3.3 Biological Resources

3.3.1 Introduction

This section discusses the Project setting in relation to biological resources. It describes existing conditions, current applicable regulatory setting, and potential impacts from construction and operation of the Build Alternatives, including design options and MSF site options.

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, TPSSs, and MSF site option footprints. The BRSA for each of the Build Alternatives is described further in **Section 3.3.3**. Information in this section is based on the Eastside Transit Corridor Phase 2 Biological Resources Impacts Report (Appendix D).

3.3.2 Regulatory Framework

3.3.2.1 Federal

Biological resources in the BRSAs are protected by federal laws, including the federal Endangered Species Act (ESA), the Migratory Bird Treaty Act (MBTA), and the Clean Water Act (CWA). The federal ESA and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend and is administered by the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration (NOAA). The Migratory Bird Treaty Act (MBTA) protects all migratory birds and their parts (including eggs, nests, and feathers) and applies to nearly all native North American bird species. 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. Section 404 of the 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 United States Code 1344) if a practicable alternative with less impact on the aquatic environment does not exist. The United States Environmental Protection Agency (USEPA) guidelines (40 Code of Federal Regulations 230 et seq.) and USACE regulatory guidelines (33 Code of Federal Regulations 320 et seq.) are the substantive environmental criteria used to evaluate permit applications submitted to USACE.

3.3.2.2 State

Applicable state laws and regulations include the California ESA and the California Fish and Game Code, which are both administered by the California Department of Fish and Wildlife (CDFW). Under the California ESA, there are no state agency consultation procedures. For projects that affect a species that is both state and federally listed, compliance with the federal ESA will satisfy the California ESA. Projects that result in a take of a state-only listed species require a take permit under the California ESA. The state act also lends protection to species that are considered rare enough by the scientific community and trustee agencies to warrant special consideration. Sections 3500 through 3705 of the California Fish and Game Code prohibit the taking of nesting birds, their nests, eggs, or any portion thereof during the nesting season, which is typically from February 15 through August 15 in southern

California. Section 1600 et seq. of the California Fish and Game Code, mandates that proposed streambed alterations, such as substantial diversions or obstruction of natural flow, must be permitted by CDFW through a Streambed Alteration Agreement. Section 4150 et seq. of the California Fish and Game Code prohibits the "take" of nongame mammals, including common bats. 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.

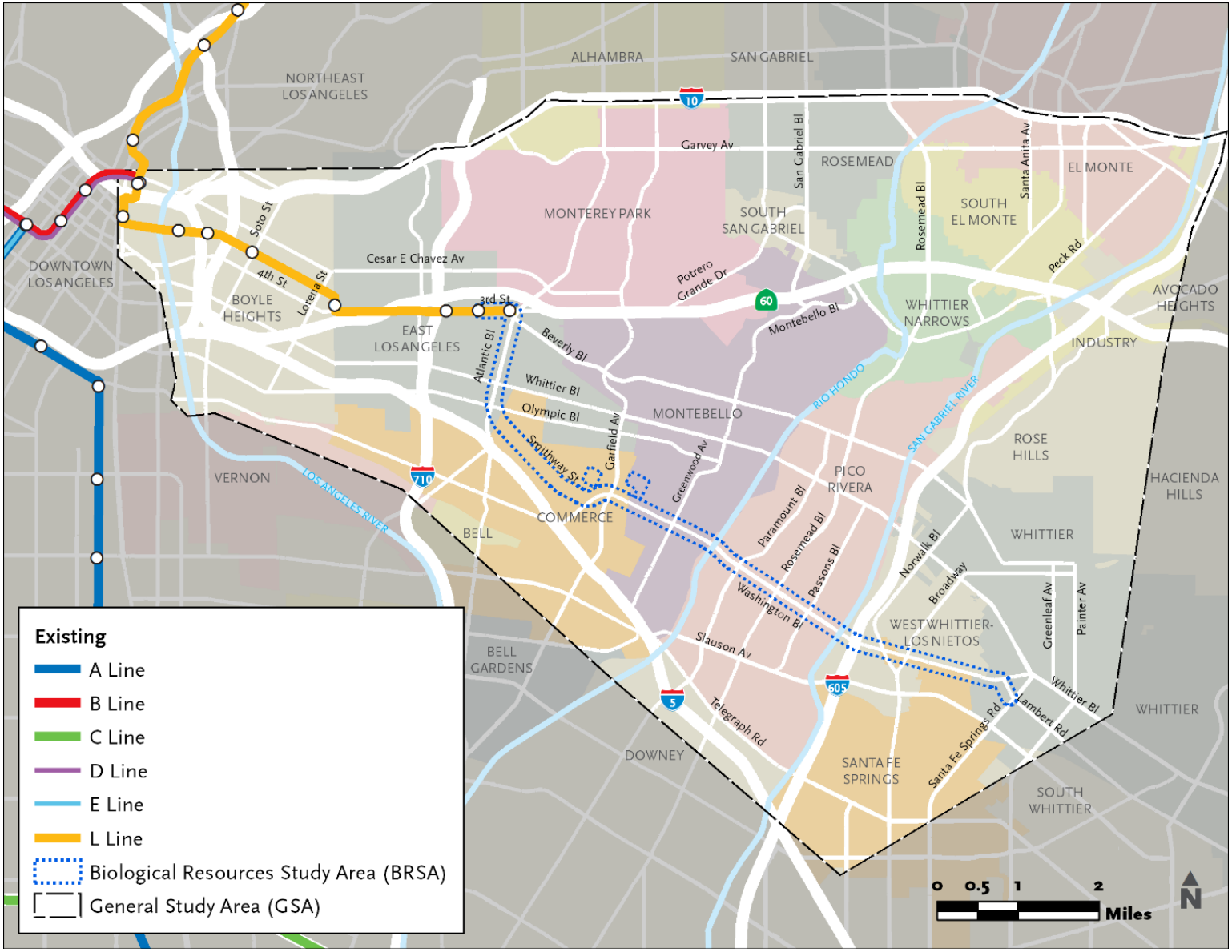
3.3.2.3 Local

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. 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. More information about these laws and policies, including replacement requirements, is available in Appendix D.

