Los Angeles County
Metropolitan Transportation Authority

Draft Environmental Impact Report

LA RIVER PATH



December 2025

Metro

EXECUTIVE SUMMARY

ES-1 Introduction

In accordance with the California Environmental Quality Act (CEQA) (*Public Resources Code* Section 21000, et seq.) and the CEQA Guidelines (14 *California Code of Regulations* [CCR] Section 15000, et seq.), this Executive Summary provides a synopsis of the Los Angeles County Metropolitan Transportation Authority's (Metro's) LA River Path Project (Project) and its potential effect on the environment. This Executive Summary is an overview of the main Environmental Impact Report (EIR), and includes the following information:

- EIR purpose and process
- Project history and objectives
- Public review process
- Alternatives considered
- Environmental analysis summary
- Areas of controversy and issues to be resolved

A detailed discussion and a full analysis of these topics is in this Draft EIR and its appendices.

ES-2 Project Description

ES-2.1 Overview and History

The Project would create a pedestrian and bicycling path regionally located in the center of Los Angeles County, California, and would close the longest remaining 8-mile gap between the existing Los Angeles River Greenway Trail and the existing LA River Trail along the LA River, allowing for a continuous 32-mile path extending from Griffith Park through Downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. Land uses within the Project study area and surrounding area are predominantly industrial or contain infrastructure such as utility and flood-control facilities, with some residential, commercial, religious, and open space land uses near the Project. The Project would improve health, economic, environmental, transportation, and equity conditions throughout and beyond the Project study area.

In June 2014, the Metro Board of Directors authorized the *Los Angeles River Bike Path Gap Closure Feasibility Study* (Feasibility Study) (Metro 2016) to evaluate possibilities for closing the 8-mile gap along the LA River between Elysian Valley and the City of Vernon. The Feasibility Study included a preliminary assessment of the engineering feasibility, neighborhood connectivity, safety, environmental and permitting requirements, hydraulic impacts, real estate, maintenance and operations, and preliminary cost estimates of a gap closure project. The Feasibility Study found that a gap closure project was feasible and would help serve the active transportation needs of communities neighboring the Project study area and the region. In October 2019, the *LA River Path Conceptual*

Design Report (Conceptual Design Report) (Metro 2019) incorporated significant public outreach findings and resulted in the identification of Project objectives and path alternatives. Metro sought to capture community feedback on topics such as Project goals and objectives, path types, and preferred access points to guide the evaluation of different path alignments, and ultimately identified three top-performing path alternatives. Overall, more than 4,600 in-person comments and 3,800 survey responses were received throughout the conceptual design process. In addition, several completed, ongoing, and future projects or plans along the LA River or near the Project may influence it. These projects or plans include:

- City of Los Angeles' *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007)
- US Army Corps of Engineers' (USACE's) *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report* (USACE 2015)
- River LA's *Greenway 2020* advocacy campaign (River LA 2013)
- Los Angeles County*'s LA River Master Plan* (LARMP) (Los Angeles County Department of Public Works [LACDPW] 2022)
- City of Los Angeles' *Draft Cornfield Arroyo Seco Specific Plan Update* (CASP Update) (City of Los Angeles Department of City Planning 2022)

Five potential alternatives reflecting various preliminary, yet feasible alignments were initially considered (Alignments A, B, C, D, and E). Each alternative had a unique combination of path types, crossings, and access points. Feasible alignment options evaluated include the West Bank Alignment, Bottom-of-channel Alignment, East Bank Alignment, and East Side Alignment. The five potential alternatives were refined once more based on community input regarding access points and path types. Following the final screenings, three path alternatives (Alternatives A, B, and C) responded best to both the evaluation criteria and the community feedback; they were ultimately presented to the community for their feedback in May 2019. Alternatives A, B, and C were identified to provide the greatest community benefits and best meet the Project goals. From these three scoping alternatives, Metro identified the Project and two options to the Project, Option 1 and Option 2, for evaluation in this Draft EIR.

Figure ES-1 shows the Project's regional location and Figure ES-2 shows the Project study area. The Project study area shows the area in which reasonably foreseeable direct or indirect impacts of the Project may occur. Individual resource areas addressed in this Draft EIR may have unique study areas based on the potential for specific direct and indirect impacts associated with those resources; this is described fully in each resource's environmental setting section in Chapter 3, *Environmental Settings, Impacts, and Mitigation*.

Metro has prepared this Draft EIR to inform public agency decision-makers and the general public about potential significant environmental impacts of the Project, as well as possible ways to minimize potential impacts, and reasonable alternatives to the Project.

Figure ES-1. Project Regional Context



Figure ES-2. Project Study Area



ES-2.2 Environmental Review Process

In 2014, the Los Angeles City Council and Metro's Board of Directors authorized two motions to pursue closing the gap between the two existing paths along the LA River (City of Los Angeles 2014, Metro 2014). In 2016, Metro identified the LA River Path as one of the first projects to receive funding from Measure M. Metro conducted two significant efforts assessing the viability of the Project. The first was the Feasibility Study, which found that a gap closure project was feasible. The second was the Conceptual Design Report, which incorporated significant public outreach findings and resulted in the identification of Project objectives and path alternatives.

Metro filed a Notice of Preparation (NOP) for the Project's Draft EIR on October 23, 2019, and accepted comments on the NOP for a 45-day period from October 23 through December 6, 2019. Metro used a variety of methods to communicate with the public and public agencies to notify them of the NOP and invite public agencies, Native American tribes, and interested individuals and organizations to comment on the scope of this Draft EIR. Throughout the scoping comment period, interested parties were able to provide their input via mail, email, voicemail, and through an online comment form. Metro conducted four public scoping meetings to solicit input on the Draft EIR scope from interested organizations, interested parties, and members of the public.

This Draft EIR is being distributed to interested agencies, organizations, parties, and individuals to ensure they have an opportunity to express their views regarding the potential environmental impacts of the Project. This distribution also ensures that information relevant to permits, authorizations, and discretionary approvals is provided to decision-makers, lead agencies, and CEQA-responsible and trustee agencies. During the public review and comment period, Metro will conduct public hearings to take testimony on the Draft EIR. Public agencies, organizations, and individuals may submit written comments concerning the adequacy of the document during the public comment period, as detailed in Chapter 1, *Introduction*.

After circulation of the Draft EIR and review of public and agency comments, the Metro Board can consider and select a Locally Preferred Alternative (LPA). Public and agency comments received on the Draft EIR will be considered as part of the LPA selection process. If an LPA is selected by the Metro Board, Metro will then prepare a Final EIR including written responses to public and agency comments. The Metro Board may then adopt the findings of the Project's environmental effects after implementation of mitigation measures and statement of overriding considerations, certify the Final EIR, and approve the Project.

ES-2.3 Project Objectives

Project objectives were shaped by input from stakeholders and communities throughout the conceptual design public engagement process from late 2018 through 2019.

The primary objective of the Project is to create a safe and world-class active transportation path along the LA River between Elysian Valley in the City of Los Angeles and the Cities of Vernon and Maywood that would enhance and provide recreational opportunities, livability, regional and local connectivity and provide an outstanding user experience, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. This new transportation facility would contribute to improved health, economic, environmental, transportation, and equity issues throughout and beyond the study area.

The Project objectives include:

- Providing, to the extent feasible, a seamless pedestrian and bicycling path between the San Fernando Valley in Los Angeles and the LA River Bicycle Path in Long Beach
- Improving safety for pedestrians and bicyclists from existing conditions
- Increasing access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services
- Reducing vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths and expanding travel choices
- Improving access to opportunity for historically under-invested communities, especially for low-income households earning less than $60,000 per year and in marginalized communities
- Creating a path that feels safe, comfortable, and is a world-class transportation facility open to people of all ages and abilities
- Creating a path that meets the needs of both recreational and utilitarian users

ES-2.4 Proposed Project and Options Considered in the EIR

Metro has identified an alignment as the Proposed Project; there are two alignment options for the Proposed Project (Option 1 and Option 2) that are considered and included in this Draft EIR, and are summarized here.

The inclusion of an option or alternative in the Draft EIR does not imply that any stakeholder agencies have approved or authorized the design, including project components that interact with the agencies' projects (e.g., Los Angeles Department of Water and Power's Main Street Center - General Construction Headquarters and USACE's LA River Ecosystem Restoration project). Therefore, their presence in the Draft EIR does not signal approval of either the alternatives or the Proposed Project design.

ES-2.4.1 Proposed Project

Spanning approximately 9.6 miles, the Proposed Project includes seven river crossings and nine access points: four on the west bank and five on the east bank on the river, as shown in Figure ES-3. Additionally, the Proposed Project includes improvements to the existing access point on the west bank of the river at Atlantic Boulevard in the City of Vernon. The Proposed Project would serve four Metro stations: Union Station, Chinatown Station, Pico/Aliso Station, and Washington Station. Detailed discussions of the Proposed Project's components are described in this section.

Starting north on the west bank of the LA River where the LA River Greenway Trail ends, the Proposed Project would run atop the bank and pass beneath the existing Interstate (I-)5 Viaduct and Riverside Drive Viaduct. Then, the Proposed Project would transition to an elevated configuration, crossing over the Metrolink LA River–Downey Bridge and moving under the State Route (SR)-110 Bridge. After passing under SR-110, the Proposed Project would transition to an incised configuration along the west bank, allowing it to go under the Metro A Line LA River Bridge. The path would mainly remain in an incised configuration from the North Spring Street Viaduct to the Mission Junction where it would cross both Metrolink railroad bridges with a new elevated crossing from the west bank, connecting to Albion Park on the east bank, between North Spring

Figure ES-3. Proposed Project Alignment



Street and North Main Street. South of Mission Junction, the Proposed Project would again transition to an elevated configuration to cross the LA River from the west bank to the east bank between the Metrolink Mission Junction Railroad Bridge South and Cesar E Chavez Avenue Viaduct.

Approximately 800 feet north of the Cesar E Chavez Avenue Viaduct, the Proposed Project would cross to the east bank of the river, where it would run in an incised configuration, allowing it to pass under the Cesar E Chavez Avenue Viaduct, El Monte Busway Bridge, and US Highway Route 101 LA River Bridge. The Proposed Project would then transition to an elevated configuration to avoid a transmission tower and provide an opportunity to connect to Union Station across the river on the west bank.

The Proposed Project's connector to the Union Station access point would be implemented only if the separate Link Union Station (LinkUS) project proceeds with its proposed demolition of the Kahn-Beck Co./Friedman Bag Co. Building (located at 801 E Commercial Street/600 Center Street).[1]

South of the Union Station connector and transmission tower along the west bank, the path would transition back to an incised configuration, traveling under the First Street Viaduct and Fourth Street Viaduct. The Proposed Project would then transition to an elevated configuration to cross the LA River from the east bank to the west bank between the Fourth Street Viaduct and the Sixth Street Viaduct.

The Proposed Project would remain elevated to travel under the Sixth Street Viaduct and then transition to an incised configuration to go under the Seventh Street Viaduct. The path would transition to an elevated configuration to go under the I-10 Santa Monica Viaduct and Olympic Boulevard Viaduct. Continuing in an elevated configuration, the path would then go over the Union Pacific (UP) LA River Bridge and the Washington Boulevard Bridge. The path would then immediately travel beneath the Redondo Junction Grade Separation and begin to cross from the west bank of the LA River to the east bank.

After the Proposed Project crosses over the river, the path would continue south in an elevated configuration on the east bank, crossing over the BNSF Railway LA River Bridge, 26th Street Bridge, and Soto Street Bridge. Continuing south, the Proposed Project would remain in an elevated configuration until reaching Bandini Boulevard Bridge. The path between Bandini Boulevard and Atlantic Boulevard would use a combination of incised and top-of-bank path types to go under the Bandini Boulevard Bridge, the Downey Road Bridge, and two BNSF Railway bridges, one at Downey Road and the other at District Boulevard. Just north of Atlantic Boulevard, the Proposed Project would cross over the LA River from the east bank to the west bank.

The alignment would then turn south to go under the Atlantic Boulevard Bridge in an incised configuration on the west bank and tie into the existing LA River Trail in the City of Vernon. Figure ES-3 shows the Proposed Project alignment, path types and access points.

Proposed Project Access Points

The configuration and location of each access point for the Proposed Project are listed in Table ES-1 from north to south.

[1] The demolition occurred in 2025, after this Draft EIR was substantially complete.

Table ES-1. Proposed Project Access Points

Access Point	Bank	Connector Description
Albion Park	East	Single elevated bridge over the LA River to elevated bridge over railroad tracks with ramp connecting to Albion Park
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp crossing over railroad tracks to connect to the northwest corner of Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk
Union Station	West	Single elevated bridge over the LA River and railroad tracks and landing at the northeast corner of Center Street and Commercial Street underneath the future Link US viaduct
First Street	East	Single elevated ramp that parallels the path and then travels over the railroad tracks and Myers Street to connect at-grade to the back of sidewalk at the northwest corner of Mission Road and First Street intersection
Sixth Street	West	Single incised ramp connecting down to the south side of the Sixth Street Tunnel with future access to the Sixth Street PARC Project
Washington Boulevard	West	Single hook ramp connecting down to the south side of Washington Boulevard
Bandini-Soto Triangle	West	Single elevated bridge over the LA River connecting at-grade to Bandini Boulevard Bridge at the back of sidewalk adjacent to the commercial plaza known as the “Bandini-Soto Triangle”
Downey Road	East	Single at-grade connection to the back of sidewalk on the northwest side of Downey Road
Atlantic Boulevard	East	Single at-grade connection to the northwest side of Atlantic Boulevard at the back of sidewalk
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon

Proposed Project Design Variations

In addition to the Proposed Project, multiple design variations have been identified to offer site-specific engineering variations to navigate the constraints of the Proposed Project. Design variations include path connections to rail service at Union Station. Table ES-2 is a summary of design variations for the Proposed Project.

Table ES-2. Proposed Project Design Variations

Design Variation	Bank	Configuration
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-bank path starting north under SR-110 to just south of the freeway.
East Cesar E Chavez Avenue	West	Elevated path ramps up before crossing westward over railroad right-of-way (ROW) at grade and continuing south again parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.
US Highway Route 101 LA River Bridge	East	Continues in an incised configuration underneath US Highway Route 101 LA River Bridge.
Kearney Street	East	Optional access point at Kearney Street is added via path traveling north up the east bank and crossing over to North Myers Street before turning left and continuing to optional access point at Kearney Street.
East Fourth Street	West	Elevated river crossing passes underneath the East Fourth Street Bridge before continuing south along the west bank in an elevated configuration.
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.
South of Downey Road	East	Path continues south in an incised configuration.
South Atlantic Boulevard	North	Path continues splits north of the Atlantic Boulevard East access point, continuing south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.

ES-2.4.2 Option 1

As discussed in Section ES-2.1, Metro identified two options for the Proposed Project. Option 1 would retain most components of the Proposed Project, with some modifications. These modifications would result in a slightly longer route for Option 1, which would span approximately 10.1 miles. Option 1 would have the same path types as the Proposed Project though with some changes in locations and compositions, with 56% elevated, 9% top-of-bank, and 35% incised path types. Option 1 would cross the river six times and would have 11 access points: six on the west bank and five on the east bank, including improvements to the existing Atlantic Boulevard access point in the City of Vernon. Option 1 would provide connections to the same three Metro stations, Union Station, Chinatown Station, and Washington Boulevard Station, with the addition of two Metro stations, Lincoln/Cypress Station and Little Tokyo/Arts District Station. This section details the modifications to Project elements associated with Option 1.

Starting north on the west bank where the LA River Greenway Trail ends, Option 1 would run atop the riverbank to traverse under the I-5 Viaduct and Riverside Drive Viaduct. Option 1 would then traverse

over the Metrolink LA River–Downey Bridge and under the SR-110 Bridge in an elevated configuration. After passing under SR-110, Option 1 would transition to an elevated configuration along the west bank then cross over the river to the east bank just north of the Metro A Line LA River Bridge. Compared to the Proposed Project, Option 1would have a path alignment and design variations that include river crossings, path along the east bank, and access points to Ed P. Reyes Greenway on the east bank and Los Angeles State Historic Park on the west bank.

After crossing the river to land on the east bank, Option 1 would mainly be elevated as it passes the Metro A Line and continues south. North of Broadway, the alignment would include an access point at the Ed P. Reyes Greenway and a river crossing to the west bank leading to the Los Angeles State Historic Park access point. Option 1 continues south along the east bank to cross under the North Broadway Viaduct and North Spring Street Viaduct. Continuing in an elevated configuration, Option 1 would cross over the North Main Street Bridge and both Metrolink railroad bridges at Mission Junction. Option 1 would remain in an elevated configuration to diagonally cross under the Cesar E Chavez Avenue Viaduct and cross over the river from the east bank to the west bank.

After landing on the west bank, Option 1 would continue south in a mostly elevated configuration to traverse under the US Highway Route 101 LA River Bridge and First Street Viaduct. Compared to the Proposed Project, Option 1 includes an elevated in-channel alignment along the west bank north of First Street, and two access points that connect to the First Street Bridge. South of the First Street Viaduct, Option 1 would descend into an incised configuration to travel under the Fourth Street Viaduct, then transition into elevated to travel under the Sixth Street Viaduct. The path would then transition to incised to go under the Seventh Street Bridge, I-10 Santa Monica Viaduct, and Olympic Boulevard Viaduct. Moving from incised to elevated as the path approaches Redondo Junction Grade Separation, Option 1 would cross over the UP LA River Bridge and Washington Boulevard Bridge. The elevated configuration would then travel beneath the Redondo Junction Grade Separation and begin to cross the LA River to the east bank.

Once Option 1 crosses over the river to the east bank, the path would continue in an elevated configuration to cross over the existing BNSF Railway LA River Bridge, 26th Street Bridge, and Soto Street Bridge. Just southeast of the Soto Street Bridge, an elevated river crossing would connect to the Bandini-Soto Triangle access point on the west bank. South of the river crossing, Option 1would continue south on the east bank, transitioning to an incised configuration to cross under Bandini Boulevard. South of Bandini Boulevard Bridge, Option 1 would transition to a top-of-bank configuration as the path travels south. Option 1 would then change to an incised configuration between Downey Road and Atlantic Boulevard, allowing it to pass under the Downey Road Bridge and the two BNSF Railway bridges at the Downey Road Bridge and at District Boulevard. By comparison, the Proposed Project in this area would run predominantly atop the bank, descending into an incised alignment to cross under the BNSF Railway Bridge at District Boulevard. Just north of Atlantic Boulevard, Option 1 would cross over the LA River from the east bank to the west bank and then tie into the existing LA River Trail in the City of Vernon. Figure ES-4 shows the Option 1 alignment, path types, and access points.

Figure ES-4. Option 1 Alignment



Option 1 Access Points

Table ES-3 lists the configuration and location of each potential access point for Option 1, from north to south. Option 1 would include the same access points as the Proposed Project, with modifications to two of them (Union Station and First Street) and would have two additional access points: Ed P. Reyes River Greenway and LA State Historic Park.

Table ES-3. Option 1 Access Points

Access Point	Bank	Connector Description	Common to Proposed Project
Ed P. Reyes River Greenway	East	Single elevated ramp over railroad tracks that parallels the path to the east and connects to the Ed P. Reyes River Greenway	No
LA State Historic Park	West	Single elevated bridge over the LA River and railroad tracks, and then ramps down under the North Broadway Viaduct and lands on the north side of the Baker Street south of the intersection of Aurora Street at northern driveway access to LA State Historic Park parking lot	No
Albion Park	East	Single elevated ramp over railroad tracks that would loop around the southern edge of Albion Park to land at the back of sidewalk at Albion Street	Yes
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp that parallels the path and crosses over railroad tracks to connect to the northwest corner of Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk	Yes
Union Station via Center Street	West	Single elevated ramp that parallels the path before traveling over the railroad tracks south of the US Highway Route 101 LA River Bridge to land near the northeast corner of the Commercial Street and Center Street intersection at the back of sidewalk	Yes, with some differences
First Street North/First Street South	West	Dual elevated ramps that connect to the north and south sides of the First Street Viaduct	Yes, with some differences
Sixth Street	West	Single elevated ramp that parallels the path to the west and connects into the Sixth Street Tunnel from the south side with access to the future Sixth Street PARC Project	Yes
Washington Boulevard	West	Single hook ramp that connects down to the south side of Washington Boulevard at the back of sidewalk	Yes
Bandini-Soto Triangle	West	Single elevated bridge over the LA River that connects at-grade to Bandini Boulevard at the back of sidewalk adjacent to the commercial plaza known as the “Bandini-Soto Triangle”	Yes
Downey Road	East	Single at-grade connection to the back of sidewalk on the west side of Downey Road	Yes
Atlantic Boulevard	East	Single at-grade connection to the northwest side of Atlantic Boulevard at the back of sidewalk	Yes
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon	Yes

Option 1 Design Variations

Similar to the Proposed Project, design variations have been identified to offer site-specific engineering variations to address the constraints of the Project study area. Design variations at various locations of the alignment and access points for Option 1 are included in the footprint. Option 1 includes all of the Proposed Project's design variations except Kearney Street and includes four additional design variations: Egret Park to Ed P. Reyes Greenway, Naud Street, Albion Street, and East Seventh Street/Jesse Street. Table ES-4 summarizes design variations for Option 1.

Table ES-4. Option 1 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
Egret Park to Ed P. Reyes Greenway	East	Single at-grade connection from Egret Park to Riverside Drive bridge onto Avenue 19 southerly to Ed P. Reyes River Greenway. A spur route would branch off Avenue 19, south of the Arroyo Seco confluence, and traverse at-grade southerly along the backside of the Lincoln Heights Jail building. This spur route would continue under the Metro A Line Bridge and connect to Ed P. Reyes River Greenway.	No
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.	Yes
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-path connection from path starting north under SR-110 to just south of the freeway.	Yes
Naud Street	West	Elevated path would cross westward, remaining in an elevated configuration, to the west bank where the path would reach the optional Naud Street access point.	No
Albion Street	East	Elevated path would split from westbound path to cross eastward over Metro ROW, before traveling south to reach the Albion Park access point.	No
East Cesar E Chavez Avenue	West	Elevated path crosses from the east bank to the west bank before continuing westward over railroad ROW at grade and then south parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.	Yes
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.	Yes
US Highway Route 101 LA River Bridge	East	Elevated path would continue south along the east bank underneath the East Cesar E Chavez Bridge before crossing diagonally underneath the US Highway Route 101 LA River Bridge to the west bank.	Yes
East Fourth Street	West	Path continues south underneath East Fourth Street Bridge.	Yes
East Seventh Street/Jesse Street	East	Elevated river crossing to east bank provides access to optional East Seventh Street/Jesse Street access point.	No
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.	Yes

Table ES-4. Option 1 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.	Yes
South of Downey Road	East	Path continues south at top-of-bank.	No
South Atlantic Boulevard	North	Path continues splits north of the Atlantic Boulevard East access point, continuing south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.	Yes

ES-2.4.3 Option 2

As discussed in Section ES-2.1, Metro identified two options for the Proposed Project. Option 2 would retain most components of the Proposed Project, with some changes. These modifications would result in a slightly shorter alignment for Option 2, which would span approximately 9.1 miles. Option 2 would have the same path types as the Proposed Project though with some changes in locations and compositions, with 47% elevated, 19% top-of-bank, and 34% incised path types. Option 2 would cross the river seven times and would have nine access points: four on the west bank and five on the east bank of the river, including improvements to the existing Atlantic Boulevard access point in the City of Vernon. Option 2 would provide connections to four Metro stations: Union Station, Chinatown Station, Pico/Aliso Station, and Washington Station, with the addition of the Lincoln/Cypress Station. This section details the modifications to Project elements associated with Option 2.

Starting north on the west bank where the LA River Greenway Trail ends, Option 2 would be in a top-of-bank configuration to travel under the I-5 Viaduct and Riverside Drive Viaduct. Option 2 would then traverse over the Metrolink LA River–Downey Bridge and under the SR-110 Bridge in an elevated configuration to then cross over the river from the west bank to the east bank. Compared to the Proposed Project, Option 2 would include river crossings, a path along the east bank and an access point at Ed P. Reyes Greenway.

After crossing the river to land on the east side of the railroad tracks in an elevated configuration, Option 2 would transition to grade to go under the Metro A Line LA River Bridge and would no longer be adjacent to the channel, but instead on the outside edge of the railroad tracks. Option 2 would be at-grade adjacent to the outside edge of the railroad track between the Ed P. Reyes River Greenway and Spring Street. Compared to the Proposed Project, Option 2 includes a top-of-bank alignment along the east bank from SR-110 to just south of Spring Street. As Option 2 passes under the North Spring Street Viaduct and approaches Albion Park, the path would begin to incline to an elevated configuration to cross the LA River from the east bank to the west bank.

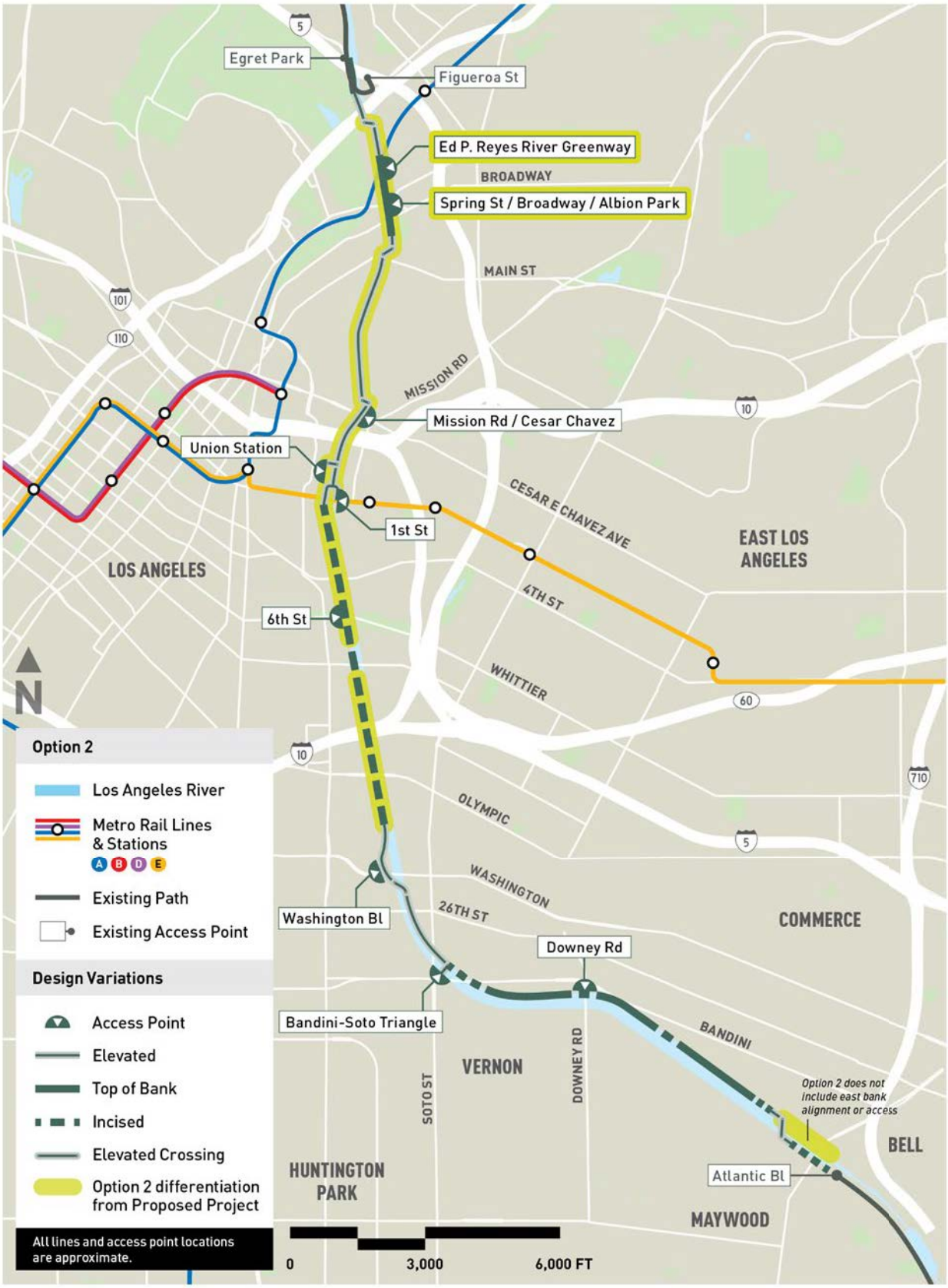
Once on the west bank, Option 2 would remain elevated to cross over the North Main Street Bridge and both Metrolink railroad bridges at Mission Junction, in contrast to the Proposed Project's incised alignment. Option 2 would then move to the middle of the channel, remaining elevated, to cross under the Cesar E Chavez Avenue Viaduct and US Highway Route 101 LA River Bridge. After passing under the First Street Viaduct, Option 2 would descend to an incised configuration. Three connectors would branch from the elevated pathway in the channel's center, leading to three different access

points. To the north of Cesar E Chavez Avenue Viaduct, one connector would extend to the Mission Road/Cesar E Chavez access point on the east bank. To the south of US Highway Route 101 LA River Bridge, another connector would lead to the Union Station access point on the west bank and another connector would lead to the First Street access point on the east bank. Option 2 would travel in a mostly incised configuration between the First Street Viaduct and Olympic Boulevard Viaduct compared to the Proposed Project. Like the Proposed Project, as it approaches Redondo Junction Grade Separation, Option 2 would transition from an incised to an elevated configuration, crossing over the UP LA River and Washington Boulevard bridges. The path would then continue in an elevated configuration, traveling beneath the Redondo Junction Grade Separation and then crossing the LA River over the BNSF Railway LA River Bridge to the east bank.

