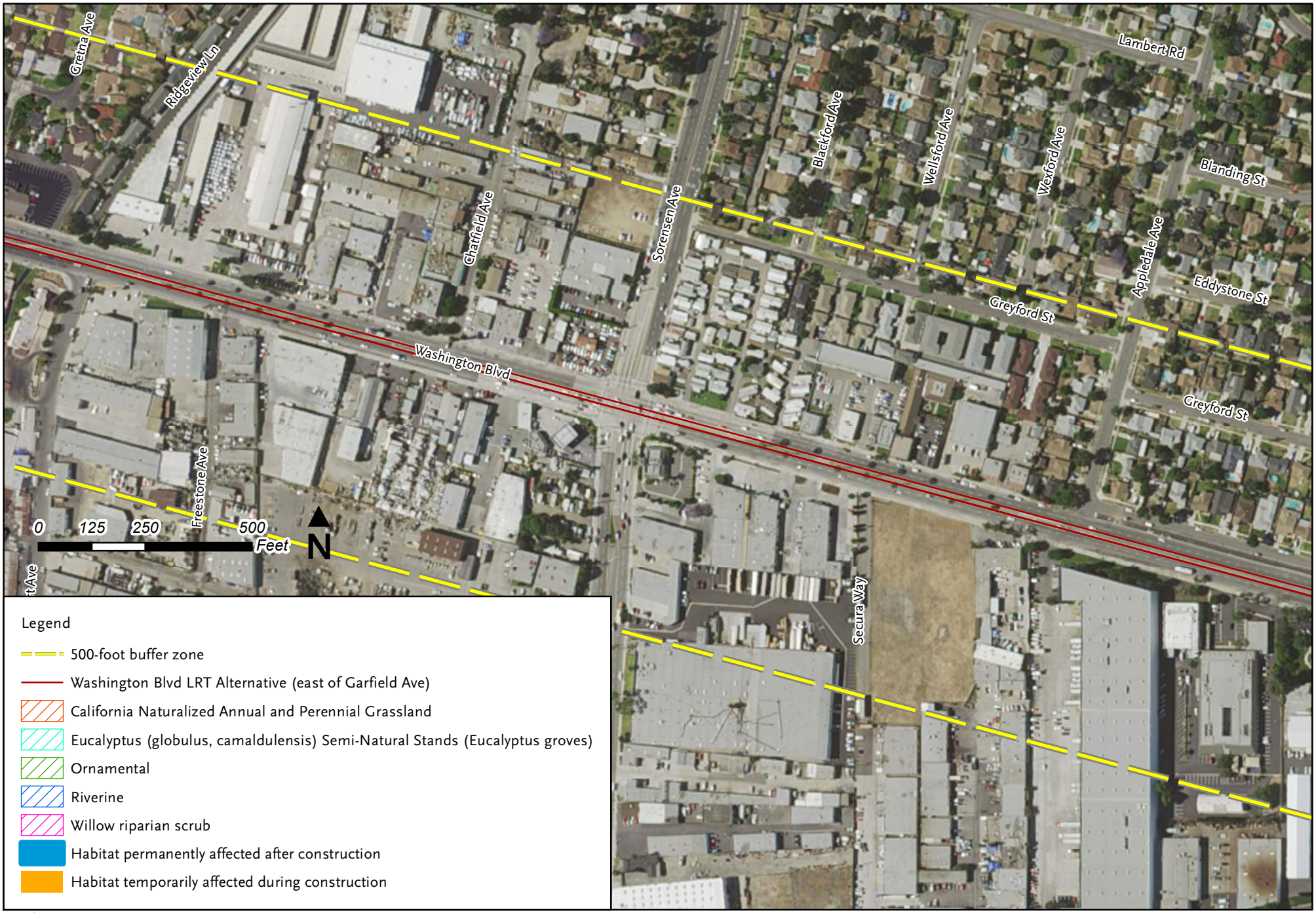
Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2g

Vegetation Map of the Washington Boulevard LRT Alternative



Aerial Source: NAIP 2014

Figure 3-2h

Vegetation Map of the Washington Boulevard LRT Alternative

Aerial Source: NAIP 2014

Figure 3-2i

Vegetation Map of the Washington Boulevard LRT Alternative

Appendix B
Survey Photos

SR 60 NSDV LRT Alternative
Photos 1-4: Patchy Coastal Sage Scrub Along the North Side of the SR 60 ROW at the OII Site
May 24, 2016

SR 60 NSDV LRT Alternative
Photos 5-8: Yellow Star-thistle Infestation along the South Side of the SR 60 ROW at the OII Site
May 24, 2016

SR 60 NSDV LRT Alternative
Photos 9-12: Riparian Vegetation at the SR 60 Crossing of the Rio Hondo
May 25, 2016

SR 60 NSDV LRT Alternative
Photos 13-16: Riparian Scrub on Floodplain East of Rio Hondo at SR 60 Crossing
May 25, 2016

Washington Boulevard LRT Alternative
Photos 17-20: Patches of Riparian Habitat Along the San Gabriel River at the Spreading Grounds May 23, 2016

SR 60 NSDV LRT Alternative
Photos 21-24: Woodland Community along SR 60 ROW at Triple B Clays Property within Whittier Narrows Basin
May 25, 2016

SR 60 NSDV LRT Alternative
Photos 25-26: Non-native Vegetation along SR 60 ROW
Photos 27-28: Areas of Native Trees along SR 60 ROW (left), Recently Removed Trees along SR 60 ROW (right)
May 24, 2016

Washington Boulevard LRT Alternative
Photos 29-32: Non-native Grassland Vegetation at the Rio Hondo and San Gabriel River Spreading Grounds
May 23, 2016

Appendix C
Bat Survey Report

SR-60/METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

Alternative Alignment Bat Survey Report

CITY OF LOS ANGELES, LOS ANGELES COUNTY

December 2015

METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

Alternative Alignment Bat Survey Report

CITY OF LOS ANGELES, LOS ANGELES COUNTY

Prepared for	Metropolitan Transportation Authority One Gateway Plaza Los Angeles, California 90012

Prepared by	Stan Glowacki, Senior Biologist Marieka Schrader, Senior Biologist GPA Consulting 231 California Street El Segundo, California 90245

December 2015

1.0 INTRODUCTION

The Los Angeles County Metropolitan Transportation Authority (Metro) proposes to extend the light rail transit (LRT) Metro Gold Line Eastside Extension from the existing Atlantic Station in East Los Angeles to the east by 6.9 or 9.5 miles. The Metro Eastside Transit Corridor Phase 2 Project (project) study area passes through over 50 square miles of communities east and southeast of downtown Los Angeles, including portions of the cities of Commerce, Montebello, Monterey Park, Pico Rivera, Rosemead, Santa Fe Springs, South El Monte, Whittier, and portions of unincorporated Los Angeles County (see **Figure 1** and **Figure 2**). The 2014 Draft Environmental Impact Report/Environmental Impact Statement (EIS/EIR) for the project analyzed impacts resulting from the following alternatives: No Build Alternative, Transportation System Management (TSM) Alternative, and two LRT Build Alternatives (State Route 60 (SR-60) and Washington Boulevard). The EIS/EIR included mitigation measures to minimize project impacts on the human environment and biological resources.

1.1 Project Description

In November of 2014, Metro Board Action directed staff to undertake a Technical Study to address several issue areas. The following two LRT Build Alternatives were also selected for further consideration and analysis.

The State Route 60 LRT Alternative North Side Design Variation

The SR-60 LRT Alternative North Side Design Variation (NSDV) would extend the Metro Gold Line Eastside Extension via a dedicated, dual track LRT system with overhead catenary wiring along the SR-60 approximately 6.9 miles east to Peck Road (see **Figure 2)**. The proposed alignment would run at grade east from the Metro Gold Line Eastside Extension Atlantic Station in the median of Pomona Boulevard, where the alignment transitions to an independent aerial structure within the south side of the SR-60 right of way. The LRT alignment would transition from the south side to the north side of SR-60 just west of Greenwood Avenue and return to the south side of SR-60 approximately one-quarter mile west of Paramount Boulevard, terminating in the vicinity of the SR-60/Peck Road interchange in the city of South El Monte. This alternative includes the construction of four new stations, parking lots, power substations, and a maintenance yard.

The SR-60 route alternative includes one bridge that crosses the Rio Hondo River (Rio Hondo) near the Whittier Narrows Recreation Area (see **Figure 2)**. The bridge runs east-west across the Rio Hondo and is approximately 350 feet long, approximately 125 feet wide with four support piers with five separate spans. This bridge was surveyed for bats and bat roosting habitat as part of this study.

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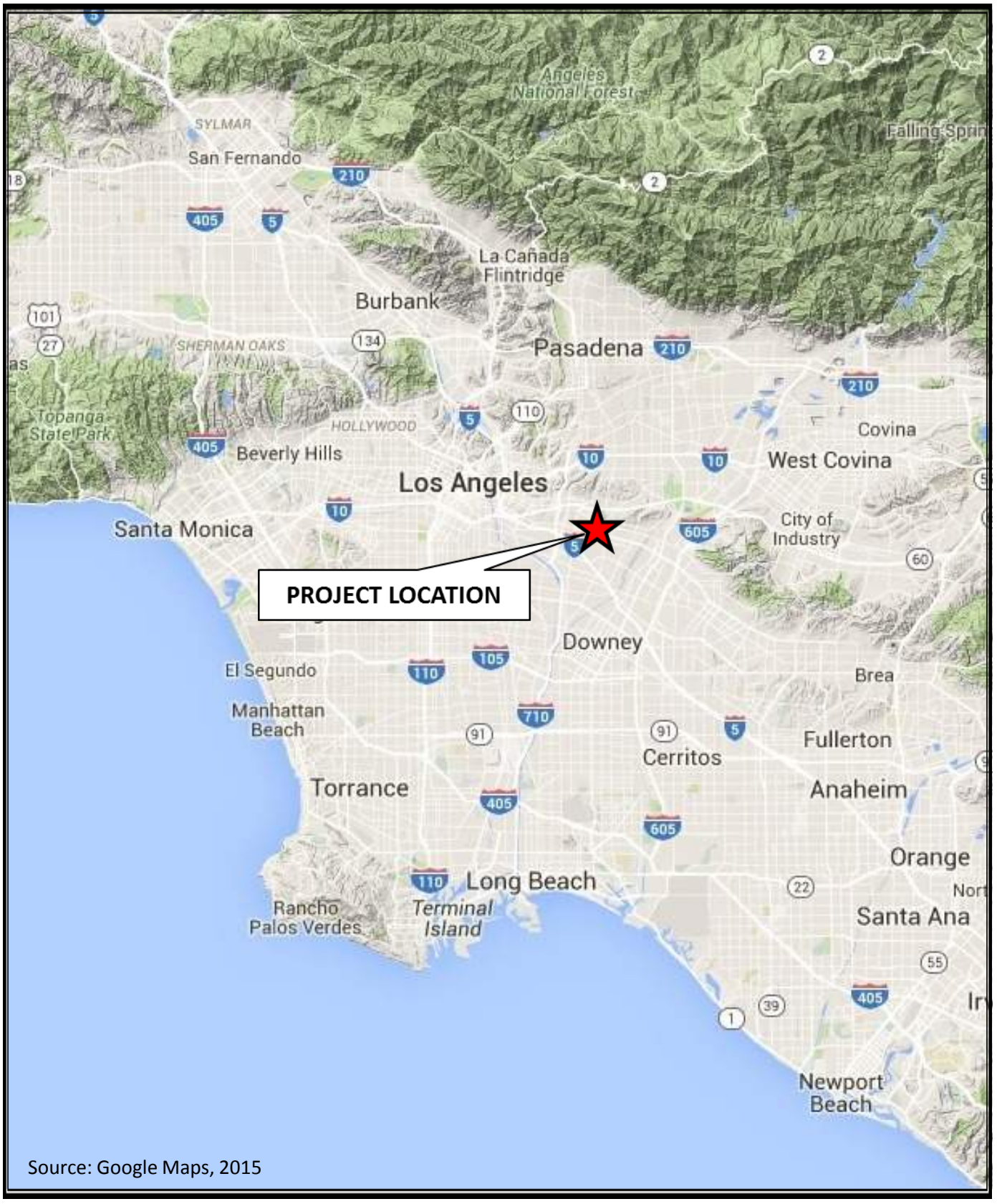