3.3.3 Methodology

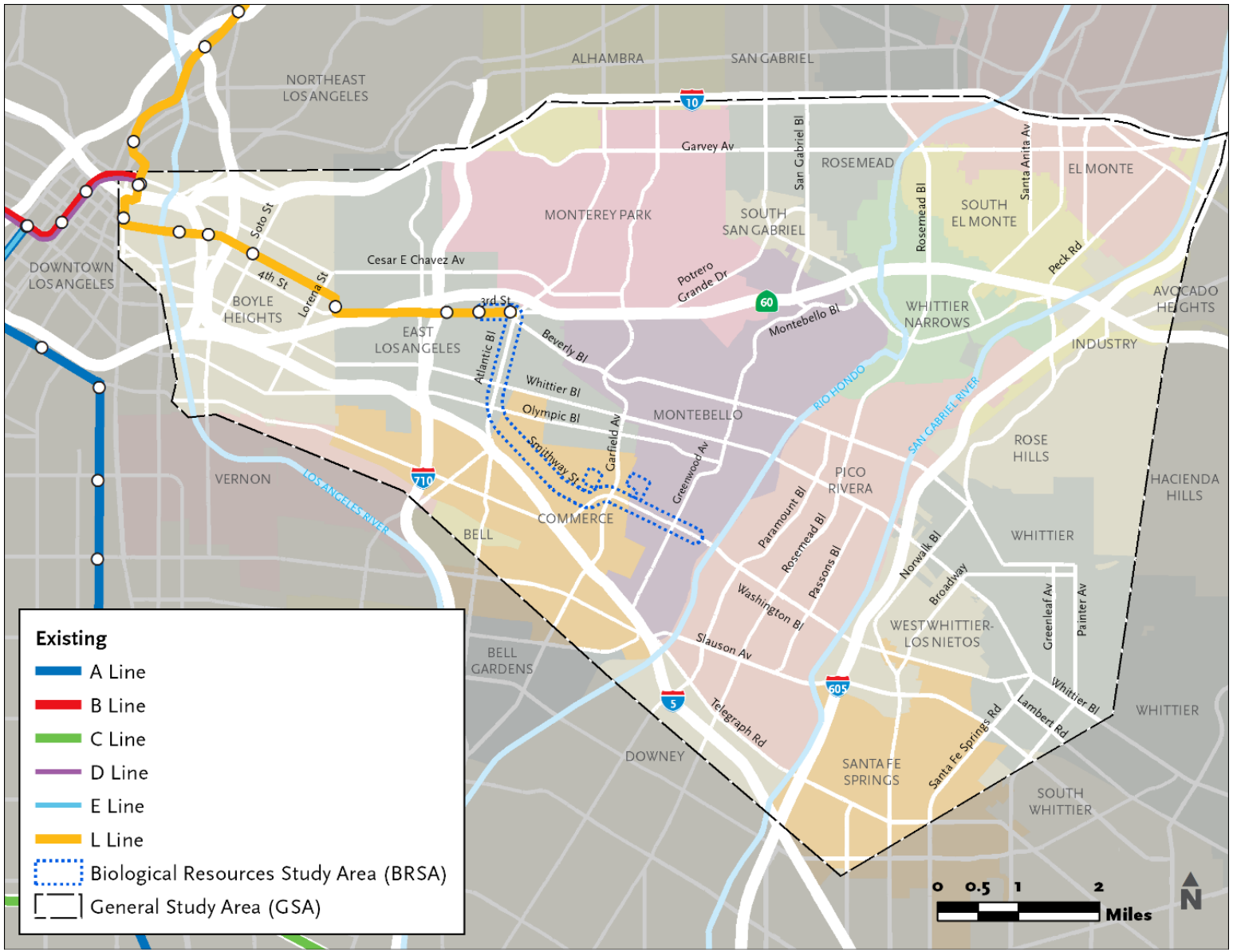
The methodology used to evaluate potential impacts on biological resources consists of several steps starting with a review of existing data sources, followed by field investigations to establish the presence and existing condition of resources within the Build Alternative BRSAs. The BRSA for each Build Alternative encompasses the area within a 500-foot buffer from the proposed alignment and includes the footprints of the stations, TPSS, construction staging, and MSF site options. The BRSA for each Build Alternative is shown in **Figure 3.3.1** and **Figure 3.3.2**. The analysis then evaluated whether operation and/or construction of each Build Alternative would potentially affect any of the identified resources. The analysis is focused on the areas where biological impacts would most likely occur.

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 Appendix D, 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 Appendix D. Two site visits were conducted in spring 2021 to collect photo documentation of existing conditions. Methodology is described further below and in greater detail in Appendix D.



Metro; CDM Smith/AECOM JV 2021.

Figure 3.3.1. Alternative 1 Biological Resources Study Area



Metro; CDM Smith/AECOM JV 2021.

Figure 3.3.2. Alternatives 2 and 3 Biological Resources Study Area

3.3.3.1 Desktop Review

The evaluation includes a review of the California Natural Diversity Database (CNDDB) to identify special-status plants and animals with the potential to occur in the BRSAs and a search of the USFWS critical habitat mapper 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).

Other existing sources of information consulted include 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] 2006), and the *Lower San Gabriel River Watershed Management Program* (Lower San Gabriel River Watershed Group 2015).

3.3.3.2 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.

Based on site visits in spring of 2021 (discussed in **Section 3.3.3.2.6**) 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 of Appendix D.

3.3.3.2.1 Bat Surveys

Daytime and evening bat surveys were conducted in September 2015 at the bridges over the Rio Hondo and San Gabriel River, which are within the Alternative 1 BRSA. See Appendix D for details of the methods used during bat surveys.

3.3.3.2.2 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 alignment and potential construction zones that support vegetation. Existing vegetation and habitats were visually observed for the presence of rare plants.

3.3.3.2.3 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 2021). 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 Appendix D for details of the methods used during vegetation community mapping.

3.3.3.2.4 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). Based on the focused wetland investigation and subsequent site visits and desktop review of existing conditions, no wetlands occur within the BRSAs of Alternatives 1, 2, or 3.

See Appendix D for details of the methods used during the 2016 wetland investigation as well as documentation of the site visits and desktop review conducted in 2021.

3.3.3.2.5 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 right-of-way (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, 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.

3.3.3.2.6 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 MSFs, 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. Photographs were taken at each of these locations.

3.3.3.3 Impact Analysis Methodology

Results of the field investigations and desk survey 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 impact biological resources through effects on species or habitat, there would be a potential for significant impacts to occur, and mitigation measures would be required to reduce or

avoid those impacts if feasible. The assessment of impacts includes both long-term operational effects of the Project and construction effects.

The evaluation includes assessing permanent and temporary impacts on natural communities. 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, new or replacement bridge supports, structures, and hardscaping. An estimate of permanent and temporary impacts on vegetation communities is based on preliminary conceptual engineering design. Potential impacts on vegetation communities from the introduction and/or spread of invasive plant species are also considered.

For Alternative 1, the evaluation of impacts on biological resources includes assessing impacts associated with crossing the Rio Hondo and the San Gabriel River. The spreading grounds located adjacent to these river channels provide important biological resources, especially for migratory birds. The potential for impacts on bats using the Washington Boulevard bridges over the Rio Hondo and San Gabriel River is also evaluated based on the findings of surveys for bats and bat habitat at the bridges.

The evaluation of potential impacts for all Build Alternatives includes potential disturbance of trees and other vegetation along the alignment and near stations and the MSF site options that may provide potential nesting sites for migratory birds, including raptors. Impacts on street trees located along the alignment and within the footprints of the stations and MSFs are also considered to identify requirements for compliance with local street tree protection ordinances.

3.3.4 Thresholds of Significance

In accordance with Appendix G of the State CEQA Guidelines, a Build 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, or 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.

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 3.3.3.2.4**, no wetlands occur within the BRSAs of Alternatives 1, 2, or 3. 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 Los Angeles County designated Significant Ecological Area (SEA); therefore, this criterion is not applicable and was not evaluated.

3.3.5 Existing Setting

Existing biological resources within the BRSAs primarily include the trees and shrubs that exist along the streets of the 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 MSF site options, is highly developed and covered with impervious surfaces such as parking lots and buildings. The only natural areas near the Project are the Rio Hondo Coastal Spreading Grounds and the San Gabriel River and San Gabriel River Coastal Spreading Grounds within the Alternative 1 BRSA described below.