Once on the east bank in an elevated configuration, the path would remain elevated as it crosses over the 26th Street Bridge and Soto Street Bridge. Between Soto Street and Bandini Boulevard, Option 2 would transition to an incised configuration to cross under Bandini Boulevard Bridge. An elevated crossing between Soto Street and Bandini Boulevard would connect to the Bandini-Soto Triangle access point. Continuing south on the east bank, Option 2 would use the top-of-bank to circumvent two transmission towers north of Downey Road, before transitioning to either the Downey Road access point or going under the Downey Road Bridge and BNSF Railway Bridge at Downey Road. South of Downey Road Bridge, Option 2 would use a combination of incised and top-of-bank configuration and then pass under the BNSF Railway Bridge at District Boulevard. Just north of Atlantic Boulevard, Option 2 would cross over the LA River from the east bank to the west bank.

After crossing the river to the west bank, Option 2 would continue south in an incised configuration. After passing under the Atlantic Boulevard Bridge, Option 2 would tie into the existing LA River Trail on the west bank in the City of Vernon. Compared to the Proposed Project and Option 1, Option 2 would not include the Atlantic Boulevard East access point. Figure ES-5 shows the Option 2 alignment, path types, and access points.

Figure ES-5. Option 2 Alignment



Option 2 Access Points

The configuration and location of each access point for Option 2 are listed in Table ES-5 from north to south. Option 2 would include eight of the same access points as the Proposed Project, with modifications to one of them (Union Station) and would have two additional access points: Ed P. Reyes River Greenway and Spring Street/Broadway/Albion Park.

Table ES-5. Option 2 Access Points

Access Point	Bank	Configuration	Common to Proposed Project
Ed P. Reyes River Greenway	East	At-grade connection directly adjacent to path at Ed P. Reyes River Greenway	No
Spring Street/Broadway/ Albion Park	East	Single at-grade connection from path under Spring Street to the Albion Park and access to Broadway and Spring Street	No
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp crossing over railroad tracks to connect to the northwest corner of the Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk	Yes
Union Station via Center Street	West	Single elevated ramp that crosses over the railroad tracks south of the US Highway Route 101 LA River Bridge to land near the northeast corner of the Commercial Street and Center Street intersection at the back of sidewalk	Yes, with some differences
First Street	East	Single elevated ramp that travels over the railroad tracks and Myers Street to connect at-grade to the back of sidewalk at the northwest corner of Mission Road and First Street intersection	Yes
Sixth Street	West	Direct connection between the Option 2 path and the existing Sixth Street Tunnel with access to the future Sixth Street PARC Project	Yes
Washington Boulevard	West	Single hook ramp that connects down to the south side of Washington Boulevard at the back of sidewalk	Yes
Bandini-Soto Triangle	West	Single elevated bridge over the LA River that connects at-grade to Bandini Boulevard at the back of sidewalk adjacent to the commercial plaza known as the “Bandini-Soto Triangle”	Yes
Downey Road	East	Single at-grade connection to the back of sidewalk on the west side of Downey Road	Yes
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon	Yes

Option 2 Design Variations

Design variations have been identified to offer site-specific engineering variations to navigate challenges and constraints in the Project study area. Design variations at various locations of the alignment and at access points for Option 2 are included in the footprint. Option 2 would include all of the Proposed Project’s design variations except US Highway Route 101 LA River Bridge and includes four additional design variations design variations: Egret Park to Ed P. Reyes Greenway, North Avenue 19, and North Broadway/Spring Street. Table ES-6 summarizes design variations for Option 2.

Table ES-6. Option 2 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
Egret Park to Ed P. Reyes Greenway	East	Single at-grade connection from Egret Park to Riverside Drive bridge onto Avenue 19 southerly to Ed P. Reyes River Greenway.	No
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.	Yes
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-bank connection from path starting north under SR-110 to just south of the freeway.	Yes
North Avenue 19	West	Elevated path continues south before crossing the river channel diagonally to the east bank near the Ed Reye Greenway access point.	No
North Broadway/ Spring Street	East	Path branches east to optional access point at Broadway and Spring Street.	No
East Cesar E Chavez Avenue	West	Elevated in-channel path splits westward before crossing over railroad ROW at grade and then continuing south parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.	Yes
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.	Yes
Kearney Street	East	Elevated in-channel path splits eastward to reach east bank before continuing south and then east to reach optional access point at Kearney Street.	Yes
East Fourth Street	West	Path continues south underneath East Fourth Street Bridge.	Yes
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.	Yes
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.	Yes
South of Downey Road	East	Path continues south in an incised condition.	Yes
South Atlantic Boulevard	North	Path continues south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.	Yes

ES-2.4.4 Comparison of Proposed Project and Options

As stated, this Draft EIR analyzes the Proposed Project and two options, Option 1 and Option 2, each having a different combination of Project elements to navigate site conditions in different ways. The Proposed Project and its options each includes a combination of path types, river crossing locations, access points, and design variations aimed at accomplishing the Proposed Project objectives. Table ES-7 is a summary comparison of the Proposed Project, Option 1, and Option 2.

Table ES-7. Summary Comparison of Proposed Project and Options

Proposed Alignments	Approximate Path Length	Access Points	River Crossings	Elevated Path Type	Top-of-Bank Path Type	Incised Path Type
Proposed Project	9.6 miles	9	7	46%	28%	26%
Option 1	10.1 miles	11	6	56%	9%	35%
Option 2	9.1 miles	9	7	47%	19%	34%

Note: This count of access points does not include the existing westbound access point at Atlantic Boulevard.

Figures ES-3, ES-4, and ES-5 above show proposed alignments for the Proposed Project, Option 1, and Option 2.

ES-2.5 Project Schedule

Construction activities for the portion of the path for which funding is currently available are estimated to last approximately 3 years (Figure ES-6). Preconstruction activities are anticipated to start in 2028. The anticipated construction start is in 2028, with phased completion anticipated in 2031.

Figure ES-6. Project Timeline



ES-3 Summary of Environmental Impacts Analysis

This Draft EIR identifies potential environmental impacts of the Project and its options and analyzes any significant impacts and implementation of feasible mitigation measures. Project features are design features, best management practices, or other measures required by law or permit approvals and are incorporated as part of the Project. Mitigation measures are additional actions designed to avoid, minimize, or compensate for significant impacts and are required where significant impacts have been identified. Mitigation measures would be proposed as conditions of Project approval and would be monitored to ensure compliance and implementation. Table ES-8 summarizes the environmental impacts, required mitigation measures, and level of significance after mitigation (as applicable). A detailed analysis for each environmental resource area is provided in Chapter 3, *Environmental Settings, Impacts, and Mitigation*.

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Aesthetics and Visual Resources					
AES-1: Have a substantially adverse effect on a scenic vista?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historical buildings within a state scenic highway?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
AES-3: Substantially degrade the existing visual character or quality of public views of the site and its surroundings, and conflict with applicable zoning and other regulations governing scenic quality? (Public views are those that are experienced from publicly accessible vantage point.).	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
AES-4: Create a new source of substantial light or glare, which would adversely affect day- or nighttime views in the area?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Air Quality					
AQ-1: Conflict with or obstruct implementation of the applicable air quality plan?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
AQ-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
AQ-3: Expose sensitive receptors to substantial pollutant concentrations?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Biological Resources					
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 the California Department of Fish and Game or US Fish and Wildlife Service?	Proposed Project	Construction	Potentially Significant	▪ MM-BIO-01, *Worker Environmental Awareness Program* ▪ MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites* ▪ MM-BIO-02b, *Avoid Disturbing Active Bat Roosts* ▪ MM-BIO-03, *Nesting Bird Surveys*	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-BIO-01 ▪ MM-BIO-02a ▪ MM-BIO-02b ▪ MM-BIO-03	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-BIO-01 ▪ MM-BIO-02a ▪ MM-BIO-02b ▪ MM-BIO-03	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant 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 the California Department of Fish and Game or US Fish and Wildlife Service?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
BIO-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
BIO-4: 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?	Proposed Project	Construction	Potentially Significant	▪ MM-BIO-02a ▪ MM-BIO-02b	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-BIO-02a ▪ MM-BIO-02b	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-BIO-02a ▪ MM-BIO-02b	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	Proposed Project	Construction	Potentially Significant	▪ MM-HWQ-04, *Fully Incised Path* ▪ MM-HWQ-05, *Incised/Elevated Transition Widening* ▪ MM-HWQ-06, *Elevated-in-Channel Incised Path* ▪ MM-HWQ-07, *Channel Daylight Crossing Structure*	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-07	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-07	Less than Significant Impact
		Operation	No Impact	None	No Impact
Cultural Resources					
CUL-1: Cause a substantial adverse change in the significance of a built-environment historical resource as defined in Section 15064.5?	Proposed Project	Construction	Potentially Significant	▪ MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* ▪ MM-CUL-02, *Recordation of Existing Conditions* ▪ MM-NOI-02, *Drill Piles Where Feasible* ▪ MM-VIB-01, *Vibration Control Plan* ▪ MM-VIB-02, *Vibration Monitoring Plan*	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
	Option 1	Construction	Potentially Significant	▪ MM-CUL-01 ▪ MM-CUL-02 ▪ MM-NOI-02 ▪ MM-VIB-01 ▪ MM-VIB-02	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-CUL-01 ▪ MM-CUL-02 ▪ MM-NOI-02 ▪ MM-VIB-01 ▪ MM-VIB-02	Less than Significant Impact
		Operation	No Impact	None	No Impact
CUL-2: Cause a substantial adverse change in the significance of a unique or historical archaeological resource pursuant to Section 15064.5?	Proposed Project	Construction	Potentially Significant	▪ MM-CUL-03, *Qualified Archaeologist* ▪ MM-CUL-04, *Cultural Resources Mitigation and Management Plan*	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-CUL-03 ▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-CUL-03 ▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
CUL-3: Disturb any human remains, including those interred outside of formal cemeteries?	Proposed Project	Construction	Potentially Significant	▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Energy					
ENE-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
ENE-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
Geology and Paleontological Resources					
GEO-1(i): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
GEO-1(ii): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
GEO-1(iii): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GEO-1(iv): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GEO-2: Result in substantial soil erosion or loss of topsoil?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GEO-3: Located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GEO-4: Located on expansive soil, as defined in Table 18-1-B of the Uniform	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Building Code (1994), creating substantial direct or indirect risks to life or property?		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	Proposed Project	Construction	Potentially Significant	▪ MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan* ▪ MM-PAL-02, *Worker Environmental Awareness Program Training* ▪ MM-PAL-03, *Curation*	Significant and Unavoidable
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-PAL-01 ▪ MM-PAL-02 ▪ MM-PAL-03	Significant and Unavoidable
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-PAL-01 ▪ MM-PAL-02 ▪ MM-PAL-03	Significant and Unavoidable
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Greenhouse Gas Emissions					
GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
Hazards and Hazardous Materials					
HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Proposed Project	Construction	Potentially Significant	▪ MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* ▪ MM-HAZ-02, *Soil Management Plan Surveys* ▪ MM-HAZ-03, *Preconstruction Asbestos, Lead-Based Paint, and Universal Waste Surveys*	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
	Option 1	Construction	Potentially Significant	▪ MM-HAZ-01 ▪ MM-HAZ-02 ▪ MM-HAZ-03	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-HAZ-01 ▪ MM-HAZ-02 ▪ MM-HAZ-03	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	Proposed Project	Construction	Potentially Significant	▪ MM-HAZ-03	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-HAZ-03	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-HAZ-03	Less than Significant Impact
		Operation	No Impact	None	No Impact
HAZ-4: Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	Proposed Project	Construction	Potentially Significant	▪ MM-HAZ-01 ▪ MM-HAZ-02	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-HAZ-01 ▪ MM-HAZ-02	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-HAZ-01 ▪ MM-HAZ-02	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
Hydrology and Water Quality					
HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	Proposed Project	Construction	Potentially Significant	MM-HWQ-01, *Temporary Water Diversion Plan*	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
HWQ-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HWQ-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation onsite or offsite?	Proposed Project	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HWQ-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious area in a manner that would substantially increase the rate or amount of surface runoff resulting in flooding onsite or offsite?	Proposed Project	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HWQ-5: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	Proposed Project	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
HWQ-6: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?	Proposed Project	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02, *Construction Scheduling*	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03, *Advanced Hydraulic Analysis* ▪ MM-HWQ-04, *Fully Incised Path* ▪ MM-HWQ-05, *Incised/Elevated Transition Widening* ▪ MM-HWQ-06, *Elevated-in-Channel Incised Path* ▪ MM-HWQ-08, *Streamlined Bridge Piers*	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03 ▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-08	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03 ▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-08	Less than Significant Impact
HWQ-7: Result in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	Proposed Project	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
HWQ-8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Proposed Project	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-HWQ-01	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
HWQ-9: Cause changes to flood risk in sensitive reaches of the LA River or conflict with USACE's obligations under Section 408?	Proposed Project	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03 ▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-08 ▪ MM-HWQ-09, *Compliance with Section 408 Permit*	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03 ▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-08 ▪ MM-HWQ-09	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-HWQ-01 ▪ MM-HWQ-02	Less than Significant Impact
		Operation	Potentially Significant	▪ MM-HWQ-03 ▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-08 ▪ MM-HWQ-09	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
HWQ-10: Cause water quality or hydraulic conflicts with the ultimate implementation of the LARER project?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	Potentially Significant	▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-07, *Channel Daylight Crossing Structure* ▪ MM-HWQ-09	Less than Significant Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	Potentially Significant	▪ MM-HWQ-04 ▪ MM-HWQ-04 ▪ MM-HWQ-06 ▪ MM-HWQ-07 ▪ MM-HWQ-09	Less than Significant Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	Potentially Significant	▪ MM-HWQ-04 ▪ MM-HWQ-05 ▪ MM-HWQ-06 ▪ MM-HWQ-07 ▪ MM-HWQ-09	Less than Significant Impact
Land Use					
LU-1: Physically divide an established community?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
LU-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
Noise and Vibration					
NOI-1: Generate a substantial temporary or permanent increase in ambient noise levels near the project in excess of standards established by the FTA, in the local general plan, noise ordinance, or applicable agency standards?	Proposed Project	Construction	Potentially Significant	▪ MM-NOI-01, *Noise Control and Monitoring Plan*	Significant and Unavoidable
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant	▪ MM-NOI-01	Significant and Unavoidable
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant	▪ MM-NOI-01	Significant and Unavoidable
		Operation	Less than Significant Impact	None	Less than Significant Impact
NOI-2: Generate excessive ground-borne vibration or ground-borne noise levels?	Proposed Project	Construction	Potentially Significant (for damage) Potentially Significant (for annoyance)	▪ MM-NOI-02, *Drill Piles Where Feasible* ▪ MM-VIB-01, *Vibration Control Plan* ▪ MM-VIB-02, *Vibration Monitoring Plan*	Less than Significant Impact (for damage) Significant and Unavoidable (for annoyance)
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Potentially Significant (for damage) Potentially Significant (for annoyance)	▪ MM-NOI-02 ▪ MM-VIB-01 ▪ MM-VIB-02	Less than Significant Impact (for damage) Significant and Unavoidable (for annoyance)
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Potentially Significant (for damage) Potentially Significant (for annoyance)	▪ MM-NOI-02 ▪ MM-VIB-01 ▪ MM-VIB-02	Less than Significant Impact (for damage) Significant and Unavoidable (for annoyance)
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
NOI-3: Expose people residing or working in the RSA to excessive noise levels if the project is located near a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
Population and Housing					
PH-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
PH-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Public Services/Safety and Security					
PS-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for fire protection and emergency services?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
PS-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for police protection?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
PS-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for schools?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
PS-4: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for public libraries?	Proposed Project	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	No Impact	None	No Impact
		Operation	No Impact	None	No Impact
Recreation					
REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
REC-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
REC-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Transportation					
TR-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
TR-2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
TR-3: Substantially increase hazards due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
TR-4: Result in inadequate emergency access?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Tribal Cultural Resources					
TCR-1: Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?	Proposed Project	Construction	Potentially Significant	▪ MM-TCR-01, *Tribal Monitoring* ▪ MM-CUL-03 ▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Potentially Significant	▪ MM-TCR-01 ▪ MM-CUL-03 ▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Potentially Significant	▪ MM-TCR-01 ▪ MM-CUL-03 ▪ MM-CUL-04	Less than Significant Impact
		Operation	No Impact	None	No Impact
Utilities and System Services					
UTL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, or other utility or public services facilities, the construction or relocation of which could cause significant environmental impacts?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
UTL-2: Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
UTL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
UTL-4: Generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid-waste reduction goals?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
UTL-5: Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	No Impact	None	No Impact

Table ES-8. Summary of Impacts by Environmental Resource

Environmental Topic	Proposed Project/ Option	Phase	Impact Before Mitigation	Proposed Mitigation Measure	Impact After Mitigation
Wildfire					
WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
WF-2: Due to slope, prevailing winds, and other factors, would the project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Proposed Project	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 1	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact
	Option 2	Construction	Less than Significant Impact	None	Less than Significant Impact
		Operation	Less than Significant Impact	None	Less than Significant Impact

ES-4 Significant and Unavoidable Impacts

CEQA Guidelines Section 15216.2(b) requires EIRs to include a discussion of significant environmental impacts that cannot be avoided if a project is implemented. In Chapter 3, *Environmental Settings, Impacts, and Mitigation*, Sections 3.2 through 3.19 analyze significant environmental impacts related to the Proposed Project and its options; identify feasible mitigation measures that could avoid or reduce these significant impacts, where available; and present a determination stating whether these mitigation measures would reduce these impacts to a less than significant level. If a specific impact discussed in any of these sections cannot be fully reduced to a less than significant level, it is considered a significant and unavoidable impact. As concluded in the Draft EIR and shown in Table ES-8, the following impacts would be significant and unavoidable for the Proposed Project and its options, even after implementation of mitigation measures:

- Geology, soils, and paleontological resources (paleontological resources during construction)
- Noise and vibration (increase in ambient noise during construction; vibration annoyance during construction)

ES-5 Project Alternatives

CEQA requires that a range of reasonable project alternatives to the Proposed Project is considered that could meet most of the basic project objectives and substantially reduce or eliminate significant impacts associated with the project. According to CEQA Guidelines Section 15126.6(a):

> "An EIR shall describe the range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

Project Alternatives are summarized below, and are described in more detail in Chapter 5, *Alternatives*.

ES-5.1 No Project Alternative

The No Project Alternative is required by CEQA Guidelines Section 15126.6(e)(2) and assumes that the Proposed Project would not be implemented. The Proposed Project is identified in the LARMP as the "Metro LA River Path." Under the No Project Alternative, the approximately 8-mile stretch of the LA River from Elysian Valley in the City of Los Angeles to the Cities of Vernon and Maywood would not be developed with an active transportation path. The 8-mile gap between the existing Los Angeles River Greenway Trail and the existing LA River Trail along the LA River would remain and connectivity between the existing pedestrian and bicycle paths would not occur. The Project footprint along the LA River would remain a flood channel and remain closed to the public. No new access points to the surrounding parks and recreational facilities would be developed and path elements such as lighting, landscaping, and signage would not exist. In addition, no new bridges and piers would be constructed in the LA River and no new river crossings related to the Project would occur.

The No Project Alternative assumes that projects in the regional area would continue to progress as identified in local general plans, capital improvement programs, and regional plans, including the Southern California Association of Government's (SCAG's) *Connect SoCal—The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020) and other proposed projects identified in the LARMP, including the Los Angeles River Ecosystem Restoration (LARER) project. Under the No Project Alternative, the LARMP would continue to serve as the existing planning framework for enhancing the LA River, including the Project area.

ES-5.2 Mostly-East Bank Alternative

The Mostly-East Bank Alternative, known as Alignment D in the Conceptual Design Report, proposes a pedestrian and bicycling path alignment running predominantly along the east bank of the LA River from the northern terminus of the existing LA River Greenway Trail at Riverside Drive in the City of Los Angeles to the southern terminus of the existing path at Atlantic Boulevard. Starting at the north end on the western bank where the LA River Greenway Trail ends, this alternative would cross over the LA River to operate on the east bank north of Mission Road/Cesar E. Chavez to just north of Washington Boulevard/Redondo Junction. Due to physical and hydrological constraints, only a west bank option is possible at the Redondo Junction and the Mostly-East Bank Alternative would require a gap in the alignment path starting at the Redondo Junction before continuing along the east bank and connecting with the existing bike path at Atlantic Boulevard. The alternative would be directly adjacent to the river's east bank between the channel and at-grade active rail facilities. The Mostly-East Bank Alternative would include 10 access points: Figueroa Street (Existing), Los Angeles State Historic Park/Main Street, Mission Road/Cesar E Chavez, Union Station, First Street, Seventh Street, Washington Boulevard, Bandini Boulevard, Downey Road, and Atlantic Boulevard.

ES-5.3 Mostly-West Bank Alternative

The Mostly-West Bank Alternative, known as Alignment E in the Conceptual Design Report, proposes a pedestrian and bicycling path predominantly along the west bank of the LA River from the northern terminus of the existing path at Elysian Park to the southern terminus of the existing path at Atlantic Boulevard. The Mostly-West Bank Alternative would follow the western bank of the LA River in the area between the channel and at-grade active rail facilities. Starting at the north end on the western bank where the LA River Greenway Trail ends, the Mostly-West Bank Alternative would cross over the LA River to operate on the eastern bank between Ed. P. Reyes Greenway and Albion Park, then cross back to the west bank at the LA State Historic Park access point and stays on the west bank until Washington Boulevard. This alternative would then operate on the east bank until just north of Atlantic Boulevard where the alignment would cross back to the west bank and connect with the existing access point at Atlantic Boulevard. The Mostly-West Bank Alternative would include 10 access points: Ed P. Reyes Greenway, Albion Park/Main Street, Los Angeles State Historic Park/Main Street, Mission Road/Cesar E Chavez Avenue, Union Station, First Street, Sixth Street Tunnel, Washington Boulevard, Bandini-Soto Triangle, and Downey Road.

ES-5.4 Shortened Northern Path Alternative

The Shortened Northern Path Alternative would not meet the Project's primary objective. The Shortened Northern Path Alternative would have a northern terminus of the existing LA River Greenway Trail in the City of Los Angeles and a southern terminus at Sixth Street and would not close the entire 8-mile gap along the LA River between Elysian Valley and the City of Vernon. This alternative would result in limited or no access to the local neighborhoods south of Sixth Street.

ES-5.5 Shortened Southern Path Alternative

The Shortened Southern Path Alternative would not meet the Project's primary objective. The Shortened Southern Path Alternative would have a northern terminus at First Street in the City of Los Angeles and a southern terminus at Atlantic Boulevard in the City of Vernon and would not close the entire 8-mile gap along the LA River between Elysian Valley and the City of Vernon. This alternative would result in limited or no access to the local neighborhoods north of First Street.

ES-5.6 Comparison of Alternatives

Table ES-9 summarizes the environmental impacts of the alternatives compared to the Proposed Project and identifies if the alternatives would have greater, lesser, or similar impacts compared to the Proposed Project. Additional detail is described in Chapter 5, *Alternatives*.

Table ES-9. Alternatives Comparison of Environmental Impacts Relative to the Proposed Project

Environmental Topics	Construction/ Operation	Proposed Project	No Project Alternative	Mostly-East Bank Alternative	Mostly-West Bank Alternative	Shortened Northern Path Alternative	Shortened Southern Path Alternative
Aesthetics and Visual Resources	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Air Quality	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Biological Resources	Construction	LTSM	↓	↓	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Cultural Resources	Construction	LTSM	↓	=	=	↓	↓
	Operation	NI	=	=	=	=	=
Energy	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Geology, Soils, and Paleontological Resources	Construction	SU	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Greenhouse Gas Emissions	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Hazards and Hazardous Materials	Construction	LTSM	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Hydrology and Water Quality	Construction	LTSM	↓	=	=	↓	↓
	Operation	LTSM	↑	=	=	↓	↓
Land Use and Planning	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↑	=	=	=	=

Table ES-9. Alternatives Comparison of Environmental Impacts Relative to the Proposed Project

Environmental Topics	Construction/ Operation	Proposed Project	No Project Alternative	Mostly-East Bank Alternative	Mostly-West Bank Alternative	Shortened Northern Path Alternative	Shortened Southern Path Alternative
Noise and Vibration	Construction	SU	↓	↓	↓	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Population and Housing	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↓	=	=	=	=
Public Services/ Safety and Security	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↓	↓
Recreation	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↓	=	=	↓	↓
Transportation	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Tribal Cultural Resources	Construction	LTSM	↓	=	=	↓	↓
	Operation	NI	=	=	=	=	=
Utilities and Service Systems	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Wildfire	Construction	LTS	↓	=	=	=	↓
	Operation	LTS	↓	=	=	=	↓

Notes:

LTS = Less Than Significant

LTSM = Less Than Significant with Measures Incorporated

NI = No Impact

SU = Significant and Unavoidable

↑: Greater Impacts compared to the Proposed Project

↓: Lesser Impacts compared to the Proposed Project

=: Similar Impacts compared to the Proposed Project

ES-5.6.1 No Project Alternative

The No Project Alternative would have similar impacts compared to the Proposed Project for cultural resources (operation), tribal cultural resources (TCRs) (operation), and noise and vibration (operation). The No Project Alternative would not include operation and maintenance (O&M) activities that would disturb cultural resources and TCRs and would result in no impacts. Under the No Project Alternative, impacts for noise and vibration (operation) would be less than significant and have similar impacts to the Proposed Project. The reduction in vehicular traffic associated with the Proposed Project would not occur as a result of the No Project Alternative and vehicle miles traveled (VMT) would not be reduced. Traffic noise could be greater than Proposed Project, but the No Project Alternative would avoid minor O&M noises associated with the Proposed Project. Therefore, the No Project Alternative would result in less than significant impact related to both noise and vibration, similar to the Proposed Project during operation.

The No Project Alternative would not result in Project-related construction and O&M activities and would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetics/visual resources; air quality (construction); biological resources; cultural resources (construction); energy (construction); geology, soils, and paleontological resources; GHG (construction); hazards and hazardous materials; hydrology and water quality; land use and planning (construction); noise and vibration (construction); population and housing; public services/safety and security (construction); recreation (construction); transportation (construction); TCRs (construction); utilities and service systems; and wildfire.

The No Project Alternative would have greater impacts compared to the Proposed Project for the following environmental resources: air quality (operation), energy (operation), GHG (operation), land use (operation), public services/safety and security (operation), recreation (operation), and transportation (operation). Air quality (operation), energy (operation), GHG (operation), and transportation (operation) impacts would be greater than the Proposed Project as a result having lower VMT reductions compared to the Proposed Project. Land use (operation) impacts would be greater than the Proposed Project because the No Project Alternative would not meet the objectives of the LA River Revitalization Master Plan and other applicable regional and local plans to provide linkages and connections to nearby communities, encourage alternative modes of transportation, and provide safe bicycle facilities for people of all types and abilities. Public services/safety and security (operation) and recreation (operation) impacts would be greater than the Proposed Project because the No Project Alternative would not construct additional access points to the LA River, nor incorporate additional safety features along the LA River associated with the Proposed Project.

ES-5.6.2 Mostly-East Bank Alternative

The Mostly-East Bank Alternative would have similar impacts for almost all environmental resources compared to the Proposed Project. Impacts to cultural resources (construction) would be less than significant with mitigation and similar to the Proposed Project during construction. Excluding historic bridges, nine identified historical resources are situated along the west bank and two identified historical resources are situated along the east bank through this area. Compared to the Proposed Project, this alternative would avoid potential less than significant impacts to the property and historic setting of HR-44. However, compared to the Proposed Project one additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank and one historic property (HR-33) may no longer be impacted as a result of pile driving no longer occurring in its vicinity. As a result, similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities, which would generally involve those historical resources located along the east bank of the LA River Channel. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources.

This alternative would have fewer impacts related to biological resources (construction) and noise and vibration (construction annoyance). This alternative would have fewer impacts related to biological resources (construction) because it may not require the removal of the southern California black walnut trees located along the western riverbank between the Riverside Drive Viaduct and the SR-110 Bridge and would therefore result in fewer impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats than the Proposed Project.

Impacts related to noise and vibration (construction annoyance) would be significant and unavoidable and less than the Proposed Project during construction. The path type near Receptors 17, 18, and 19 would no longer require pile driving and the severity of noise and vibration impacts may be reduced. General construction activity may still result in noise and vibration impacts at these receptors. One

additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank and one historic property (HR-33) may not be impacted as a result of pile driving no longer occurring in its vicinity, compared to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential significant vibration damage impacts would be reduced with the implementation of mitigation measures similar to the Proposed Project. However, like the Proposed Project, construction of the Mostly-East Bank Alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers.

This alternative would not have greater impacts compared to the Proposed Project.

ES-5.6.3 Mostly-West Bank Alternative

The Mostly-West Bank Alternative would have similar impacts for almost all environmental resources compared to the Proposed Project. Impacts to cultural resources (construction) would be less than significant with mitigation and similar to the Proposed Project during construction. This alternative would have potential less than significant impacts to the historic setting of HR-47 because the path alignment would be situated along the opposite side of the LA River; however, new potential impacts to HR-26 may occur. Such impacts to HR-26 would be similar to those described for Option 2 and would be less than significant. A reduction in vibration impacts at one historic property (HR-33) would also occur due to increased distance from construction activity. As a result, similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities which would generally involve those historical resources located along the west bank of the LA River Channel. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources.

Impacts related to noise and vibration (construction annoyance) would be significant and unavoidable and less than the Proposed Project during construction. This path alignment would be predominantly on the west bank where sensitive receptors are sporadically located within primarily industrials uses. As the construction activity would primarily occur on the west bank, sensitive receptors on the east bank would be less impacted by construction noise and vibration. Specifically, residences located between the US-101 freeway and Second Street (Receptors 17, 18, and 19) on the east bank would receive a reduction in noise and vibration impacts as a result of the increased distance and path type no longer requiring pile driving. The One Santa Fe Apartments (Receptor 20) may experience increased construction noise and vibration due to construction activity occurring at a closer distance than under the Proposed Project. A reduction in vibration impacts at HR-33 would also occur due to increased distance from construction activity, compared to the Proposed Project. Potential significant vibration damage impacts would be reduced with the implementation of mitigation measures similar to the Proposed Project. However, like the Proposed Project, construction of the Mostly-West Bank Alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers.