CONSULTING GPA

FIGURE 1. PROJECT VICINITY MAP
METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

N

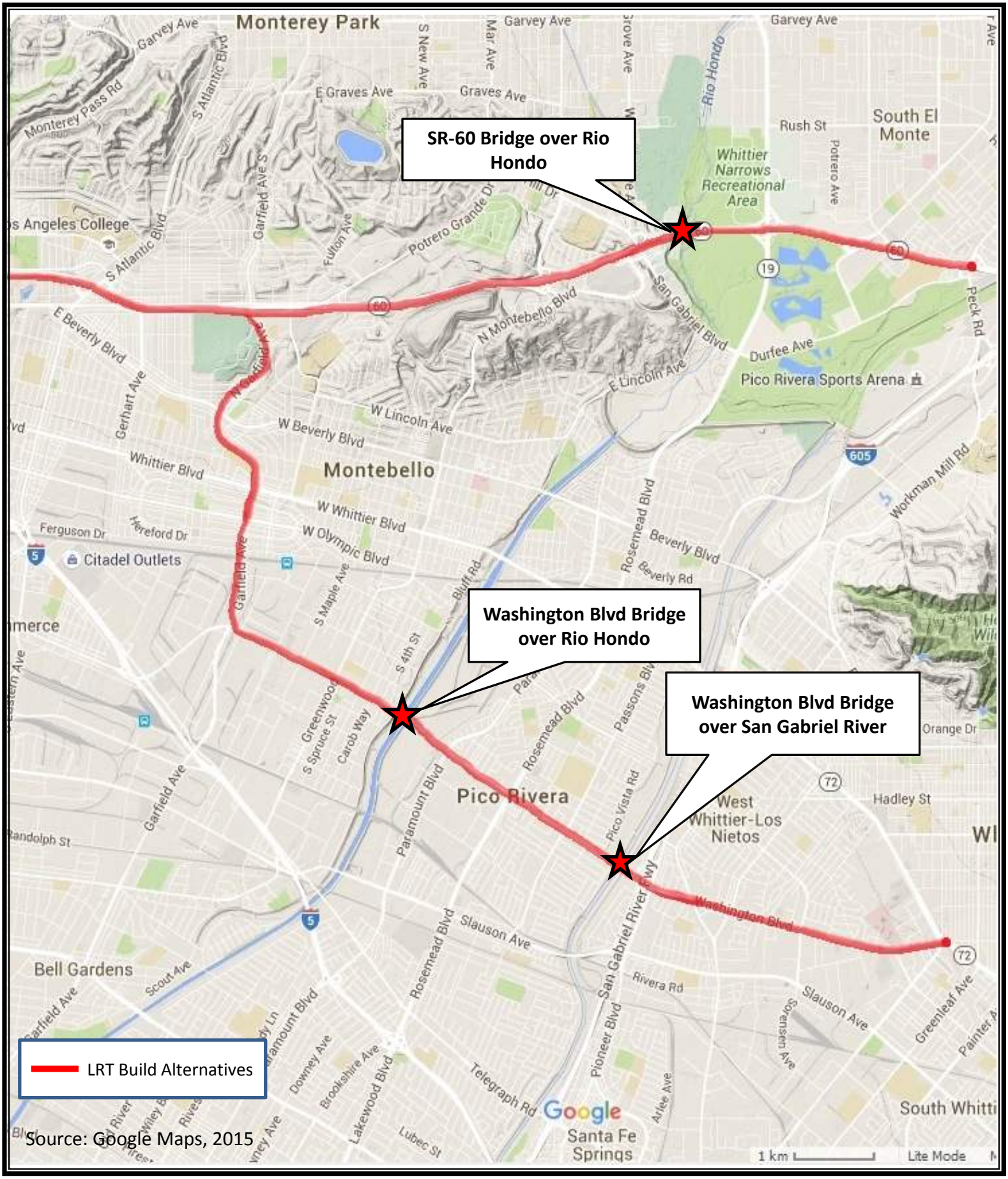

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FIGURE 2. PROJECT LOCATION MAP
METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

N

The Washington Boulevard LRT Alternative

The Washington Boulevard LRT Alternative would extend the Metro Gold Line Eastside Extension via a dedicated dual track LRT system with overhead catenary wiring approximately 9.5 miles east to the city of Whittier at Lambert Road (see **Figure 2**). In areas where roadway widths are not sufficient to accommodate the alignment and potential train stations, this alternative would operate in an aerial configuration, with columns located in the roadway median or on sidewalks. In areas where the roadway widths are sufficient to accommodate the alignment and potential stations, there would be an at-grade alignment configuration. In November 2014, the Metro Board of Directors directed Metro staff to explore other feasible north/south alternatives for reaching Washington Boulevard other than using Garfield Avenue as part of the Technical Study Phase. This alternative includes construction of six new stations, traction power substations, and a maintenance yard. This alternative crosses the Rio Hondo and San Gabriel rivers.

The Washington Boulevard Route alternative includes two bridge crossings, including one that crosses the Rio Hondo near the western border of Pico Rivera, and one that crosses the San Gabriel River near the eastern border of Pico Rivera (see **Figure 2)**. The bridge over Rio Hondo runs southeast to northwest and has two sections, including a bridge section over the Rio Hondo and a bridge section immediately to the west over the Rio Hondo Bike Path and flood control spreading grounds. Both sections combined are approximately 500 feet long and 90 feet wide with five separate spans. The bridge over the San Gabriel River runs southeast to northwest and is approximately 350 feet long and 60 feet wide, with five separate spans. Both crossings (the Rio Hondo and the San Gabriel River) were surveyed for bats and bat roosting habitat as part of this study.

2.0 SURVEY METHODS

2.1 Purpose of Surveys

Preliminary bat surveys were performed in accordance with Mitigation Measure 4.10.3.3.2 in the 2014 Draft EIS/EIR to:

- Determine the presence/location of potential bat habitat on the bridges;
- Determine the presence/location of active bat roosts on the bridges;
- Determine the species of bats at each bridge location; and
- Develop specific avoidance, impact minimization, and mitigation measures specific for bat species on the bridges.

2.2 Daytime Bat Habitat Surveys

Daytime bat habitat surveys were performed at the three bridge sites prior to conducting evening bat emergence surveys. Surveys were performed on September 16, 2015 at the Washington Boulevard Bridge over the Rio Hondo and at the Washington Boulevard Bridge over the San Gabriel River; and on September 18, 2015, over the SR-60 Bridge over the Rio Hondo (see **Figure 2**).

The bat habitat surveys were performed on foot by GPA biologists Stan Glowacki, Marieka Schrader, Jennifer Morrison, and Jeanne Ogar (surveyors). Surveys were conducted from accessible areas beneath the bridges. Surveyors evaluated the structure of each bridge and located potential bat roosting habitat, including expansion joints, weep holes, crevices, and other openings and spaces where bats might roost. The bridges were accessed from public roads, bike paths, and recreational trails, and were surveyed using un-aided vision, high-powered flashlights, and binoculars. Areas beneath the bridges that were not directly accessible were surveyed using binoculars from adjacent areas.

2.3 Evening Bat Emergence Surveys

Evening bat emergence surveys were performed at the Washington Boulevard Bridge over the Rio Hondo on September 16, 2015; at the Washington Boulevard Bridge over the San Gabriel River on September 17, 2015, and; at the SR-60 Bridge over the Rio Hondo on September 18, 2015. The evening surveys were performed by the surveyors who were stationed beneath the bridges.

At the Washington Boulevard Bridge over the Rio Hondo, two surveyors were stationed beneath the bridge in the river channel, and two surveyors were stationed beneath the bridge in the spreading grounds channel (see **Figure 3; Appendix A**, **Photo 1**, and **Photo 2**). The distance between the surveyors in their respective channels was approximately 125 and the distance between the two groups was approximately 250 feet.

At the Washington Boulevard Bridge over the San Gabriel River, the center portion of the bridge was flooded and it was only possible for surveyors to be stationed on the bike paths along the banks of the bridge (see **Figure 4**; **Appendix A**, **Photo 3** and **Photo 4**). Two surveyors were stationed on the bike path at each end of the bridge. The distance between the surveyors on the separate ends of the bridge was approximately 400 feet, with surveyors on each end being approximately 100 apart.

At the SR-60 Bridge over Rio Hondo, two surveyors were stationed beneath the bridge in the channel and two surveyors were stationed near the west bank, with distance between surveyors being approximately 100 feet apart (see **Figure 5**). After approximately 20 minutes, surveyor Stan Glowacki shifted positions 100 feet east to the next bridge section adjacent to

Source: Google Earth, 2015

CONSULTING GPA

FIGURE 3. WASHINGTON BOULVARD OVER RIO HONDO
BAT SURVEYOR LOCATION MAP
METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

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Source: Google Earth, 2015

CONSULTING GPA

FIGURE 4. WASHINGTON BOULVARD OVER SAN GABRIEL RIVER BAT SURVEYOR LOCATION MAP
METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

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CONSULTING GPA

FIGURE 5. SR-60 BAT SURVEYOR LOCATION MAP
METRO EASTSIDE PHASE 2 LIGHTRAIL PROJECT

N

surveyor Jeanne Ogar to capture recordings of numerous bat calls that Ms. Ogar was detecting on a non-recording bat detecting device.

The evening emergence surveys focused on areas where potential bat roosting habitat was observed during the daytime bat roosting habitat survey. Each biologist was equipped with an acoustic bat detector (Pettersson M500 and/or Batbox™ Baton) which are used to detect bat echolocation calls.

Each evening bat emergence survey began approximately 10 minutes prior to sunset and lasted until approximately 45 minutes after sunset when the sky became completely dark. Following each survey, individual surveyor results, including the number of bats observed/recorded, time of observations, and whether bats were visually confirmed to be exiting the bridges or nearby locations, were recorded.

2.4 Survey Limitations

The following limitations could affect results obtained during the surveys:

- Emergence surveys were limited to one nighttime survey at each bridge site. Because of the large size of the bridges relative to the number of surveyors, limiting surveys to one night per bridge limited coverage of the bridge structures.
- The San Gabriel River channel was inundated with water at the time of the survey, which limited access to portions of the channel under the bridge. As a result, survey stations were limited to banks and bike paths along opposite sides of the bridge and central portions of the structure were surveyed from a distance.
- Because of limited visibility beneath the SR-60 Bridge during surveys, surveyors were not able to confirm whether bats were exiting the bridge structure.
- Vehicle noise and vibration on the bridges overhead resulted in high levels of noise interference with the recordings. Other technical difficulties, including software malfunctions, resulted in shorter recording periods on one of the recorders.