The Rio Hondo Coastal Spreading Grounds, located at the Washington Boulevard crossing of the Rio Hondo, consist of approximately 570 acres (LACDPW n.d.a). The Washington Boulevard crossing extends across the concrete-lined river channel west to the adjacent spreading basin, which is unlined and contains some aquatic vegetation and highly permeable soils for groundwater recharge. The Rio Hondo Coastal Spreading Grounds provide aquatic habitat for an abundance of wintering waterbirds and shorebirds. 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. 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.

Alternative 1 also crosses the San Gabriel River Coastal Spreading Grounds, which are approximately 128 acres in size (LACDPW n.d.b). 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. 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. 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). Riparian bird species 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.

3.3.5.1 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 (for plants). Based on the CNDDB and IPaC search, 20 special-status wildlife and plant species have the potential to occur within the 7.5-minute USGS topographic quadrangle associated with the BRSAs (i.e., the Whittier quadrangle). Table 6-1 in Appendix D lists 20 species and their potential to occur based on the habitat present in the project area. 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 those historical sightings 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.

Of the 20 species listed, 19 have low or very low potential to occur in the BRSAs due to the lack of suitable habitat, as discussed in Table 6-1 in Appendix D. The bank swallow (*Riparia riparia*) has the potential to occur transiently near Rio Hondo and San Gabriel River crossings (BRSA of Alternative 1); however, suitable foraging habitat is limited.

In addition to those species identified in the desktop review, other special-status bird species may occur transiently in the BRSAs (USACE 2009; National Audubon Society 2010). However, 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.

3.3.5.2 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 urbanized areas 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 (see Appendix D). During the surveys, suitable bat roosting habitat was observed, including structural elements that provide potential roosting habitat such as 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.

During the bat surveys, no bats were visually observed; however, four bat calls were detected at the Rio Hondo bridge and four to six bat calls were detected at the San Gabriel River bridge. While none of the bat species positively identified within the Alternative 1 alignment are special-status species (i.e., listed as threatened, endangered, or species of concern), all bat species are protected under state law as nongame mammal species.

3.3.5.3 Sensitive Vegetation Communities

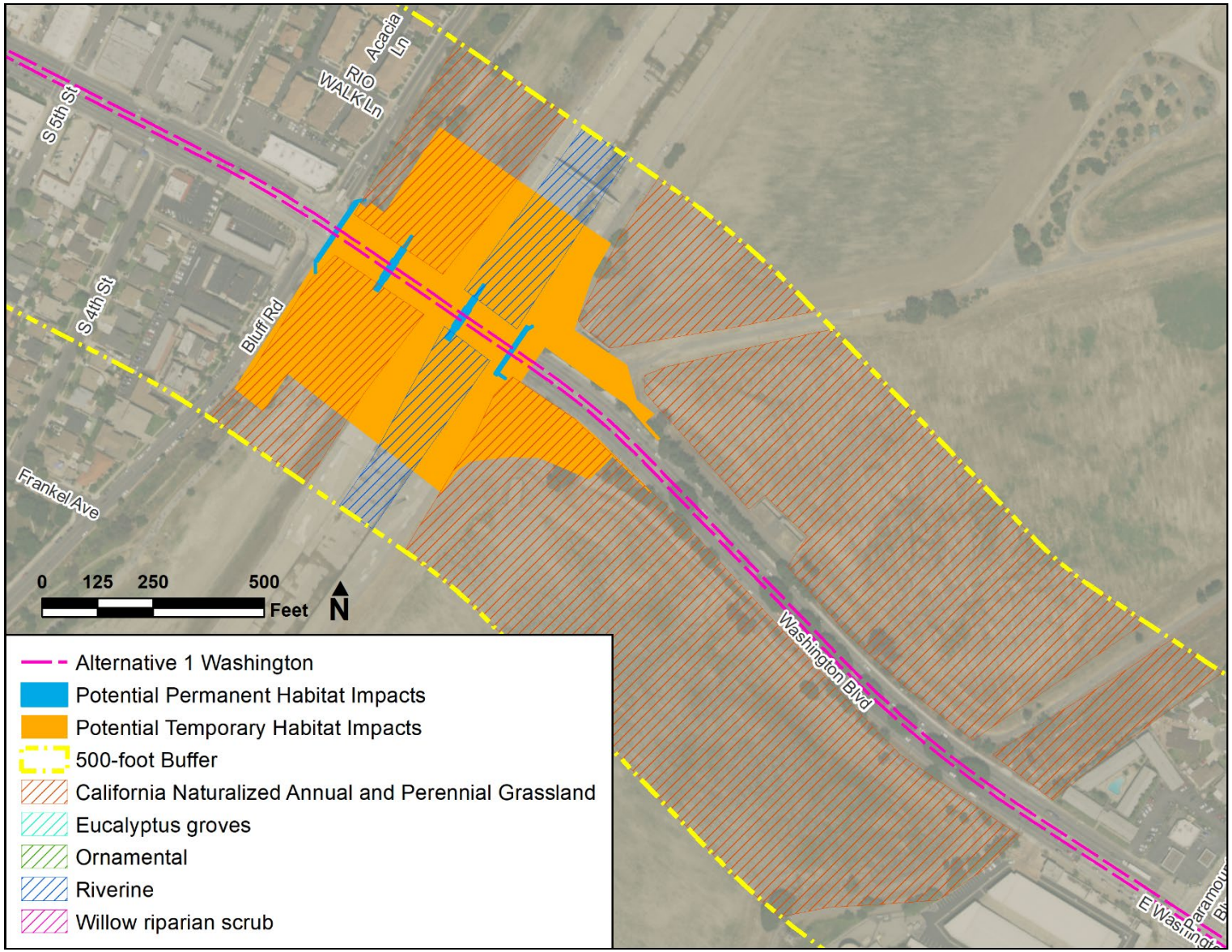
The majority of the areas that could be affected by the Build Alternatives are developed and consist of buildings, structures, roads, parking lots, driveways, sidewalks, and other hardscaped areas. The proposed MSF site options mainly consist of parking lots and buildings and contain limited vegetation, with the exception of a few street trees (as discussed in **Section 3.3.5.5**) and minimal site perimeter landscaping. 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 in **Figure 3.3.3** and **Figure 3.3.4**. Small patches of willow riparian habitat exist along the San Gabriel River at the spreading grounds near the Alternative 1 alignment. 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 3.3.4**. No sensitive vegetation communities were identified along the alignment for Alternatives 1, 2, or 3, or the MSF site options.

3.3.5.4 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. The entire Alternative 1 alignment was investigated for the presence of wetlands, waters of the U.S., and waters of the State in May 2016, as described in **Section 3.3.3.2.4**. Waters of the U.S. and waters of the State were only identified at the crossings of the Rio Hondo and San Gabriel River. See Appendix D for additional details of the methods used and additional photos. No wetlands occur within the BRSA of Alternative 1; thus, no wetlands occur in the BRSAs of Alternatives 2 or 3. No wetlands or other waters are located within the BRSAs for Alternative 2 or Alternative 3.