This alternative would not have greater impacts compared to the Proposed Project.

ES-5.6.4 Shortened Northern Path Alternative

The Shortened Northern Path Alternative would have similar impact compared to the Proposed Project for cultural resources (operation), land use planning, population and housing, recreation, TCRs (operation), and wildlife.

As a result of a shortened alignment, this alternative would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction), geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction) and utilities and service systems. In particular, cultural resources (construction) would have reduced impacts because this alignment would avoid potentially significant impacts to the Washington Boulevard Bridge and Atlantic Boulevard Bridge associated with the path alignment of the Proposed Project. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties compared to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts to historic resources would be less than significant with mitigation and less than the Proposed Project during construction.

Significant and unavoidable impacts related to paleontological resources (construction) and noise and vibration impacts (construction) would be reduced under this alternative, compared to the Proposed Project, due to the shorter alignment and reduced construction activities. However, these impacts would remain significant and unavoidable even after implementation of mitigation measures, though to a lesser extent compared to the Proposed Project. In particular, noise and vibration (construction) would have reduced impacts due to its shorter alignment. The number of noise and vibration sensitive receptors affected would be reduced by three sensitive receptors compared to the Proposed Project and the number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts would also be able to be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Impacts to noise and vibration annoyance (construction) would be significant and unavoidable but less than the Proposed Project during construction.

In addition, this alternative would result in fewer impacts for hydrological impacts compared to the Proposed Project. However, this alternative would still be located within LA River Reaches 7 and 8 in conjunction with the LARER project and within a 100-year flood zone, thus requiring mitigation measure specific to Reaches 7 and 8, similar to the Proposed Project. This alternative would not avoid hydrological impacts at Reaches 7 and 8. Nonetheless, this alternative would result in lesser impacts to hydrological resources compared to the Proposed Project because of the shorter alignment and avoidance of hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project south of Sixth Street and near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points. Similar to the Proposed Project, this alternative would be an active transportation path that would result in a reduction of passenger vehicle trips to the region and in a reduction in VMT. However, as a result of the shortened alignment from the northern terminus of the existing LA River Greenway Trail to Sixth Street, this alternative would not reduce VMTs to the same level as the Proposed Project. As a result, the

alternative would have greater levels of impact compared to the Proposed Project for air quality (operation), energy (operation), GHG (operation), and transportation (operation).

This alternative would not have greater impacts compared to the Proposed Project.

ES-5.6.5 Shortened Southern Path Alternative

The Shortened Southern Path Alternative would have similar impacts compared to the Proposed Project for cultural resources (operation), land use planning, population and housing, recreation, and TCRs (operation).

As a result of a shortened alignment from the First Street to southern terminus at Atlantic Boulevard, this alternative would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction), geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction), utilities and service systems, and wildfire. In particular, cultural resources (construction) would have reduced impacts because potentially significant impacts to the North Main Street Bridge and Cesar E Chavez Viaduct associated with the path alignment of the Proposed Project would be avoided by this alternative. The number of historic properties potentially exposed to excessive vibration would be reduced by 15 properties. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts to historic resources would be less than significant with mitigation and less than the Proposed Project during construction.

Significant and unavoidable impacts related to paleontological resources (construction) and noise and vibration impacts (construction) would be reduced under this alternative due to the shorter alignment and reduced construction activities compared to the Proposed Project. However, these impacts would remain significant and unavoidable even after implementation of mitigation measures, though to a lesser extent compared to the Proposed Project. In particular, noise and vibration (construction) would have reduced impacts due to its shorter alignment, reduction in construction activities, and no construction north of First Street. The number of noise and vibration sensitive receptors affected would be reduced by 19 sensitive receptors compared to the Proposed Project and the number of historic properties that would be potentially exposed to excessive vibration would be reduced by 15 properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts would also be able to be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Impacts to noise and vibration annoyance (construction) would be significant and unavoidable but less than the Proposed Project during construction.

This alternative would result in lesser impacts for hydrological impacts compared to the Proposed Project. This alternative would not be located within LA River Reaches 7 and 8 in conjunction with the LARER project and would not be within a 100-year flood zone. Thus, the Proposed Project's mitigation measure specific to Reaches 7 and 8 and the LARER project would not be required, and fewer hydrology mitigation measures are needed compared to the Proposed Project. This alternative would still have hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project south of Sixth Street and near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points. However, hydrological impacts are

reduced because of the shorter alignment and would result in lesser impacts to hydrological resources compared to the Proposed Project. In addition, this alternative would be substantially within the same footprint as the Proposed Project south of First Street and would not be located within a designated Very High Fire Hazard Severity Zone (VHFHSZ), resulting in no wildfire impacts compared to the Proposed Project. Similar to the Proposed Project, this alternative would be an active transportation path that would result in a reduction of passenger vehicle trips to the region and in a reduction in VMT. However, as a result of the shortened alignment from the First Street to the southern terminus at Atlantic Boulevard, this alternative would not reduce VMTs to the same level as the Proposed Project. As a result, the alternative would have greater levels of impact compared to the Proposed Project for air quality (operation), energy (operation), GHG (operation), and transportation (operation).

This alternative would not have greater impacts compared to the Proposed Project.

ES-6 Environmentally Superior Alternative

According to CEQA Guidelines Section 15126.6(a), a Draft EIR must identify an "environmentally superior alternative" to determine which alternative possesses an overall environmental advantage when compared to all other alternatives evaluated in the Draft EIR. If the environmentally superior alternative is the No Project Alternative, CEQA requires the identification of an environmentally superior other than the No Project Alternative. The environmentally superior alternative can inform decision-makers as part of the project approval process; however, Metro is not required by CEQA to select the environmentally superior alternative as the locally approved project.

As shown in Table ES-9, the No Project Alternative would avoid, have similar, or have reduced significant impacts for almost all environmental resources associated with the Proposed Project, but may have a slightly greater impact related to air quality (operation), energy (operation), GHG (operation), land use and planning (operation), noise and vibration (operation), public services/safety and security (operations), and transportation (operation).

The Shortened Southern Alignment would have the greatest reductions in impacts to environmental resources compared to the other alternatives aside from the No Project Alternative. Therefore, the Shortened Southern Alternative is the environmentally superior alternative as it would further reduce impacts to aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction), geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction), utilities and service systems, and wildfire compared to the Proposed Project.

ES-7 Public Outreach

Metro has implemented a comprehensive outreach program for the Project in an effort to better understand the communities that live in and near the Project area, their priorities, and how the Project can best meet their needs. During the conceptual design phase, the Project team held nine community meetings and 23 pop-up events and administered two online survey tools to gather community input. More than 300 people participated in the nine community meetings, more than 4,600 comments were received through all in-person events, and more than 3,800 responses were received for the two online and in-person surveys. Outreach during the conceptual design phase helped inform the Project's mission statement, goals, path types, and access point opportunities.

Metro's scoping outreach program for the Project worked to increase awareness and disseminate information, gather public input, and support the technical and legal environmental process. In alignment with Metro's Public Participation Plan, in Title IV, *Environmental Justice and Limited English Proficiency*, accommodations were made to expand participation during the public scoping process. Notification of public scoping meetings were published in eight newspapers highly circulated in areas potentially affected by the Project. A variety of other noticing methods were also implemented in advance of the public scoping meetings, including mailed notices, email notice distributions, information posted to the Metro website, hand-distributed flyers, geo-targeted Facebook advertisements, and Metro Marketing efforts. Metro conducted four public scoping meetings in Boyle Heights, Little Tokyo/Arts District, City of Maywood, and Cypress Park during the 45-day scoping period. Metro received a total of 148 written and oral comments during the public scoping period.

Metro filed an NOP for the Project Draft EIR on October 23, 2019, with the State of California Office of Planning and Research's State Clearinghouse and the Los Angeles County Clerk. The NOP provided notice for responsible agencies to transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 45 days of receiving the NOP from the Lead Agency (Metro). The NOP also invited public participation in the EIR scoping process and announced scheduled scoping meetings.

ES-8 Areas of Controversy and Issues to be Resolved

ES-8.1 Areas of Controversy

CEQA Guidelines Section 15123(b)(2) requires that an EIR identify areas of controversy known to the Lead Agency, including issues raised by agencies and the public.

During the public comment period for the NOP, various comment letters were received regarding the Project. The comments submitted on the NOP during the public review and comment period are in Appendix A, *Public Participation and Outreach*. Areas of potential controversy known to Metro are discussed in the *Scoping Summary Report* (also in Appendix A, *Public Participation and Outreach*). Areas of known controversy are briefly summarized as follows:

- Project construction costs
- Safety and security for path users
- Air quality and odor along the path
- Equity concerns for disadvantaged communities
- Connectivity to recreation and key destinations
- Impacts related to hazardous materials

ES-8.2 Issues to be Resolved by the Decision-Making Body

CEQA Guidelines Section 15123(b)(3) requires a discussion of issues to be resolved, including a choice of alternatives and whether or how to mitigate significant impacts. The Metro Board will decide if the significant impacts associated with biological resources, cultural resources hazards and hazardous materials, hydrology and water quality, and TCRs have been fully mitigated to below a level of significance. Impacts related to geology, soils, and paleontological resources (during construction)

and noise and vibration (during construction) would remain significant and unavoidable. The Metro Board will also decide if any Proposed Project alternatives substantially reduce significant impacts while still meeting the key Project objectives, and if one of the alternatives could be approved. Upon the completion of the Final EIR and other required documentation, if warranted, the Metro Board will adopt findings relative to the Project's environmental effects, and prepare a statement of overriding considerations, in conjunction with the certification of the Final EIR and approval of the Project.

The following issues are to be resolved as the Project proceeds through the environmental process and interested-party coordination:

- Selection of alignment
- Selection of access points
- Selection of design variations
- Selection of the Final EIR Project (Metro Board will select a Final EIR Project after circulation of the Draft EIR)
- Funding shortfall
- Phasing of the Project based on available funding

ES-9 References

City of Los Angeles Department of City Planning. 2022. *Draft Cornfield Arroyo Seco Specific Plan Update*. November. https://planning.lacity.gov/plans-policies/casp-update.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2016. *Los Angeles River Bike Path Gap Closure Feasibility Study*. May 31. libraryarchives.metro.net/dpgtl/lariver/20170712-la-river-bike-path-gap-closure-feasibility-study-updated.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Conceptual Design Report: LA River Path*. October. https://www.dropbox.com/scl/fi/78uqw9ywqe8ecz3hiu6tb/190912_LAR_Concept_Design_Report_Final.pdf?rlkey=f3k1it8ddnmi1to45ypab0u60&dl=0.

River LA. 2013. Website: *Greenway 2020*. https://www.riverla.org/pastprojects/greenway2020-sz8wl-pkz6s.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal 2024—The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy*. March. https://scag.ca.gov/connect-socal.

US Army Corps of Engineers (USACE). 2015. *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report*. October. Prepared by USACE Los Angeles District. Record RN 735-17c https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2339.

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ACRONYMS AND ABBREVIATIONS

Term	Definition
%	percent
>	greater than
µg/m^3	micrograms per cubic meter
2020 LRTP	2020 Long-Range Transportation Plan
AASHTO	American Association of State Highway and Transportation Officials
AB	Assembly Bill
ADA	Americans with Disabilities Act
ADI	area of direct impact
ANSI	American National Standards Institute
API	area of potential impact
AQMP	Air Quality Management Plan
AT&SF	Atchison, Topeka and Santa Fe Railway
BCE	Before Common Era
bgs	below ground surface
BID	Business Improvement District
BIPOC	black indigenous people of color
BLM	US Department of the Interior Bureau of Land Management
BMP	best management practice
BOE	City of Los Angeles Bureau of Engineering
BP	British Petroleum
BRT	bus rapid transit
BTU	British thermal unit
C&D	construction and demolition
CA	California
CA State Parks	California Department of Parks and Recreation
CAA	Clean Air Act
CAAP	Climate Action and Adaptation Plan
CAAQS	California Ambient Air Quality Standards
CAL FIRE	California Department of Forestry and Fire Protection
Cal OES	California Governor's Office of Emergency Services
Cal/OSHA	California Division of Occupational Safety and Health
CalEEMod	California Emissions Estimator Model

Term	Definition
CALGreen	California Green Building Standards
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASP	*Cornfield Arroyo Specific Plan*
CBC	California Building Code
CCAP	Los Angeles County Community Climate Action Plan
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH_4	methane
CHRIS	California Historical Resources Information System
CMP	corrugated metal pipe
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COMPSTAT	Computer Statistics Unit
Connect SoCal	*Connect SoCal—The 2020–2045 Regional Transportation Plan/ Sustainable Communities Strategy*
COVID	coronavirus disease
CPA	Community Plan Area
CPUC	California Public Utilities Commission
CRA/LA	Community Redevelopment Agency of the City of Los Angeles
CRHR	California Register of Historical Resources
CRMMP	Cultural Resources Mitigation and Management Plan

Term	Definition
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DASH	Downtown Area Short Hop
dB	decibel
dBA	A-weighted decibel
DHS	Department of Health Services
DU	dwelling unit(s)
DWR	California Department of Water Resources
ECMP	Energy Conservation and Management Plan
EIR	Environmental Impact Report
EISA	Energy Independence and Security Act of 2007
EM	Engineer Manual
EMFAC	emission factor
EO	executive order
EPA	US Environmental Protection Agency
EPCA	Energy Policy and Conservation Act of 1975
ESA	Endangered Species Act
FE	Federally Listed—Endangered
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
FHSZ	Fire Hazard Severity Zone
FHWA	Federal Highway Administration
FP	Fully Protected
FT	Federally Listed–Threatened
FTA	Federal Transit Administration
FTA manual	*Transit Noise and Vibration Impact Assessment Manual*
g	acceleration due to gravity
GHG	greenhouse gas
GLO	General Land Office
GreenLA	*GreenLA: An Action Plan to Lead the Nation in Fighting Global Warming*
GWP	global warming potential
H&H	hydrology and hydraulics
H_2S	hydrogen sulfide

Term	Definition
HABS	Historic American Buildings Survey
HAP	hazardous air pollutant
HCS	Los Angeles Citywide Historic Context Statement
HDM	*Highway Design Manual*
HPLA	Los Angeles Historic Resources Inventory
HPOZ	Historic Preservation Overlay Zone (City of Los Angeles)
HR	historical resource number
HRG	Historic Resources Group
I-	Interstate
IEPR	Integrated Energy Policy Report
in/sec	inch(es) per second
IPaC	Information for Planning and Consultation
KOP	key observation point
kV	kilovolt(s)
LA	Los Angeles
LAAC	Los Angeles Administrative Code
LACDPW	Los Angeles County Department of Public Works
LACFCD	Los Angeles County Flood Control District
LACoFD	Los Angeles County Fire Department
LACSD	Los Angeles County Sanitation District
LADOT	City of Los Angeles Department of Transportation
LADPW	City of Los Angeles Department of Public Works
LADRP	City of Los Angeles Department of Recreation and Parks
LADRP	City of Los Angeles Department of Recreation and Parks
LADWP	City of Los Angeles Department of Water and Power
LAFD	City of Los Angeles Fire Department
LA-HCM	City of Los Angeles Historic-Cultural Monument
LAMC	Los Angeles Municipal Code
LAPD	City of Los Angeles Police Department
LAPL	City of Los Angeles Public Library
LARER	Los Angeles River Ecosystem Restoration
LARMP	*LA River Master Plan*
LARWQCB	Los Angeles Regional Water Quality Control Board

Term	Definition
LASAN	City of Los Angeles Bureau of Sanitation
LASD	Los Angeles County Sheriff's Department
LASHP	City of Los Angeles State Historic Park
LAUSD	City of Los Angeles Unified School District
lb/day	pounds per day
L_{dn}	day-night noise level
$L_{dn.equip}$	cumulative sound exposure for a receiver from equipment over a specified time period
L_{eq}	equivalent noise level
$L_{eq.equip}$	average of the equipment sound energy over a specific period of time
LID	low-impact development
Link US	Link Union Station
L_{max}	maximum sound level
LOTB	log of test borings
LPA	Locally Preferred Alternative
LRFD	load and resistance factor design
LRTP	Long Range Transportation Plan
LST	localized significance threshold
LU	Landscape Unit
L_v	vibration level
MBS	*Moving Beyond Sustainability* Plan
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
mgd	million gallons per day
MM	mitigation measure
MMBTU	metric millions British thermal unit
MMRP	Mitigation and Monitoring and Reporting Program
MPO	Metropolitan Planning Organization
MRCA	Mountains Recreation and Conservation Authority
MT CO_2e	metric tons of carbon dioxide equivalent
M_W	moment magnitude
MWD	Metropolitan Water District of Southern California
N_2O	nitrous oxide

Term	Definition
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
National Academies	National Academies of Sciences, Engineering, and Medicine
NEPA	National Environmental Policy Act
NHMLA	Natural History Museum of Los Angeles County
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
O&M	operations and maintenance
O_3	ozone
OHP	Office of Historic Preservation (California)
OHR	Office of Historic Resources (City of Los Angeles)
OHWM	ordinary high-water mark
OPR	Office of Planning and Research (California)
OSHA	Occupational Safety and Health Administration
PARC	Park, Arts River & Connectivity
Pb	lead
PF	project feature
pLAn	*City of Los Angeles Green New Deal Sustainable City pLAn 2019*
PM	particulate matter
PM_{10}	particulate matter less than 10 micrometers in aerodynamic diameter
$PM_{2.5}$	particulate matter less than 2.5 micrometers in aerodynamic diameter
PO	Public Realm and Open Space
ppb	part(s) per billion
ppm	part(s) per million
ppm	parts per million (by volume)
PPV	peak particle velocity
PRC	Public Resources Code (California)
PRMP	Paleontological Resources Mitigation Plan

Term	Definition
QA/QC	quality assurance/quality control
RCP	reinforced concrete pipe
RIO	River Improvement Overlay
RMC	Rivers and Mountains Conservancy
RMS	root mean squared
ROG	reactive organic compound
ROW	right-of-way
RPS	Renewables Portfolio Standards
RSA	resource study area
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCC	Species of Special Concern
SCCIC	South Central Coastal Information Center
SCE	Southern California Edison
SCS	sustainable communities strategy
SCS	sustainable communities strategy
SDC	Seismic Design Criteria
SDWA	Safe Drinking Water Act
SE	State-Listed Endangered
SEA	Significant Ecological Area
SEMS	Standard Emergency Management System
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SO_2	sulfur dioxide
SOI	Secretary of the Interior
SOx	sulfur oxides
SR-	State Route
SRA	State Responsibility Area

Term	Definition
SSC	Species of Special Concern
SVP	Society of Vertebrate Paleontology
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	California State Water Resources Control Board
TAC	toxic air contaminant
TAG	Transportation Assessment Guidelines
TAZ	traffic analysis zone
TCE	temporary construction easement
TCP	traffic control plan
TCR	tribal cultural resource
TMDL	total maximum daily load
TMP	transportation management plan
UCMP	University of California Museum of Paleontology
Union Station	Los Angeles Union Station
UP	Union Pacific Railroad
US	United States
US-	US Highway Route
USACE	US Army Corps of Engineers
USC	United States Code
USC	University of Southern California
USFWS	US Fish and Wildlife Service
USGS	US Geological Survey
UWMP	urban water master plan
VCP	vitrified clay pipe
VdB	vibration decibels
Vernon Public Works	City of Vernon Public Works Department
VHFHSZ	Very High Fire Hazard Severity Zone
VIA	visual impact assessment
VMT	vehicle miles traveled
VOC	volatile organic compound
VP	vertebrate paleontology
VPU	City of Vernon Public Utilities Department
WEAP	Worker Environmental Awareness Program

CHAPTER 1 INTRODUCTION

This chapter provides an overview of the purpose of this Draft Environmental Impact Report (EIR) for the LA River Path Project (Project), discusses the environmental review process, and describes this Draft EIR's organization.

1.1 Summary of the Project

The Project is a walking and bicycling path for all ages and abilities along an approximately 8-mile stretch of the LA River from Elysian Valley through Downtown Los Angeles and the City of Vernon to the City of Maywood. The proposed pedestrian and bicycle path would provide connections to and between Downtown Los Angeles, including the Arts District, Little Tokyo, Civic Center, El Pueblo District/Los Angeles Union Station (Union Station), and the Wholesale District; the surrounding communities of Elysian Valley, Cypress Park, Elysian Park, Lincoln Heights, Chinatown, and Boyle Heights; and the Cities of Vernon and Maywood. The surrounding area has limited pedestrian and bicycling infrastructure connecting the communities. The Project and its options, Option 1 and Option 2, are being considered and are described in Chapter 2, *Project Description*.

For purposes of defining the Project under the California Environmental Quality Act (CEQA), the alignment options have been renamed from the naming conventions used in the 2019 Notice of Preparation (NOP) and in prior studies for the Project. This Draft EIR serves to evaluate the potential environmental impacts of the Proposed Project and its options, Option 1 and Option 2, which are described in more detail in Chapter 2, *Project Description*. Los Angeles County Metropolitan Transportation Authority (Metro) staff will prepare a recommendation on its preferred alignment in Spring 2026 based on findings from the Draft EIR, public comments made during the comment period, technical analysis, stakeholder input, and other factors such as cost, ridership, and Project objectives.

As discussed in Chapter 2, *Project Description*, Metro conducted two significant efforts assessing the viability of the Project. These efforts included the *Los Angeles River Bike Path Gap Closure Feasibility Study* (Feasibility Study) (Metro 2016), which found that a gap closure project was feasible, and the *LA River Path Conceptual Design Report* (Metro 2019), which incorporated significant public outreach findings and resulted in the identification of Project objectives and path alignments.

1.2 Purpose of this Draft Environmental Impact Report

Metro, as the Lead Agency for the Project, has prepared this Draft EIR to inform public agency decisionmakers and the general public about potential significant environmental impacts of the Project, possible ways to minimize potential impacts, and reasonable alternatives to the Project. The Draft EIR has been prepared to satisfy the requirements of CEQA (*Public Resources Code* [PRC] Section 21000, et seq.) and the CEQA Guidelines (14 *California Code of Regulations* [CCR] Section 15000, et seq.) and to allow Metro to consider environmental consequences when deciding whether to approve the Project or its options.

Metro is the Lead Agency for the Project in accordance with CEQA Guidelines Sections 15051 and 15367, which define the Lead Agency as the public agency that has the principal responsibility for carrying out or approving a project. Under CEQA, a Lead Agency has the duty to avoid or substantially lessen the significant environmental impacts of a project, where feasible. A Lead Agency also has an obligation to balance the economic, social, technological, legal, and other benefits of a project against its significant unavoidable impacts on the environment. This Draft EIR identifies the potentially significant impacts of the Project on the environment, identifies mitigation measures to minimize those significant impacts, identifies reasonable and potentially feasible alternatives to the Project, and identifies any significant unavoidable adverse impacts that cannot be mitigated to less than significant levels.

This Draft EIR was prepared in accordance with CEQA Guidelines Section 15151, which characterizes the standards for EIR adequacy as follows:

> "An EIR should be prepared with a sufficient degree of analysis to provide decisionmakers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

1.3 Environmental Review Process

Consistent with CEQA Guidelines Section 15082, Metro filed an NOP for the Draft EIR on October 23, 2019 with the State of California Office of Planning and Research State Clearinghouse, other public agencies, and the general public. The NOP provided notice to public agencies and the general public to provide comments on the scope and content of the NOP within 45 days of receiving the NOP from the Lead Agency (Metro). The 45-day review period ended on December 6, 2019.

Metro received 148 comments during the public scoping period. The scoping process and comments received to date are detailed in Appendix A, *Public Participation and Outreach*.

The following summarizes general themes related to environmental issues from the public comments and questions that were received during the NOP comment period, and at the scoping meetings:

- General public support for the Project
- Project alignments, access points, and configurations
- Desire for amenities and equitable access along the Project
- Potential for poor air quality and odors along the Project
- Need for continued community engagement and outreach
- Connectivity between the Project and on-street bicycle, pedestrian, and transit networks
- Costs related to construction of multiple new river crossings
- Concern about gentrification and displacement of long-time river-adjacent residents
- Maximizing incorporation of green infrastructure along the Project

- Importance of planning for the safety of path users and the wellbeing of unhoused people
- Need for maintenance standards that do not require extended closures of the path
- Desire for Metro to coordinate with community groups, agencies, and Native American tribes
- Importance of honoring the history and culture of neighborhoods along the river
- Designing the Project for safe interactions between different types of users
- Desire for abundant wayfinding signage along the Project corridor

1.4 Environmental Impact Report Topics

This Draft EIR addresses the potential environmental impacts of the Project and was prepared following input from the public and the responsible and trustee agencies through the Draft EIR scoping process. The following environmental topics are analyzed in this EIR:

- Aesthetics and visual resources
- Air quality
- Biological resources
- Cultural resources
- Energy
- Geology, soils, and paleontological resources
- Greenhouse gas emissions
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Noise and vibration
- Population and housing
- Public services/safety and security
- Recreation
- Transportation
- Tribal cultural resources
- Utilities and service systems
- Wildfire

1.5 Public Review of the Draft Environmental Impact Report

This Draft EIR was prepared under the direction and supervision of Metro and reflects the independent judgment of Metro. During the public review and comment period, Metro will conduct three in-person public hearings and one virtual public hearing to take testimony on the Draft EIR. The public review and comment period will occur between December 18, 2025 and February 2, 2026, ending 47 calendar days after the release of the Draft EIR. Public agencies, organizations, and individuals may submit written comments concerning environmental issues relevant to the Project and the adequacy of the document during the public comment period by email or US mail to:

Mitali Gupta, Project Manager
Los Angeles County Metropolitan Transportation Authority
One Gateway Plaza
Los Angeles, CA 90012
Email: lariverpath@metro.net

Metro will conduct public hearings to receive testimony on the Draft EIR during the public review and comment period. Following the public review and comment period, Metro will prepare written responses to written and oral comments pertaining to environmental issues received during the comment period and include these as part of the Final EIR. As required by CEQA, responses to comments submitted by commenting agencies will be distributed to those agencies for review prior to consideration of the Final EIR by Metro's Board of Directors. Upon the completion of the Final EIR and other required documentation, the Metro Board of Directors may adopt findings of fact relative to the Project's environmental effects after implementation of mitigation measures and provide a statement of overriding considerations, in conjunction with certification of the Final EIR and Project approval.

1.6 Environmental Impact Report Organization

This Draft EIR includes the following elements:

- **ES, *Executive Summary*.** The Executive Summary gives an overview of the Project's location, setting, objectives, and options; background, the environmental impacts, and mitigation measures; areas of known controversy; and issues to be resolved.
- **Chapter 1, *Introduction*.** This chapter discusses the purpose of the Draft EIR, identifies the environmental topics addressed, describes the environmental review process and organization of the Draft EIR, and discusses the intended use of this Draft EIR.
- **Chapter 2, *Project Description*.** This chapter provides the following:
  - A description of the Project and its options, Option 1 and Option 2
  - The Project location and boundaries
  - A statement of objectives sought by the Project and its options
  - A list of permits and other approvals required for the Project and its options
- **Chapter 3, *Environmental Settings, Impacts, and Mitigation*.** This chapter presents the following:
  - Environmental setting for each environmental resource addressed
  - Project and cumulative impact analyses and, if applicable, mitigation measures
  - Conclusions regarding the level of significance after mitigation for potential impacts related to each environmental resource
- **Chapter 4, *Other CEQA-Required Sections*.** This chapter summarizes significant unavoidable adverse impacts, effects determined not to be significant, significant irreversible environmental change, and growth-inducing impacts.
- **Chapter 5, *Evaluation of Alternatives*.** This chapter provides an analysis of a range of reasonable alternatives as follows:
  - Proposed Project and its options, Option 1 and Option 2
  - Mostly-East Bank Alternative
  - Mostly-West Bank Alternative
  - Shortened Northern Path Alternative
  - Shortened Southern Path Alternative
  - A No Project Alternative, as required by CEQA

- **Chapter 6, *Lead Agency and List of Preparers.*** This chapter provides information on the Lead Agency and persons who contributed to the preparation of this Draft EIR.
- **Chapter 7, *References.*** This chapter provides the references and sources used in the preparation of this Draft EIR.
- **Appendix A, *Public Participation and Outreach.*** This appendix presents the public engagement and community outreach that occurred throughout the environmental review process and details about tribal and historic resources consultation.
- **Appendix B, *Project Footprint Maps.*** This appendix provides the permanent and temporary footprint maps for the Proposed Project and its options, Option 1 and Option 2.
- **Appendix C, *Project Features.*** This appendix includes a comprehensive list of all project features for the Proposed Project and its options, Option 1 and Option 2.
- **Appendices D–N (impact analysis reports and technical data).** These appendices present data supporting the analysis or contents of this EIR.

Copies of this EIR and appendices are posted on Metro's website (https://www.metro.net/projects/lariverpath/) and are available on file at Metro Headquarters (at One Gateway Plaza, Los Angeles, California 90012) during normal business hours. Copies of this Draft EIR are also available at local public libraries.

1.7 Intended Uses of this EIR

The purpose of this Draft EIR is:

- To satisfy the requirements of CEQA (*Public Resources Code* Section 21000, et seq.) and the CEQA Guidelines (14 *California Code of Regulations* Chapter 3, Section 15000, et seq.).
- To inform public agency decision-makers and the public of the significant environmental effects of the Project and possible ways to minimize those significant effects.
- To enable Metro to consider environmental consequences when deciding whether to approve the Project.