3.0 RESULTS

3.1 Bat Habitat Surveys

The Washington Boulevard Bridge over Rio Hondo and Washington Boulevard Bridge over San Gabriel River are in urban developed areas; however the Washington Boulevard Bridge over the San Gabriel River is adjacent to a natural reserve area. The SR-60 Bridge site is in the Whittier Narrows Recreation Area, which includes an area over 1800 acres of natural open space and a wide riparian corridor beneath and adjacent to the bridge.

Suitable bat roosting habitat was observed on all three bridges. Structural elements providing potential roosting habitat included expansion joints, weep holes, concrete cracks, and other crevices and openings in the bridges. In addition, there were swallow nests on all bridges, which

are commonly used by bats for roosting when not occupied by birds. In addition, there are several large trees near the Washington Boulevard bridges, and dense stands of trees at the SR-60 Bridge site, that could also serve as roosting habitat. This habitat could be suitable for both daytime and nighttime roosting.

3.1.1 Washington Boulevard Bridge over Rio Hondo

There are two multi-span bridges at Washington Boulevard where it crosses Rio Hondo, including one bridge over the Rio Hondo concrete channel and another bridge over the adjacent flood control spreading grounds (see **Appendix A**, **Photo 1** and **Photo 2**). All areas beneath the bridges were accessible on foot during the survey. Suitable bat roosting habitat was identified on both bridges at multiple locations on the underside of the bridges. Suitable habitat includes expansion joints, crevices, and weep holes on the bridges, which exhibit openings of sufficient width (typically 0.5 inch or greater), depth (typically six inches or greater), and height (typically 10 feet or higher) for roosting (see **Appendix A**, **Photo 5** and **Photo 6**). In addition, there are structural elements on the bridges, including partially enclosed spaces between bridge support beams, which are suitable for night roosting of bats.

3.1.2 Washington Boulevard Bridge over San Gabriel River

There is one multi-span bridge at Washington Boulevard where it crosses the San Gabriel River (see **Appendix A**, **Photo 3** and **Photo 4**). Suitable bat roosting habitat was identified in expansion joints along the edges of the bridge, crevices at the ends of the bridge, and swallow nests on the bridge. A palm tree (*Washingtonia* sp.) adjacent to Washington Boulevard approximately 40 feet east of the bridge was also potential bat roosting habitat. An expansion joint, which runs the length of the bridge in the center of the structure, is open to the roadway surface; therefore, it is not considered suitable bat roosting habitat (see **Appendix A**, **Photo 7** and **Photo 8**).). In addition, there are structural elements on the bridges, including partially enclosed spaces between bridge support beams, which are suitable for night roosting of bats.

3.1.3 SR-60 Bridge over Rio Hondo

There is one multi-span bridge at SR-60 that crosses the Rio Hondo (see **Appendix A**, **Photo 9** and **Photo 10**). At the time of surveys, there was evidence (e.g. debris and wet conditions) that the river channel beneath the bridge had been recently inundated by storm flows (see **Appendix A**, **Photo 11**); however, all areas beneath the bridge were accessible on foot during the survey.

Suitable bat roosting habitat was identified in expansion joints along the edges of the bridge and in the sealed areas of an expansion joint running the length of the bridge in the center of the structure (see **Appendix A**, **Photo 12**). Suitable bat roosting habitat was also identified within several swallow nests on the bridge (see **Appendix A**, **Photo 13**). There were a large number of weep holes on the underside of the bridge, and through communication with project

engineers it was determined that the bridge structure is a hollow (box girder) bridge interior (see **Appendix A**, **Photo 14**). Therefore, there is potential that bats could roost in the interior of the structure accessed through the weep holes. In addition, there are structural elements on the bridges, including partially enclosed spaces between bridge support beams, which are suitable for night roosting of bats.

3.2 Evening Bat Emergence Surveys

Surveys were conducted between shortly after sunset to approximately 45 minutes after sunset (see **Table 1**). Temperatures during the surveys ranged from a high of 77.2 degrees Fahrenheit (F) to a low of 70.1 degrees F. Cloud cover ranged from zero percent to five percent. Wind speed ranged from 0.5 to 5.1 miles per hour. Conditions during surveys were typical for the month of September, and within the temperature range suitable for bats to be active.

Ultrasonic detectors were used at all three bridge sites to detect bat calls. No confirmed bat calls were recorded at the Washington Boulevard over Rio Hondo bridge site; however, several bats were detected on non-recording Baton detectors (see **Table 1**). Five confirmed bat calls were recorded at the Washington Boulevard over San Gabriel River bridge site, and additional calls were detected by surveyors on non-recording Baton detectors. Fifteen confirmed bat calls were recorded at the SR-60 over Rio Hondo bridge site, and additional calls were detected by surveyors on non-recording detectors.

Table 1: Bat Detections Summary at Bridge Sites during Evening Emergence Surveys

Survey Location	Sunset Time	Survey Start and End Time	Temperature (Degrees Fahrenheit) Start/End	Bat Calls Detected	Bat Calls Recorded
Washington Boulevard over Rio Hondo	6:57 pm	6:49 p.m./ 7:42 p.m.	73.4/70.1	YES	NO
Washington Boulevard over San Gabriel River	6:56 pm	6:46 p.m./ 7:40 p.m.	76.2/73.1	YES	YES
SR-60 over Rio Hondo	6:54 pm	6:45 p.m./ 7:40 p.m.	77.2/76.1	YES	YES

3.2.1 Washington Boulevard over Rio Hondo

No bats were observed visually at this bridge site. Four bat calls were detected with Baton detectors between 7:15 p.m. and 7:30 p.m. All of these calls were very faint, which suggests that they may have come from bats further away from the surveyors; however, other factors

such as bat species, orientation of detectors, atmospheric conditions (temperature, humidity, wind), and other conditions may also affect the volume of calls detected.

3.2.2 Washington Boulevard Bridge over San Gabriel River

No bats were observed visually at this bridge site. Between four and six bat calls were detected with Baton detectors between 7:15 p.m. and 7:40 p.m. Five confirmed bat calls were recorded using Pettersson M500 microphones, including four calls at the northwest corner of the bridge, and one at the southeast corner of the bridge. Several of the bat calls detected at the northwest corner of the bridge were identified by surveyor Stan Glowacki as characteristic of the "feeding buzz" exhibited by foraging bats, which may have been passing through the site or foraging locally.

3.2.3 SR-60 Bridge over Rio Hondo

Multiple bats were observed visually at this bridge site at the southeast corner of the bridge, and numerous (approximately 30 to 35) calls were detected with Baton detectors between 7:10 p.m. and 7:40 p.m. at the northwest corner, southwest corner, and southeast corner of the bridge. Fifteen confirmed bat calls were recorded using Pettersson M500 microphones, including 12 calls recorded at the southeast corner of the bridge and three calls recorded at the northwest corner of the bridge.

The greatest number of calls and visual observations were observed from the southeast corner of the bridge, and there is a high probability that detected bats were emerging from the bridge structure near the surveyors. There are two structural elements in this area of the bridge, including the central expansion joint and numerous weep holes, that could provide exit points for bats. However, because of the low light conditions beneath the bridge, bats were not actually observed exiting from the bridge; rather, they were detected with ultrasonic detectors and then immediately observed flying overhead. Therefore, a positive determination on whether the bats were emerging from the bridge, and the exact location of the exit points, could not be positively determined.

3.3 Species of Bats Detected

Bat calls recorded at the bridge sites were recorded with Pettersson M500 microphones and analyzed using the Sonobat Software and manual vetting. No bats were recorded at the Washington Boulevard Bridge over Rio Hondo. One bat species, the Mexican free-tailed bat (*Tadarida brasiliensis*), was recorded and positively identified at the Washington Boulevard Bridge over the San Gabriel River bridge site (see **Table 2**). Three bat species, including the Mexican free-tailed bat, California Myotis (*Myotis californicus*), and Yuma myotis (*Myotis yumanensis*), were recorded and positively identified at the SR-60 Bridge over the Rio Hondo.

Table 2: Bat Calls Identified to Species during Evening Emergence Surveys

Call #	Species Detected	Bridge Location	Date of Recording (Month/Day/Year)	Time of Recording (hour:minute:second)
1	Mexican Free tail (*Tadarida brasiliensis*)	Washington Boulevard over San Gabriel River, northwest corner	9/17/2015	7:36:28 PM
2	Mexican Free tail	Washington Boulevard over San Gabriel River, southwest corner	9/17/2015	7:21:04 PM
3	Mexican Free Tail	Washington Boulevard over San Gabriel River, northwest corner	9/17/2015	7:36:32 PM
4	California Myotis (*Myotis Californicus*)	SR-60 over Rio Hondo, southeast corner	9/18/2015	7:29:52 PM
5	California Myotis	SR-60 over Rio Hondo, southeast corner	9/18/2015	7:31:50
6	Mexican Free Tail	SR-60 over Rio Hondo, southeast corner	9/18/2015	7:32:42
7	Mexican Free Tail	SR-60 over Rio Hondo, northwest corner	9/18/2015	7:32:42
8	California Myotis	SR-60 over Rio Hondo, southeast corner	9/18/2015	7:33:18
9	Yuma Myotis (*Myotis Yumanensis*)	SR-60 over Rio Hondo, northwest corner	9/18/2015	7:34:55

The Mexican free tail and Yuma myotis are species commonly found roosting in bridges, and are also the most common species in urban areas and are more tolerant of disturbance. The California myotis also is known to roost in bridges, although less commonly.

3.4 Conclusions

Suitable habitat for day roosting and night roosting was observed at all three bridge sites, including the bridge structures, swallow nests, and trees near the bridges. Bats were detected at all bridge sites; therefore, bats are likely present in the vicinity of all three bridge. However, no bats were observed visually at the Washington Boulevard Bridge over Rio Hondo or the Washington Boulevard Bridge over the San Gabriel River; therefore, it is unknown if bats are roosting on these bridges.

Based on the number of bat calls detected at the SR-60 bridge site, there is a high probability that bats are roosting on the bridge. Based on the existing habitat, and the concentration of calls and visual observations at one location, it is most likely that bats are roosting in the hollow interior of the bridge and exiting from the weep holes on the bottom of the bridge. However, because of low light conditions during the time of the surveys, no observations were made of bats exiting the bridge, and additional surveys would be required to confirm this.

There were fewer bat detections at the Washington Boulevard Bridge over Rio Hondo and Washington Boulevard Bridge over the San Gabriel River sites, which are in highly urbanized areas; however, because there is roosting habitat present, there is potential for bats to roost at these sites. There were numerous bats detected at the SR-60 Bridge site, which is within the Whittier Narrows Recreation Area with over 1800 acres of natural open space and a wide riparian corridor beneath and adjacent to the bridge; therefore, there is a high probability for bats to roost at this site.

The Mexican free tail, Yuma myotis, and California myotis were recorded at one or more sites during the surveys. Based on the existing habitat, particularly at the SR-60 Bridge site, there is potential for several other bats species to be in the area, and to roost on the bridge or in the adjacent trees. None of the recorded species are special-status species; however, all bats are protected from harm under the California Fish and Game Code. There is currently one species, the Townsend's big-eared bat (*Corynorhinus townsendii*), listed as a candidate for the California Endangered Species Act. Although this species has been known to roost in bridges, it is typically a cave dwelling species and is very sensitive to disturbance. Because all three bridges are subject to constant, high levels of noise and vibration, it is unlikely that this species would roost in any of these bridges.