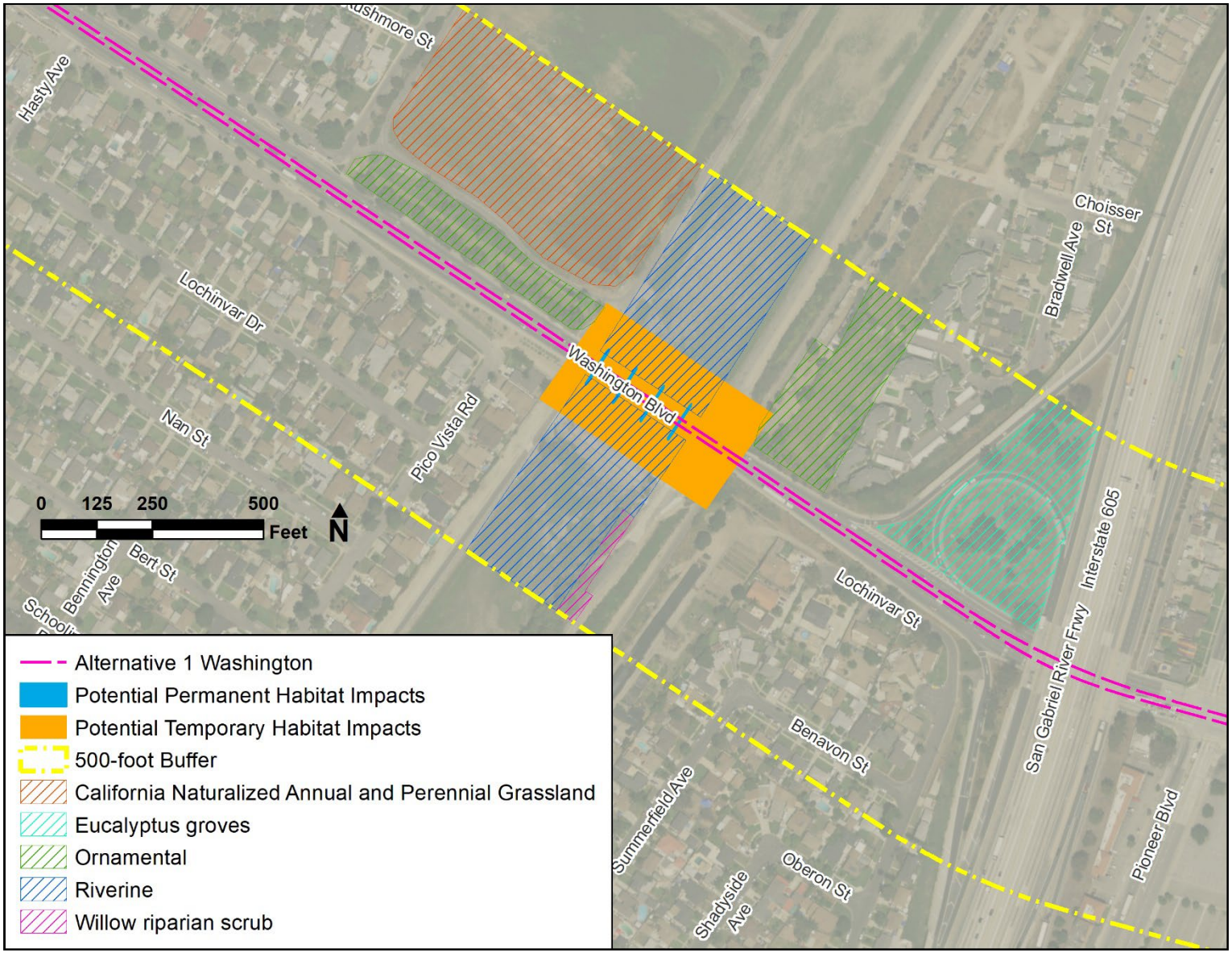
The Rio Hondo at the Washington Boulevard crossing is completely concrete-lined and was mostly dry at the time of the wetland investigation. Waters of the U.S. and waters of the State consist of the active Rio Hondo channel (**Figure 3.3.5**). No wetlands were observed in the river or the associated spreading grounds.

The San Gabriel River at the Washington Boulevard crossing 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. 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 3.3.6)**. No wetlands were observed along the river or in the adjacent spreading grounds.



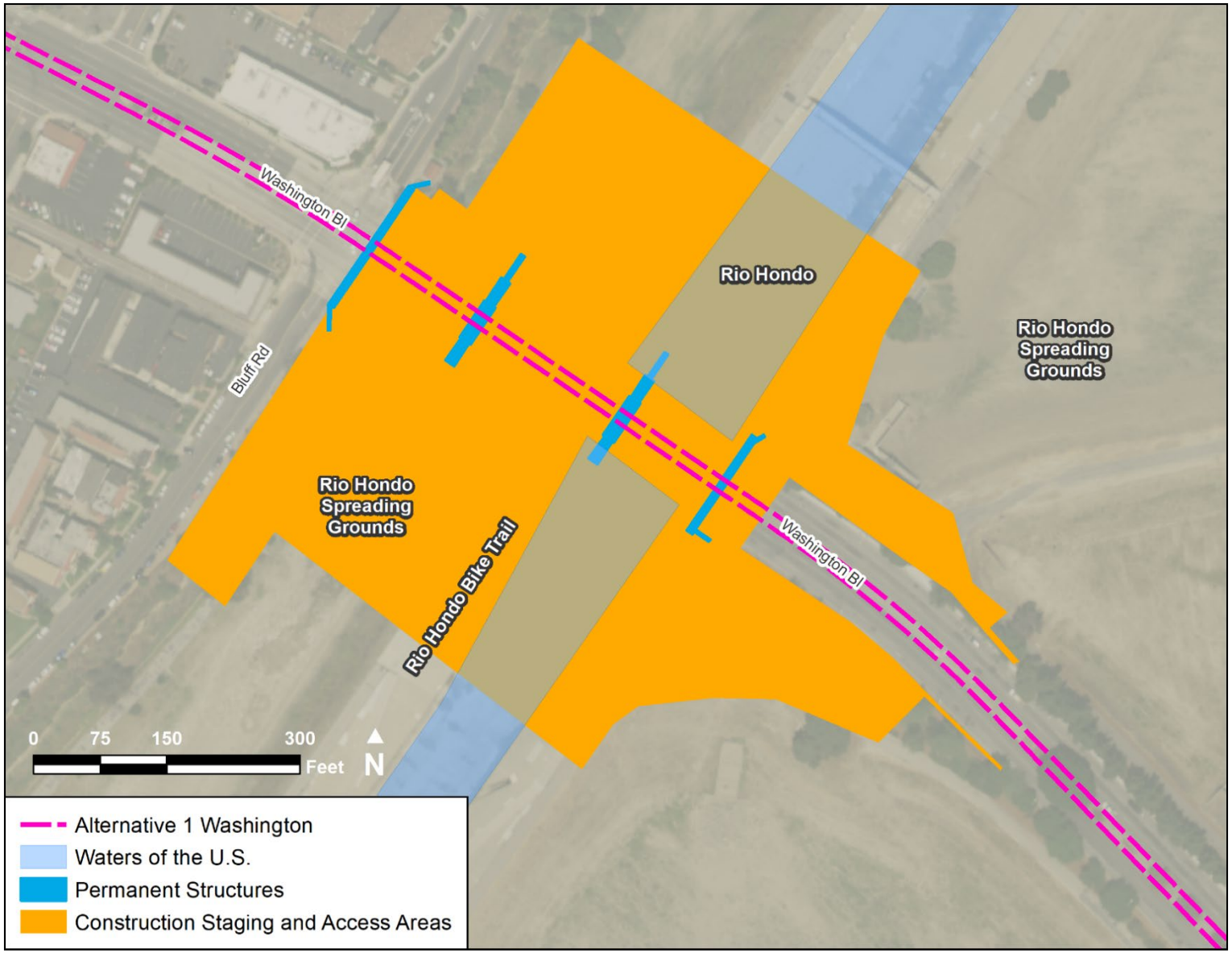
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 3.3.3. Vegetation Map of Alternative 1 Crossing of the Rio Hondo and Spreading Grounds