Metro serves as the lead agency for the Project. As described in CEQA and the CEQA Guidelines, lead agencies are charged with the duty to avoid or substantially lessen significant environmental impacts of a project, where feasible. In discharging its duties under CEQA, a lead agency has an obligation to balance the economic, social, technological, legal, and other benefits of a project against its significant unavoidable impacts on the environment.

This Draft EIR is an informational document designed to identify the potentially significant impacts of the Project and its options on the environment; to indicate the manner in which those significant impacts can be minimized; to identify reasonable and potentially feasible alternatives to the Project that would avoid or reduce the significant impacts; and to identify any significant and unavoidable adverse impacts that cannot be mitigated.

This Draft EIR will support the decision-making process for the Project's approval by Metro. This Draft EIR will also be used by various local, state, and federal agencies in their consideration of permits, discretionary actions, and approvals potentially required to implement the Project.

1.7.1 Anticipated Agency Involvement

Agency involvement is anticipated by the responsible and trustee agencies described in the sections below.

1.7.1.1 Responsible Agencies

A Responsible Agency, as defined in CEQA Guidelines Section 15381, is a public agency that has responsibility for carrying out or approving a project for which a lead agency is preparing an EIR. The following responsible agencies may have discretionary approval power over the Project:

- US Army Corps of Engineers (USACE) (federal)
- US Fish and Wildlife Service (USFWS) (federal)
- California Department of Fish and Wildlife (CDFW) (state)
- State Water Resources Control Board (SWRCB) (state)
- Los Angeles Regional Water Quality Control Board (LARWQCB) (regional)
- California Department of Transportation (Caltrans) District 7 (state)
- California Public Utilities Commission (CPUC) (state)
- California State Historic Preservation Officer (SHPO) (state)
- California State Lands Commission (state)
- Los Angeles County Department of Public Works (LACDPW), including the Los Angeles County Flood Control District (LACFCD) (local)
- City of Los Angeles Bureau of Engineering (BOE), Bureau of Sanitation, Department of Transportation (LADOT), Department of Water and Power (LADWP), and Cultural Heritage Commission (local)
- City of Vernon Public Works Department (local)

1.7.1.2 Trustee Agencies

A Trustee Agency, as defined by CEQA Guidelines Section 15386, is a state agency with jurisdiction by law over natural resources affected by a project that are held in trust for the people of the state. A Trustee Agency may also be a Responsible Agency if it has discretionary authority over a project. The Project includes the following trustee agencies:

- CDFW
- California State Lands Commission
- California Department of Parks and Recreation (DPR)

CHAPTER 2 PROJECT DESCRIPTION

As required by the California Environmental Quality Act (CEQA) Guidelines Section 15124, this chapter introduces and defines the LA River Path Project (Proposed Project) and its options, Option 1 and Option 2, studied in this Draft Environmental Impact Report (EIR). The purpose of this Draft EIR is to analyze and disclose the Proposed Project's potential significant effects on the environment and to identify mitigation measures and alternatives to avoid or reduce significant effects. The analysis presented in this Draft EIR complies with CEQA per *Public Resources Code* Section 21000 et seq. and the CEQA Guidelines as codified in 14 *California Code of Regulations* Section 15000 et seq.

This chapter presents the Proposed Project overview and history, its objectives, and location and boundaries. It also describes the Proposed Project's technical, economic, and environmental characteristics.

2.1 Proposed Project Overview and History

The Project would close the longest remaining gap between existing trails along the LA River to better serve existing communities, meet future demand, and improve regional connectivity. When complete, the Project would provide a seamless 32-mile traffic-separated active transportation facility for walking, rolling, and bicycling from the San Fernando Valley to the City of Long Beach along the LA River.

Metro conducted two significant efforts assessing the viability of the Project. The first was the *Los Angeles River Bike Path Gap Closure Feasibility Study* (Feasibility Study) (Metro 2016), which found that a gap closure project was feasible. The second was the *LA River Path Conceptual Design Report* (Conceptual Design Report) (Metro 2019), which incorporated significant public outreach findings and resulted in the identification of the Proposed Project and its two options for evaluation in this Draft EIR. These feasibility reports are described below.

2.1.1 Los Angeles River Bike Path Gap Closure Feasibility Study

In June 2014, the Metro Board of Directors authorized a study to evaluate possibilities to close the 8-mile gap along the LA River between Elysian Valley and the City of Vernon. The outcome was the Feasibility Study, which included a preliminary assessment of the engineering feasibility, neighborhood connectivity, safety, environmental and permitting requirements, hydraulic impacts, real estate, maintenance and operations, and preliminary cost estimates of a gap closure project. The Feasibility Study found that a gap closure project was feasible and would help serve the active transportation needs of communities neighboring the study area and the region.

Following completion of the Feasibility Study in September 2016, the Metro Board of Directors voted to advance the Project, originally named "Los Angeles River Bike Path Gap Closure," into conceptual design. In November 2016, Los Angeles County voters passed Measure M, which allocated $365 million in funding for the Project.

2.1.2 LA River Path Conceptual Design Report and Related Public Outreach

The conceptual design process, initiated in 2017, included technical studies to learn more about the Project area's existing conditions coupled with extensive community outreach engagement to understand the community's needs and desires. As part of this process, path alternatives were developed to address physical and regulatory challenges and to serve community needs. The Conceptual Design Report summarized technical studies, community outreach efforts, and the recommended path alternatives.

As part of community outreach, Metro hosted several different types of outreach events and administered two online public survey tools during conceptual design preparation.

A total of 36 public engagement events were held from 2018 to 2019, including pop-up events, stakeholder roundtables, and community open house meetings. In addition to those events, Metro held meetings with neighborhood councils, residential block groups, community-based organizations, business owners, and other stakeholders. Additional engagement tools included in-person and online surveys, online videos, and targeted youth outreach.

Metro sought to capture community feedback on topics such as Project goals and objectives, path types, and preferred access points to guide the evaluation of different path alignments, and ultimately identified three top-performing path alternatives. Overall, more than 4,600 in-person comments and 3,800 survey responses were received throughout the conceptual design process.

Driven by the community's needs and input, the conceptual design process culminated in the Conceptual Design Report with Metro's identification of Project objectives (Section 2.2, *Project Objectives*), path types (Section 2.5, *Proposed Project and Options*), and the proposed and optional path alignments and access points (Section 2.5) to be further studied during environmental review.

2.1.3 Regional and Local Plans Related to the Project

Several regional and local plans have influenced the conceptual design of the Project. Several studies of the LA River have identified the need for the Project, and Metro is coordinating with numerous other studies and planning efforts. Major studies are listed below.

- City of Los Angeles' *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) aimed at revitalizing LA River within the City of Los Angeles including providing pedestrian and bicycle facilities.
- US Army Corps of Engineers' (USACE's) *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report* (USACE 2015) evaluated an 11-mile stretch of the LA River from Griffith Park to Downtown Los Angeles.
- River LA's *Greenway 2020* advocacy campaign (River LA 2013) started in 2013 and identified the goal of completing the path along the length of the river.
- Los Angeles County*'s LA River Master Plan* (LARMP) (LACDPW 2022) is an updated effort to synchronize goals and plans for revitalizing the LA River. Originally created in 1996, the LARMP recognized the river as a body of resources of regional importance that must be protected and enhanced by implementing efforts identified by the Master Plan. The current LARMP includes a

vision for the LA River to become a continuous 51-mile trail with improved and increased access points to help the river serve as an active and alternative transit mode for communities adjacent to the river and throughout the County.

Additionally, several local and regional plans have mentioned a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Some of these plans include Metro's *2020 Long Range Transportation Plan* (Metro 2020), the Southern California Association of Governments' (SCAG's) *Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020), as well as the following:

- City of Los Angeles' *2010 Bicycle Plan* (City of Los Angeles Department of City Planning 2011) recommended a continuous bicycle path along the south and west sides of the LA River
- City of Los Angeles' *Mobility Plan 2035* (City of Los Angeles Department of City Planning 2016) recommended completing a bicycle path along the LA River through Downtown Los Angeles by 2025
- City of Vernon's *Bicycle Master Plan* (City of Vernon 2017) provided recommendations for a path through the complex and constrained 3-mile stretch through Vernon
- Los Angeles County's *County of Los Angeles Bicycle Master Plan* (LACDPW 2012) recommended building a bicycle path along the LA River through Vernon
- Metro's *Active Transportation Strategic Plan* (Metro 2023) included the Feasibility Study as a potential future active transportation infrastructure project

2.1.4 Identification of the Proposed Project and Options

The Project, as described here and shown on Figures 2-1 and 2-2, is a proposed walking and bicycling path on an approximately 8-mile stretch of the LA River between Elysian Valley in Los Angeles and the Cities of Vernon and Maywood. The Project would commence in the north at the terminus of the existing LA River Greenway Trail at Riverside Drive in the City of Los Angeles and would conclude at the trail's southern limit at Atlantic Boulevard, where the existing LA River Trail begins in the City of Vernon and continues to Long Beach.

Three alignment alternatives were introduced to the public during the Project's scoping period: Alternative A, Alternative B, and Alternative C. From these three scoping alternatives, Metro identified the Proposed Project and two options to the Proposed Project, Option 1 and Option 2. The identification of a Proposed Project and its two options did not alter the general description and location of the alternatives originally introduced to the public in the Notice of Preparation. Refer to Appendix A, *Public Participation and Outreach* for more information.

Figure 2-1. Project Regional Context



Figure 2-2. Project Study Area



The Proposed Project and its options are discussed more fully in Section 2.5, *Proposed Project and Options*. Generally, the Proposed Project and its options share the following four similarities:

- **Start and end on the west bank.** The Proposed Project and its options allow a connection between the southern terminus of the existing LA River Greenway Trail at the gap's northern end and the northern terminus of the existing LA River Trail at the gap's southern end.
- **Redondo Junction alignments.** At Redondo Junction, a highly constrained area, all alignments are situated on the west bank at the north and the east bank at the south. These alignments allow a transition between banks that avoids impacts on existing infrastructure, achieves acceptable path grades, and uses public right-of-way (ROW) opportunities.
- **Los Angeles Union Station (Union Station) access.** The Proposed Project and its options would access Union Station on the west bank.
- **Sixth Street connection.** The Proposed Project and its options would connect to the Sixth Street Tunnel on the west bank to facilitate future access to the Sixth Street Park, Arts, River, and Connectivity Improvements (PARC) Project.

2.2 Project Objectives

Project objectives were shaped by input from stakeholders and communities throughout the conceptual design public engagement process from late 2018 through 2019.

The primary objective of the Project is to create a safe and world-class active transportation path along the LA River between Elysian Valley in the City of Los Angeles and the Cities of Vernon and Maywood that would enhance and provide recreational opportunities, livability, and regional and local connectivity and would provide an outstanding user experience, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. This new transportation facility would contribute to improved health, economic, environmental, transportation, and equity issues throughout and beyond the study area. The Project objectives include:

- Providing, to the extent feasible, a seamless pedestrian and bicycling path between the San Fernando Valley in Los Angeles and the LA River Bicycle Path in Long Beach
- Improving safety for pedestrians and bicyclists from existing conditions
- Increasing access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services
- Reducing vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths and expanding travel choices
- Improving access to opportunity for historically under-invested communities, especially in low--income households earning less than $60,000 per year and in marginalized communities
- Creating a path that feels safe, comfortable, and is a world-class transportation facility open to people of all ages and abilities
- Creating a path that meets the needs of both recreational and utilitarian users

2.3 Project Location

The Project is a pedestrian and bicycling path regionally located in the center of Los Angeles County, California. Following an approximately 8-mile stretch of the LA River, the Project would connect Elysian Valley in the City of Los Angeles with the Cities of Vernon and Maywood, providing access to Downtown Los Angeles. The Project would also travel through Bandini Islands, an unincorporated area of Los Angeles County. Proposed staging areas for construction of the Project are in the Cities of Los Angeles, Vernon, and Bell.

Figure 2-1 is a regional context map of the Project. Regional access would be provided by existing transportation infrastructure, such as Metrolink and multiple highways. The northern terminus of the Project would connect at the existing Los Angeles River Greenway Trail, owned and maintained by the City of Los Angeles, near Egret Park. The southern terminus near Atlantic Boulevard in the City of Vernon would connect at the existing LA River Trail, which is owned and maintained by the Los Angeles County Department of Public Works. Designed for all abilities and ages, the Project would provide access to Downtown Los Angeles and connectivity among the surrounding communities of Elysian Valley, Cypress Park, Elysian Park, Lincoln Heights, Chinatown, the Arts District, Little Tokyo, the Industrial District, Boyle Heights, East Los Angeles, and the Cities of Vernon and Maywood.

The Project study area shown in Figure 2-2 generally reflects the area in which reasonably foreseeable direct or indirect impacts of the Project may occur. Individual resource areas addressed in this Draft EIR may have unique study areas based on the potential for specific direct and indirect impacts associated with those resources; each study area is described more fully in each resource's environmental setting section (Chapter 3, *Environmental Settings, Impacts, and Mitigation*).

2.4 Project Setting

2.4.1 Connectivity

Currently, 24 miles of non-continuous pedestrian and bicycle paths exist along the LA River. The Project would connect the longest remaining 8-mile gap between the existing Los Angeles River Greenway Trail and the existing LA River Trail along the LA River, allowing for a continuous 32-mile path extending from Griffith Park through Downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River.

In addition to a new active transportation path, the Project would provide connectivity to Metro bus, rail, and other bike and pedestrian trails along the Project study area. As part of the conceptual design effort, a demand analysis projected segments of the Project would serve between 1,700 and 5,900 daily bicycle and pedestrian trips in 2035 (Metro 2019). The Project would create an active transportation path for users of all ages and abilities, providing a new place for walking, running, bicycling, rolling, and other non-motorized activities separated from vehicular traffic.

2.4.2 Economic

The Project would serve the communities who live, work, and play along this 8-mile stretch of the river. Los Angeles County has a population of approximately 10.1 million people of which 73.8% is characterized as black, indigenous, or people of color (BIPOC). Approximately 1.38 million people live within 3 miles of the Project (SCAG 2020). Approximately 90.3% of the population are BIPOC and

approximately 76.3% identify as Hispanic.[1] Within this 3-mile area adjacent to the Project, approximately 23.7% live in poverty with a median household income of approximately $50,136 a year.[2] Approximately 20.8% of this working population rely on multi-modal transportation options for commuting to work, including walking, bicycling, and taking public transit.[3] Significant growth in population, households, and employment is expected to occur in the Project area. Within 3 miles of the Project footprint, an 8.4% growth in population is anticipated to occur between 2019 and 2031 (SCAG 2020). Additionally, the number of households is anticipated to grow by 16%, and employment is anticipated to grow by 7.3% (SCAG 2020).

When completed, the Project would allow people to travel along the LA River between the San Fernando Valley and Long Beach and would provide access to many communities in between. The Project would contribute to countywide mobility and provide access to much-needed low-cost transportation options. As described in Section 3.16, *Transportation,* multiple bus stops are located in the Project area and near the proposed access points. These bus stops are served by Metro (through Rapid, Express, and Local services) and the by the Downtown Area Short Hop (DASH) service. The Project would provide first/last mile[4] transportation connections to this bus and rail network. The Project would also provide greater access to employment, entertainment, commercial, education, and recreational centers. It would also provide more active lifestyle choices in disadvantaged communities and would complement projects that have already been built or are underway. The Project would accomplish this by closing critical gaps in the bike network by integrating and synchronizing path plans.

2.4.3 Environmental

This section describes the existing environmental context and surrounding land uses in the Project study area. These existing conditions are discussed in greater detail in Chapter 3, *Environmental Settings, Impacts, and Mitigation* by resource.

Land uses vary widely in the Project study area and surrounding area. The 8-mile Project study area exists within a complex landscape; it follows the course of the river and is surrounded by transportation facilities such as railways, roads, bridges, and pathways. Many of the land uses adjacent to the Project study area are predominantly industrial or are infrastructure such as utility and flood-control facilities, with some residential, commercial, religious, and open space land uses. Many of the neighborhoods adjacent to the Project have limited pedestrian and bicycling infrastructure. These areas have high volumes of truck traffic, deteriorated roadways, a lack of sidewalks, and at-grade rail crossings. There are also high volumes of freight and passenger rail surrounding portions of the

1 Federal census *2015–2019 American Community Survey 5-Year Estimate* at the census tract level (US Census Bureau 2019a). All census tracts that intersect the 3-mile buffer from the permanent project footprint are included.

2 The US government defines the federal poverty level for a family of four as $25,000 per year. The US Department of Housing and Urban Development threshold of income limits is used to define "low-income." The 2019 median household income for Los Angeles County ($68,044) is used. A median household income approximately 73% of Los Angeles County ($50,000) is used as the low-income threshold. A community is considered a low-income community if the percent low-income is at least 10% higher than the percent low-income for Los Angeles County, or the median household income is less than 73% of the median household income for Los Angeles County (US Department of Housing and Urban Development 2020).

3 Federal census 2015–2019 American Community Survey 5-Year Estimate: Detailed Tables Means of Transportation to Work By Selected Characteristics (Workers 16 years and older) (US Census Bureau 2019b).

4 An individual's trip is understood as the entire journey from origin to destination. Individuals may use a number of modes of transport to complete the journey; they may walk, drive, ride a bicycle, take a train, or in many cases combine a number of modes. Public transportation agencies typically provide bus and rail services that may frame the core of such trips, but users must complete the first and last portion on their own; they must first walk, drive, or roll themselves to the nearest station. This is referred to the first and last mile of the user's trip, or first/last mile for short, even though actual distances vary by users (Metro 2023).

Project study area, creating a barrier between the proposed path and on-street mobility connections to communities.

Other attributes of the environmental character of the Project study area include the LA River's channel and river characteristics (including hydrology); existing bridges, railways, and utility corridors; cultural-rich areas in or near the LA River, including historical bridges; varied vegetation that is sparse, highly disturbed and fragmented and/or ornamental; land uses with potential hazardous materials or waste issues; and a diverse range of property ownership.

2.4.3.1 River Channel and Bank Characteristics

In response to major floods occurring in the early 20th century Los Angeles County and USACE channelized approximately 51 miles of the LA River by encasing much of the river's bed and banks in concrete. This channelization allows the river to carry floodwaters quickly away from the surrounding areas, reducing the risk of flooding. Today, the LA River channel is broadly configured into two channel shapes: trapezoidal and rectangular, with the channel width ranging from approximately 200 to 500 feet. The trapezoidal channel is wider and features sloped walls, while the rectangular channel is narrower with vertical walls. Portions of the channel that transition between rectangular and trapezoidal shapes have both vertical walls and sloped walls.

Between Washington and Bandini Boulevards, the LA River is a rectangular channel that diverts the low-flow channel from the center to run along both of the outer vertical walls. Within this portion of the LA River channel at the Redondo Junction Grade Separation, metal sheet piling is used for the channel walls. This is the only portion of the river within the Project study area where the channel lining is not entirely concrete.

Along the approximately 8-mile Project study area, there are three general types of conditions at the top of the banks: unobstructed, obstructed, or highly obstructed/vertical walled. Unobstructed portions are relatively free of bank-top obstructions and are generally accommodating of new facilities along them. Obstructed portions have some top-of-bank/incised electrical towers, bridge abutments, or rail facilities and are less accommodating of new facilities along them. The highly obstructed/ vertical walled portions within this 8-mile segment of the LA River have a top-of-bank with little or no open space due to electrical towers and/or rail facilities and would not accommodate new facilities at the top-of-bank. In general, most of the unobstructed portions of the Project study area are south of the Redondo Junction Grade Separation. Refer to Section 3.10, *Hydrology and Water Quality* for more information about the river channel and bank characteristics.

2.4.3.2 Hydrology

The LA River is 51 miles long with an 824-square-mile watershed ranging from the eastern portions of the Santa Monica Mountains, Simi Hills, and the Santa Susana Mountains in the west to the San Gabriel Mountains in the east. Over half of the LA River watershed is highly developed with commercial, industrial, and residential uses, with approximately 324 square miles containing forest and open space. Throughout the Project study area, the LA River acts as an important conduit for stormwater and other surface water runoff. Stormwater and surface water runoff is conveyed to municipal storm drains that eventually drain to the LA River through outfalls, approximately 40 of which are within the Project's 8-mile segment of the LA River.

The LA River remains crucial for flood control. It is characterized as a seasonal wash, running mostly dry in the summer and intermittently in the winter. During the dry season, a minimal amount of water flows above ground in the channelized riverbed. In contrast, during the wet season, with an annual precipitation of 13 to 15 inches that mostly occurs between October and early May, the river flows in intermittent bursts following rain events. Refer to Section 3.10, *Hydrology and Water Quality* for more information about hydrology in the Project study area.

2.4.3.3 Railways

The LA River's banks serve as an important corridor for commuter and freight railways. These railways run along the river's east and west banks and cross the river on at-grade bridges at the same elevation as top-of-bank and on elevated bridges. Rail owners include Metro, Amtrak, Union Pacific Railroad (UP), BNSF Railway, and Metrolink (governed by the Southern California Regional Rail Authority). Table 2-1 lists rail services that cross over or run along the banks of this 8-mile stretch of the river. Metro, Metrolink, and Amtrak have maintenance and storage facilities for their trains adjacent to the river. Both UP and BNSF Railway have large intermodal transfer facilities on the east bank of the LA River. Refer to Section 3.16, *Transportation* for more information about these railways in the Project study area.

Table 2-1. Rail Services within the Project Study Area

Service	Rail Lines/Operations Adjacent to or Crossing the LA River	Rail Facilities Adjacent to the LA River
Metro	▪ A Line ▪ B Line ▪ D Line ▪ E Line	▪ Division 20 and Turnback Facility ▪ Division 21 ▪ Maintenance of Way ▪ Metro Center Project (Future)
Metrolink	▪ 91/Perris Valley Line ▪ Antelope Valley Line ▪ Orange County Line Riverside Line ▪ San Bernardino Line ▪ Ventura County Line	▪ Central Maintenance Facility
Amtrak	▪ Coast Starlight ▪ Pacific Surfliner ▪ Southwest Chief ▪ Sunset Limited ▪ Texas Eagle	▪ Amtrak Redondo Junction Facility ▪ Amtrak Eighth Street Yard
Freight	▪ BNSF Railway ▪ UP	▪ BNSF Railway Los Angeles Intermodal Facility ▪ UP Los Angeles Transportation Center

2.4.3.4 Utility Corridors

The Project study area has heavily concentrated utility infrastructure and networks, providing various residential and industrial communities with electricity, gas, oil, telecommunications, water, sewer, and storm drain services. The utilities form a grid-like mesh of infrastructure along the Project study area. The primary utilities that the Project must coordinate with are the electrical transmission facilities owned by Los Angeles Department of Water and Power (LADWP), Southern California Edison, and the

City of Vernon Public Utilities Department. The LA River is a critical utility corridor for LADWP as it transmits power from a generating station in Seal Beach to a substation in Glendale. Power is carried by overhead lines mounted on 150-foot-high towers that are located on both banks of the LA River. Refer to Section 3.18, *Utilities and Service Systems* for more information about these utility infrastructure and networks in the Project study area.

2.4.3.5 Bridges

The Project study area includes 30 bridges that cross the LA River, equating to more than three bridges per mile, including vehicle and railroad bridges. The oldest bridge, the Mission Junction Railroad Bridge North, was constructed in 1902. The newest bridge, the Sixth Street Viaduct, opened in July 2022. The majority of these bridges are elevated over the channel, while 11 bridges cross the channel at grade (that is, at the same elevation as top-of-bank). The Project would need to traverse over, under, or through these existing bridge structures to be consistent with Project objectives to provide a safe, dedicated, vehicle-separated path people to walk and bicycle. Refer to Section 3.5, *Cultural Resources* and Section 3.16, *Transportation* for more information about the bridges in the Project study area.

2.4.3.6 Built-Environment Historical Resources

The Project study area for cultural resources includes 49 identified built-environment historical resources, including 38 resources that were previously identified, and 11 newly identified resources. Among the previously identified historical resources in the Project study area are: two flood channels, 11 LA River bridges, remnants of another LA River bridge, two public parks, a freeway, a tunnel, a city jail, a public housing complex, a rail yard, a utility yard, a winery, and multiple industrial manufacturing and warehouse properties. Also included in these previously identified historical resources are two historic districts: the Los Angeles River Channel Historic District and the Arroyo Seco Parkway Historic District. In addition, USACE has determined that the LA River Flood channel, which is part of a larger, countywide flood management system, is eligible for listing in the National Register of Historic Places.

Refer to Section 3.5, *Cultural Resources* for more information about the built-environment historical resources in the Project study area.

2.4.3.7 Property Ownership

Land along the Project study area includes publicly and privately held property, both within the river channel and along the top-of-bank. The channel is predominantly owned by the City of Los Angeles north of Washington Boulevard, while ownership shifts to the Los Angeles County Flood Control District (LACFCD) south of Downey Road. A number of privately owned properties extend into the river channel, many of which are adjacent industrial properties with parcel boundaries extending under the river. Private industrial uses, railroads, and utilities dominate the ownership immediately adjacent to the channel. Refer to Appendix B, *Project Footprint Maps* for more information about property ownership in the Project study area.

2.4.3.8 Hazardous Materials

Hazardous materials from current and historical land uses are present in the Project study area. Past and current land uses include light and heavy industry and manufacturing, metal processing plants, battery recycling facilities, auto-related businesses, and shipping yards, in addition to commercial,

residential, and open space zoning. Refer to Section 3.9, *Hazards and Hazardous Materials* for more information about hazardous materials present in the Project study area.

2.4.3.9 Biological Resources

The Project study area is primarily a highly developed urban landscape with paved land cover. Existing vegetation is sparse, highly disturbed, fragmented, and consists of both native and non-native plants. Near the northern terminus of the Project, Southern California black walnut trees grow along the top of the western channel bank, in addition to willows, cottonwoods, and palm trees. Refer to Section 3.4, *Biological Resources* for more information about biological resources in the Project study area.

2.5 Proposed Project and Options

This section outlines the components of the Proposed Project and its two options, Option 1 and Option 2, as well as design variations for each. The components are generally presented from north to south. Each option is described in terms of how it modifies the Proposed Project. Figure 2-3 shows the Proposed Project alignment (discussed in detail in Section 2.5.1.1), path types (discussed in detail in Section 2.5.1.4), and access points (discussed in detail in Section 2.5.1.3). The Proposed Project and its options are located along the LA River and vary in their combination of components as follows:

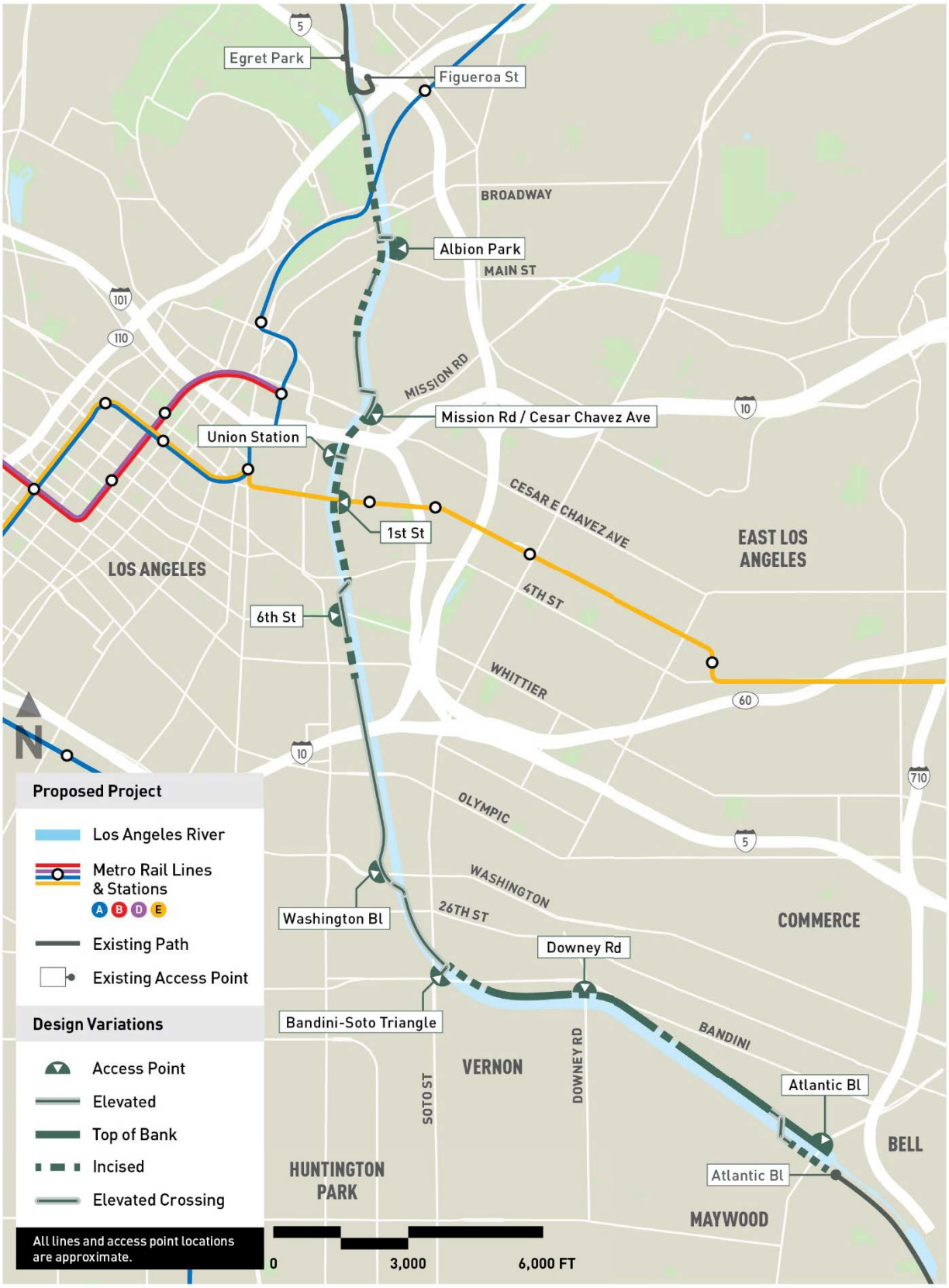
- Path types
- River crossings
- Connectors
- Ancillary path elements
- Access points
- Design variations

After the distribution of the Draft EIR and the assessment of public comments, the Metro Board retains the option to choose any of the Proposed Project, its options, or alternatives evaluated in the Draft EIR, or a combination thereof, as the Locally Preferred Alternative (LPA). In addition, the Metro Board could opt to phase the construction of the LPA. Such decisions would be made in consideration of public comments, funding availability, and coordination with the USACE.