Bat maternity season is typically between April 1 and September 30, although this varies between species and other circumstances. The presence of a maternal colony was not identified at the Washington Boulevard Bridge over Rio Hondo or Washington Boulevard over the San Gabriel River Bridge sites; however, because there is suitable roosting habitat, and food and water sources nearby, there is potential for a maternal colony to form at these sites. Numerous bats were detected at the SR-60 Bridge over Rio Hondo, and because there is suitable habitat, and food and water sources nearby, there is potential for a maternal colony to form at this site. Based on the large number of bats observed and detected at the SR-60 location, it is possible that there is an existing colony at this site; however, additional surveys would be needed to confirm the presence of a maternal colony at any of the bridge sites.

4.0 RECOMMENDED AVOIDANCE, MINIMIZATION, AND MITIGATION

The measures below are proposed to avoid, minimize, and/or mitigate potential impacts on roosting bats during project construction. The measures are as follows:

- Prior to construction, bat emergence surveys and nighttime surveys would be conducted at each affected bridge site to confirm whether bats are roosting on or within 100 feet of any of the bridges affected by construction activities. Surveys would be conducted using ultrasonic detectors and night vision technology in order to capture species and emergence location. Surveys would include species classification of detected bat calls to help identify bat species roosting within 100 feet of the construction area.

- If it is determined that special-status bat species are roosting within 100 feet of the construction area, consultation with the appropriate resource agencies (California Department of Fish and Wildlife (CDFW)) would be conducted prior to initiating construction, and appropriate measures would be developed and implemented to avoid impacts on these species.
- Prior to construction and outside of the bird nesting season (February 15 to August 31), inactive swallow nests within 100 feet of the construction area would be surveyed by a qualified biologist to determine whether they are occupied by roosting bats. If the nests are unoccupied, they would be removed under the direction of a qualified biologist. Any nests occupied by bats would be removed under supervision of a qualified biologist during nighttime hours following the evening emergence of occupying bats.
- At least six months prior to construction, alternative roosting sites would be researched and surveyed, and alternative bat habitat (e.g. concrete Oregon wedge enclosure, bat houses, etc.) would be developed and installed, in coordination with CDFW, at nearby locations to provide alternative habitat for bats displaced by project construction. Success of the alternative bat habitat would be monitored and assessed prior to, during, and following construction, in coordination with CDFW.
- Bat exclusion measures would be explored and implemented on the bridges and within 100 feet of the construction area to the maximum extent feasible to reduce the potential for bat presence during construction. Bat exclusionary measures would include expandable foam placed in expansion joints and crevices, and sheet plastic fitted with one-way exits in areas where bats are potentially roosting. Bat exclusion would only be installed after September 30 to avoid impacts to maternal and juvenile bats. No less than six weeks prior to construction, a qualified biologist would survey the area to confirm that exclusionary measures have been successful and that no bats remain in the construction area. If any bats remain within the construction area, appropriate measures would be developed and implemented, in coordination with the CDFW, to prevent impacts on bats.
- If all bats cannot be excluded from within 100 feet of the construction area, a biological monitor would be on site during any construction activities with potential to impact bats, to ensure that they are not adversely affected, disturbed, and/or leaving roosting sites.

Appendix A

Project Site Photographs

Photo 1: Washington Boulevard Bridge over Rio Hondo; view facing northeast

Photo 2: Washington Boulevard Bridge over the flood control spreading grounds adjacent to the Rio Hondo; view facing northwest

Photo 3: Washington Boulevard Bridge over the San Gabriel River; view facing west

Photo 4: Washington Boulevard Bridge over the San Gabriel River; view facing east

Photo 5: Underside of Washington Boulevard Bridge over Rio Hondo with expansion joint suitable for bat roosting; view facing west

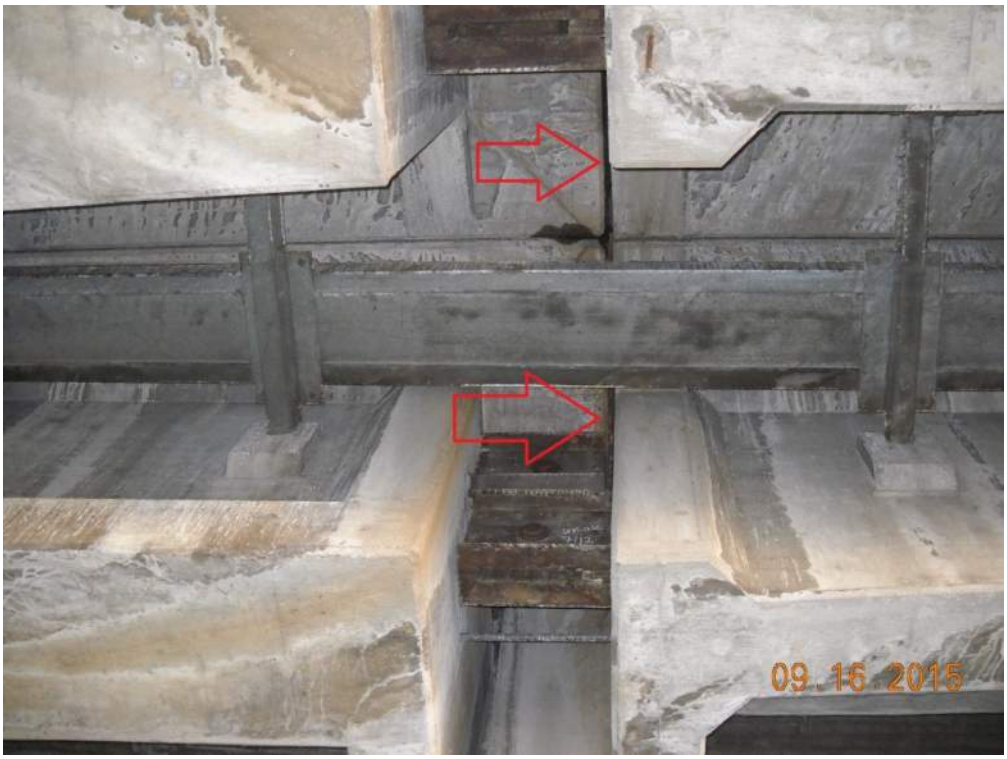

Photo 6: Underside of Washington Boulevard Bridge over Rio Hondo flood control spreading grounds with joints and crevices suitable for bat roosting; view facing west

Photo 7: Washington Boulevard Bridge over the San Gabriel River with expansion joint down the center of the bridge open to roadway surface (not suitable for bat roosting); view facing east

Photo 8: Washington Boulevard Bridge over the San Gabriel River with expansion joint and swallow nest suitable for bat roosting; view facing east

Photo 9: SR-60 Bridge over the Rio Hondo; view facing east

Photo 10: Rio Hondo beneath the SR-60 Bridge; view facing north

Photo 11: Rio Hondo beneath the SR-60 Bridge, showing effects of recent high flow event; view facing south

Photo 12: Underside of the SR-60 Bridge with expansion joint running down the center of the bridge with sealed areas and unsealed areas; view facing west

Photo 13: SR-60 Bridge beneath the Rio Hondo with swallow nest providing suitable bat roosting habitat; view facing east

Photo 14: Vent holes on the underside of the SR-60 Bridge providing access to the bridge interior; view facing west

ATTACHMENT B – EASTSIDE TRANSIT CORRIDOR PHASE 2 AQUATIC BIOLOGICAL RESOURCES TECHNICAL MEMORANDUM

The Eastside Transit Corridor Phase 2 Biological Resources Impacts Report (the IR) discusses the Los Angeles County Metropolitan Transportation Authority (Metro) Eastside Transit Corridor Phase 2 Project (the Project) in relation to biological resources present in the specialized study area for biological resources (biological resources study area or BRSA). The purpose of this memo is to identify the Project documents that adequately describe the current biological resources in the BRSA.

As part of the Project, desktop reviews and field surveys were completed in 2015 and 2016 to document terrestrial and aquatic biological resources in the proposed project areas. The results of these evaluations are presented in the following documents attached to this memo:

- Attachment A: Tree Surveys and Eastside Transit Corridor Phase 2 Terrestrial Biological Resources Technical Memorandum. This memo includes the Bat Survey Report as an appendix.
- Attachment B: Eastside Transit Corridor Phase 2 Aquatic Biological Resources Technical Memorandum.

Since completion of these evaluations, the alternatives under consideration as part of the proposed project have been revised. The State Route 60 (SR-60) Alternative, and the Combined Alternative are no longer part of the Project. The Washington Alternative is now being considered as Alternative 1. Alternatives 2 and 3 follow the same alignment as Alternative 1 but end at the proposed Commerce/Citadel station and Greenwood station, respectively. The proposed Commerce Maintenance and Storage Facility (MSF) is still under consideration; however, the Santa Fe MSF has been removed and a new MSF site is proposed in the city of Montebello. The project description is summarized in more detail in Section 2.0 of the IR. The terrestrial and aquatic biological resources along the Alternative 1 alignment were thoroughly evaluated in the previous reports; thus, these reports also cover the Alternative 2 and 3 alignments.

An updated desktop review was performed in 2021 to re-evaluate the current status of biological resources in the BRSA. The updated desktop review included a review of aerial imagery, the California Natural Diversity Database (CNDDB), and the U.S. Fish and Wildlife Service (USFWS) critical habitat mapper, Information for Planning and Consultation (IPaC) tool, and National Wetlands Inventory (NWI) mapper. It also included review of recent site photos from April 2021 (Attachment C) and project reports and planning documents from federal, state, and local agencies and organizations that pertained to biological resources within the BRSA. The special-status species identified in the IPaC and CNDDB reviews as having potential to occur in the Project area are listed in Attachment D. The updated desktop review included a review of the trees located along the underground portion of the alignment to supplement a tree survey previously conducted for the aerial and at-grade options of the alignment. The tree surveys are included in Attachment A. The results of the updated desktop review are further discussed in the updated IR.

Based on the desktop review, it was determined that there have been no substantial changes to habitats, vegetative conditions, special-status species, wetlands, street trees, or other biological resources in the project area since completion of the previous field surveys. The previous surveys adequately described the biological resources in the study area, and the information contained in the previous terrestrial and aquatic biological resource reports is reflective of the existing conditions in the Project area as it is currently defined. Therefore, no new field surveys or updates to the biological resource reports were performed for preparation of the updated IR.

Eastside Transit Corridor Phase 2

Aquatic Biological Resources Technical Memorandum

April 27, 2017

Prepared for

Los Angeles County Metropolitan Transportation

Authority One Gateway Plaza

Los Angeles, California 90012

State Clearinghouse Number: 2010011062

Metro

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Appendices

ACRONYMS AND ABBREVIATIONS LIST

CDFW	California Department of Fish and Wildlife
CWA	Clean Water Act
EIS/EIR	Environmental Impact Statement/Environmental Impact Report
LARWQCB	Los Angeles Regional Water Quality Control Board
LBV	Least Bell's vireo
LPA	Locally Preferred Alternative
LRT	Light Rail Transit
NSDV	North Side Design Variation
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
OII	Operating Industries, Inc.
ROW	right-of-way
SAA	Streambed Alteration Agreement
SR	State Route
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service

1.0 INTRODUCTION

The purpose of this Technical Memorandum is to respond to comments provided by the California Department of Fish and Wildlife (CDFW) on the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the Eastside Transit Corridor Phase 2 Project (CDFW 2014). This Technical Memorandum is meant to supplement the analysis of ecosystems and biological resources conducted previously and presented in the Draft EIS/EIR. Please refer to Section 4.10 of the draft EIS/EIR[1].