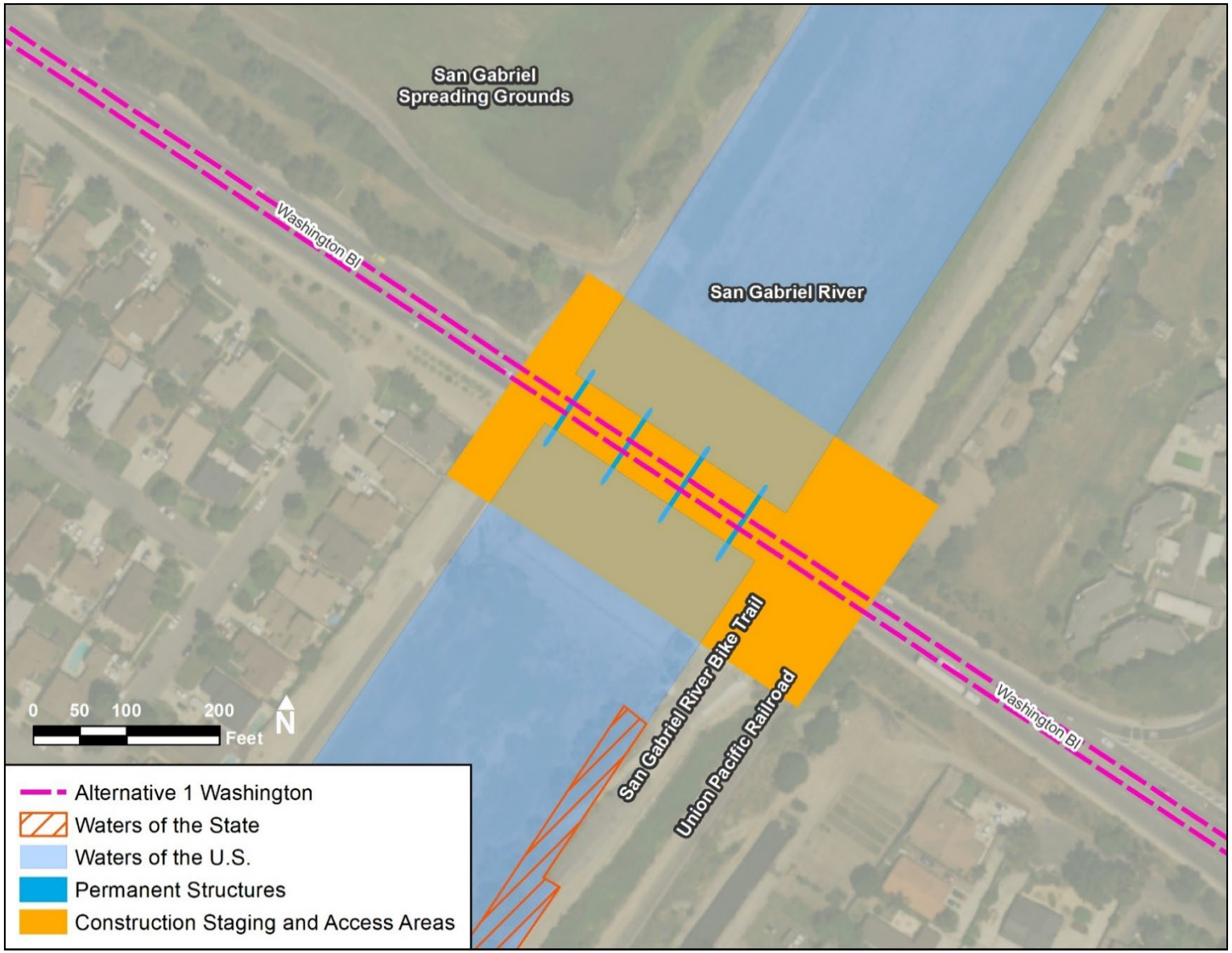
Source: Metro; CDM Smith/AECOM JV, 2021.

Figure 3.3.4. Vegetation Map of Alternative 1 Crossing of the San Gabriel River



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

Figure 3.3.5. Alternative 1 Crossing of the Rio Hondo



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

Figure 3.3.6. Alternative 1 Crossing of the San Gabriel River

3.3.5.5 Trees Within Proposed Construction Areas

Mature trees that line surface streets along the alignment and within roadway medians provide some limited habitat. Some migratory bird species may use mature trees within the BRSAs during migration or breeding. During the field investigations, trees located along the 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 for all Build Alternatives 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. A formal survey would be conducted to determine the exact number of trees and tree types that would be affected by the Project. Findings of the field investigations are discussed in more detail in Appendix D and summarized in **Table 3.3-1**.

Table 3.3-1. 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

As described in **Section 3.3.2.3**, the street trees along Alternatives 1, 2, and 3 and within the Commerce and Montebello MSF site options are protected by local ordinances and municipal codes.

3.3.6 Impact Evaluation

3.3.6.1 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?

3.3.6.1.1 Alternative 1 Washington

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. Riparian vegetation associated with the spreading grounds is limited 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. 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 the lack of suitable habitat and regular disturbance. Therefore, there would be no impacts on special-status wildlife and 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. Bats roosting in these locations under existing conditions are adapted to the regular noise and vibration from vehicular traffic. Thus, recurring train movement from operation of Alternative 1 would not 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 along the alignment. Any tree trimming along Alternative 1 during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, which requires nesting bird surveys and avoidance of active nests during the bird nesting season as discussed in **Section 3.3.7,** 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.

Design Options

Atlantic/Pomona Station Option

Special-status species are unlikely to occur in or near the Atlantic/Pomona Station Option because of the lack of suitable habitat. Therefore, there would be no impacts on special-status wildlife and plant species from operation of Alternative 1 with the Atlantic/Pomona Station Option.

Operation of Alternative 1 with the Atlantic/Pomona Station Option would not affect the spreading grounds, rivers, or bridges differently than the base Alternative 1. Therefore, there would be less than significant impacts on bats from operation of Alternative 1 with the Atlantic/Pomona Station Option.

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. Implementation of MM BIO-4, as summarized above and discussed in **Section 3.3.7,** 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 with the Atlantic/Pomona Station Option to less than significant.