2.5.1 Proposed Project

Spanning approximately 9.6 miles, the Proposed Project includes seven river crossings and nine access points: four on the west bank and five on the east bank on the river. Additionally, the Proposed Project includes improvements to the existing access point on the west bank of the river at Atlantic Boulevard in the City of Vernon. The Proposed Project would serve four Metro stations: Union Station, Chinatown Station, Pico/Aliso Station, and Washington Station. Detailed discussions of the Proposed Project's components are provided in the following sections.

Figure 2-3. Proposed Project Alignment



2.5.1.1 Proposed Project Alignment

This description of the Proposed Project alignment is presented from north to south as if traveling along the path as illustrated on Figure 2-3 above.

Starting north on the west bank of the LA River where the LA River Greenway Trail ends, the Proposed Project would run atop the bank and pass beneath the existing Interstate (I-)5 Viaduct and Riverside Drive Viaduct. Then, the Proposed Project would transition to an elevated configuration, crossing over the Metrolink LA River–Downey Bridge and moving under the State Route (SR-)110 Bridge. After passing under SR-110, the Proposed Project would transition to an incised configuration along the west bank, allowing it to go under the Metro A Line LA River Bridge. The path would mainly remain in an incised configuration from the North Spring Street Viaduct to the Mission Junction where it would cross both Metrolink railroad bridges with a new elevated crossing from the west bank, connecting to Albion Park on the east bank, between North Spring Street and North Main Street. South of Mission Junction, the Proposed Project would again transition to an elevated configuration to cross the LA River from the west bank to the east bank between the Metrolink Mission Junction Railroad Bridge South and Cesar E Chavez Avenue Viaduct.

Approximately 800 feet north of the Cesar E Chavez Avenue Viaduct, the Proposed Project would cross to the east bank of the river where it would run in an incised configuration, allowing it to pass under the Cesar E Chavez Avenue Viaduct, El Monte Busway Bridge, and US Highway Route (US-)101 LA River Bridge. The Proposed Project would then transition to an elevated configuration to avoid a transmission tower and provide an opportunity to connect to Union Station across the river on the west bank.

If the Link Union Station (LinkUS) project (proposed transit improvements at Union Station) does not proceed with its proposed demolition of the Kahn-Beck Co./Friedman Bag Co. Building, located at 801 E Commercial St/600 Center St, Los Angeles, the Proposed Project would also refrain from demolishing this built-environment historical resource. In the absence of the building's demolition by the LinkUS Project, the Proposed Project's planned connector to the Union Station access point would not be implemented.

South of the connector and the transmission tower along the west bank, the path would transition back to an incised configuration. The path would travel under the First Street Viaduct and Fourth Street Viaduct. The Proposed Project would then transition to an elevated configuration to cross the LA River from the east bank to the west bank between the Fourth Street Viaduct and the Sixth Street Viaduct.

The Proposed Project would remain elevated to travel under the Sixth Street Viaduct and then transition to an incised configuration to go under the Seventh Street Viaduct. The path would transition to an elevated configuration to go under the I-10 Santa Monica Viaduct and Olympic Boulevard Viaduct. Continuing in an elevated configuration, the path would go over the UP LA River Bridge and Washington Boulevard Bridge. The path would then immediately travel beneath the Redondo Junction Grade Separation and begin to cross the LA River from the west bank to the east bank.

After the Proposed Project crosses over the river, the path would continue south in an elevated configuration on the east bank, crossing over the BNSF Railway LA River Bridge, 26th Street Bridge, and Soto Street Bridge. The Proposed Project would continue south in an elevated configuration until the approach to Bandini Boulevard Bridge. The path between Bandini Boulevard and Atlantic Boulevard would use a combination of incised and top-of-bank path types to go under the

Bandini Boulevard Bridge, the Downey Road Bridge, and two BNSF Railway bridges, one at Downey Road and the other at District Boulevard. Just north of Atlantic Boulevard, the Proposed Project would cross over the LA River from the east bank to the west bank.

The alignment would then turn south to go under the Atlantic Boulevard Bridge in an incised configuration on the west bank and tie into the existing LA River Trail in the City of Vernon.

2.5.1.2 Proposed Project Permanent Footprint

The permanent footprint encompasses the entire extent of the permanent infrastructure associated with the Proposed Project. Refer to Appendix B, *Project Footprint Maps*, for detailed maps of the footprint. The permanent footprint comprises of areas planned for required ROW and construction of the Proposed Project components including path types, river crossings, connectors, ancillary path elements, access points, and design variations. Design variations are discussed in Section 2.5.1.8. Operation and maintenance (O&M) of the Proposed Project is anticipated along the permanent footprint and discussed in Section 2.8, *Operations and Maintenance*.

Figures 2-4 through 2-6 show the Proposed Project footprint map, including design variations and the temporary construction footprint, in three segments from north to south. The temporary footprint comprises of the additional areas required for construction access and staging.

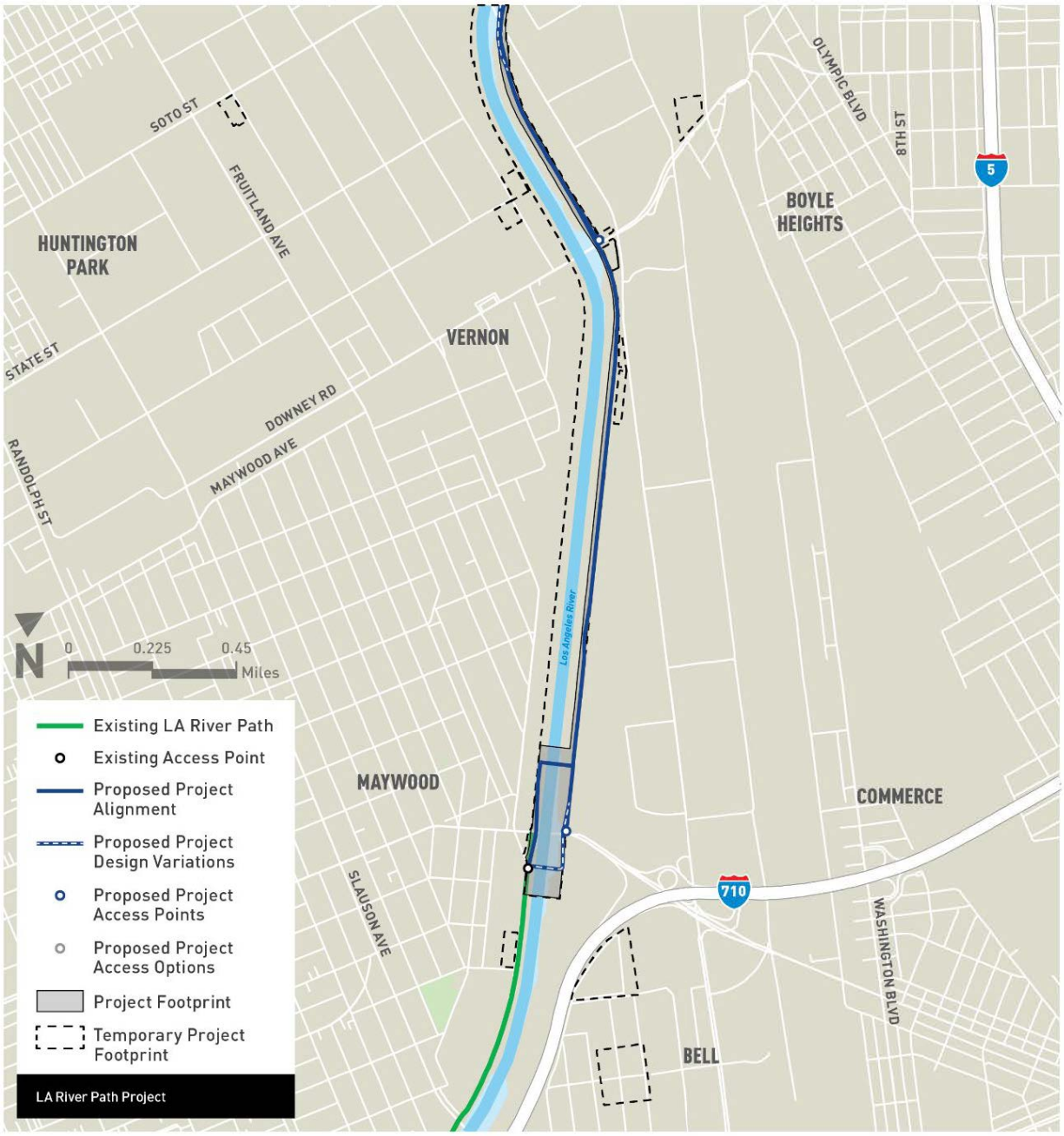
Figure 2-4. Proposed Project Footprint, Segment 1 of 3



Figure 2-5. Proposed Project Footprint, Segment 2 of 3



Figure 2-6. Proposed Project Footprint, Segment 3 of 3



2.5.1.3 Proposed Project Access Points

Access points would serve as entrances to the Proposed Project for the communities surrounding it. The size and features of access point areas would vary depending on community needs, path user demand, available space, and the surrounding environment.

Access points would be located along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including Union Station and Metro's A Line station. Table 2-2 lists the configuration and location of each access point for the Proposed Project from north to south.

Table 2-2. Proposed Project Access Points

Access Point	Bank	Connector Description
Albion Park	East	Single elevated bridge over the LA River to elevated bridge over railroad tracks with ramp connecting to Albion Park
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp crossing over railroad tracks to connect to the northwest corner of Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk
Union Station	West	Single elevated bridge over the LA River and railroad tracks and landing at the northeast corner of Center Street and Commercial Street underneath the future Link US viaduct
First Street	East	Single elevated ramp that parallels the path and then travels over the railroad tracks and Myers Street to connect at-grade to the back of sidewalk at the northwest corner of Mission Road and First Street intersection
Sixth Street	West	Single incised ramp connecting down to the south side of the Sixth Street Tunnel with future access to the Sixth Street PARC Project
Washington Boulevard	West	Single hook ramp connecting down to the south side of Washington Boulevard
Bandini-Soto Triangle	West	Single elevated bridge over the LA River connecting at-grade to Bandini Boulevard Bridge at the back of sidewalk adjacent to the commercial plaza known as the "Bandini-Soto Triangle"
Downey Road	East	Single at-grade connection to the back of sidewalk on the northwest side of Downey Road
Atlantic Boulevard	East	Single at-grade connection to the northwest side of Atlantic Boulevard at the back of sidewalk
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon

2.5.1.4 Proposed Project Path Types

The Proposed Project study area's varied physical setting is highly constrained. Establishing a path that navigates this setting while satisfying Proposed Project objectives requires several path types to accommodate varied conditions, such as elevated, top-of-bank, and incised. The following descriptions elaborate on where and how these path types can be used. The Proposed Project includes 46% elevated, 28% top-of-bank, and 26% incised path types, which are described in the following subsections.

2.5.1.4.1 Elevated

An elevated path type is supported by piers and foundations, which can be placed along the top-of-bank or in the river channel. The maximum heights for elevated paths and crossing structures are 30 and 60 feet above grade of the supporting piers or columns, respectively. Two elevated path types are possible:

- **Elevated top-of-bank:** An elevated path with piers and foundations at the top-of-bank facilitates ramping and crossing over roadways, railways, and other at-grade obstacles. This path type is located above the high-water surface elevation in the river channel, which allows the path to remain open year-round. Refer to Figure 2-7 for an example cross section of an elevated top-of-bank path type.
- **Elevated in-channel:** An elevated path with piers and foundations in the river channel facilitates connecting to and crossing over existing bridges, passing underneath existing bridges, and navigating other at-grade obstacles, particularly where an elevated top-of-bank path type is not feasible. Refer to Figure 2-8 for an example cross section of an elevated in-channel path type.

Whether at the top-of-bank or in-channel, the elevated path type may provide opportunities for ancillary path elements, such as lighting, shade structures, and amenities. Lighting and shade structures can potentially be integrated directly into the elevated path, whereas amenities, such as seating, would require the path deck to be widened to provide adequate space. Landscaping is not planned to be integrated into an elevated path type.

Figure 2-7. Example Cross Section of an Elevated Top-of-bank Path Type

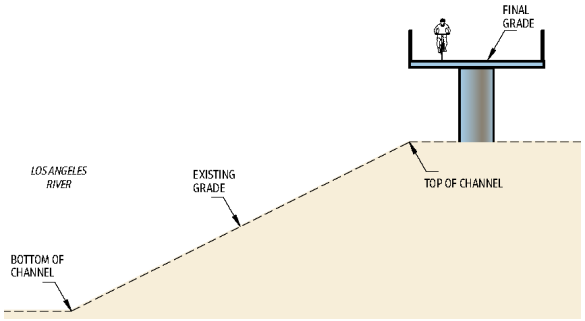
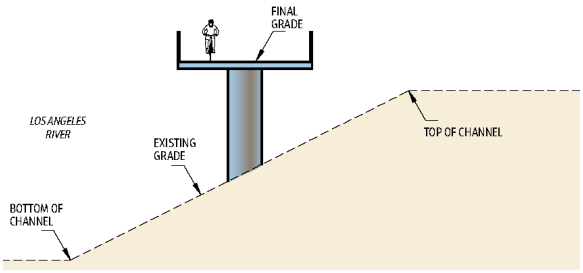


Figure 2-8. Example Cross Section of an Elevated In-channel Path Type



2.5.1.4.2 Top-of-bank

A top-of-bank path type is located at the top of the channel wall and uses available space on the ground. Two top-of-bank path types are possible:

- **At-grade top-of-bank:** Representing the simplest and most cost-effective construction, this type is feasible only in select locations where rail lines and utilities are not present or are set back from the channel at a sufficient distance to allow room for the path. Because it is not in the river channel, a top-of-bank path type can likely be open year-round. This path type also provides the greatest potential opportunity for ancillary path elements, such as lighting, shade structures, landscaping, and amenities. In select locations with available adjacent space, seating and trees

may be possible. Refer to Figure 2-9 for an example cross section of an at-grade top-of-bank path type.

- **Cantilevered top-of-bank:** A cantilevered path type uses a structure that is supported behind the top-of-bank river channel wall and extends over the channel without supports in the channel. This path type may be used where some space is available at the top-of-bank, but when there is less than enough needed for a full-width path. For long stretches of path where adjacent railroad setbacks limit space, a cantilevered path could be an option to route the path at or above the existing top-of-bank elevation, which would allow the path to be open year-round. A cantilevered path type provides potential opportunities for ancillary path elements, such as lighting, shade structures, and amenities. Lighting and shade structures potentially can be integrated directly into the path structure, whereas amenities, such as seating, would require the cantilevered structure to be extended to provide adequate space. In some locations where space is available, limited landscaping may be possible. Refer to Figure 2-10 for an example cross section of a cantilevered top-of-bank path type.

Figure 2-9. Example Cross Section of an At-grade Top-of-bank Path Type

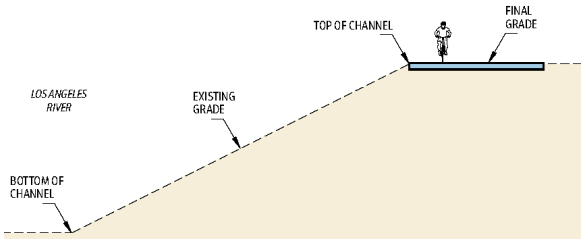
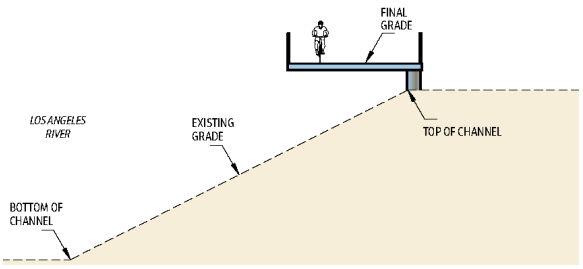


Figure 2-10. Example Cross Section of a Cantilevered Top-of-bank Path Type



2.5.1.4.3 Incised

An incised path type involves building the path into the channel lining. This path type is used when space is not available at the top-of-bank. It is sometimes positioned closer to the top of the river channel, and other times closer to the bottom of the channel, depending on the site-specific constraints the path must navigate. The following three variants of the top-of-bank path type are possible:

- **Incised high:** The path would be positioned above the existing grade of the sloped river channel. Incised high would typically be placed on fill. It would require a protective railing. Refer to Figure 2-11 for an example cross section of an incised high path type.
- **Incised mid:** The path grade would be positioned partially below the existing grade of the sloped river channel. Incised mid would typically use fill and cut with a small curb. Refer to Figure 2-12 for an example cross section of an incised mid path type.
- **Incised low:** The path would be positioned predominantly below the existing grade of the sloped river channel. Incised low would typically involve cutting into the channel slope and require a large retaining wall. Refer to Figure 2-13 for an example cross section of an incised low path type.

Because an incised path is in the channel, it would require removing and reconstructing portions of the channel wall. During Project operation, channel flow conditions may cause the river's water surface elevation to rise above the pathway, resulting in seasonal flooding of the path and path closures. This path type is similar to other incised paths already used extensively at bridge undercrossings along the existing paths to the north and south of the Proposed Project. Refer to Section 3.10, *Hydrology and Water Quality* for additional information on potential seasonal flooding.

An incised path provides potential opportunities for ancillary path elements such as lighting and shade structures; however, opportunities for other amenities are limited because of restrictions on what can be placed in the river channel that might impair water flow. Lighting would need to be supported at the top of banks or on the underside of existing structures. Shade structures and other vertical amenities such as railings would be feasible only if designed to be compatible with seasonal high-water flows. Terraced seat walls could be integrated into the reconstructed channel wall. Landscaping and most other path elements would not be feasible due to potential seasonal flooding and other flood-control requirements.

Figure 2-11. Example Cross Section of an Incised High Path Type

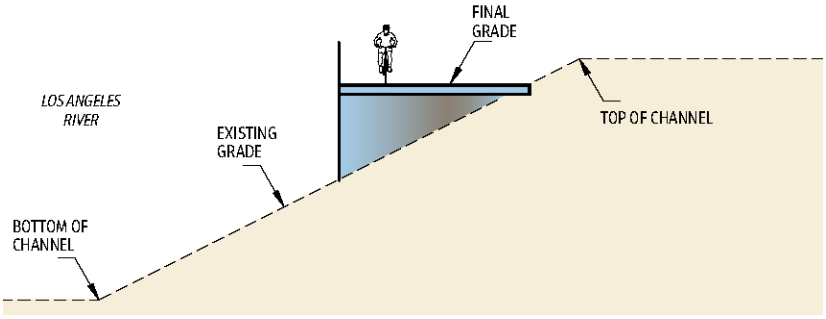


Figure 2-12. Example Cross Section of an Incised Mid Path Type

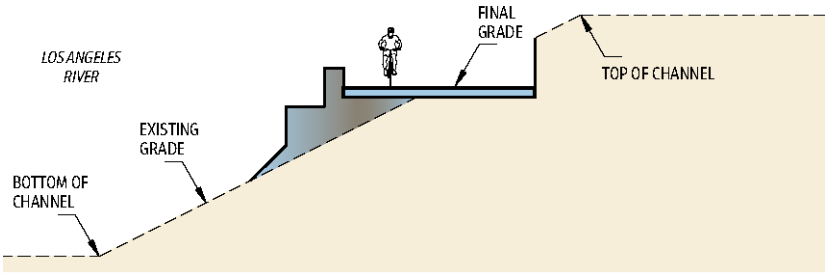
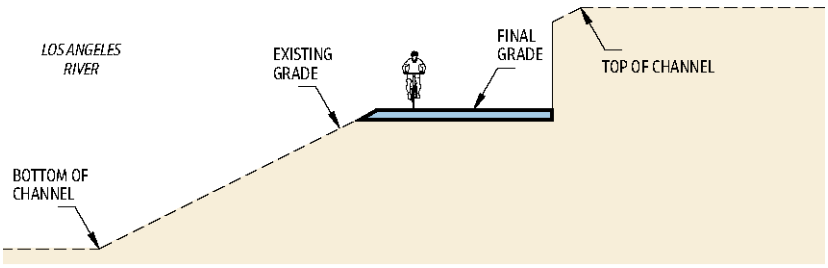


Figure 2-13. Example Cross Section of an Incised Low Path Type



2.5.1.5 Proposed Project River Crossings

The Proposed Project is anticipated to include several river crossings along the path. River crossings allow the path to navigate site constraints, and they provide the following benefits:

- **Constructability:** River crossings allow the path to cross banks to avoid locations with significant constraints along the top-of-bank and channel walls.
- **Access and equity:** River crossings enable users to access the path on both riverbanks.
- **Safety and mobility:** River crossings allow the path to better connect with the existing and planned low-stress bicycle and pedestrian network and allow users to safely cross the LA River.

Hydraulic and structural challenges must be addressed for crossings. The channel width at the top-of-bank ranges from 200 feet to 500 feet. River-crossing structures spanning this distance would require piers in the channel or custom long-span bridge designs. The ability to put piers in the channel is based on hydraulic conditions. Where the presence of piers in the channel would result in unacceptable impacts to hydraulic conditions and flood protection levels, a custom long-span bridge would be considered (refer to Section 3.10, *Hydrology and Water Quality* for a discussion of hydrology and water quality).

2.5.1.6 Proposed Project Connectors to Access Points

Connectors along the Proposed Project would link the main path alignment to access points typically located at street level. Connectors would be structures (such as elevated paths or ramps) for path users to traverse physical constraints (such as railroad tracks) to connect with access points.

2.5.1.7 Proposed Project Ancillary Path Elements

To provide comfort, safety, security, and an enjoyable user experience, the Proposed Project would include pathway striping; lighting; drought-tolerant and low-maintenance landscaping/vegetation; protective railings and bollards; and signage providing informational, educational, and wayfinding information. Gates will be installed at the access points for path closure during storm events.

Additional potential ancillary path elements may be added, such as seating, drinking fountains, restroom facilities, public art, bicycle fix-it stations, and shade structures. For the purposes of this Draft EIR, it is assumed that four restrooms would be provided near Proposed Project access points.

Innovative path elements that may be considered for incorporation into the Proposed Project include pedestrian and bicycle counters; technology integration (use of technology resources to support the path and its users) or other devices; educational/interpretive signage; and utilities integration (connection of existing and new utilities, such as solar-based technologies, to support path infrastructure).

The locations and types of ancillary path elements considered feasible for implementation vary based on path type and access point details. Specific ancillary path elements would be determined or detailed as design development advances.

2.5.1.8 Proposed Project Design Variations

The Proposed Project's unique nature allows for multiple design variations to be considered to address constraints and challenges within the study area. At specific locations, multiple variations have been identified, which are referred to as "design variations." Design variations include path connections to rail service at Union Station. Table 2-3 summarizes design variations for the Proposed Project.

Table 2-3. Proposed Project Design Variations

Design Variation	Bank	Configuration
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-bank path starting north under SR-110 to just south of the freeway.
East Cesar E Chavez Avenue	West	Elevated path ramps up before crossing westward over railroad ROW at grade and continuing south again parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.
US Highway Route 101 LA River Bridge	East	Continues in an incised configuration underneath US Highway Route 101 LA River Bridge.
Kearney Street	East	Optional access point at Kearney Street is added via path traveling north up the east bank and crossing over to North Myers Street before turning left and continuing to optional access point at Kearney Street.
East Fourth Street	West	Elevated river crossing passes underneath the East Fourth Street Bridge before continuing south along the west bank in an elevated configuration.
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.
South of Downey Road	East	Path continues south in an incised configuration.
South Atlantic Boulevard	North	Path continues splits north of the Atlantic Boulevard East access point, continuing south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.

2.5.2 Option 1

As discussed in Section 2.1, Metro identified two options to the Proposed Project. Option 1 retains most components of the Proposed Project, with some modifications. These modifications result in slightly longer route for Option 1, which would span approximately 10.1 miles. Option 1 would have the same path types as the Proposed Project (refer to Section 2.5.1.4) though with some changes in locations and compositions, with 56% elevated, 9% top-of-bank, and 35% incised path types. Option 1 would cross the river six times and would have 11 access points: six on the west bank and five on the east bank, including improvements to the existing Atlantic Boulevard access point in the City of Vernon. Like the Proposed Project, Option 1 would provide connections to three Metro stations, Union Station, Chinatown Station, and Washington Boulevard Station, with the addition of two Metro stations, Lincoln/Cypress Station and Little Tokyo/Arts District Station.

The following sections detail Option 1 changes in the alignment (including river crossing locations, path types, and footprint), access points, and design variations compared to the Proposed Project. Figure 2-14 shows the Option 1 alignment, path types, and access points.

2.5.2.1 Option 1 Alignment

This description of the Option 1 alignment is presented from north to south as if traveling along the path as illustrated on Figure 2-14, which highlights differences compared to the Proposed Project. Although largely similar to the Proposed Project, Option 1 differs from the Proposed Project primarily along the northern segments, where it is located on the opposite bank from the Proposed Project and has river crossings and access points at different locations.

Starting north on the west bank where the LA River Greenway Trail ends, Option 1 would be in a top-of-bank configuration to traverse beneath the I-5 Viaduct and Riverside Drive Viaduct. Option 1 would then traverse over the Metrolink LA River–Downey Bridge and under the SR-110 Bridge in an elevated configuration. After passing under SR-110, Option 1 would transition to an elevated configuration along the west bank then cross over the river to the east bank just north of the Metro A Line LA River Bridge. Compared to the Proposed Project, Option 1 would have a path alignment and design variations that include river crossings, path along the east bank, and access points to Ed P. Reyes Greenway on the east bank and Los Angeles State Historic Park on the west bank.

After crossing the river to land on the east bank, Option 1 would mainly be elevated as it passes the A Line and continues south. North of Broadway, the alignment would include an access point at the Ed P. Reyes Greenway and a river crossing to the west bank leading to the LA State Historic Park access point, which is not included in the Proposed Project. Option 1 continues south along the east bank to cross under the North Broadway Viaduct and North Spring Street Viaduct. Continuing in an elevated configuration, Option 1 would cross over the North Main Street Bridge and both Metrolink railroad bridges at Mission Junction. Compared to the Proposed Project, Option 1 would have a path alignment along the east bank between Main Street and Cesar E Chavez Avenue. Option 1 would remain in an elevated configuration to diagonally cross under the Cesar E Chavez Avenue Viaduct and cross over the river from the east bank to the west bank.

Figure 2-14. Option 1 Alignment



After landing on the west bank, Option 1 would continue south in a mostly elevated configuration to traverse under the US-101 LA River Bridge and First Street Viaduct. Compared to the Proposed Project, Option 1 includes an elevated in-channel alignment along the west bank north of First Street, and two access points that connect to the First Street Bridge. South of the First Street Viaduct, Option 1 would descend into an incised configuration to travel under the Fourth Street Viaduct, then transition into elevated to travel under the Sixth Street Viaduct. The path would then transition to incised to go under the Seventh Street Bridge, I-10 Santa Monica Viaduct, and Olympic Boulevard Viaduct. Moving from incised to elevated as the path approaches Redondo Junction Grade Separation, Option 1 would cross over the UP LA River Bridge and Washington Boulevard Bridge. The elevated configuration would then travel beneath the Redondo Junction Grade Separation and begin to cross the LA River to the east bank.

Once Option 1 crosses over the river to the east bank, the path would continue south in an elevated configuration to cross over the existing BNSF Railway LA River Bridge, 26th Street Bridge, and Soto Street Bridge. Just southeast of the Soto Street Bridge, an elevated river crossing would connect to the Bandini-Soto Triangle access point on the west bank. South of the river crossing, Option 1 would continue on the east bank, transitioning to an incised configuration to cross under Bandini Boulevard. South of Bandini Boulevard Bridge, Option 1 would descend into a top-of-bank configuration. Option 1 would then change to a predominantly incised configuration between Downey Road and Atlantic Boulevard, allowing it to pass under the Downey Road Bridge and two BNSF Railway bridges at the Downey Road Bridge and at District Boulevard. By comparison, the Proposed Project in this area would be predominantly top-of-bank, descending into an incised alignment to cross under the BNSF Railway bridge at District Boulevard. Just north of Atlantic Boulevard, Option 1 would cross over the LA River from the east bank to the west bank and then tie into the existing LA River Trail in the City of Vernon.

Figures 2-15 through 2-17 are maps showing the footprint for Option 1, including design variations and the temporary construction footprint. These figures highlight the option's differences from the Proposed Project.