This Technical Memorandum presents an evaluation of potential impacts on wetlands, waters of the U.S., and waters of the State from proposed construction and/or operation of the SR 60 North Side Design Variation (NSDV) Light Rail Transit (LRT) Alternative and the Washington Boulevard portion of the Washington Boulevard LRT Alternative east of Garfield Avenue. On November 5, 2014, the Metro Board eliminated the aerial configuration on Garfield Avenue, between Via Campo and Whittier Boulevard, of the Washington Boulevard LRT Alternative from further study and directed staff to identify an alternate north/south connection to Washington Boulevard. During the preparation of this report, the investigation of alternate north/south connections to Washington Boulevard was still underway and a new north/south connection had not been selected by the Metro Board. Therefore, only the Washington Boulevard portion of the Washington Boulevard LRT Alternative east of Garfield Avenue is evaluated in this report. Additional study of the aquatic resources will be conducted in the next phase of the project if a new north/south connection option for the Washington Boulevard Alternative is carried forward in the environmental process.

This Technical Memorandum does not address potential effects on water quality or floodplains. Potential effects on these categories have been described in the Draft EIS/EIR in Section 4.12. The Draft EIS/EIR describes potential effects from both construction and operation on water quality and floodplains, including the function of the Whittier Narrows Flood Control Basin, and proposed mitigation measures to reduce and avoid potential effects. Please refer to Section 4.12 of the Draft EIS/EIR for an analysis of potential effects on water quality and floodplains and proposed mitigation measures[2]:

An analysis of impacts on terrestrial resources is presented in a separate technical memorandum. Special status species, including species associated with aquatic areas (e.g., western pond turtle) are discussed in the separate *Terrestrial Biological Resources Technical Memorandum*. No fully aquatic species of concern were found in the immediate vicinity of project area based on the summer 2016 survey. It is likely that other portions of the San Gabriel River outside of the project study area (e.g., above the San Gabriel River Dam) may support species of concern (National Park Service 2013; O'Brien et al 2011; County of Los Angeles 2006).

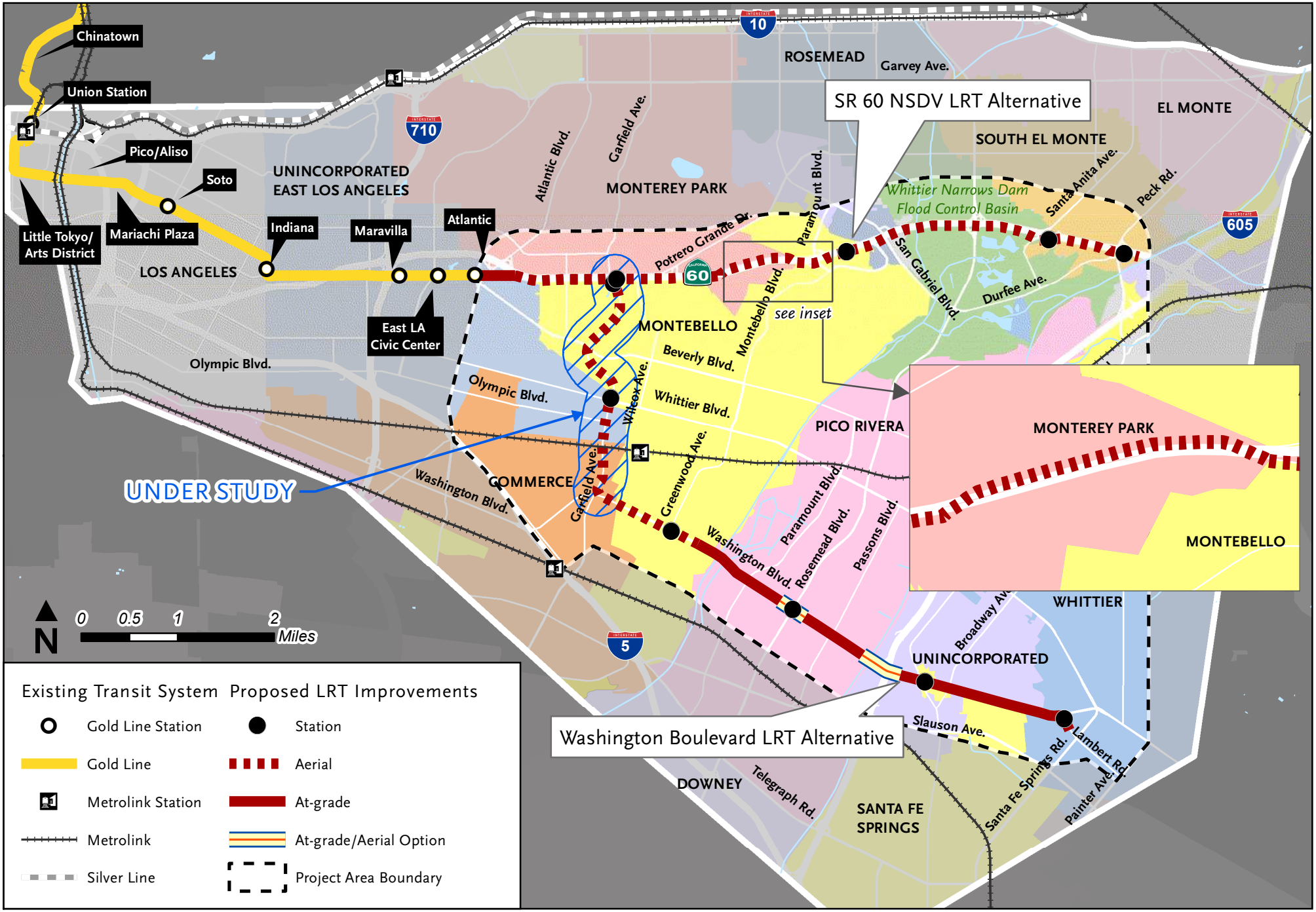
[1] Section 4.10 of the draft EIS/EIR is available here: http://media.metro.net/projects_studies/eastside_phase2/images/draft_eiseir/report_eastside_section4-10.pdf

[2] Section 4.12 of the Draft EIS/EIR is available here: http://media.metro.net/projects_studies/eastside_phase2/images/draft_eiseir/report_eastside_section4-12.pdf.

An analysis of flood risk management from the construction of support columns for the aerial LRT tracks across the Rio Hondo for the SR 60 NSDV LRT Alternative is not included in this memorandum.

The SR 60 NSDV LRT Alternative would extend the existing Metro Gold Line from the Atlantic/Pomona Station, approximately 6.9 miles eastward, to Peck Road in the City of South El Monte, as shown in **Figure 1-1**. The SR 60 NSDV LRT Alternative would be located primarily along the southern side of the SR 60 Freeway right-of-way (ROW), with the exception of a segment that would pass near the Operating Industries, Inc. (OII) Landfill in Monterey Park. To avoid potential impacts to the South Parcel of the OII Landfill, the SR 60 NSDV LRT Alternative alignment would transition to the north side of the SR 60 Freeway, just west of Greenwood Avenue, continue east along the north side of the SR 60 Freeway within the Caltrans ROW, and return to the south side of the SR 60 Freeway approximately one-quarter mile west of Paramount Boulevard. The proposed alignment would then cross the Rio Hondo River and associated riparian habitat along the south side of the SR 60 Freeway. Staying within the ROW on the south side of the SR 60 Freeway, the alignment would travel north of a skeet shooting range (Triple B Clays). There is a screen of mature vegetation along the SR 60 Freeway ROW between the highway uses and the shooting range. The alignment would continue east on the south side of the SR 60 Freeway past Santa Anita Avenue, through a vacant field which has been used for agriculture in the past and is restricted by a U.S. Army Corps of Engineers (USACE) flowage easement. The alignment would end with a terminus station at Peck Road.

The Washington Boulevard LRT Alternative studied in the Draft EIS/EIR would extend the existing Metro Gold Line from the Atlantic/Pomona Station, approximately 9.5 miles eastward, to Lambert Road in the City of Whittier, as shown in Figure 1-1. The portion of the Washington Boulevard LRT alignment evaluated in this study begins east of Garfield Avenue and extends east, in an aerial configuration, along Washington Boulevard. At Montebello Boulevard, the alternative would transition to an at-grade configuration within the center of Washington Boulevard, crossing the Rio Hondo and San Gabriel Rivers and associated spreading grounds on the existing bridge structures, to a terminus station located south of Washington Boulevard just west of Lambert Road. The Washington Boulevard LRT Alternative is located within mostly developed, urban areas, although ornamental trees and vegetation exist along the proposed alignment.



Source: Metro, 2015

Figure 1-1

Eastside Transit Corridor Phase 2 Project Location

2.0 METHODS

This section describes the methods that were used to assess aquatic biological resources in the project area, including wetlands, waters of the U.S., and waters of the state.

Waters of the U.S. are under the jurisdiction of USACE in accordance with Section 404 of the Clean Water Act (CWA). Waters of the U.S. include wetlands and other waters including but not limited to rivers, lakes, streams, wetlands, harbors, bays, stock ponds, and irrigation ditches. The portion of waters of the U.S. considered as jurisdictional by the USACE usually consists of those areas contained below the ordinary high water mark (OHWM) or that meet the definitions of special aquatic areas such as wetlands. The OHWM is defined as the line where the incised portion of the bank meets the terrestrial vegetation (USACE 2005).

Waters of the state include all surface water or groundwater, including saline waters, within the boundaries of the State of California. Streams, lakes, and riparian vegetation that provide habitat for fish and other wildlife species are subject to jurisdiction by the CDFW under Sections 1600-1616 of the California Fish and Game Code. It should be noted that areas of USACE jurisdiction are a subset of CDFW jurisdiction. Although the two may be contiguous, as is the case in many smaller, ephemeral streams lacking riparian plant communities, the CDFW jurisdictional area will never be smaller than that defined using the USACE OHWM criterion.

The USACE flowage easement where the Santa Anita Avenue Station and Park and Ride structure is proposed for the SR 60 NSDV LRT Alternative is not considered a water of the U.S. or a water of the state. This area consists of non-native (California naturalized annual and perennial) grassland, and it has been used for agriculture in the past. The area is typically dry except during significant flood events, when USACE would use the area to hold flood waters for short periods of time.

A coordination meeting was held with Ms. Kelly Schmoker, CDFW on February 29, 2016 to discuss the scope and proposed methods for conducting the biological resources surveys. During the meeting, the scope of the survey and proposed methods were presented. A concurrence letter further outlining the survey approach as discussed during the February 29, 2016 meeting was submitted to CDFW. The methods that were used are described in this technical memorandum.

2.1 Literature Review

Prior to the survey, a review of the U.S. Fish and Wildlife (USFWS) on-line National Wetland Inventory (NWI) maps was conducted to identify potential wetlands and other waters within the project area (USFWS 2016).

In addition, USACE was consulted for information regarding operation of the Whittier Narrows Flood Control Basin (Whittier Narrows Basin). Specifically, information regarding management of water levels at the SR 60 Freeway bridge over the Rio Hondo was obtained.

2.2 Aquatic Resources at SR 60 Freeway Crossing of the Rio Hondo

A wetland investigation was conducted at the SR 60 Freeway crossing of the Rio Hondo on May 25, 2016. In addition, an area adjacent to the river, mapped as riparian forest (Rp1FO) on the NWI mapper, was also investigated for the presence of wetland characteristics (i.e., wetland hydrology, wetland vegetation, and hydric soils).