Montebello At-Grade Option

Special-status species are unlikely to occur at or near the Montebello At-Grade Option because of a lack of suitable habitat. Therefore, there would be no impacts on special-status wildlife and plant species from operation of Alternative 1 with the Montebello At-Grade Option.

Operation of Alternative 1 with the Montebello At-Grade Option would not affect the spreading grounds, rivers, or bridges differently than the base Alternative 1. Therefore, there would be less than significant impacts on bats from operation of Alternative 1 with the Montebello At-Grade Option.

Any tree trimming along Alternative 1 with the Montebello At-Grade Option during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized above and discussed in **Section 3.3.7**, 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 with the Montebello At-Grade Option to less than significant.

Construction Impacts

As discussed in **Section 3.3.5.1**, there are no known occurrences of special-status species and no suitable habitat for special-status species within the BRSA of Alternative 1. Because of the developed nature of the BRSA of Alternative 1 and lack of suitable habitat**,** there would be no potential to impact special-status species from construction of Alternative 1.

Construction of Alternative 1 would involve the installation of replacement bridges 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 in 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. 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 construction of the replacement bridges.

As discussed in **Section 3.3.5.2**, 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 could result in 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, 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 protect 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, as discussed in **Section 3.3.7**, would reduce impacts on bats from construction of Alternative 1 to less than significant.

As discussed in **Section 3.3.5.5**, some migratory birds could nest in street trees along the Alternative 1 alignment and within station footprints. Cliff swallows were observed nesting under the Washington

Boulevard bridge during surveys in May 2016. Disturbances to vegetation and structures along Alternative 1 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 discussed in **Section 3.3.7**, would reduce potential construction impacts on migratory birds from construction of Alternative 1 to less than significant.

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 could result in 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 discussed in in **Section 3.3.7**, would protect 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 discussed in **Section 3.3.7**, would reduce potential impacts on migratory birds from construction of Alternative 1 with the Atlantic/Pomona Station Option to less than significant.

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 could result in 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 discussed in in **Section 3.3.7**, would protect 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 discussed in **Section 3.3.7**, would reduce potential impacts on migratory birds from construction of Alternative 1 with the Montebello At-Grade Option to less than significant.

3.3.6.1.2 Alternative 2 Atlantic to Commerce/Citadel IOS

Operational Impacts

Base Alternative and Design Option

Operation of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not impact special-status species because of the developed nature of the BRSA and lack of suitable habitat along the alignment.

As discussed in **Section 3.3.5.2**, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. The base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not cross the Rio Hondo and San Gabriel River or affect the bridges at these locations, so no impacts on bats would occur during operation.

As discussed in **Section 3.3.5.5**, migratory birds could nest in street trees. Any tree trimming along the base Alternative 2 or 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 3.3.6.1** and discussed in **Section 3.3.7**, 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 base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option to less than significant.

Construction Impacts

Base Alternative and Design Option

Construction of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not impact special-status species because of the developed nature of the BRSA and lack of suitable habitat along the alignment.

The base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not cross the Rio Hondo and San Gabriel River or affect the bridges at these locations, so no impacts on bats would occur during construction.

Any vegetation disturbance along the base Alternative 2 or 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 3.3.6.1** and discussed in **Section 3.3.7**, 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 base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option to less than significant.

3.3.6.1.3 Alternative 3 Atlantic to Greenwood IOS

Operational Impacts

Base Alternative and Design Options

Operation of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not impact special-status species because of the developed nature of the BRSA and lack of suitable habitat along the alignment.

As discussed in **Section 3.3.5.2**, suitable bat roosting habitat includes the bridges over the Rio Hondo and San Gabriel River. The base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not cross the Rio Hondo and San Gabriel River or affect the bridges at these locations, so no impacts on bats would occur.

As discussed in **Section 3.3.5.5**, migratory birds could nest in street trees. Any tree trimming along the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 3.3.6.1** and discussed in **Section 3.3.7**, 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 base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option to less than significant.

Construction Impacts

Base Alternative and Design Options

Construction of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not impact special-status species because of the developed nature of the BRSA and lack of suitable habitat along the alignment.

The base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not cross the Rio Hondo and San Gabriel River or affect the bridges at these locations, so no impacts on bats would occur during construction.

Any vegetation disturbance along the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 3.3.6.1** and discussed in **Section 3.3.7**, 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 base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option to less than significant.

3.3.6.1.4 Maintenance and Storage Facilities

Operational Impacts

MSF Site Options and Design Option

The Commerce MSF site option, Montebello MSF site option, and the Montebello MSF At-Grade Option are all within a highly developed area that does not contain habitat for special-status species or bats; thus, operations would have no impact on special-status species or bats.

The proposed MSF site options 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. However, there are a few street trees within and along the MSF site options. Any tree trimming within the MSF site options during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 3.3.6.1** and discussed in **Section 3.3.7**, 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 MSF site options to less than significant.

Construction Impacts

MSF Site Options and Design Option

The Commerce MSF site option, Montebello MSF site option, and the Montebello MSF At-Grade Option are all within a highly developed area that does not contain habitat for special-status species or bats; thus, construction would have no impact on special-status species or bats.

Migratory birds could nest in street trees within the proposed MSF site construction. Vegetation disturbance within the MSF site options during the bird nesting season would result in potentially significant impacts on migratory birds. Implementation of MM BIO-4, as summarized in **Section 3.3.6.1** and discussed in **Section 3.3.7**, 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 MSF site options to less than significant.

3.3.6.2 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?

3.3.6.2.1 Alternative 1 Washington

Operational Impacts

As discussed in **Section 3.3.5.3**, 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 would primarily occur within developed or paved areas. Thus, it is unlikely that operation of Alternative 1 would introduce or spread invasive plants; impacts would be less than significant.

Design Options

Atlantic/Pomona Station Option

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 operation of Alternative 1 with the Atlantic/Pomona Station Option would introduce or spread invasive plants; impacts would be less than significant.

Montebello At-Grade Option

No sensitive vegetation communities exist within Alternative 1 with the Montebello At-Grade Option; therefore, no impacts on sensitive vegetation communities would occur.

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 operation of Alternative 1 with the Montebello At-Grade Option would introduce or spread invasive plants; impacts would be less than significant.

Construction Impacts

As discussed in **Section 3.3.5.3**, no impacts on sensitive vegetation communities would occur during construction as no sensitive vegetation communities exist within the BRSA of Alternative 1. Impacts on non-sensitive vegetation communities are discussed in more detail in Appendix D.

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. 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, as identified in **Section 3.3.7**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant.

Design Options

Atlantic/Pomona Station Option

No sensitive vegetation communities exist within Alternative 1 with the Atlantic/Pomona Station Option; therefore, no impacts on sensitive vegetation communities would occur during construction.

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 above and identified in **Section 3.3.7**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant.

Montebello At-Grade Option

No sensitive vegetation communities exist within Alternative 1 with the Montebello At-Grade Option; therefore, no impacts on sensitive vegetation communities would occur.

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 above and identified in **Section 3.3.7**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant.