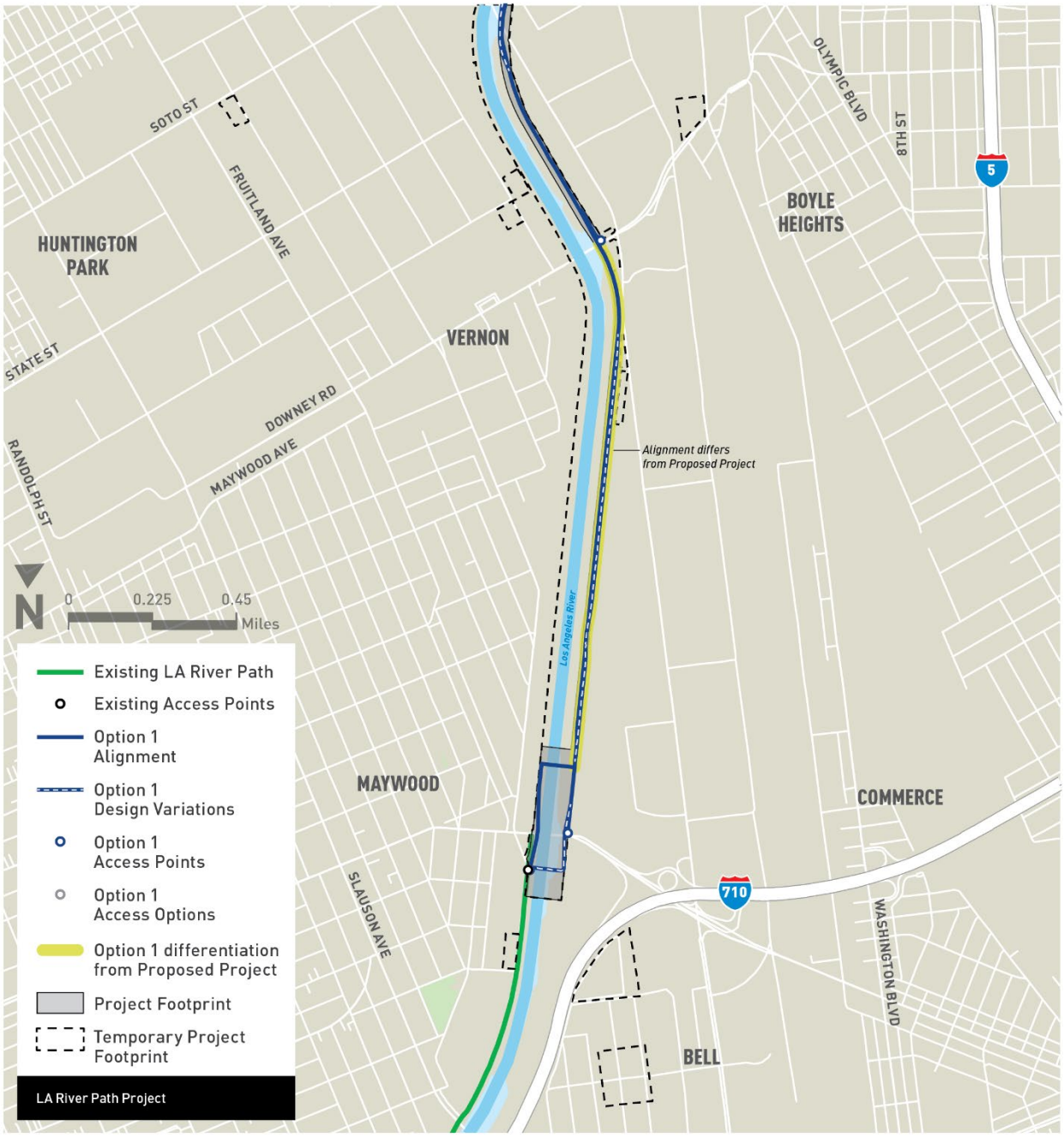
Figure 2-15. Option 1 Footprint, Segment 1 of 3



Figure 2-16. Option 1 Footprint, Segment 2 of 3



Figure 2-17. Option 1 Footprint, Segment 3 of 3



2.5.2.2 Option 1 Access Points

Table 2-4 lists the configuration and location of each potential access point for Option 1, from north to south. Option 1 would include the same access points as the Proposed Project, with modifications to two of them (Union Station and First Street) and would have two additional access points: Ed P. Reyes River Greenway and LA State Historic Park.

Table 2-4. Option 1 Access Points

Access Point	Bank	Connector Description	Common to Proposed Project
Ed P. Reyes River Greenway	East	Single elevated ramp over railroad tracks that parallels the path to the east and connects to the Ed P. Reyes River Greenway	No
LA State Historic Park	West	Single elevated bridge over the LA River and railroad tracks, and then ramps down under the North Broadway Viaduct and lands on the north side of the Baker Street south of the intersection of Aurora Street at northern driveway access to LA State Historic Park parking lot	No
Albion Park	East	Single elevated ramp over railroad tracks that would loop around the southern edge of Albion Park to land at the back of sidewalk at Albion Street	Yes
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp that parallels the path and crosses over railroad tracks to connect to the northwest corner of Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk	Yes
Union Station via Center Street	West	Single elevated ramp that parallels the path before traveling over the railroad tracks south of the US Highway Route 101 LA River Bridge to land near the northeast corner of the Commercial Street and Center Street intersection at the back of sidewalk	Yes, with some differences
First North/First Street South	West	Dual elevated ramps that connect to the north and south sides of the First Street Viaduct	Yes, with some differences
Sixth St	West	Single elevated ramp that parallels the path to the west and connects into the Sixth Street Tunnel from the south side with access to the future Sixth Street PARC Project	Yes
Washington Boulevard	West	Single hook ramp that connects down to the south side of Washington Boulevard at the back of sidewalk	Yes
Bandini-Soto Triangle	West	Single elevated bridge over the LA River that connects at-grade to Bandini Boulevard at the back of sidewalk adjacent to the commercial plaza known as the “Bandini-Soto Triangle”	Yes
Downey Road	East	Single at-grade connection to the back of sidewalk on the west side of Downey Road	Yes
Atlantic Boulevard	East	Single at-grade connection to the northwest side of Atlantic Boulevard at the back of sidewalk	Yes
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon	Yes

2.5.2.3 Option 1 Design Variations

Similar to the Proposed Project, design variations have been identified to offer site-specific engineering variations to address the constraints of the Project study area. Design variations at various locations of the alignment and access points for Option 1 are included in the footprint, as shown on Figures 2-15 through 2-17. Option 1 includes all of the Proposed Project's design variations except Kearney Street and includes four additional design variations: Egret Park to Ed P. Reyes Greenway, Naud Street, Albion Street, and East Seventh Street/Jesse Street. Table 2-5 is a summary of the design variations for Option 1.

Table 2-5. Option 1 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
Egret Park to Ed P. Reyes Greenway	East	Single at-grade connection from Egret Park to Riverside Drive bridge onto Avenue 19 southerly to Ed P. Reyes River Greenway. A spur route would branch off Avenue 19, south of the Arroyo Seco confluence, and traverse at-grade southerly along the backside of the Lincoln Heights Jail building. This spur route would continue under the Metro A Line Bridge and connect to Ed P. Reyes River Greenway.	No
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.	Yes
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-bank connection from path starting north under SR-110 to just south of the freeway.	Yes
Naud Street	West	Elevated path would cross westward, remaining in an elevated configuration, to the west bank where the path would reach the optional Naud Street access point.	No
Albion Street	East	Elevated path would split from westbound path to cross eastward over Metro ROW, before traveling south to reach the Albion Park access point.	No
East Cesar E Chavez Avenue	West	Elevated path crosses from the east bank to the west bank before continuing westward over railroad ROW at grade and then south parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.	Yes
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.	Yes
US Highway Route 101 LA River Bridge	East	Elevated path would continue south along the east bank underneath the East Cesar E Chavez Bridge before crossing diagonally underneath the US Highway Route 101 LA River Bridge to the west bank.	Yes
East Fourth Street	West	Path continues south underneath East Fourth Street Bridge.	Yes
East Seventh Street/Jesse Street	East	Elevated river crossing to east bank provides access to optional East Seventh Street/Jesse Street access point.	No
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.	Yes

Table 2-5. Option 1 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.	Yes
South Downey Road	East	Path continues south at top-of-bank.	No
South Atlantic Boulevard	North	Path continues splits north of the Atlantic Boulevard East access point, continuing south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.	Yes

2.5.3 Option 2

As discussed in Section 2.1, Metro identified two options to the Proposed Project. Option 2 would retain most of the components of the Proposed Project, with some changes. These modifications result in a slightly shorter alignment for Option 2, which would span approximately 9.1 miles. Option 2 would have the same path types as the Proposed Project (refer to Section 2.5.1.4) though with some changes in locations and compositions, with 47% elevated, 19% top-of-bank, and 34% incised path types. Option 2 crosses the river seven times and has nine access points: four on the west bank and five on the east bank of the river, including improvements to the existing Atlantic Boulevard access point in the City of Vernon. Like the Proposed Project, Option 2 provides connections to four Metro stations, Union Station, Chinatown Station, Pico/Aliso Station, and Washington Station, with the addition of the Lincoln/Cypress Station.

The following sections detail Option 2 changes in the alignment (including river crossing locations, path types, and footprint), access points, and design variations as compared to the Proposed Project. Figure 2-18 shows the Option 2 alignment, path types, and access points.

Figure 2-18. Option 2 Alignment



2.5.3.1 Option 2 Alignment

This description of the Option 2 alignment is presented from north to south as if traveling along the path as illustrated in Figure 2-18, which highlights differences compared to the Proposed Project. Although largely similar to the Proposed Project, Option 2 differs from the Proposed Project primarily along portions of the northern segments, where it is located on the opposite bank from the Proposed Project and has river crossings and access points at different locations.

Starting north on the west bank where the LA River Greenway Trail ends, Option 2 would be in a top-of-bank configuration to travel under the I-5 Viaduct and Riverside Drive Viaduct. Option 2 would then traverse over the Metrolink LA River–Downey Bridge and under the SR-110 Bridge in an elevated configuration to then cross over the river from the west bank to the east bank. Compared to the Proposed Project, Option 2 includes river crossings, a path along the east bank and an access point at Ed P. Reyes Greenway.

After crossing the river to land on the east side of the railroad tracks in an elevated configuration, Option 2 would transition to grade to go under the Metro A Line LA River Bridge and would no longer be adjacent to the channel, but instead on the outside edge of the railroad tracks between the Ed P. Reyes River Greenway and Spring Street. Compared to the Proposed Project, Option 2 includes a top-of-bank alignment along the east bank from SR-110 to just south of Spring Street. As Option 2 passes under the North Spring Street Viaduct and approaches Albion Park, the path would begin to incline to an elevated configuration to cross the LA River from the east bank to the west bank.

Once on the west bank, Option 2 would remain elevated to cross over the North Main Street Bridge and both Metrolink railroad bridges at Mission Junction, in contrast to the Proposed Project's incised alignment. Option 2 would then move to the middle of the channel, remaining elevated, to cross under the Cesar E Chavez Avenue Viaduct and US-101 LA River Bridge. After passing under the First Street Viaduct, Option 2 would descend to an incised configuration. Three connectors branch off from the elevated pathway in the channel's center, leading to three different access points. To the north of the Cesar E Chavez Avenue Viaduct, one connector would extend to the Mission Road/Cesar E Chavez access point on the east bank. To the south of US-101 LA River Bridge, another connector would lead to the Union Station access point on the west bank and another connector would lead to the First Street access point on the east bank. Option 2 would travel in an incised configuration between the First Street Viaduct and Olympic Boulevard Viaduct compared to the Proposed Project. Like the Proposed Project, as it approaches the Redondo Junction Grade Separation, Option 2 would transition from an incised to an elevated configuration, crossing over the UP LA River and Washington Boulevard bridges. The path would then continue in an elevated configuration, traveling beneath the Redondo Junction Grade Separation and then crossing the LA River over the BNSF Railway LA River Bridge to the east bank.

Once on the east bank in an elevated configuration, the path would remain elevated as it crosses over the 26th Street Bridge and Soto Street Bridge. Between Soto Street and Bandini Boulevard, Option 2 would transition to an incised configuration to cross under Bandini Boulevard Bridge. An elevated crossing between Soto Street and Bandini Boulevard would connect to the Bandini-Soto Triangle access point. Continuing south on the east bank, Option 2 would use the top-of-bank to circumvent two transmission towers north of Downey Road, before transitioning to either the Downey Road access point or going under the Downey Road Bridge and BNSF Railway Bridge at Downey Road. South of Downey Road Bridge, Option 2 would use a combination of incised and top-of-bank configuration and then pass under the BNSF Railway bridge at District Boulevard. Just north of Atlantic Boulevard, Option 2 would cross over the LA River from the east bank to the west bank.

After crossing the river to the west bank, Option 2 would continue south in an incised configuration. After passing under the Atlantic Boulevard Bridge, Option 2 would tie into the existing LA River Trail on the west bank in the City of Vernon. Compared to the Proposed Project and Option 1, Option 2 does not include the Atlantic Boulevard East access point.

Figures 2-19 through 2-21 are maps showing the footprint for Option 2, including design variations and the temporary construction footprint. The figures highlight the differences from the Proposed Project.

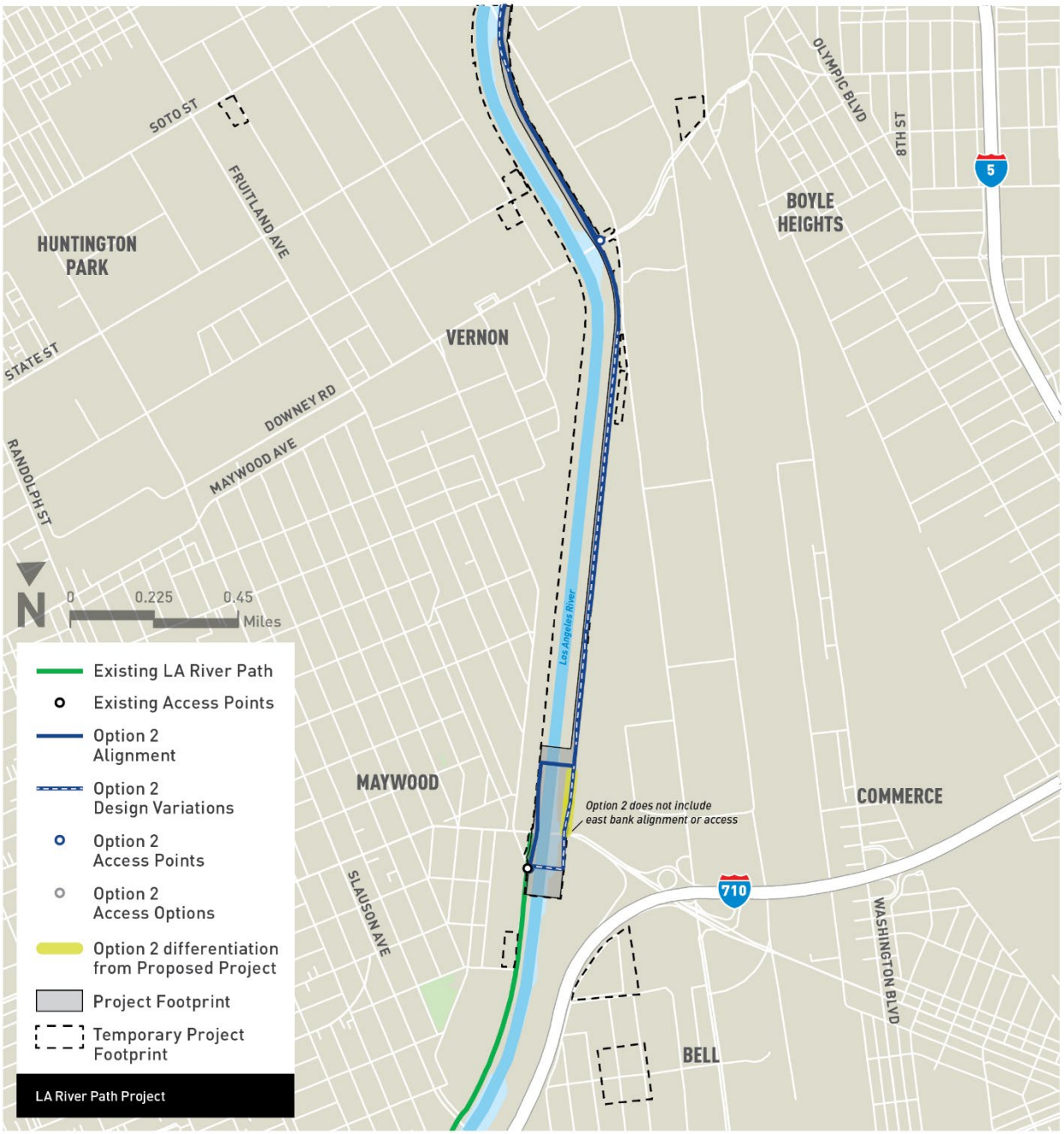
Figure 2-19. Option 2 Footprint, Segment 1 of 3



Figure 2-20. Option 2 Footprint, Segment 2 of 3



Figure 2-21. Option 2 Footprint, Segment 3 of 3



2.5.3.2 Option 2 Access Points

The configuration and location of each access point for Option 2 are listed in Table 2-6 from north to south. Option 2 would include eight of the same access points as the Proposed Project, with modifications to one of them (Union Station) and would have two additional access points: Ed P. Reyes River Greenway and Spring Street/Broadway/Albion Park.

Table 2-6. Option 2 Access Points

Access Point	Bank	Configuration	Common to Proposed Project
Ed P. Reyes River Greenway	East	At-grade connection directly adjacent to path at Ed P. Reyes River Greenway	No
Spring Street/Broadway/ Albion Park	East	Single at-grade connection from path under Spring Street to the Albion Park and access to Broadway and Spring Street	No
Mission Road/Cesar E Chavez Avenue	East	Single elevated ramp crossing over railroad tracks to connect to the northwest corner of the Mission Road and Cesar E Chavez Avenue intersection at the back of sidewalk	Yes
Union Station via Center Street	West	Single elevated ramp that crosses over the railroad tracks south of the US Highway Route 101 LA River Bridge to land near the northeast corner of the Commercial Street and Center Street intersection at the back of sidewalk	Yes, with some differences
First Street	East	Single elevated ramp that travels over the railroad tracks and Myers Street to connect at-grade to the back of sidewalk at the northwest corner of Mission Road and First Street intersection	Yes
Sixth Street	West	Direct connection between the Option 2 path and the existing Sixth Street Tunnel with access to the future Sixth Street PARC Project	Yes
Washington Boulevard	West	Single hook ramp that connects down to the south side of Washington Boulevard at the back of sidewalk	Yes
Bandini-Soto Triangle	West	Single elevated bridge over the LA River that connects at-grade to Bandini Boulevard at the back of sidewalk adjacent to the commercial plaza known as the “Bandini-Soto Triangle”	Yes
Downey Road	East	Single at-grade connection to the back of sidewalk on the west side of Downey Road	Yes
Atlantic Boulevard (Existing)	West	Improvements to an existing access point in the City of Vernon	Yes

2.5.3.3 Option 2 Design Variations

Design variations have been identified to offer site-specific engineering variations to navigate challenges and constraints within the Project area. Design variations at various locations of the alignment and access points for Option 2 are included in the footprint, as shown on Figure 2-19 through Figure 2-21. Option 2 would include all of the Proposed Project's design variations except US-101 LA River Bridge and includes four additional design variations design variations: Egret Park to Ed P. Reyes Greenway, North Avenue 19, and North Broadway/Spring Street. Table 2-7 summarizes design variations for Option 2.

Table 2-7. Option 2 Design Variations

Design Variation	Bank	Configuration	Common to Proposed Project
Egret Park to Ed P. Reyes Greenway	East	Single at-grade connection from Egret Park to Riverside Drive bridge onto Avenue 19 southerly to Ed P. Reyes River Greenway.	No
Riverside Drive	West	Cantilever along the west bank from the existing path to under the Riverside Drive Bridge.	Yes
Arroyo Seco Parkway (SR-110)	West	Single elevated top-of-bank connection from path starting north under SR-110 to just south of the freeway.	Yes
North Avenue 19	West	Elevated path continues south before crossing the river channel diagonally to the east bank near the Ed Reye Greenway access point.	No
North Broadway/ Spring Street	East	Path branches east to optional access point at Broadway and Spring Street.	No
East Cesar E Chavez Avenue	West	Elevated in-channel path splits westward before crossing over railroad ROW at grade and then continuing south parallel to the railroad ROW. Path crosses underneath the East Cesar E Chavez Avenue Bridge and continues south to the optional access point at Union Station via Keller Street.	Yes
Union Station	West	Connection to Union Station is provided from the optional access point at Union Station via Keller Street through an on-street alignment along Keller Street, then connection with Ramirez Street to Union Station.	Yes
Kearney Street	East	Elevated in-channel path splits eastward to reach east bank before continuing south and then east to reach optional access point at Kearney Street.	Yes
East Fourth Street	West	Path continues south underneath East Fourth Street Bridge.	Yes
East Washington Boulevard (In-Channel)	West	Path becomes elevated in-channel and continues south underneath the East Washington Boulevard Bridge, East 26th Street Bridge, and South Soto Street Bridge before crossing to the east bank and continuing south underneath Bandini Boulevard.	Yes
East Washington Boulevard (Triangular Helix)	West	Elevated path crosses westward under the Redondo Junction Grade Separation, ascends in a triangular helix configuration, and continues south, crossing over East Washington Boulevard and LA River from the west bank to the east bank.	Yes
South of Downey Road	East	Path continues south in an incised condition.	Yes
South Atlantic Boulevard	North	Path continues south before becoming elevated to cross to the southern bank to end at the Atlantic Boulevard Existing Path access point.	Yes

2.5.4 Summary of the Proposed Project and Options

As stated, this Draft EIR analyzes the Proposed Project and two possible options, Option 1 and Option 2, along the LA River, each having a different combination of elements to navigate site conditions in different ways. The Proposed Project and its options each include a combination of path types, river crossing locations, access points, and design variations aimed at accomplishing Project objectives. Table 2-8 provides a summary comparison of the Proposed Project, Option 1, and Option 2.

Table 2-8. Summary Comparison of Proposed Alignments

Proposed Alignments	Approximate Path Length	Access Points	River Crossings	Elevated Path Type	Top-of-Bank Path Type	Incised Path Type
Proposed Project	9.6 miles	9	7	46%	28%	26%
Option 1	10.1 miles	11	6	56%	9%	35%
Option 2	9.1 miles	9	7	47%	19%	34%

Note: This count of access points does not include the existing westbound access point at Atlantic Boulevard.

2.6 Construction

This section discusses the best estimate of how and when construction activities would occur. Estimates are based on the professional opinion of design engineers and construction managers, but the exact details would depend on the methods used by the construction contractor selected to perform the work. Because the Project is in a constrained area, an orchestrated approach would be required to sequence and implement construction. The construction activity types described below are anticipated to be similar for the Proposed Project and its options; however, the temporary footprint for mobilization and staging areas will vary.

Construction of the Project would include implementation of environmental best management practices (BMPs), standard Metro procedures, and compliance with regulations, guidelines, and permit conditions. Such BMPs, standard procedures, and regulatory compliance measures are part of the Project Description and referred to in this Draft EIR as "project features." The applicable project features for the environmental resources addressed in this Draft EIR are identified in Chapter 3, *Environmental Settings, Impacts, and Mitigation*. Additionally, a complete list of all project features is in Section 2.7, *Environmental Commitments*, and Appendix C, *Project Features*.

2.6.1 Preconstruction Activities

Construction of the Project would begin with preconstruction activities. Preconstruction activities would include site investigations, such as geotechnical investigatory borings, to confirm geophysical conditions and absence of sensitive resources (for example, buried archaeological or paleontological resources) and hazardous materials. During preconstruction, existing utilities would be more closely inspected and evaluated, including the depth, condition, and exact location.

Other preconstruction activities include developing plans and programs to manage the construction process and minimize disruption to the community and potential impacts on the environment, and would include the following:

- Community outreach program to notify local businesses of upcoming construction activities
- Preparing a Transportation Management Plan (TMP) and a Traffic Control Plan (TCP)
- Coordinating with schools, emergency responders, and the Cities of Los Angeles, Vernon, Bell, Maywood, and Los Angeles County
- Designating and identifying haul routes
- Establishing construction phasing and a staging plan

Preconstruction activities are estimated to last approximately 1 year, with an anticipated start in 2028.

2.6.2 Construction Activities

Project construction activities are similar for the Proposed Project and its options (including design variations) and generally consist of four major activities: mobilization, site preparation, site work, and finishes (ancillary path elements).

The maximum depth of excavation is approximately 0 to 15 feet below grade for most of the path length, and 100 feet below grade for drilled shaft foundations. Anticipated ground disturbances within the permanent footprint would include the following activities:

- Grading and removing existing concrete and asphalt
- Installing new concrete, barriers and railings, lighting, signage, and pavement markings
- Clearing and grubbing of existing vegetation and landscaping
- Planting of disturbed areas and landscaping
- Relocating utilities
- Relocating drainage

2.6.2.1 Mobilization and Staging Areas

The temporary footprints for the Proposed Project and its options extend to the farthest limits of the areas required for construction, including all ground disturbances associated with construction activities and access routes (including in-channel access), areas designated for temporary construction easements (TCEs), and construction staging areas. Temporary footprints are similar for the Proposed Project (refer to Figures 2-4 to 2-6), Option 1 (refer to Figures 2-15 to 2-17), and Option 2 (refer to Figures 2-19 to 2-21).

Contractor mobilization would occur at construction initiation and would involve clearing staging areas, setting up construction trailers, and mobilizing equipment and materials to staging areas. During this time, required ministerial permits would be obtained, potential detours would be established, and signs would be posted. No actual work would occur in the river channel as part of mobilization.

Multiple temporary staging areas throughout the Project study area would be established to support construction. Temporary staging areas would be used for equipment staging, material and fuel storage, vehicle and equipment refueling, fabrication activities, construction trailers, and worker vehicle parking and assembly. Potential staging areas and locations for each proposed alignment are shown in the footprint maps provided in Appendix B, *Project Footprint Maps*. Staging areas with direct access or ramps into the LA River have also been identified and labeled as river access areas. Construction staging areas and river access areas would be finalized during final design. All construction vehicle access, materials staging and storage, and other construction activities would occur within the defined temporary limits for the Proposed Project and its options.

2.6.2.2 Site Preparation

Site preparation involves clearing the site and preparing the Project footprint for construction. Anticipated site preparation activities include:

- Installation of stormwater BMPs
- Clearing, grubbing, and grading
- Removing existing surfaces (soil, concrete, asphalt) in the path footprint
- Relocating or protecting-in-place conflicting utilities
- Excavating for forming and placing structure foundations
- Demolishing the existing channel lining, excavating material under the existing lining, demolishing or modifying existing retaining walls, and then reconstructing the channel lining as needed to integrate it with path construction
- Redirecting the channel flow as required away from work zones
- Demolishing and clearing the site at access points and temporarily reconfiguring or restriping roadways

Site preparation would begin before the construction site would be identified and fenced off. Temporary construction access routes would also be constructed.

2.6.2.3 Site Work

Site work varies by path type and Project component, as described below.

- **Elevated:** Elevated site work involves excavation and installation of driven piles and concrete piers. As part of site work, piles would be driven into the ground by a pile-driver and then pile caps would be poured followed by concrete piers. Forms for abutments, retaining walls, and piers would be constructed, and then the elevated pathway would be constructed between the piers. The elevated pathway could be constructed of different structural systems:
  - **Cast-in-place concrete:** Formwork is placed under the path and concrete placed to create the path. Requires delivery of concrete to the path location.

  - **Precast concrete:** Concrete girders or slabs would be constructed offsite, either at a manufacturer yard or at one of the Project staging areas. Girders or slabs would then be trucked to the path location and then placed on top of the piers using a crane. The path deck surface between the girders can be cast-in-place concrete or precast slabs. If cast-in-place, then the concrete must be delivered to the path location. If precast slabs then the slabs would be constructed at a manufacturer yard or at one of the Project staging areas, trucked to the path location, and placed on the girders using a crane.
  - **Steel:** Steel girders would be fabricated offsite at a fabricators yard. Girders would be trucked to the path location and then placed on top of the piers using a crane. The path deck surface between the girders can be cast-in-place concrete or precast slabs. If cast-in-place deck is used, then the concrete must be delivered to the path location. If precast slabs are used, then the slabs would be constructed at a manufacturer yard or at one of the Project staging areas, trucked to the path location, and placed on the girders using a crane.

- **Top-of-bank:** Top-of-bank site work involves grading the existing ground around the planned path, installation of base materials, and then placing the asphalt or concrete path surface.
- **Incised:** Incised site work involves removal of some portion of the existing channel wall lining, excavation of material under the existing lining, installation of retaining walls, placing the asphalt or concrete path surface, then reconstruction of the channel wall lining as needed to integrate it with path construction.
- **River crossings:** River crossing site work would be similar to site work described for the elevated path type, but with an exception for long-span crossings. Where piers cannot be placed in the river, long-span crossing systems may be used. Potential structural systems for the long-span crossings include trusses and arches. Either of these would require temporary supports, such as driven piles that may be installed in the river channel to facilitate construction and the use of cranes to place material on the temporary supports.
- **Connectors:** Connector site work would be similar to site work described for elevated, top-of-bank, and incised path types.
- **Access points:** Access point site work involves grading the existing ground around the planned access point footprint, installation of base materials, and then placing the asphalt or concrete path surface.
- **In-channel work:** In-channel site work is work requiring labor, equipment, and material movement in the river channel, a work platform over the LA River low-flow channel would be placed in various locations to facilitate access to and from the construction site.

2.6.2.4 Finishes (Ancillary Path Elements)

After the path surface is constructed, finishing ancillary path elements such as railings, pathway striping, and signage would be installed. Gates would be installed at the access points for path closure during storm events. Other potential finishes may include installation of pathway elements such as seating; drinking fountains; restroom facilities; public art; landscaping and vegetation; informational, educational, and wayfinding signage; bicycle fix-it stations; and shade structures. Design and construction of these ancillary path elements would be similar for the Proposed Project and its options and limited to the permanent footprint boundaries (refer to Section 2.5, *Proposed Project and Options*).

2.6.2.5 Access Routes

Access to staging areas for the Proposed Project and its options would be accomplished using existing public highways and roads. Access to the proposed alignments and channels would be achieved using a combination of existing flood-control access routes and temporary access routes established to support construction activities. At the completion of construction, any new temporary access routes to the river channel either would be removed and conditions restored or be made permanent for O&M use in coordination with USACE and LACFCD.