The project area was visually surveyed to identify areas with potential wetlands within the proposed LRT alignment along the south side of the SR 60 Freeway. Due to the potential presence of nesting Least Bell's vireo (LBV), the survey was limited to the area within approximately 100 feet of the southern (downstream) side of the bridge, per USACE's direction.

Areas with potential wetland vegetation, depressional areas, and areas with standing water were investigated more closely during the delineation field work. The delineation methodology conformed to the guidelines presented in the USACE Wetlands Delineation Manual, Technical Report Y-87-1 (USACE 1987) and the 2008 USACE Regional Supplement for the Arid West Region (Version 2.0) (USACE 2008). To qualify as a wetland under the jurisdiction of USACE, all of the following wetland parameters must be present: hydric soils, wetland hydrology, and at least 50 percent of the dominant plant species designated as obligate, facultative wet, or facultative. At each potential wetland area, vegetation was observed, soil sampling was conducted, and indicators of wetland hydrology were noted. Hydrophytic vegetation was assessed through identification of dominant species present in a wetland patch and compared with the National List of Wetland Plants for the Arid West region (USACE 2016). Potential wetlands were classified in accordance with the Cowardin et al. (1979) classification.

2.3 Aquatic Resources at Washington Boulevard Crossings of the Rio Hondo and San Gabriel River Spreading Grounds

A wetland investigation was conducted at the Washington Boulevard crossings of the Rio Hondo and San Gabriel River Spreading Grounds on May 23, 2016.

2.4 Other Potential Aquatic Resources (Small Channelized Drainages)

Two small channelized drainages along the south side of the SR 60 Freeway were noted and investigated for wetland parameters during the field survey. The first channelized drainage was observed between the SR 60 Freeway and The Shops at Montebello, at the base of the slope north of The Shops at Montebello, and the second was observed along the south side of the SR 60 Freeway at the end of Muscatel Avenue in Montebello.

3.0 FINDINGS

This section presents the findings of the aquatic resources survey.

3.1 Aquatic Resources at the SR 60 Freeway Crossing of the Rio Hondo

The SR 60 Freeway bridge over the Rio Hondo is located within the Whittier Narrows Basin. The bridge consists of four piers and east and west abutments (**Appendix A,** Photo 1 to Photo 4). At the time of the survey, the area under the bridge was mostly dry and consisted of sand with incised channels. A narrow high flow channel was observed between pier 1 (the westernmost pier of the bridge) and pier 2. A deep low flow channel was observed between piers 2 and 3, and substantial undercutting of pier 3 was observed, exposing the pilings under the pier footings. A high flow channel was observed between piers 3 and 4 (the easternmost pier of the bridge).

The east abutment of the bridge is located east of the bike path that runs along the Rio Hondo. The river bed is 10 to 15 feet below the elevation of the bike path. A large storm event had recently caused the eastern bank of the river to fail, resulting in a highly incised and eroding slope. Riprap armor was placed to stabilize the slope in that area (Appendix A, Photo 5 to Photo 8).

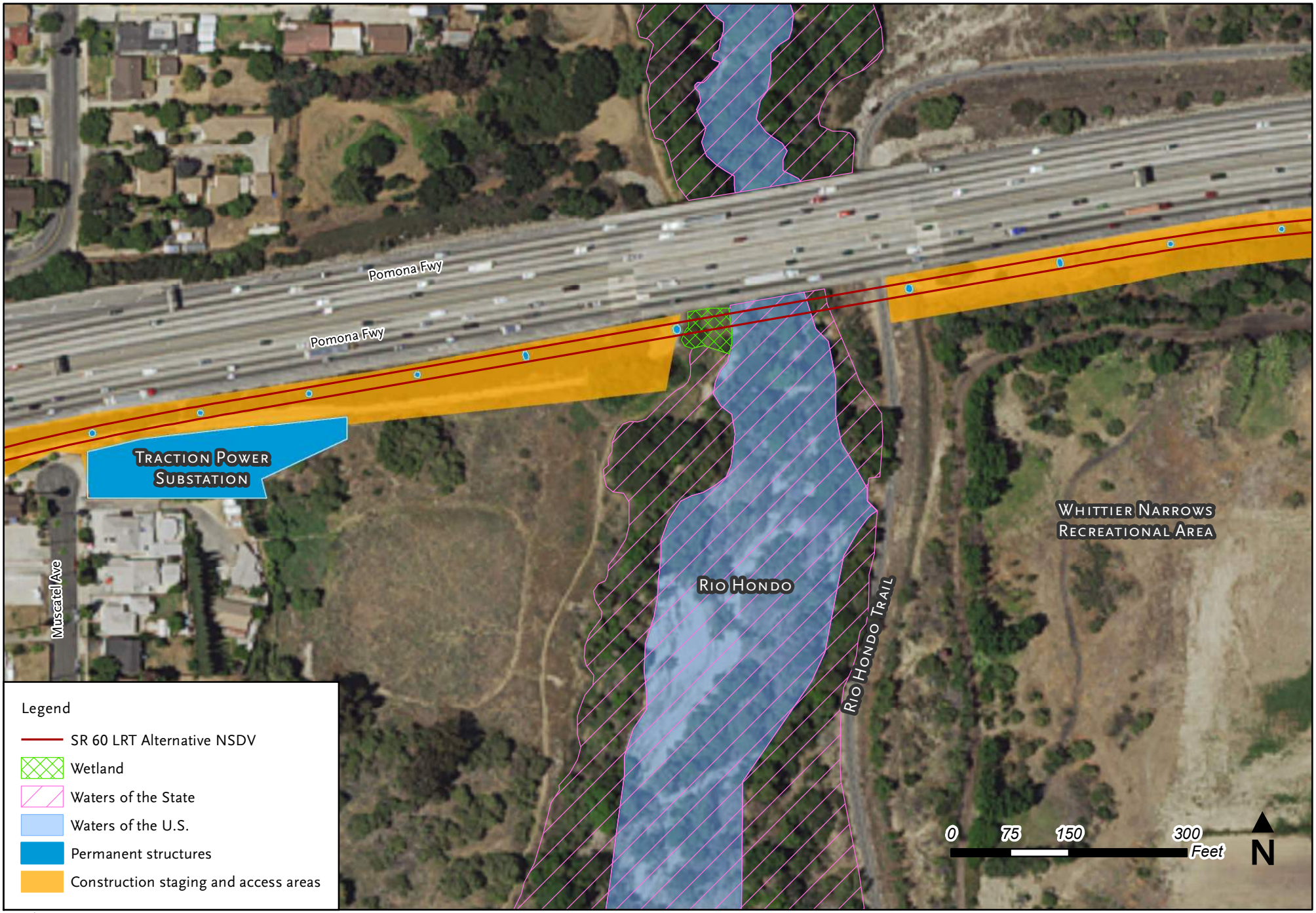
Within the river channel, vegetation is present on elevated terraces and sandbars. Willows, including Arroyo willow (*Salix lasiolepsis*) are present, along with many non-native tree and shrub species. Upstream of the SR 60 Freeway bridge, the Rio Hondo runs along a narrow riparian corridor adjacent to a large sandy wash supporting native scrub vegetation.

Vegetation and habitats are described in more detail in the *Terrestrial Biological Resources Technical Memorandum* (CDM Smith, April 2017).

3.1.1 Waters of the U.S.

Waters of the U.S. were delineated as the portion of the Rio Hondo channel up to where terrestrial (riparian) vegetation began on both the western and eastern banks (**Figure 3-1**). On the west side, just south of the bridge abutment, the channel ends at a bluff covered with concrete. South and east of this is a terrace covered with riparian scrub vegetation dominated by mulefat. Upland vegetation consisting of non-native grassland was observed west of the concrete beyond the fence (Appendix A, Photo 9 to Photo 12).

On the east side just south of the bridge, the bank slopes gently up, but the channel rises steeply further south to meet the elevation of the bike path (Appendix A, Photos13 and Photo 14). On the east side of the bike path, south of the bridge, there is a berm structure that likely contains floodwaters within the channel and prevents overflow into the shooting range to the east. Based on information received from USACE, the elevation of the bike path is 205 feet. The elevation of the Rio Hondo channel was measured at 197.6 feet per USACE (T. Keeney, USACE, personal communication, May 17, 2016), but there are some parts of the channel that are currently incised to lower elevations.



Aerial Source: NAIP 2014

Figure 3-1

SR 60 Freeway Crossing of the Rio Hondo

3.1.2 Waters of the State

Waters of the State were delineated as the Rio Hondo channel plus additional area where riparian vegetation extends on both sides (Figure 3-1).

3.1.3 Wetlands

A wetland was delineated just southeast of the western abutment of the SR 60 Freeway bridge over the Rio Hondo (Figure 3-1). Wetland parameters, including hydric soils, wetland hydrology, and wetland-associated plants were present in this area (Appendix A, Photo 15 and Photo 16).

Temporary construction and staging areas and the locations where permanent structures would be placed are also shown on Figure 3-1, based on preliminary, design-level information. Figure 3-1 shows that all of the work would be located outside of riparian and aquatic habitats on the SR 60 NSDV LRT Alternative alignment. The potential impacts on these non-aquatic habitats are described in the separate *Terrestrial Resources Technical Memorandum*.

3.1.4 Investigation of Riparian Forest Mapped by NWI South of the SR 60 Freeway

East of the Rio Hondo, an area running along the south side of the SR 60 Freeway was mapped as riparian forest (Rp1FO) on the NWI website (USFWS 2016). During the wetland investigation, sandy soil and wetland vegetation were found. It is likely that this area receives run-off from the freeway during rains. However, based on observation of soils in this location, water is not present long enough to form hydric soil characteristics and support a wetland (**Appendix B**). An approximately 10-foot high berm blocks water from the Rio Hondo from entering this area. More information on the vegetation present in this area is provided in the separate *Terrestrial Biological Resources Technical Memorandum*.

3.2 Aquatic Resources at Washington Boulevard Crossing of Rio Hondo and San Gabriel River Spreading Grounds

Washington Boulevard crosses the Rio Hondo and San Gabriel River at the location of the spreading grounds. The rivers are channelized and high flows are allowed to enter and infiltrate into the adjacent spreading grounds during the wet season. The spreading grounds consist of non-native grassland vegetation, as described further in the separate *Terrestrial Biological Resources Technical Memorandum*.

3.2.1 Washington Boulevard Crossing of Rio Hondo

At the Washington Boulevard crossing, the Rio Hondo is completely concrete-lined and was mostly dry at the time of the survey. Ornamental vegetation was present in landscaped areas adjacent to the channel (Appendix A, Photo 17 to Photo 20). Waters of the U.S. and waters of the state consist of the active Rio Hondo channel (**Figure 3-2**). No wetlands were observed.

Aerial Source: NAIP 2014

Figure 3-2

Washington Boulevard Crossing of the Rio Hondo

3.2.2 Washington Boulevard Crossing of San Gabriel River

At the Washington Boulevard crossing, the San Gabriel River is lined with riprap armor on the banks, with a soft-bottom, as evidenced by the presence of vegetation consisting of smartweed (*Polygonum* sp.) observed within the channel. A few willow trees were present along the banks, along with non-native vegetation, as described in the *Terrestrial Biological Resources Technical Memorandum* (Appendix A, Photo 21 to Photo 24).