3.3.6.2.2 Alternative 2 Atlantic to Commerce/Citadel IOS

Operational Impacts

Base Alternative and Design Option

As discussed in **Section 3.3.5.3**, no sensitive vegetation communities exist along the Alternative 2 alignment or within the Atlantic/Pomona Station Option; therefore, there would be no impacts on sensitive vegetation communities from operation of the base Alternative 2 or 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; impacts would be less than significant.

Construction Impacts

Base Alternative and Design Option

As discussed in **Section 3.3.5.3**, no sensitive vegetation communities exist along the Alternative 2 alignment or within the Atlantic/Pomona Station Option. Therefore, no impacts on sensitive vegetation communities would occur during construction of the base Alternative 2 or 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. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 3.3.6.2.1** and identified in **Section 3.3.7**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant.

3.3.6.2.3 Alternative 3 Atlantic to Greenwood IOS

Operational Impacts

Base Alternative and Design Options

As discussed in **Section 3.3.5.3**, no sensitive vegetation communities exist along the Alternative 3 alignment or within the Atlantic/Pomona Station Option or the Montebello At-Grade Option. Therefore, no impacts on sensitive vegetation communities would occur during operation of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or 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; impacts would be less than significant.

Construction Impacts

Base Alternative and Design Options

As discussed in **Section 3.3.5.3**, no sensitive vegetation communities exist along the Alternative 3 alignment or within the Atlantic/Pomona Station Option or the Montebello At-Grade Option; therefore, no impacts on sensitive vegetation communities would occur during construction the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade 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. Implementation of MM BIO-5 and MM BIO-6, as summarized in **Section 3.3.6.2.1** and identified in **Section 3.3.7**, would reduce the potential to spread invasive plant seeds and would thus reduce impacts to less than significant.

3.3.6.2.4 Maintenance and Storage Facilities

Operational Impacts

MSF Site Options and Design Option

Operation of either the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would not impact sensitive vegetation communities, as none exist at or near the MSF site options.

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 MSF site options are mostly paved, it is unlikely that maintenance occurring at any MSF site option would introduce or spread invasive plants; impacts would be less than significant.

Construction Impacts

MSF Site Options and Design Option

The construction of the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would not directly impact sensitive vegetation communities, as none exist at or near the MSF site options.

Equipment used for construction activities has the potential to transport invasive plant seeds if used in areas of exposed soil. Because the proposed MSF site options are mostly paved, it is unlikely that construction of any MSF site option would introduce or spread invasive plants from equipment use; impacts would be less than significant.

3.3.6.3 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?

3.3.6.3.1 Alternative 1 Washington

Operational Impacts

The Rio Hondo and San Gabriel River may provide for movement of fish and other aquatic or semi-aquatic native wildlife species. Operation of Alternative 1 would not include in-water work or restrict fish and wildlife movement within rivers beyond existing conditions. Additionally, no established terrestrial wildlife corridors are located along the Alternative 1 alignment. 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

The Atlantic/Pomona Station Option is in a developed area without any aquatic areas or terrestrial wildlife corridors. As with the base Alternative 1, operation of Alternative 1 with the Atlantic/Pomona Station Option would not include in-water work and would not restrict movement of fish and wildlife beyond exiting conditions. 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

The Montebello At-Grade Option is in a developed area without any aquatic areas or terrestrial wildlife corridors. As with the base Alternative 1, operation of Alternative 1 with the Montebello At-Grade Option would not include in-water work and would not restrict movement of fish and wildlife. 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.

Construction Impacts

Construction of Alternative 1 would involve construction across the Rio Hondo or San Gabriel River or the Rio Hondo Spreading Grounds. As set forth in PM HWQ-3 (**Section 3.3.7.1**), 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 3.3.5** 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, which would require the work area to be isolated so that construction does not occur in water as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would further reduce impacts on fish and wildlife movement.

Design Options

Atlantic/Pomona Station Option

The Atlantic/Pomona Station Option is in a developed area without any aquatic areas or terrestrial wildlife corridors. Overall, Alternative 1 with the Atlantic/Pomona Station Option would require the same construction across the Rio Hondo and spreading grounds and the San Gabriel River as the base Alternative 1, and impacts would be the same. As set forth in PM HWQ-3 (**Section 3.3.7.1**), 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 3.3.5** 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, which would require the work area to be isolated so that construction does not occur in water

as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would further reduce impacts on fish and wildlife movement.

Montebello At-Grade Option

The Montebello At-Grade Option is in a developed area without any aquatic areas or terrestrial wildlife corridors. Alternative 1 with the Montebello At-Grade Option would require the same construction across the Rio Hondo and spreading grounds and the San Gabriel River as the base Alternative 1, and impacts would be the same. As set forth in PM HWQ-3 (**Section 3.3.7.1**), 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 3.3.5** 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, which would require the work area to be isolated so that construction does not occur in water as discussed in Section 3.9, Hydrology and Water Quality, and Appendix J, would further reduce impacts on fish and wildlife movement.

3.3.6.3.2 Alternative 2 Atlantic to Commerce/Citadel IOS

Operational Impacts

Base Alternative and Design Option

The base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option do not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or established terrestrial wildlife corridors. Thus, there would be no impacts on the movement of fish and wildlife species from operation of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option.

Construction Impacts

Base Alternative and Design Option

The base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option do not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or established terrestrial wildlife corridors. Thus, there would be no impacts on the movement of fish and wildlife species from construction of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option.

3.3.6.3.3 Alternative 3 Atlantic to Greenwood IOS

Operational Impacts

Base Alternative and Design Options

The base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option do not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or

established terrestrial wildlife corridors. Thus, there would be no impacts on the movement of fish and wildlife species from operation of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option.

Base Alternative and Design Options

The base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option do not cross the Rio Hondo, San Gabriel River, other aquatic corridors, or established terrestrial wildlife corridors. Thus, there would be no impacts on the movement of fish and wildlife species from construction of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option.

3.3.6.3.4 Maintenance and Storage Facilities

Operational Impacts

MSF Site Options and Design Option

Operation of the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would not impact the movement of fish and wildlife species because there are no aquatic or terrestrial corridors within the MSF site options.

Construction Impacts

MSF Site Options and Design Option

Construction of the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option would not impact the movement of fish and wildlife species because there are no aquatic or terrestrial wildlife corridors within the MSF site options.

3.3.6.4 Impact BIO-4: Policies and 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?

3.3.6.4.1 Alternative 1 Washington

Operational Impacts

Trees along the Alternative 1 alignment and within proposed stations would be protected by local tree protection policies discussed in **Section 3.3.2.3** and Appendix D. Trees within the Alternative 1 alignment and station footprints are discussed in **Sections 3.3.5.5**. Any maintenance that requires tree trimming would comply with local policies and municipal codes protecting both native trees and street trees. Thus, Alternative 1 would not conflict with tree protection policies or other local policies or ordinances protecting biological resources; no impact would occur.

Design Options

Atlantic/Pomona Station Option

Under Alternative 1 with the Atlantic/Pomona Station Option, maintenance activities, such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with policies or ordinances protecting trees or other biological resources; no impact would occur.

Montebello At-Grade Option

Under Alternative 1 with the Montebello At-Grade Option, maintenance activities, such as tree trimming, would be conducted in accordance with tree protection policies and would not conflict with policies or ordinances protecting trees or other biological resources; no impact would occur.