2.6.3 Traffic Control and Management

For the Proposed Project and its options, most construction activities would occur outside of the public ROW, and no long-term road closures are expected. Short-term full or partial road closures would be implemented to allow for certain construction activities and material deliveries and to maintain public safety. Traffic controls, flaggers, and other traffic safety measures would be implemented to maintain proper traffic flow during temporary construction activities. The TMP and TCP would include, but would not be limited to, street closure information, detour plans, and haul routes with review and approval from Metro and affected jurisdictions. Refer to Section 3.16, *Transportation*, for additional information regarding these plans.

2.6.4 Utility Requirements

New utilities are anticipated for infrastructure supporting the path, such as lighting and restroom facilities. Some existing utilities affected by the Project would need to be relocated or modified (that is, removed, replaced, or abandoned) before or during construction, depending on the utility type and condition. All anticipated new utilities and relocations would occur within the Project footprint and would be conducted in accordance with applicable utility design criteria and engineering standards.

2.6.5 Drainage and Water Quality Improvements

Construction of the Proposed Project and its options may affect existing stormwater drainage, which would result in modifications or construction of new drainage infrastructure. The Proposed Project is expected to permanently modify or improve approximately 27 existing storm drains identified in its footprint. Option 1 is anticipated to require permanent modification or improvement of 16 storm drains and Option 2 would similarly impact 19 storm drains.

2.6.6 Railroad Operations

Commuter and freight railways run along both the east and west banks of the LA River and across the river on elevated or at-grade bridges. Rail owners include Metro, Amtrak, UP, and BNSF Railway. Metrolink is a rail operator in this area. Construction activities adjacent to railroad operations would be coordinated with railroad operators for scheduling to avoid service disruptions to the extent feasible, acquisition of any needed access permits, and safety orientation training.

2.6.7 Anticipated Construction Schedule

Construction activities for the portion of the path for which funding is currently available are estimated to last approximately 3 years (Figure 2-22). Preconstruction activities are anticipated to start in 2028. The anticipated construction start is in 2028, with phased completion anticipated in 2031.

Figure 2-22. Project Timeline



2.6.8 Anticipated Equipment

The Project would likely involve the following typical construction equipment:

- Excavators
- Bulldozers
- Backhoes
- Dump trucks
- Cranes
- Front-end loaders
- Forklifts
- Haul trucks
- Flatbed trucks
- On-road pick-up trucks
- Graders
- Rollers
- Water trucks
- Concrete mixers/trucks/pumps
- Sweepers
- Concrete saws
- Piledrivers

2.6.9 Right-of-Way Acquisitions and Temporary Construction Easements

Sufficient legal rights for the Project would be obtained before construction. This includes rights to construct the new path as well as rights for the Project owner/operator to access the facility for maintenance purposes, which may require purchasing property for a portion of the path in fee. Throughout the Project study area, the path would cross over or under public infrastructure (such as

roads and freeways), utilities, and railroads. The Project would obtain the necessary permits and authorization from these entities in addition to acquisition of property or easements to enable construction, operation, and maintenance of the path.

The Project would require easements (temporary or permanent) of nearby properties during construction and operation. The Project prioritizes the use of public property and minimizes effects on private land, and also considers the Project's relationship to existing adjacent and potential future land uses. There are no fee takes nor displacements or relocations required for the Proposed Project and Options. No existing structures will be affected by permanent easements for the Proposed Project and Options.

Table 2-9 identifies the types and sources of property acquisitions anticipated for the Project. These property easements are not expected to result in permanent displacements of existing uses.

Table 2-9. Types and Sources of Property Easements

Type of Acquisition	Source of Acquisition	Process
Permanent Easement	Aerial Pathway	Elevated pathway travels off public ROW above private property and obtains an aerial easement for placement of the pathway, support columns, and column footings.
Permanent Easement	At-Grade Pathway	Pathway travels along public ROW and private property and would require a permanent easement.
TCE	Construction Activities & Laydown	Area required for staging materials equipment during construction period. Staging, laydown, and construction areas would be located within the temporary and permanent footprint. All TCE properties would be returned at the end of construction.

2.7 Environmental Commitments

As noted in Section 2.6, *Construction,* the Project includes environmental commitments, referred to in this Draft EIR as project features, which would be implemented during construction and operation to ensure compliance with the laws, guidelines, and best practices of regulatory agencies, including Metro. Such project features are components of the Project and apply to the Proposed Project and its options. Project features include standardized environmental measures such as BMPs that are generally applied to most Metro projects and allow minimal discretion regarding their implementation.

Project features related to Project design and O&M are listed below. These project features and project features for construction are described in each respective resource section in Chapter 3, *Environmental Settings, Impacts, and Mitigation* and in Appendix C, *Project Features*.

- Aesthetics
  - PF-AES-04, *Permanent Lighting*
  - PF-AES-05, *Aesthetic Treatments*
- Cultural Resources
  - Refers to PF-AES-05, *Aesthetic Treatments*

- Geology and Soils
  - PF-GEO-03, *Compliance with Federal, State, Regional, and Local Agencies*
- Hydrology and Water Quality
  - PF-HWQ-02, *Low-Impact Design Requirements*
  - PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*
- Wildfire
  - PF-WF-01, *Los Angeles County LA River Master Plan Compliance*

2.8 Operations and Maintenance

O&M of the Project would be consistent with current O&M activities of the existing Los Angeles River Greenway to the north of the Project and the existing LA River Trail to the south of the Project. O&M would support having a safe, reliable, and well-maintained path. O&M of the Project would not require operation of numerous pieces of heavy equipment in an area simultaneously. Typical maintenance activities are expected to be short in duration, such as less than 1 day in any area of the Project path. Project O&M would generally be the same for the Proposed Project and its options and would include these activities:

- Path pavement sealing, repaving, and pothole repair (repaving and pothole repair limited to minor, spot-area work)
- Path pavement sweeping and marking replacement
- Graffiti removal
- Solid waste disposal and recycling
- Sign replacement and repair
- Fence and barrier replacement and repair
- Lighting replacement and repair
- Restroom and furniture maintenance
- Emergency telephone maintenance
- Bridge inspection
- Weed control
- Drainage system cleaning
- Landscaping and irrigation system maintenance
- Low-impact development (LID) BMPs, regular inspections and corrective maintenance (such as bioswales)

Facility management standards and routine O&M schedule would be developed as part the Project's O&M plan, which would be completed to support Project permitting. The O&M plan would consider the extent of the mileage, intensity of use, and available resources to determine O&M schedule. For example, areas along the path with higher expected demand, such as the segments providing access to Downtown Los Angeles, would likely require more frequent maintenance due to greater wear. The O&M plan would also consider hours of operations, security and public safety, police patrol, and emergency response.

A steering committee consisting of members from Metro, Los Angeles County, City of Los Angeles, and the City of Vernon was formed for the Project. One of the purposes of the steering committee would be to determine the roles and responsibilities for the Project's O&M.

2.9 Required Permits and Agency Approvals

This Draft EIR may be used in connection with permits and other discretionary actions and approvals necessary for construction and implementation of the Project. Construction and implementation of the Project would require permits and approvals from responsible agencies, such as the City of Los Angeles, City of Vernon, and County of Los Angeles. Table 2-10 lists agency permits, discretionary actions, and agency approvals potentially required for the Project.

Table 2-10. Permits and Approvals

Level of Government	Agency	Permit or Approval
Federal	USACE	▪ Clean Water Act Section 404 Permit—Nationwide Permit 14
	USACE	▪ Rivers and Harbors Act Section 408 Permissions
	Federal Emergency Management Agency	▪ 100-Year Floodplain Encroachment
State	California State Water Resources Control Board	▪ Clean Water Act Section 401 ▪ National Pollutant Discharge Elimination System Construction General Permit ▪ National Pollutant Discharge Elimination System General Industrial
	California State Historic Preservation Officer	▪ Section 106 of the National Historic Preservation Act Memorandum of Agreement
	California Department of Fish and Wildlife	▪ California Fish and Game Code Section 1602, Lake or Streambed Alteration Agreement
	California State Lands Commission	▪ State Lands Lease
	California Public Utilities Commission	▪ Project design review
	California Department of Transportation, District 7	▪ Project design review ▪ Encroachment permit
Regional	Metro Board	▪ Certification of the Final EIR ▪ Adoption of CEQA Findings ▪ Statement of Overriding Considerations ▪ Mitigation Monitoring and Reporting Program ▪ Approval of the Project

Table 2-10. Permits and Approvals

Level of Government	Agency	Permit or Approval
	Los Angeles Regional Water Quality Control Board	▪ Construction General Permit ▪ Storm Water Pollution Prevention Plan
	Los Angeles County Flood Control District	▪ Project design review ▪ Flood encroachment permit
	Los Angeles County Department of Public Works	▪ Project design review ▪ Encroachment/construction permit ▪ LID Standards approval
	Los Angeles County Fire Department	▪ Project design review
	Amtrak	▪ Project design review ▪ Encroachment permit
	Metrolink	▪ Project design review ▪ Encroachment permit
	BNSF Railway	▪ Project design review ▪ Encroachment permit
	UP	▪ Project design review ▪ Encroachment permit
Local	Los Angeles Department of Water and Power	▪ Project design review
	City of Los Angeles Bureau of Engineering	▪ Project design review
	City of Los Angeles Bureau of Sanitation	▪ LID ordinances review and approval
	City of Los Angeles Bureau of Street Lighting	▪ Project design review
	City of Los Angeles Bureau of Street Services	▪ Native tree and shrub removal permit
	City of Los Angeles Cultural Heritage Commission	▪ Commission review/approval
	City of Los Angeles Department of Building and Safety	▪ Project design review ▪ Permits (construction, encroachment, traffic, street use, lighting, landscape, building demolition) ▪ Approval of haul routes
	City of Los Angeles Department of Recreation and Parks	▪ Project design review
	City of Los Angeles Department of Transportation	▪ Approval of haul routes ▪ Project design review
	City of Vernon Public Works Department	▪ Project design review ▪ Permits (construction, encroachment, traffic, street use, lighting, landscape, building demolition) ▪ LID Ordinances review and approval ▪ Tree removal permit
	City of Bell Community Development Department, Engineering Division	▪ Review of staging areas

CHAPTER 3 ENVIRONMENTAL SETTINGS, IMPACTS, AND MITIGATION

3.1 Introduction to Environmental Analysis

This introductory section of Chapter 3 describes the structure and format of the environmental analysis for each of the 18 resources areas addressed in this Draft EIR. This section also defines the terminology used in characterizing the level of significance for each potential impact resulting from the Proposed Project and its options, Option 1 and Option 2, and where appropriate, associated mitigation.

As a whole, this chapter provides an analysis of the potential impacts of the Proposed Project and its options. Sections 3.2 through 3.19 discuss the environmental impacts that may result from approval and implementation of the Proposed Project, Option 1, or Option 2, and propose mitigation measures to reduce significant impacts to a level less than significant, or otherwise to the extent feasible. The following environmental resource areas are addressed in Sections 3.2 through 3.19:

- Section 3.2, *Aesthetics and Visual Resources*
- Section 3.3, *Air Quality*
- Section 3.4, *Biological Resources*
- Section 3.5, *Cultural Resources*
- Section 3.6, *Energy*
- Section 3.7, *Geology, Soils, and Paleontological Resources*
- Section 3.8, *Greenhouse Gas Emissions*
- Section 3.9, *Hazards and Hazardous Materials*
- Section 3.10, *Hydrology and Water Quality*
- Section 3.11, *Land Use and Planning*
- Section 3.12, *Noise and Vibration*
- Section 3.13, *Population and Housing*
- Section 3.14, *Public Services/Safety and Security*
- Section 3.15, *Recreation*
- Section 3.16, *Transportation*
- Section 3.17, *Tribal Cultural Resources*
- Section 3.18, *Utilities and Service Systems*
- Section 3.19, *Wildfire*

An analysis of resource-specific cumulative impacts is also presented in each section of this chapter. Resource areas where it was determined that no impact would occur include agricultural and forestry resources and mineral resources. A brief evaluation of the no impact determination for these resource areas is presented in Chapter 4, *Other CEQA-Required Sections*. A comparative analysis of the No Project Alternative, the Mostly-East Bank Alternative, the Mostly-West Bank Alternative, the Shortened Northern Path Alternative, and the Shortened Southern Path Alternative is provided in Chapter 5, *Evaluation of Alternatives*.

3.1.1 Chapter 3 Format and Content

Analysis of each resource area in this chapter includes the following components:

- **Introduction:** This section briefly summarizes the environmental issue area to be analyzed.
- **Regulatory Framework:** This section discusses the federal, state of California (state), regional, and local regulatory context of the environmental issue area being analyzed, including applicable regulations, plans, policies, programs, or laws relevant to the Project.
- **Methodology:** This section summarizes the impact analysis methodology, identifies the resource study area, and includes information about relevant data sources.
- **Thresholds of Significance:** This section lists the thresholds used to determine whether the Project would result in a significant impact.
- **Project Features:** This section describes project features related to the resource in question.
- **Existing Setting:** This section describes the existing physical environment and baseline setting for each environmental issue area. For the purposes of this EIR and pursuant to California Environmental Quality Act (CEQA) Guidelines as codified in 14 *California Code of Regulations* (CCR) Section 15125(a), the environmental setting is used to determine the impacts associated with the Project and is generally based on the environmental conditions that existed at the time the Notice of Preparation (NOP) was published. The Project NOP was filed on October 23, 2019. The majority of environmental issue areas discussed in this Draft EIR are characterized in terms of a resource study area specific for each environmental topic. For some environmental topics, the resource study areas vary to properly analyze direct or indirect impacts to that specific resource.
- **Impact Evaluation:** For each threshold of significance considered, this section discusses the environmental impacts that could occur and describes a significance determination for each potential impact. If mitigation measures apply, impacts are first determined without consideration of mitigation measures and then are determined again with consideration of applicable mitigation measures.
- **Mitigation Measures:** This section identifies proposed mitigation measures to avoid, minimize, rectify, reduce, or compensate for significant impacts in accordance with CEQA and the CEQA Guidelines.
- **Significance After Mitigation:** This section summarizes the impact conclusions, including a determination of any significant impacts that would remain significant even after mitigation measures are applied.
- **Cumulative Impacts:** This section discusses the cumulative impacts that may occur relevant to the environmental impact.

3.1.1.1 Impacts and Mitigation

For each environmental resource, significance thresholds were applied to determine whether the Proposed Project, Option 1, or Option 2 would result in a potential impact. The entirety of the Project was analyzed both during construction and operation, including path types, river crossings, connectors, ancillary path elements, access points, and design variations. If a potentially significant impact is identified, mitigation measures to reduce the impact are proposed. Project features are incorporated as a part of the Proposed Project and its options and are considered in the impact analysis. These include design features, best management practices (BMPs), environmental

commitments, or other measures required by law or permit approvals that are relevant to environmental effects. Project features will be included in the Project's Mitigation Monitoring and Reporting Program (MMRP). Appendix C, *Project Features* contains a full list of project features.

This Draft EIR uses the following terminology to describe each impact and, where significant impacts are identified, how mitigation measures are to be applied:

- **No impact** indicates that the construction and operation of a project would not have direct, indirect, or cumulative impacts on the environment. It means no change from existing conditions. This impact level does not need mitigation.
- A **less than significant impact** is one that would not result in a significant or potentially significant adverse change in the physical environment. This impact level does not require identification of mitigation measures.
- A **significant impact** is defined by CEQA, specifically in *Public Resources Code* Section 21068, as one that would cause "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project." Levels of significance can vary by project, based on the change in the existing physical condition. Under CEQA, mitigation measures or alternatives to a project must be provided, where feasible, to reduce the magnitude of significant impacts.
- A **significant and unavoidable impact** is one that would result in a substantial or potentially substantial impact on the environment, and that could not be reduced to a less than significant level even with implementation of feasible mitigation measures. Under CEQA, a project with significant and unavoidable impacts may proceed, but the Lead Agency must find that specific economic, legal, social, technological, or other project benefits—including regionwide or statewide environmental benefits–outweigh its unavoidable adverse environmental effect.
- **Project features** are design features, BMPs, environmental commitments, or measures required by law or permit approvals and are incorporated as components of the Project.
- **Mitigation measures** are additional actions designed to avoid, minimize, or compensate for adverse or significant impacts and are required where significant impacts have been identified based on the impact analyses. Mitigation measures must be enforceable through permit conditions, agreements, or other legally binding instruments (per CEQA Guidelines Section 15126.4[a][2]).

3.1.2 Cumulative Impact Analysis Methodology

CEQA requires an EIR to analyze potential cumulative impacts and discuss the severity of the impacts as well as the likelihood of their occurrence. This discussion should be guided by practicality and reasonableness and does not need to be as detailed as the discussion of potential environmental impacts created by the project alone. The CEQA Guidelines (in 14 CCR Section 15355) define cumulative impacts as "two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." According to the CEQA Guidelines, a discussion of significant cumulative impacts involves analyzing: (1) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency," or (2) "a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect" (per CEQA Guidelines in 14 CCR Section 15130[b][1]).

For regional cumulative impacts, the cumulative analysis in this Draft EIR incorporates regional projections from the Southern California Association of Governments' (SCAG's) *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020). Connect SoCal reflects transportation, population, employment, and land use data for the six-county SCAG area through 2045. For more site-specific or localized cumulative impacts, analysis is based on a list of past, present, and probable future projects within 1 mile of the Proposed Project and its options and relevant regional projects (Table 3-1; **boldface text** denotes projects within the permanent and temporary footprints of the Proposed Project and its options; refer to Figures 3-1 through 3-3). The cumulative analysis for each environmental resource is included in the individual resource sections of Chapter 3.

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
Regional			
1	Burbank to Los Angeles Union Station Project Section	California high-speed rail would connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs, and preserve agricultural and protected lands. When it is completed, it would run from San Francisco to the Los Angeles basin in under 3 hours at speeds capable of exceeding 200 miles per hour. The Burbank to Los Angeles Union Station Section proposes new all-electric, high-speed rail service that will share Metrolink tracks on the west bank from Riverside Drive to Union Station.	Pending Construction
2	Los Angeles Union Station to Anaheim Project Section	As part of the statewide California high-speed rail project, the Los Angeles Union Station to Anaheim Section proposes new all-electric, high-speed rail service that will share Metrolink tracks on the west bank from Union Station to Washington Boulevard and the Redondo Junction Grade Separation.	Undergoing Environmental Review
Metro			
3	I-710 Soundwall Project	Construction of new soundwalls along the I-710, plus redesign of an additional 7 miles of existing walls.	Pending Construction
4	I-710 North Mobility Improvement Projects	A transportation improvement project that aims to improve and transform auto, bus, bicycle, and pedestrian activities along its corridors. Components of the project include Class IV protected bike lanes and bus rapid transit (BRT).	Alternatives Analysis and Community Engagement
5	Arts District/Sixth Street Station	Potential new Metro B Line or Metro D Line station in the Arts District between Sixth and Seventh Streets using the river-adjacent tracks on the west bank. The project would provide regional and local transit connections to and from Arts District, Boyle Heights, Little Tokyo and surrounding communities.	Undergoing Environmental Review
6	Connect US Action Plan	The Connect US Action Plan was developed to improve historical and cultural connections in Downtown Los Angeles by enhancing pedestrian and bicycle travel options through and between communities.	Pending Construction
7	Division 20 Portal Widening and Turnback Facility Project	New turnback facility in the Division 20 yard and a widening of the heavy rail tunnel south.	Under Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
8	Eastside Access Improvements: First Street and Central Station	Multi-modal improvements (streetscape, crosswalk, and bike lane construction) along streets within a mile radius of the Metro A Line's First Street and Central Station.	Under Construction
9	Link US	The Link Union Station project is designed to meet the long-term regional rail needs at Los Angeles Union Station by allowing the station to function more efficiently and providing a better overall passenger experience.	Undergoing Environmental Review
10	Los Angeles Union Station Forecourt and Esplanade Improvements	The Los Angeles Union Station Forecourt Improvements (formerly the Stage One Perimeter Improvements of the Union Station Master Plan) reestablishes the connection between Union Station and surrounding communities to provide a better passenger experience and connectivity for residents, visitors, and workers in the Downtown Los Angeles area.	Pending Construction
11	Metro Center Project	New Metro building that will serve as an emergency security operations center.	Under Construction
12	Rail to River Active Transportation Corridor (Segment B)	Conversion of an existing, underutilized railroad right-of-way (ROW) into a multi-purpose pedestrian and bicycle transportation corridor. Segment B creates connections to the Los Angeles River on the eastern end of the corridor from the Metro A Line to the Los Angeles River.	Pending Environmental Review
13	Southeast Gateway Line	Southeast Gateway Line, part of the West Santa Ana Branch Transit Corridor project (WSAB), is a 14.5-mile light rail transit line that will connect the Gateway Cities and Southeast Los Angeles, connecting Artesia, Cerritos, Bellflower, Paramount, Downey, South Gate, Cudahy, Bell, Huntington Park, Vernon, unincorporated Florence-Firestone and Downtown LA.	Undergoing Environmental Review
City of Los Angeles			
14	641 S Imperial Avenue Project	12-story, 140 live/work units, and 14,749 square feet of commercial space.	On Hold
15	1024 Mateo Project	8-story, 106 live/work units (with 8 affordable units), and 119,843-square-foot commercial space.	Pending Construction
16	121 W Third St Project	14-story, 331 residential units (including 37 affordable units), and 6,350-square-foot ground-floor commercial space.	Pending Construction
17	1457 N Main St Project	6-story, 376 studio and one-bedroom apartments, and 6,448-square-foot commercial space.	Under Construction
18	1800 E Seventh Street Project	7-story, 122 live/work units, 9,500-square-foot commercial space, and 5,885-square-foot arts and production space.	Under Construction
19	2110 Bay Street Mixed-Use Project	110 live/work units, 113,350-square-foot creative office space, and 50,848-square-foot commercial space.	Pending Construction
20	2143 Violet Street Project	347 live/work units (with 18 affordable units), 187,374-square-foot office space, 21,858-square-foot commercial space.	Pending Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
21	2159 Bay Street Project	10-story commercial high-rise building, a two-story commercial building, a one-story commercial building, and a one-story electrical enclosure with 217,189-square-foot creative office space, 5,000-square-foot retail and restaurant space.	Undergoing Environmental Review
22	216 Spring St Project	18-story, 120 apartment units with ground-floor retail space.	Pending Construction
23	222 West 2nd Project	30-story, 107 residential units, 7,200-square-foot ground-floor commercial space, and 534,044-square-foot of office space.	Pending Construction
24	2nd & Vignes/ Challenge Cream Butter Building	102,679 square feet of commercial and office space.	Under Construction
25	340 S Hill St Equity Residential Mixed-Use Project	31-story, 428 residential units (including 108 affordable units), and 5,610-square-foot commercial space.	Pending Construction
26	400 S Alameda Hotel Project	66 hotel rooms with 5,400 square feet of restaurant and retail space.	Pending Construction
27	414 Crocker Apartments	7-story, 175 residential units (with 173 affordable units), and 8,700 square feet of commercial space.	Under Construction
28	520 Mateo St Mixed-Use Project	35-story, 475 apartments over 120,000 square-foot office, 15,000 square-foot retail, and 15,000 square-foot restaurant.	Under Construction
29	5th Street Permanent Supportive Modular Housing	8-story, 150 affordable housing units.	Pending Construction
30	5th Street/6th Street Improvement Project	Roadway improvements including new bike lanes and bus lanes.	Under Construction
31	670 Mesquit Project	944,056-square-foot creative office space, 136,152-square-foot retail space, 308 residential units (with 16% affordable units), and 236 hotel rooms.	Undergoing Environmental Review
32	676 Mateo	197,355-square-foot mixed-use building, 185 live/work units (with 20 affordable units) and 23,380 -square-foot arts production and commercial space, and 15,320 square feet of open space.	Pending Construction
33	6AM	7 buildings containing 1,736 residential units, 412 hotel rooms, 253,514 square feet of office space, 127,609 square feet of commercial space, 29,316 square feet of school space, and 22,429 square feet of art space.	On Hold
34	8th and Alameda Studios	832,750 square feet of sound stages, production space, and supporting offices.	Pending Construction
35	803–821 5th St, Los Angeles	Conversion of existing vacant commercial building to 95 residential units (with 94 affordable units), and 16,071 square feet of commercial space.	Pending Construction
36	Angels Landing Project	2 high-rise towers, 180 condominium units, 252 apartment units (mix of market rate and affordable units), 2 hotels with a combined total of 515 guest rooms, and 72,091 square feet of commercial space.	Pending Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
37	Arroyo Seco Bike Trail Extension	Extension of the existing Arroyo Seco Bike Path to connect to the LA River.	Planned
38	Arts District Center	12-story, 129 live/work residential units (with 15 affordable units), 113-room hotel, and 81,329 square feet of commercial space.	Pending Construction
39	**Bending the River Back into the City**	Installation of a waterwheel on the west bank of the LA River to irrigate the Los Angeles State Historic Park using water from the LA River.	Under Construction
40	Boyle Heights Community Plan Update	Update to the Plan aims to encourage specific growth around transit hubs and commercial corridors while conserving residential areas' existing varied densities and historic character.	Amendments to plan adopted December 12, 2023 being considered by Planning Commission and City Council for approval
41	Cambria Hotel	13-story, 180 hotel rooms.	Under Construction
42	City Market of Los Angeles	312,112-square-foot corporate/education campus, 294,641-square-foot office space, 224,862-square-foot retail space, 945 residential units, and 210 hotel rooms.	Pending Construction
43	**City of Los Angeles Fish Passage and Habitat Structures Design Project**	Modify the existing LA River flood-control concrete-lined channel to improve fish passage for steelhead migration to soft-bottom reaches of the LA River from Glendale Narrows to Washington Boulevard.	Pilot project under construction
44	**Los Angeles River Ecosystem Restoration Project**	Habitat restoration of 11 miles of the Los Angeles River from Griffith Park to Downtown Los Angeles while maintaining existing levels of flood risk management.	Planned
45	Clean Water Campus	Office and commercial spaces and potentially 85 units of affordable housing.	Undergoing Environmental Review
46	College Station	7-story,725 residential units, 52,000-square-foot commercial space, and a series of central courtyards.	Pending Construction
47	2830 E Washington Blvd 90023	3-story, 75,000-square-foot warehouse and 20,000-square-foot office space.	Pending Construction
48	Downtown Women's Center, Rosa's Place	7-story, 98 residential units (with 97-affordable units).	Pending Construction
49	Buena Vista River Lofts	920 residential units, 17,941-square-foot retail space, and 5,465-square-foot office space.	Pending Construction
50	Engine Company 23 Arts Center	Conversion of an existing 3-story, decommissioned fire station into a youth arts center.	Under Construction
51	720 W Cesar E Chavez Avenue	22-story, 299 residential units, and 8,000-square-foot retail space.	On Hold
52	708 N Hill Street	7-story, 162 residential units, and 5,000-square-foot commercial space.	On Hold
53	1201 N Broadway	7-story, 118 residential units, and 8,795-square-foot ground-floor office/commercial space.	On Hold
54	Fashion District Residences	452 residential units with 13,603 square feet of commercial space.	Pending Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
55	First and Broadway Civic Center Park	2 acres of park space in Downtown Los Angeles Civic Center, with 3-story restaurant building.	Pending Construction
56	Fourth and Central	1,521 residential units (including affordable units), 68 hotel rooms, 101,088 square feet of restaurant and retail space, and 411,113 square feet of office space.	Undergoing Environmental Review
57	Garden Heights Apartments	Conversion of an Intermediate Care Facility to a 45-unit multifamily residential building and a new construction containing 50 units of multifamily residences.	Pending Environmental Review
58	Go For Broke Apartments	6-story, 228 affordable residential units on top of 25,000 square feet of commercial space.	Pending Construction
59	Harmony	27-story, 178 residential units on top of two floors of 37,000-square-foot office and retail space.	Under Construction
60	Homeboy Industries Expansion	5-story, 157 residential units. Buildings containing support services and transitional housing.	Pending Environmental Review
61	Hotel Clark	11-story, 347 hotel rooms.	Under Construction
62	Hotel Project 995 N Broadway	9-story with 6,211-square-foot rooftop restaurant and lounge.	Undergoing Environmental Review
63	Industrial Street Lofts Project	7-story, 344 live/work units, 24,044-square-foot creative office space, and 5,500-square-foot restaurant space.	Under Construction
64	La Guadalupe	5-story, 44 residential units (with 43 affordable units), on top of 7,000-square-foot ground-floor commercial space.	Under Construction
65	**Lincoln Heights Jail Redevelopment (Lincoln Heights Makers District)**	Conversion of an abandoned jail on City of Los Angeles property into a riverfront mixed-use private development on the east bank near the Ed P. Reyes River Greenway.	On Hold
66	Los Angeles Aerial Rapid Transit (LA ART)	Gondola system connecting Los Angeles Union Station and Dodger Stadium, with an intermediate stop in Chinatown/State Park Station.	Undergoing Environmental Review
67	Los Angeles County + USC Medical Center Restorative Care Village	Residential mental health and well-being medical campus with transitional housing, psychiatric services, nursing facilities, and other supportive services. Structures include a Recuperative Care Center containing 96 beds, and a Residential Treatment Program consisting of 4 buildings containing 16 beds each.	Under Construction
68	Los Angeles State Historic Park Pedestrian Bridge	Pedestrian and bicycle bridges connecting North Broadway Street and the Los Angeles Historic State Park.	Pending Environmental Review
69	Luchas Reyes Apartments	60 affordable residential units, 6,340 square feet of retail space, 4,300-square-foot community garden, and 2,035-square-foot cultural center.	Undergoing Environmental Review
70	Main Tower	12-story, 196 residential units, and 6,344-square-foot ground-floor commercial space.	Pending Construction
71	Medallion 2.0	7-story, 471 apartment units, and 29,945-square-feet commercial space.	Undergoing Environmental Review
72	3547–3585 N Figueroa Street	5-story, 55 residential units, and 6,828-square-foot ground-floor commercial space.	Pending Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
73	151 W Avenue 34	468 residential units above 16,000-square-foot ground-floor retail space.	Pending Construction
74	211 Alpine Street	7-story, 153 residential units on top of 2,500-square-foot ground-floor commercial space.	Undergoing Environmental Review
75	1100 E 5th Street	8-story, 220 live/work units (with 25 affordable housing units) and 44,530 square feet of commercial space.	Pending Construction
76	826 Mateo Street	90 live/work spaces, 11,000-square-foot of retail, 5,600-square-foot restaurant.	Pending Construction
77	708 New Depot St	6-story, 33-unit apartment building.	Under Construction
78	Nela Plaza	7-story, 100 condominium units, and 14,734 -square-foot ground-floor retail space.	Pending Construction
79	Office & Commercial Project	5-story, 120,000-square-foot office space above 7,000-square-foot ground-level retail space.	Under Construction
80	Office & Commercial Project	14-story, 184,629-square-foot office space, and 4,325-square-foot retail space.	Undergoing Environmental Review
81	Onni Times Square	2 high-rise towers, 1,127 residential units, and 34,572 square feet of commercial space.	Under Construction
82	Palmetto Colyton	12-story, 310 live/work residential units and 27,410 square feet of commercial space.	On Hold
83	Paseo del Rio	1-mile riverfront walkway adjacent to the Taylor Yard G2 Parcel.	Pending Environmental Review
84	Radisson RED Hotel	140-guest room hotel.	Pending Construction
85	Rendon Hotel Project	15-story, 103 guest rooms, and 15,907 square feet of commercial space.	Pending Construction
86	Residential Development	Conversion of existing structure into 60 live/work units.	On Hold
87	Residential Development	Subdivision of one parcel into 5 lots for the construction of 5 dwelling units, with one dwelling unit in each lot.	Pending Construction
88	Residential Development	3-story, 5-unit apartment building.	On Hold
89	Sears Mail Order District	Renovation of Sears building and surrounding areas. 1,030 live-work units, 250,000 square feet of creative offices, and 100,000 square feet of retail space.	Pending Environmental Review
90	**Sixth Street PARC (Park, Arts, River and Connectivity Improvements) Project**	Open and recreational space that would connect Boyle Heights, the Arts District and the Los Angeles River and would be accessible via improved streets, intersections, bike lanes and from the viaduct via accessible ramps and stairs. The Sixth Street PARC Project is being led by the City of Los Angeles Bureau of Engineering.	Under Construction
91	Soundstage Development	Conversion of a cold storage facility into a 236,000-square-foot motion picture production studio and office space.	Under Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
92	Southern California Flower Market	15-story (12 stories of residences on top of 3 stories of commercial space), 323 residential units (with 32 affordable units), 64,343 square feet of office space, 63,785 square feet of wholesale space, 13,420 square feet of food and beverage space, 10,226 square feet of event space, and 4,385 square feet of retail space.	Pending Construction
93	Taylor Yard G2 Parcel	42-acre green space project containing park space, walking trails, wetlands, wildlife habitat, river access, and public recreation.	Under Construction
94	The Alvidrez	14-story, 151 residential units (with 150 affordable units).	Undergoing Environmental Review
95	Violet Street Creative Office Campus	13-story, 450,599 -square-foot retail and office building and renovation of existing Ford Factory building.	Undergoing Environmental Review
96	Weingart Projects Site 1	2 towers (Tower 1A at 19 stories and Tower 1B at 12 stories) containing 382 residential units (with 378 affordable units), 25,493 square feet of institutional use, and 2,250 square feet of commercial space.	Under Construction
97	Weingart Projects Site 2	18-story, 303 residential units (with 298 affordable units), 17,100 square feet of office space, and 3,200 square feet of commercial space.	Under Construction
98	**NOS Rehab Unit 11—Humboldt St to Cardinal St**	Rehabilitation of 3,869 linear feet of the existing 100-year-old 54-inch North Outfall Sewer.	Pending Environmental Review
99	7th Street Streetscape Segment 3	Multimodal transportation project to add pedestrian and bicyclist safety improvements, including pedestrian lighting, bus islands, and trees.	Pending Construction
100	Hollenbeck Park Lake Rehabilitation	Multi-benefit project consisting of stormwater diversions, stormwater capture and treatment, significant park and lake improvements, and green street network components.	Undergoing Environmental Review
101	Central Business District Sewer Rehab Unit 11B—Alameda to 6th	Rehabilitation of a portion of the City of Los Angeles CBD sewer along the following streets: Alameda, Santa Fe, Bay, Wilson, 7th.	Pending Construction
102	**Air Treatment Facility—Mission and Jesse Expansion**	Expansion of the sewer air treatment facility near the intersection of Mission Road and Jesse Street.	Pending Construction
103	Asphalt Plant 1—Phase 2	City of Los Angeles satellite site to store and process recycled asphalt pavement.	Undergoing Environmental Review
104	Soto Street Primary Sewer Rehabilitation	Rehabilitation of an existing sewer line on Soto Street, between 11th Street and 26th Street.	Pending Construction
105	Grande Vista Rehabilitation	Rehabilitation of an existing sewer line on S. Grande Vista Avenue at the railroad crossing north of E. Washington Boulevard.	Pending Construction