Water flow through this stretch of the San Gabriel River is controlled by a series of rubber dams. The flood control district retains water behind these dams to increase infiltration of water into the river bed and adjacent spreading grounds. The water is managed to maximize water depth within a particular section, and it is not uncommon for only one section at a time to be holding water while the sections up and downstream are completely dry. There is a rubber dam immediately downstream of the Washington Boulevard crossing of the San Gabriel River. At the time of the May 2016 survey, the section of the river starting at Washington Boulevard and extending upstream (under the Washington Boulevard bridge) was retaining water. However, because the reach is managed for water infiltration, and water is retained in short segments for indeterminate periods of time, the section would not support fully aquatic species.

Waters of the U.S. at this location consist of the active San Gabriel River channel. Waters of the state would include the patches of riparian vegetation along the bank (**Figure 3-3**). No wetlands were observed.

3.3 Other Potential Aquatic Resources (Small Channelized Drainages)

Small channelized drainages were observed along the south side of the SR 60 Freeway during the survey. The first is located between the SR 60 Freeway and The Shops of Montebello, at the base of the slope north of The Shops of Montebello. This concrete-lined drainage is fed by stormwater runoff from the surrounding developed areas and does not support wetlands or other aquatic resources (Appendix A, Photo 25 and Photo 26).

The second channelized drainage was observed along the south side of the SR 60 Freeway at the end of Muscatel Avenue in Montebello. This concrete-lined drainage is located in a private residential area adjacent to vacant land west of the Rio Hondo. This drainage also likely receives stormwater from the SR 60 Freeway and does not support wetlands or other aquatic resources (Appendix A, Photo 27 and Photo 28).

3.4 Limitations

The findings presented herein are based on a biological survey that was limited in scope and conducted during late May 2016 in response to CDFW comments on the Draft EIS/EIR. Design-level information on where construction impacts, including access and staging areas, could occur is preliminary, given that the project is in the early environmental planning phase and a locally preferred alternative (LPA) has not yet been selected for the Eastside Transit Corridor Phase 2 Project.

Aerial Source: NAIP 2014

Figure 3-3

Washington Boulevard Crossing of the San Gabriel River

4.0 CONSTRUCTION-RELATED IMPACTS

This section describes potential temporary impacts on aquatic biological resources associated with construction of the LRT alternatives. The Draft EIS/EIR provides the significance criteria for evaluation of impacts. It should be noted that the results of this survey do not change the fundamental conclusions of the Draft EIS/EIR, but allow for further refinement of proposed mitigation measures and comparisons of the alternatives.

Temporary impacts are those that could occur during construction, whereas permanent impacts would be limited to LRT alignment for at-grade portions and areas where there is installation of the LRT columns for aerial tracks. Areal estimation of temporary and permanent impacts was based on preliminary conceptual engineering design and there was no double-counting between temporary and permanent impact areas.

4.1 SR 60 NSDV LRT Alternative

4.1.1 Temporary Impacts

There would be no temporary impacts on wetlands or waters as shown on Figure 3-1. Construction equipment would access the area to install support columns for the aerial LRT tracks across the Rio Hondo from the east and the west as needed, avoiding the riparian zone, wetland, and river channel. During installation of the closest columns, equipment would access the area within a radius of approximately 60 feet around the side of each column located away from sensitive aquatic resources, as illustrated on Figure 3-1.

If temporary impacts on wetlands and waters could occur, a CWA 404 permit from USACE would be required, along with a CWA Section 401 Water Quality Certification from the Los Angeles Regional Water Quality Control Board (LARWQCB). In addition, a Streambed Alteration Agreement (SAA) would be required from CDFW under Sections 1600-1616 of the California Fish and Game Code.

Section 404 of the CWA requires that projects be designed to avoid or minimize adverse impacts to aquatic resources and waters of the U.S. The SR 60 NSDV LRT alternative has been designed to avoid impacts on waters of the U.S. and the state in compliance with the CWA and the California Fish and Game Code.

4.1.2 Permanent Impacts

The SR 60 NSDV LRT Alternative alignment would be designed to avoid impacts on wetlands and waters. Columns supporting the aerial track across the Rio Hondo would be placed outside of the river channel and associated riparian zone and the aerial track would span the river channel itself such that there would be no permanent impacts below an elevation of 205 feet (Figure 3-1).

4.2 Washington Boulevard LRT Alternative

Construction of the Washington Boulevard LRT Alternative could require modifications to the existing bridges, and existing piers, over the Rio Hondo and San Gabriel Rivers, which are located in waters of the U.S. This would require a CWA Section 404 permit from USACE and a CWA Section 401 Water Quality Certification from LARWQCB.

4.2.1 Temporary Impacts

Temporary impacts would occur where construction equipment would access the waters to modify the existing bridges for installation of the LRT tracks on the existing bridges over the Rio Hondo and San Gabriel Rivers (Figure 3-2 and Figure 3-3, respectively). The tracks of equipment that disturb bottom sediments are usually considered to be a temporary impact regulated under Section 404 of the Clean Water Act. There could be temporary impacts on waters of the U.S. at both locations. Temporary impacts are estimated at 1.99 acres. A quantification of these impacts would be conducted if the Washington Boulevard Alternative is carried forward in the next phase of the project. Proposed avoidance and minimization measures are described in Section 6.

4.2.2 Permanent Impacts

If the modifications to the existing bridges over the Rio Hondo and San Gabriel Rivers require enlarging the exiting footprints of the bridge piers in the channel, permanent impacts on waters of the U.S./waters of the state would occur. It is expected that new piers would not be needed, but just that the existing piers would need to be strengthened, which may slightly enlarge the footprint of each pier. This enlargement at both crossings could be as much as 0.012 acres. A quantification of these impacts would be conducted if the Washington Boulevard Alternative is carried forward in the next phase of the project.

5.0 OPERATION AND MAINTENANCE IMPACTS

This section describes potential permanent impacts on aquatic biological resources associated with operation and maintenance of the LRT alternatives.

5.1 SR 60 NSDV LRT Alternative

There would be no impacts on wetlands or waters of the U.S./waters of the state from operation and maintenance of the SR 60 NSDV LRT Alternative.

5.2 Washington Boulevard LRT Alternative

There would be no impacts on waters of the U.S./waters of the state from operation and maintenance of the Washington Boulevard LRT Alternative.

6.0 MITIGATION

For the SR 60 NSDV LRT Alternative, impacts on wetlands and waters at the SR 60 Freeway crossing of the Rio Hondo would be avoided, as shown on Figure 3-1. Therefore, no compensatory mitigation would be required.

If modification of the existing Washington Boulevard bridges over the Rio Hondo and San Gabriel Rivers is necessary for the Washington Boulevard LRT Alternative, there could be temporary and permanent impacts of waters of the U.S. Construction work at both river crossings on Washington Boulevard would be conducted in the dry season when there is no water present at the bridge crossings. This would avoid many potential temporary impacts. If strengthened or expanded footings are required, the excavation work would use methods that do not require the use of coffer dams or the installation of sheet pile. A hydraulic analysis would be conducted, if the Washington Boulevard LRT Alternative is selected as the LPA, to quantify any permanent impacts on channel capacity and flow conveyance and compensatory mitigation would be provided. Compliance with avoidance and minimization measures under a CWA 404 permit from USACE and a 401 Water Quality Certification from LARWQCB would be required.

Mitigation measures to avoid or minimize temporary and permanent impacts on water quality and floodplains are described in the Draft EIS/EIR. Potential mitigation for permanent impacts could include restoration or enhancement of habitat outside of the construction footprint, such as the riparian scrub habitat associated with the Rio Hondo at the SR 60 Freeway bridge.

These mitigation measures are to be considered preliminary; additional surveys (based on further agency consultation), analysis, and project definition in the environmental phase may more conclusively identify mitigation measures appropriate for the project and study area.

Mitigation measures to avoid or minimize temporary and permanent impacts on terrestrial biological resources associated with construction and operation and maintenance of the LRT alternatives, including measures to avoid the introduction or spread of invasive plant species, are described in the separate *Terrestrial Biological Resources Technical Memorandum*.

7.0 REFERENCES

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Appendix A
Photos

SR 60 NSDV LRT Alternative
Photos 1-4: SR 60 Bridge over the Rio Hondo.
Photo 1 (top left): area between piers 1 and 2;
Photo 2 (top right) and Photo 3 (bottom left): area between piers 2 and 3
Photo 4 (bottom right): area between piers 3 and 4
May 25, 2016

SR 60 NSDV LRT Alternative
Photos 5-8: Erosion along East Bank of the Rio Hondo
May 25, 2016

SR 60 NSDV LRT Alternative
Photos 9-12: View from the concrete just south of the west abutment of the SR 60 Bridge over the Rio Hondo.
Clockwise from top left: looking north, east, south, and west
May 25, 2016

SR 60 NSDV LRT Alternative
Photos 13-14 (top): east bank of the Rio Hondo adjacent to bike path
Photos 15-16 (bottom): wetland vegetation just southeast of western bridge abutment
May 25, 2016

Washington Boulevard LRT Alternative
Photos 17-20: Washington Boulevard Crossing of the Rio Hondo
May 23, 2016

Washington Boulevard LRT Alternative
Photos 21-24: Washington Boulevard Crossing of the San Gabriel River
May 23, 2016

SR 60 NSDV LRT Alternative
Photos 25-26 (top): small drainage south of SR 60 at Montebello Town Center
Photos 27-28 (bottom): small drainage south of SR 60 west of Rio Hondo
May 24, 2016

Appendix B
Wetland Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR 60 LRT - Triple B City/County: Whittier / LA Sampling Date: 5/23/16

Applicant/Owner: Triple B State: CA Sampling Point: 1

Investigator(s): J Jones, K Sterbenz Section, Township, Range:

Landform (hillslope, terrace, etc.): toe of slope from fwy Local relief (concave, convex, none): none Slope (%): 0

Subregion (LRR): LRR C Lat: Long: Datum:

Soil Map Unit Name: Not available via NRCS WSS NWI classification: PFOC

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No ____	Is the Sampled Area within a Wetland? Yes ____ No ✓
Hydric Soil Present?	Yes ____ No ✓	
Wetland Hydrology Present?	Yes ✓ No ____	

Remarks: Approx 15' from SR60 fenceline (south of) & ~100' east of bike path & levee from Rio Hondo. ~10' levee blocks water from Rtl.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 3m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix sp.	40	Y	FAC
2. Populus trichocarpa	30	Y	FAC
3. Corylus americana	5	N	FACU
4. Ailanthus altissima	5	N	FACU
	80	= Total Cover	
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____	= Total Cover	
Herb Stratum (Plot size: ____)			
1. Brassica nigra	10	Y	FACU
2. Datura stramonium	5	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____	= Total Cover	

% Bare Ground in Herb Stratum 25 % Cover of Biotic Crust ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No ____

Remarks: Soil sandy. Trees just south are irrigated.