Construction Impacts

As discussed in **Section 3.3.5.5**, approximately 1,100 trees are located along the alignment and within the station footprints of Alternative 1. It is unknown exactly how many trees would be affected by construction of Alternative 1, 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, as described in Appendix D, 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

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. Thus, construction of Alternative 1 with the Atlantic/Pomona Station Option would not conflict with tree protection policies or other local policies or ordinances protecting biological resources and impacts would be less than significant.

Montebello At-Grade Option

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 Alternative 1 with the Montebello At-Grade Option would be conducted in accordance with local tree protection policies. Thus, construction of Alternative 1 with

the Montebello At-Grade Option would not conflict with tree protection policies or other local policies or ordinances protecting biological resources and impacts would be less than significant.

3.3.6.4.2 Alternative 2 Atlantic to Commerce/Citadel IOS

Operational Impacts

Base Alternative and Design Option

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, operation of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not conflict with local policies and municipal codes protecting trees or other biological resources and there would be no impact.

Construction Impacts

Base Alternative and Design Option

As discussed in **Section 3.3.5.5**, approximately 310 trees are located along the alignment and within the station footprints of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option. Construction of the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option may require tree removal or trimming. It is not expected that all the trees along the alignment or within station footprints would be affected by construction. 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 the base Alternative 2 or Alternative 2 with the Atlantic/Pomona Station Option would not conflict with local policies and municipal codes protecting trees or other biological resources and the impact would be less than significant.

3.3.6.4.3 Alternative 3 Atlantic to Greenwood IOS

Operational Impacts

Base Alternative and Design Options

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. Therefore, operation of the base Alternative 3 or Alternative 3 with the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not conflict with local policies and municipal codes protecting trees or other biological resources and there would be no impact.

Construction Impacts

Base Alternative and Design Options

As discussed in **Section 3.3.5.5**, approximately 600 trees would be located along the alignment and within the station footprints of the base Alternative 3 or Alternative 3 the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option. Construction of the base Alternative 3 or Alternative 3 the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option may require tree removal or trimming. It is not expected that all the trees along the alignment or within station footprints would be affected by construction. This work would be conducted in accordance with local policies and municipal codes that protect both native trees and street trees. Therefore, the construction of Alternative 3 or Alternative 3 the Atlantic/Pomona Station Option and/or the Montebello At-Grade Option would not conflict with local policies and municipal codes protecting trees or other biological resources and the impact would be less than significant.

3.3.6.4.4 Maintenance and Storage Facilities

Operational Impacts

MSF Site Options and Design Option

Any maintenance of the Commerce MSF site option, the Montebello MSF site option, or the Montebello MSF At-Grade Option that entails tree trimming would be conducted in accordance with policies and codes protecting trees, as outlined in **Section 3.3.2.3**. Thus, operation would not conflict with local policies and municipal codes protecting trees and there would be no impact.

Construction Impacts

MSF Site Options and Design Option

As discussed in **Section 3.3.5.5**, approximately 35 trees are within the Commerce MSF site option and 10 tree are within the Montebello MSF site option. Construction of the Commerce MSF site option, the Montebello MSF site option, or 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 biological resources and impacts would be less than significant.

3.3.7 Project Measures and Mitigation Measures

3.3.7.1 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.

3.3.7.2 Mitigation Measures

As identified in **Section 3.3.6**, the Build Alternatives and Build Alternatives with the design option(s) would have potentially significant impacts on biological resources under Impact BIO-1 (Protected Species) and Impact BIO-2 (Riparian Habitat/Sensitive Natural Communities), and the MSF site options would have significant impacts under Impact BIO-1 (Protected Species). Mitigation measures to reduce the impacts are presented herein. MM BIO-1 through MM BIO-3 apply only to Alternative 1 and Alternative 1 with the design options. MM BIO-4 through MM BIO-6 apply to all Build Alternatives and Build Alternatives with the design option(s).

Following the mitigation measures, **Table 3.3-2** identifies applicable measures and the combined impact after mitigation of the base alternatives with the associated MSF site option(s), and the alternatives with one or both design options (as applicable) with the associated MSF site option(s).

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.

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).

3.3.8 Significance After Mitigation

As identified in **Table 3.3-2,** with implementation of mitigation measures MM BIO-1 through MM BIO-6, impacts related to protected species (Impact BIO-1) and Riparian Habitat/Sensitive Natural Communities (Impact BIO-2), all impacts would be reduced to less than significant for all alternatives and design options.

Only Alternative 1 involves implementation of an additional water quality-related mitigation measures (MM HWQ-1) applicable to movement of fishes/wildlife species (Impact BIO-3) regardless of the MSF and station options. While impacts would be less than significant without mitigation, implementation of MM HWQ-1 would further reduce impacts.

Table 3.3-2. Summary of Mitigation Measures and Impacts After Mitigation

CEQA Impact Topic		Alternative 1: Washington Boulevard								Alternative 2: Commerce/Citadel IOS		Alternative 3: Washington/Greenwood IOS							
		Base Alternative 1[1]		Alternative 1 + Atlantic/Pomona Station Option		Alternative 1 + Montebello At-Grade Option		Alternative 1 + Atlantic/Pomona Station Option + Montebello At-Grade Option		Base Alternative 2[2]	Alternative 2 + Atlantic/Pomona Station Option	Base Alternative 3[3]		Alternative 3 + Atlantic/Pomona Station Option		Alternative 3 + Montebello At-Grade Option		Alternative 3 + Atlantic/Pomona Station Option + Montebello At-Grade Option	
		Commerce MSF	Montebello MSF	Commerce MSF	Montebello MSF	Commerce MSF	Montebello MSF At-Grade Option	Commerce MSF	Montebello MSF At-Grade Option	Commerce MSF		Commerce MSF	Montebello MSF	Commerce MSF	Montebello MSF	Commerce MSF	Montebello MSF At-Grade Option	Commerce MSF	Montebello MSF At-Grade Option
BIO-1 Protected Species	Applicable Mitigation	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-1 MM BIO-2 MM BIO-3 MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4	MM BIO-4
	Impacts After Mitigation	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
BIO-2 Riparian Habitat/ Sensitive Natural Communities	Applicable Mitigation	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6	MM BIO-5 MM BIO-6
	Impacts After Mitigation	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS
BIO-3 Movement of Fish and Wildlife Species	Applicable Mitigation	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
	Impacts After Mitigation	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	NI	NI	NI	NI	NI	NI	NI	NI	NI	NI
BIO-4 Policies/ Ordinances	Applicable Mitigation	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None	None
	Impacts After Mitigation	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS	LTS

Source: CDM Smith/AECOM JV, 2022.
Notes:
The Base Alternatives are shaded in light yellow. Design options are not shaded.
1 The Base Alternative 1 includes the Atlantic station (reconfigured/relocated) and aerial Greenwood station.
2 The Base Alternative 2 includes the Atlantic station (reconfigured/relocated).
3 The Base Alternative 3 includes the Atlantic station (reconfigured/relocated) and aerial Greenwood station.
Key:
NI = No Impact LTS = Less Than Significant SU = Significant and Unavoidable

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