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/4	100					Sandy	Slightly moist but
6-12	10YR 3/4	100					coarse sand	doesn't hold together
12-16	10YR 3/4	100						dry

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ___ No ✓

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ✓ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✓ Depth (inches): _____

Water Table Present? Yes ___ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ___ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes ✓ No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

likely gets stormwater from FWY - no ditch along SR 60

Some indication of water-stain leaves

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: SR60 LKT - Triple B City/County: Whittier / LA Sampling Date: 5/23/11
Applicant/Owner: Triple B Clays State: CA Sampling Point: 2
Investigator(s): J Jones, K Stenberg Section, Township, Range:
Landform (hillslope, terrace, etc.): LRR C Local relief (concave, convex, none): none Slope (%): 0
Subregion (LRR): Lat: Long: Datum:
Soil Map Unit Name: Not available on NRCS WSS NWI classification:
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✓ No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes ✓ No
Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✓ No	Is the Sampled Area within a Wetland? Yes No ✓
Hydric Soil Present?	Yes No ✓	
Wetland Hydrology Present?	Yes No ✓	

Remarks:
Approx 15' south of SR60 fenceline. Across Triple B access road there is an elevated blind. 200' west of blind in access rd.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus trichocarpa	10	Y	FAC
2. Corylus Americana	5	Y	FACU
3.			
4.			
	15 = Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size:)			
1. Arrundo donax	90	Y	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	= Total Cover		

% Bare Ground in Herb Stratum 5 % Cover of Biotic Crust

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
Total Number of Dominant Species Across All Strata: 3 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 67 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ Dominance Test is >50%
__ Prevalence Index is ≤3.0[1]
__ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✓ No

Remarks:

SOIL

Sampling Point: 2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5 YR 3/2	100					Silty sand	Broken skeet
6-9		100					fine sand	+ shotgun shells

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) **(LRR C)**
- ___ 1 cm Muck (A9) **(LRR D)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) **(LRR C)**
- ___ 2 cm Muck (A10) **(LRR B)**
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No ✓

Remarks:

Area is a dumping ground from the Triple B clays - skeet fragments ~ 2' deep in placed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) **(Nonriverine)**
- ___ Sediment Deposits (B2) **(Nonriverine)**
- ___ Drift Deposits (B3) **(Nonriverine)**
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) **(Riverine)**
- ___ Sediment Deposits (B2) **(Riverine)**
- ___ Drift Deposits (B3) **(Riverine)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✓ Depth (inches): _____

Water Table Present? Yes _____ No ✓ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No ✓ Depth (inches): _____

Wetland Hydrology Present? Yes _____ No ✓

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Area has been filled or pushed w/ dracher following dumping. Higher than freeway toe.

ATTACHMENT C – 2021 SITE PHOTOS

Photo 1. Rio Hondo Spreading Grounds Looking North from Bluff Road

Photo 2. Rio Hondo Spreading Grounds Looking South from Washington Boulevard Bridge

Figure 3. Proposed Commerce MSF Location from Davie Avenue near Corvette Street

ATTACHMENT D – IPAC AND CNDDB RESULTS

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California

Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Birds

NAME	STATUS

Coastal California Gnatcatcher Polioptila californica californica — Threatened
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/8178

Least Bell's Vireo Vireo bellii pusillus — Endangered
Wherever found
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5945

Flowering Plants

NAME	STATUS
Nevin's Barberry Berberis nevinii Wherever found There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/8025	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php

- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird Selasphorus sasin This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Common Yellowthroat Geothlypis trichas sinuosa — Breeds May 20 to Jul 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/2084

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Song Sparrow Melospiza melodia — Breeds Feb 20 to Sep 5
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA

Spotted Towhee Pipilo maculatus clementae — Breeds Apr 15 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/4243

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

Whimbrel Numenius phaeopus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9483

Willet Tringa semipalmata — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wrentit Chamaea fasciata — Breeds Mar 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

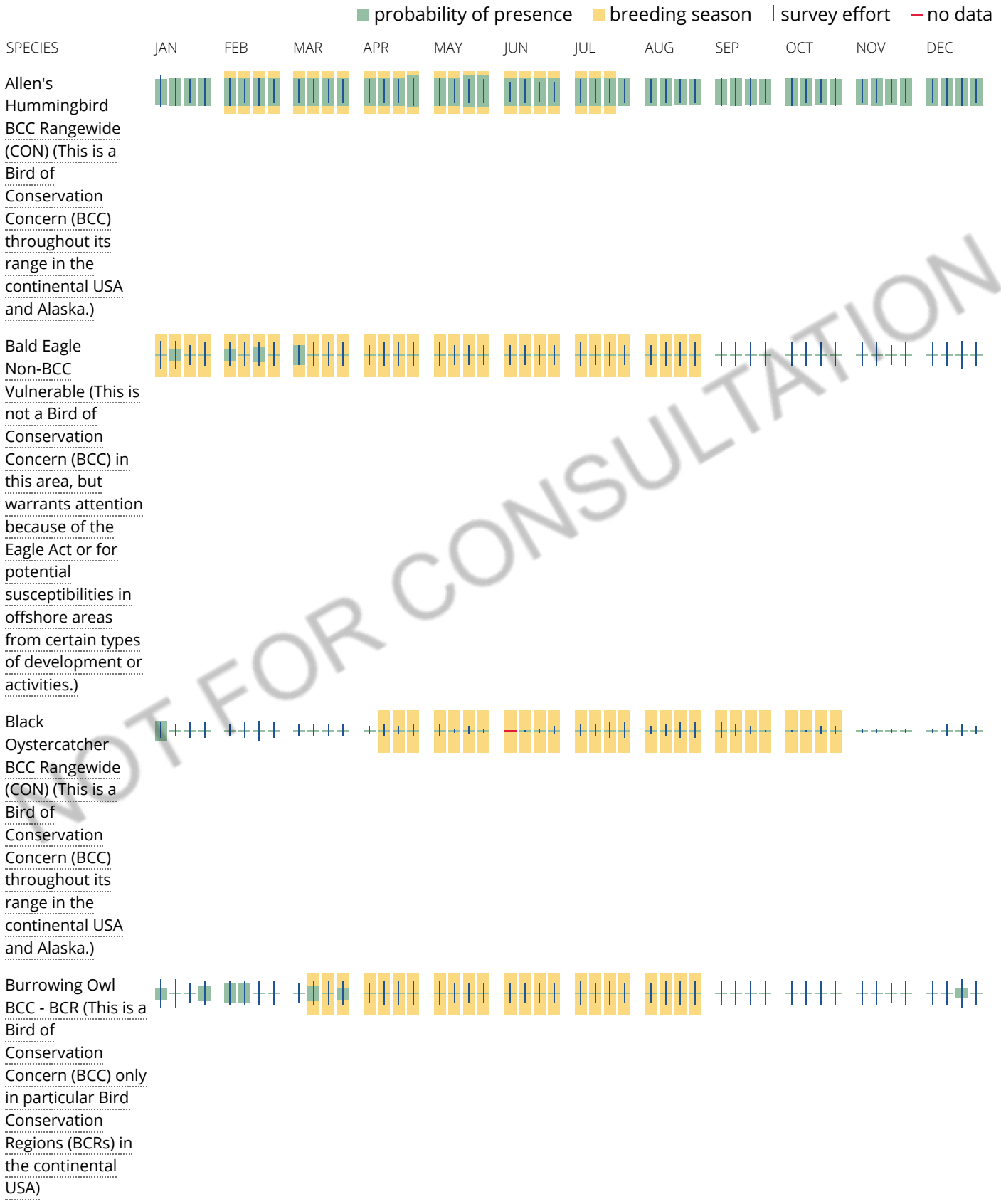
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

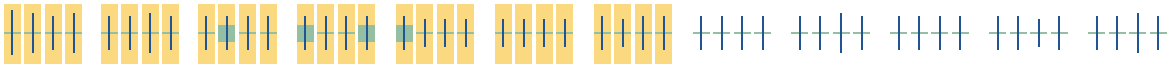
No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



California Thrasher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



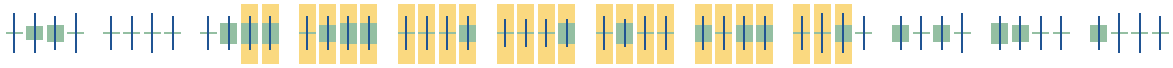
Clark's Grebe BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Common Yellowthroat BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

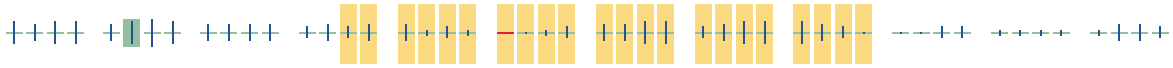
Costa's Hummingbird BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Golden Eagle Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Lawrence's Goldfinch BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



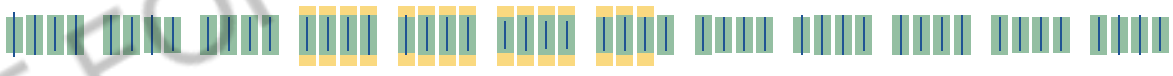
Lewis's Woodpecker BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



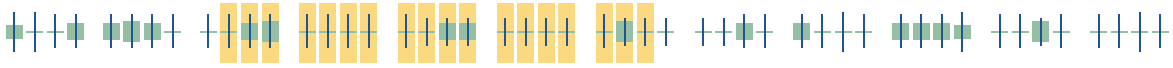
Long-billed Curlew BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Nuttall's Woodpecker BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

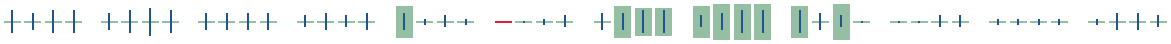


Oak Titmouse BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



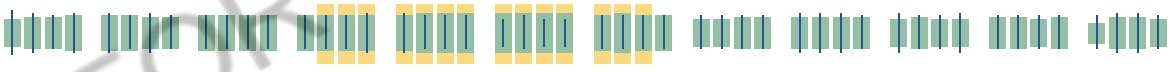
Rufous Hummingbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Short-billed Dowitcher BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Song Sparrow BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

Spotted Towhee BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

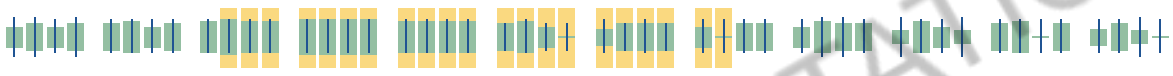


Tricolored Blackbird BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Whimbrel BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Willet BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Wrentit BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER POND

PUSCx

LAKE

L2USCx
L1UBHx

RIVERINE

R2USCr
R4SBCx

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Whittier (3311881))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California Orcutt grass *Orcuttia californica*	PMPOA4G010	Endangered	Endangered	G1	S1	1B.1
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G4G5T3Q	S2	SSC
coastal whiptail *Aspidoscelis tigris stejnegeri*	ARACJ02143	None	None	G5T5	S3	SSC
Coulter's goldfields *Lasthenia glabrata ssp. coulteri*	PDAST5L0A1	None	None	G4T2	S2	1B.1
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
intermediate mariposa-lily *Calochortus weedii var. intermedius*	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
lucky morning-glory *Calystegia felix*	PDCON040P0	None	None	G1Q	S1	1B.1
many-stemmed dudleya *Dudleya multicaulis*	PDCRA040H0	None	None	G2	S2	1B.2
Parish's brittlescale *Atriplex parishii*	PDCHE041D0	None	None	G1G2	S1	1B.1
Plummer's mariposa-lily *Calochortus plummerae*	PMLIL0D150	None	None	G4	S4	4.2
prostrate vernal pool navarretia *Navarretia prostrata*	PDPLM0C0Q0	None	None	G2	S2	1B.2
San Bernardino aster *Symphyotrichum defoliatum*	PDASTE80C0	None	None	G2	S2	1B.2
San Gabriel chestnut *Glyptostoma gabrielense*	IMGASB1010	None	None	G2	S2	
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G4G5T4	S3S4	SSC
western spadefoot *Spea hammondii*	AAABF02020	None	None	G2G3	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	

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