Table 3-1. Surrounding Local and Regional Projects

Map ID	Project Name	Description	Status
City of Vernon			
106	**City of Vernon Los Angeles River Path Active Transportation Access Plan**	Potential new multi-modal improvements within the City of Vernon to connect to the Project.	Undergoing Environmental Review
City of Commerce			
107	Modelo Project	Reconstruction of Veterans Memorial Park and an adjacent vacant parcel into a mixed-use development, including public community uses, 850 residential units, approximately 165,000 square feet of entertainment retail uses, and associated on-site parking.	Pending Construction

Boldface text denotes projects within the permanent and temporary footprints of the Proposed Project and its options.

Figure 3-1. Related Projects Within 1 Mile of the Proposed Project and its Options (Map 1 of 3)



Figure 3-2. Related Projects Within 1 Mile of the Proposed Project and Options (Map 2 of 3)



Figure 3-3. Related Projects Within 1 Mile of the Proposed Project and Options (Map 3 of 3)



3.2 Aesthetics and Visual Resources

3.2.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to aesthetics and visual resources. This section also describes the existing setting and current applicable regulatory framework.

3.2.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to aesthetic and visual resources.

3.2.2.1 Federal

3.2.2.1.1 Federal Highway Administration National Scenic Byways Program

The Intermodal Surface Transportation Efficiency Act of 1991 established the National Scenic Byways Program (23 *United States Code* [USC] Section 162), a "collaborative effort established to help recognize, preserve, and enhance selected roads throughout the United States." Under the program, FHWA can designate a roadway as a State Scenic Byway, a National Scenic Byway, or an All-American Road based upon intrinsic scenic, historic, recreational, cultural, archaeological, or natural qualities. A road must exemplify the criteria for at least one of these qualities to be designated a National Scenic Byway (FHWA 2015). Nominations must be submitted to FHWA through a state's scenic byway agency and include a corridor management plan designed to protect the scenic byway's unique qualities. FHWA policy regarding scenic byway protection states, "The level of protection for different parts of a National Scenic Byway or All-American Road can vary, with the highest level of protection afforded those parts which most reflect their intrinsic values. All nationally recognized scenic byways should, however, be maintained with particularly high standards... for preserving the highest levels of visual integrity and attractiveness" (60 *Federal Register* 96).

3.2.2.2 State

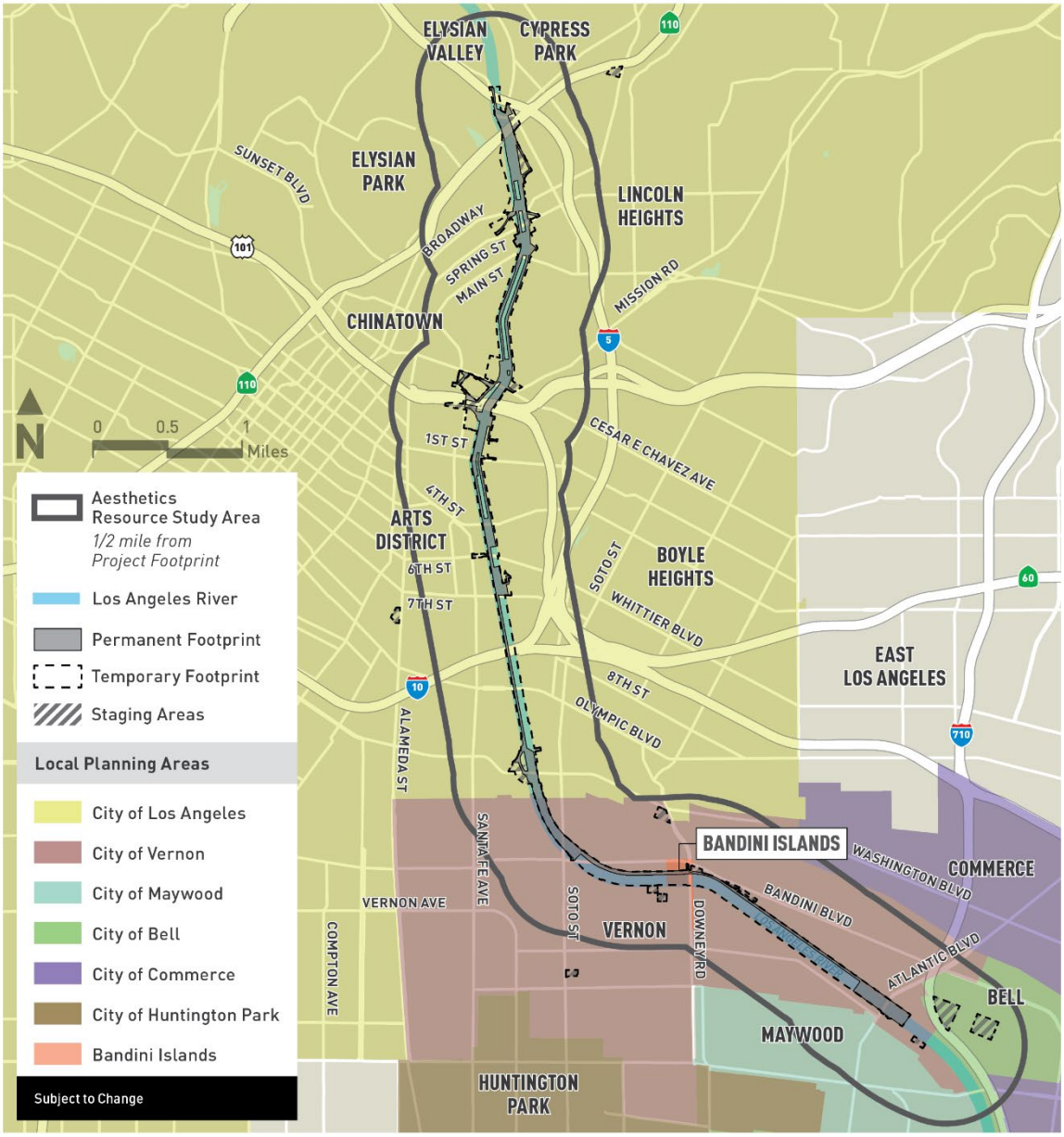
3.2.2.2.1 State Scenic Highway Program

Created by the California legislature in 1963, the purpose of the California Scenic Highway Program is to preserve and protect scenic highway corridors from changes that would diminish the aesthetic value of lands adjacent to highways. The program includes a list of highways that are eligible for designation as scenic highways or that have been designated as such. A highway may be designated as scenic based on how much of the natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes on the traveler's enjoyment of the view. State laws governing the California Scenic Highway Program were established through Senate Bill 1467 in 1963, which added Sections 260 through 263 to the Streets and Highways Code.

3.2.2.3 Regional and Local

The resource study area (RSA) is located within the Cities of Los Angeles, Vernon, Maywood, and Bell. An unincorporated County of Los Angeles community, the Bandini Islands, is also located within the RSA. The local planning areas in which the RSA is located are shown on Figure 3.2-1. Applicable regional, county, and local plans as they pertain to aesthetics and visual resources are identified and discussed below.

Figure 3.2-1. Local Planning Areas



3.2.2.3.1 Metro Art Program Percent-for-Art Policy

Through its Metro Art Program, Metro adopted a percent-for-art policy that allocates a minimum of 0.5% of capital project construction costs for public art. The program is built on three guiding principles: put people first, connect to creative communities throughout Los Angeles County, and

champion innovation. Metro Arts & Design oversees and directs all arts and cultural programs on Metro property and is the technical lead for arts and cultural strategic initiatives for non-Metro property (Los Angeles County Metropolitan Transportation Authority [Metro] 2020).

3.2.2.3.2 Los Angeles County's *General Plan 2035*

The RSA is located within Los Angeles County. Los Angeles County's *General Plan 2035* (Los Angeles County Department of Regional Planning 2022) provides the policy framework for how and where the unincorporated county will grow through 2035. *General Plan 2035* is divided into 11 planning areas to provide a mechanism for local communities to work with Los Angeles County. The RSA is within the County's Metro and Gateway Planning Areas. As shown in Figure 3.2-2, the Metro Planning Area encompasses the City of Los Angeles, and the Gateway Planning Area encompasses the Cities of Vernon, Maywood, and Bell. A portion of the RSA is within the unincorporated Bandini Islands community, which is within the Gateway Planning Area.

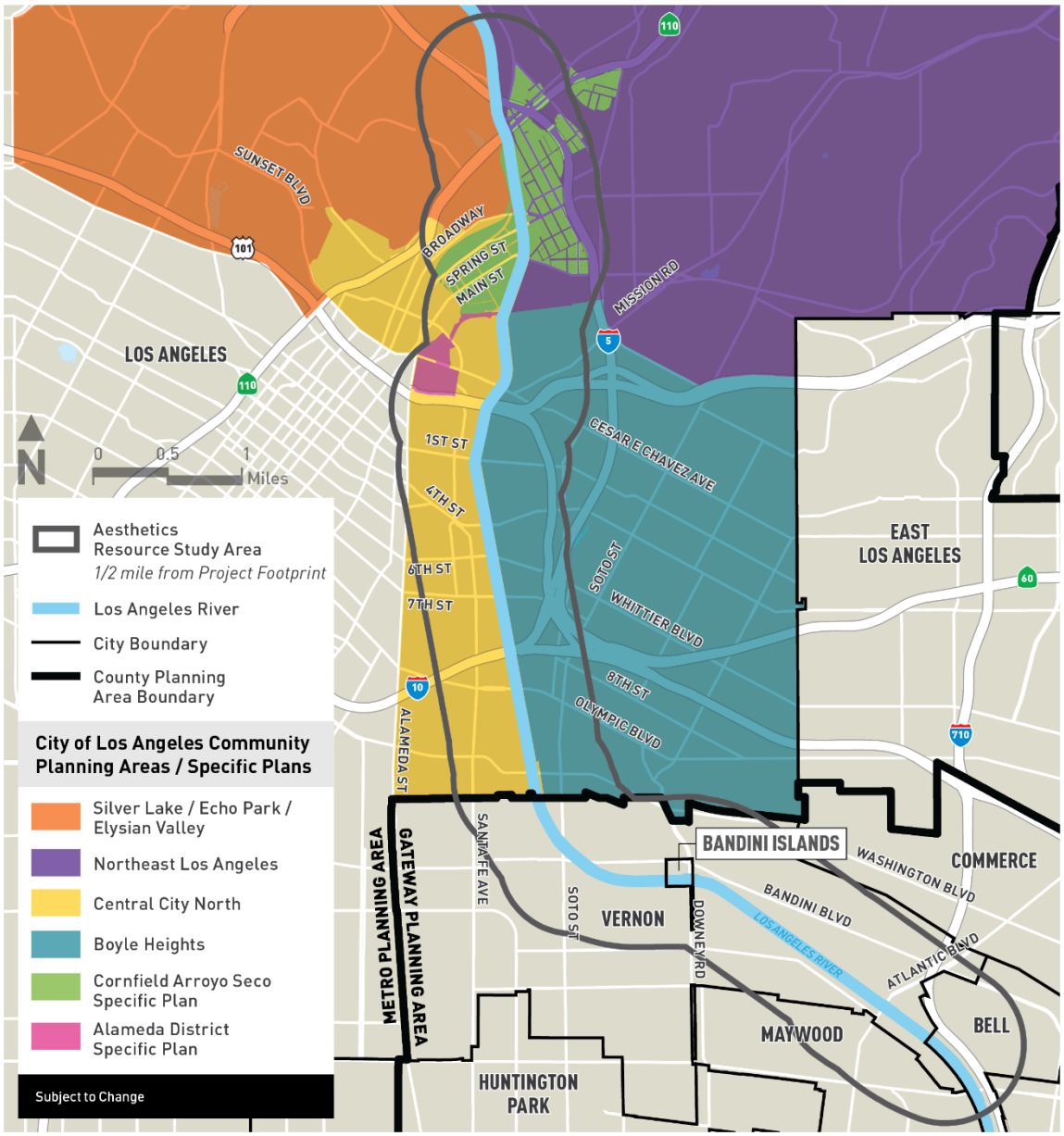
3.2.2.3.2.1 *General Plan 2035* Elements

Part III, Planning Elements of *General Plan 2035* (Los Angeles County Department of Regional Planning 2022) states, "Civic art...can be used in conjunction with community design efforts to sustain and enhance community character and a sense of place. The arts can play a central role in comprehensive community revitalization efforts that include...transportation, planning, and design. The General Plan... promotes the creation of new art to enhance communities. *General Plan 2035* also includes implementation programs that promote creative place-making to enhance the physical and social character of healthy, livable communities." *General Plan 2035* includes the following land use, mobility, and scenic resources policies relevant to aesthetic resources:

- Policy Land Use 5: "The County Civic Art Policy requires certain capital development projects, either wholly or partially funded by the County, to dedicate one percent of the design and construction cost to public art projects on the site."
- Policy Land Use 10.3: "Consider the built environment of the surrounding area and location in the design and scale of... architectural styles, and reflect appropriate features such as massing, materials, color, detailing or ornament."
- Policy Land Use 10.5: "Encourage the use of distinctive landscaping, signage and other features to define the unique character of districts, neighborhoods or communities, and engender community identity, pride and community interaction."
- Policy Land Use 10.10: "Promote architecturally distinctive...focal points at prominent locations, such as major commercial intersections and near transit stations or open spaces."
- Policy Land Use 11.2: "...utilize light-colored paving materials...."
- Policy Mobility 2.5: "Ensure a comfortable bicycling environment by implementing appropriate lighting on all bikeways."

To further the goal to "protect visual and scenic resources," Part IV, Scenic Resources of *General Plan 2035* includes Conservation and Natural Resources Policy 13.3: "Reduce light trespass, light pollution, and other threats to scenic resources."

Figure 3.2-2. City of Los Angeles Community and Specific Plan Areas



Sources: Los Angeles County 2020; Los Angeles City Planning 2021.

3.2.2.3.2.2 *General Plan 2035* Metro Planning Area and Gateway Planning Area

General Plan 2035 (Los Angeles County Department of Regional Planning 2022) notes that the LA River waterway provides "an opportunity for enhancement" to serve as a "community asset" in the Metro Planning Area. No policies or issues related to aesthetics and visual resources were identified for the County's Gateway Planning Area and the unincorporated Bandini Islands community.

3.2.2.3.3 Los Angeles County *Los Angeles River Master Plan*

Los Angeles County's *Los Angeles River Master Plan* (LARMP) (Los Angeles County Department of Public Works [LACDPW] 2022) recognizes the river as a body of resources of regional importance that must be protected and enhanced by implementing efforts identified by the LARMP. These efforts include goals to "improve the appearance of the river and the pride of local communities in it."

3.2.2.3.4 City of Los Angeles

The City of Los Angeles' General Plan Land Use Element is composed of the City's 35 Community Plan Areas, each of which has its own Community Plan.[1] These Community Plans establish neighborhood-specific goals and implementation strategies to achieve the broad objectives laid out in the City's General Plan. Specific plans implement the goals and policies of the City's General Plan and Community Plans. Specific plans contain development standards and implementation measures to which future projects located within the specific plan area must adhere. The RSA is within four Community Plan areas and two Specific Plan areas. Community Plan and Specific Plan areas that apply to the RSA are shown in Figure 3.2-2 and are discussed below.

3.2.2.3.4.1 Silver Lake – Echo Park – Elysian Valley Community Plan Area

The Silver Lake – Echo Park – Elysian Valley Community Plan area encompasses Elysian Park in the northwest portion of the RSA. The *Silver Lake – Echo Park – Elysian Valley Community Plan* document (Los Angeles Department of City Planning 2004) includes the following relevant opportunities, goals, and objectives:

- Goal 1, Objective 3, Policy 1-3.2: "Preserve existing views in hillside areas. Require decision-makers to condition new development adjacent to or in the viewshed of Elysian Park, the Los Angeles River, Echo Park Lake and the Silver Lake Reservoir to protect views from public lands and roadways, when discretionary actions are required."
- Goal 14: "A system of safe, efficient and attractive bicycle, pedestrian and equestrian facilities" (Policy 14-1.1 of the community plan endorses implementation of the LA River Bike Path under this goal).

3.2.2.3.4.2 Northeast Los Angeles Community Plan Area

The Northeast Los Angeles Community Plan area is located in the northeast portion of the RSA. The *Northeast Los Angeles Community Plan* document (Los Angeles Department of City Planning 1999) includes the following issues and objectives that apply to aesthetics and visual resources:

- Issue: "Destruction and deterioration of community resources, including scenic views and viewsheds, open space, open space corridors, and historic structures."
- Goal 15, Objective 15-1: "Improve the visual environment of existing commercial and industrial areas."

[1] https://planning.lacity.gov/plans-policies/community-plans

3.2.2.3.4.3 Central City North Community Plan Area

The *Central City North Community Plan* (Los Angeles Department of City Planning 2000) includes urban design policies and standards for multiple residential, commercial, and industrial projects. The goal and purpose of the urban design policies and standards "are to ensure that residential, commercial, and industrial projects and public spaces and rights-of-way incorporate specific elements of good design. The intent is to promote a stable and pleasant environment." The Community Plan also includes community design and landscaping guidelines for public spaces and rights-of-way (ROWs) to enhance the community's identity.

3.2.2.3.4.4 Alameda District Specific Plan Area

The City's Central City North Planning Area includes the Alameda District Specific Plan area, which generally encompasses Union Station and US Post Office Terminal Annex to the north. The *Alameda District Specific Plan* document (Los Angeles Department of City Planning 1996) identifies development projects proposed in the southeastern area of this specific plan area. No development projects or land use changes are identified in the portion of the Specific Plan area that is within the RSA. A review of the *Alameda District Specific Plan* did not identify any visual or aesthetic issues or goals relevant to the Project.

3.2.2.3.4.5 Boyle Heights Community Plan Area

The *Boyle Heights Community Plan* (Los Angeles Department of City Planning 2020, 2023) identifies the following relevant Public Realm and Open Space (PO) goals associated with aesthetics and visual resources:

- PO 3.1: "Promote the creation of a network of linked public spaces in areas along the rail-River corridor that provide safe and attractive public access to the Los Angeles River by way of gateways, plazas, paseos, and pedestrian paths."
- PO 3.2: "Design urban trails and paths that connect the eastside to the river-adjacent areas using pervious paving and native, drought-tolerant, and watershed-friendly landscaping to encourage biodiversity and maximize water recapture."
- PO 3.4: "Provide convenient and visually interesting paths of travel for pedestrians from nearby neighborhoods and transit stations to destinations along the River."

3.2.2.3.4.6 Cornfield Arroyo Seco Specific Plan Area

The Cornfield Arroyo Seco Specific Plan area occupies the northern portion of the RSA. East of the LA River, the Cornfield Arroyo Seco Specific Plan area is located within the Northeast Los Angeles Community Plan area. The Cornfield Arroyo Seco Specific Plan area is also located within the Central City North Community Plan area west of the LA River. The *Cornfield Arroyo Seco Specific Plan* document (Los Angeles Department of City Planning 2021) provides zoning regulations for the Specific Plan area. The purpose of the urban design zoning regulations for the *Cornfield Arroyo Seco Specific Plan* as it pertains to aesthetics and visual resources is to "provide well-designed, energy efficient, architectural and landscape lighting that contributes to a safe and inviting atmosphere without casting light into the night sky, adjacent properties, or sensitive habitat areas."

The LA River channel is zoned Open Space in the Cornfield Arroyo Seco Specific Plan area. The purpose of the Open Space zoning regulations as they pertain to aesthetics and visual resources is intended to "generate visual interest by creating focal points and meeting places to enhance the area's image" and "establish a positive interface between river-adjacent property and river parks and/or greenways" (Los Angeles Department of City Planning 2021).

3.2.2.3.4.7 Los Angeles River Revitalization Master Plan

The *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) provides a 25- to 50-year blueprint for transforming the City's 35-mile stretch of the river into an "emerald necklace" of parks, walkways, and bike paths, as well as providing better connections to the neighboring communities, protecting wildlife, promoting the health of the river, and leveraging economic reinvestment. The *Los Angeles River Revitalization Master Plan* includes the following goals and recommendations for aesthetic and visual resources:

- Goal: Connect Neighborhoods to the River
  - Recommendation 5.6: Increase direct pedestrian and visual access to the River.
- Goal: Extend Open Space and Water Quality Features Into Neighborhoods
  - Recommendation 5.9: Incorporate best management practices (BMP) in streetscapes and all public landscapes.
- Goal: Enhance River Identity
  - Recommendation 5.12: Identify physical opportunities to improve the visibility of the River Corridor.
  - Recommendation 5.14: Encourage local and diverse character within the River Corridor.
- Goal: Incorporate Public Art Along the River
  - Recommendation 5.15: Identify physical opportunities to introduce art along the River.

3.2.2.3.5 City of Vernon General Plan

The *City of Vernon General Plan* states, "The major open space resources in Vernon consist of the Los Angeles River Channel and utility easements. No riparian habitat exists, as the Los Angeles River channel is concrete lined along this portion of the river. Given the City's industrial character, Vernon does not contain and does not have a need for public parks" (City of Vernon 2007). However, the General Plan includes a policy to upgrade the appearance of the river channel:

> POLICY R-3.2: "Cooperate with regional efforts to upgrade the appearance and open space value of the Los Angeles River Channel."

3.2.2.3.6 City of Maywood General Plan, Land Use Element

The City of Maywood is located adjacent to the LA River. The applicable goal and objective of the *Maywood General Plan* Land Use Element as it relates to aesthetics and visual resources are to "invest in the aesthetic quality of Maywood's public and private realms" (City of Maywood 2023).

3.2.2.3.7 City of Bell 2030 General Plan

The *City of Bell 2030 General Plan* (City of Bell 2018) provides the following applicable policy that pertains to aesthetics and visual resources:

> Policy 1: "The City of Bell will recognize the social, economic and aesthetics benefits which accrue from the preservation of open space."

3.2.2.3.8 Municipal Codes of Affected Jurisdictions

Each jurisdiction in which the LA River is located has a municipal code, which contains the zoning ordinance. The zoning ordinance regulates the general design and visual quality of development projects, and designates and regulates the location, use, height and size of buildings. It also addresses parking, landscaping, and a number of other topics that influence the aesthetics of development projects. Lighting regulations are provided in the zoning ordinance or in other sections of the municipal codes. However, municipal codes do not directly regulate the design of transportation infrastructure elements, such as pedestrian and bicycle paths.

3.2.3 Methodology

The impact analysis for aesthetics and visual resources was completed using the methodology established in the 1988 *Visual Impact Assessment for Highway Projects* (FHWA 1988) and the 2015 *Guidelines for the Visual Impact Assessment of Highway Projects* (FHWA 2015). To provide a basis for evaluating impacts of the Proposed Project and its options, computer modeling and rendering techniques were used to produce visual simulations that illustrate the key observation points (KOPs) as they would appear after Project development.

To render visual simulations, existing topographic and site data provided the basis for developing an initial digital model. Project engineers provided site plans and digital data for the proposed designs, from which three-dimensional digital models of the Proposed Project, Option 1, and Option 2 were developed. These models were combined with the digital site model to produce a complete computer model of the Proposed Project and its options. The visual simulations rendered from the model (refer to Section 3.2.4.2) provide clear representations of the location, scale, and visual appearance of the Proposed Project and its options for each of the KOPs.

Physical features of the Proposed Project and its options are considered in evaluating changes to scenic vistas, scenic resources, visual character and quality, light, and glare. Physical features of the Proposed Project or its options that would contrast enough with a visually interesting view to permanently affect the view's content or quality would be considered potentially significant impacts on scenic vistas. If the loss or obstruction of a valued public view or valued scenic resource, including those within a scenic highway, would occur, these are considered potentially significant impacts on scenic resources. Viewer exposure and sensitivity to visual changes are considered when determining potential effects of the Proposed Project and its options on scenic views and scenic resources.

Regional and local plans and zoning were reviewed, and applicable policies, goals, objectives, and regulations were identified. The compatibility of the Proposed Project and its options with these plans and directives was then analyzed.

Significant impacts from the Proposed Project or its options related to light and glare would occur if light from ancillary path elements, such as new lighting along the path, spill over onto light-sensitive uses, such as residential uses, or if Project-related light causes glare at light-sensitive uses. The introduction of new light sources in low-lit areas and the potential to introduce reflective surfaces were also considered when evaluating light and glare impacts.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.2.3.1 Resource Study Area

For the purposes of evaluating aesthetics and visual resources impacts, the RSA generally includes the area within 0.5 mile from the permanent and temporary footprints (including alignments, access points, design variations, and construction staging areas) of the Proposed Project and its options. The RSA for aesthetics/visual resources was identified to show the area in which reasonably foreseeable direct or indirect impacts of the Proposed Project and its options may occur (Figure 3.2-3).

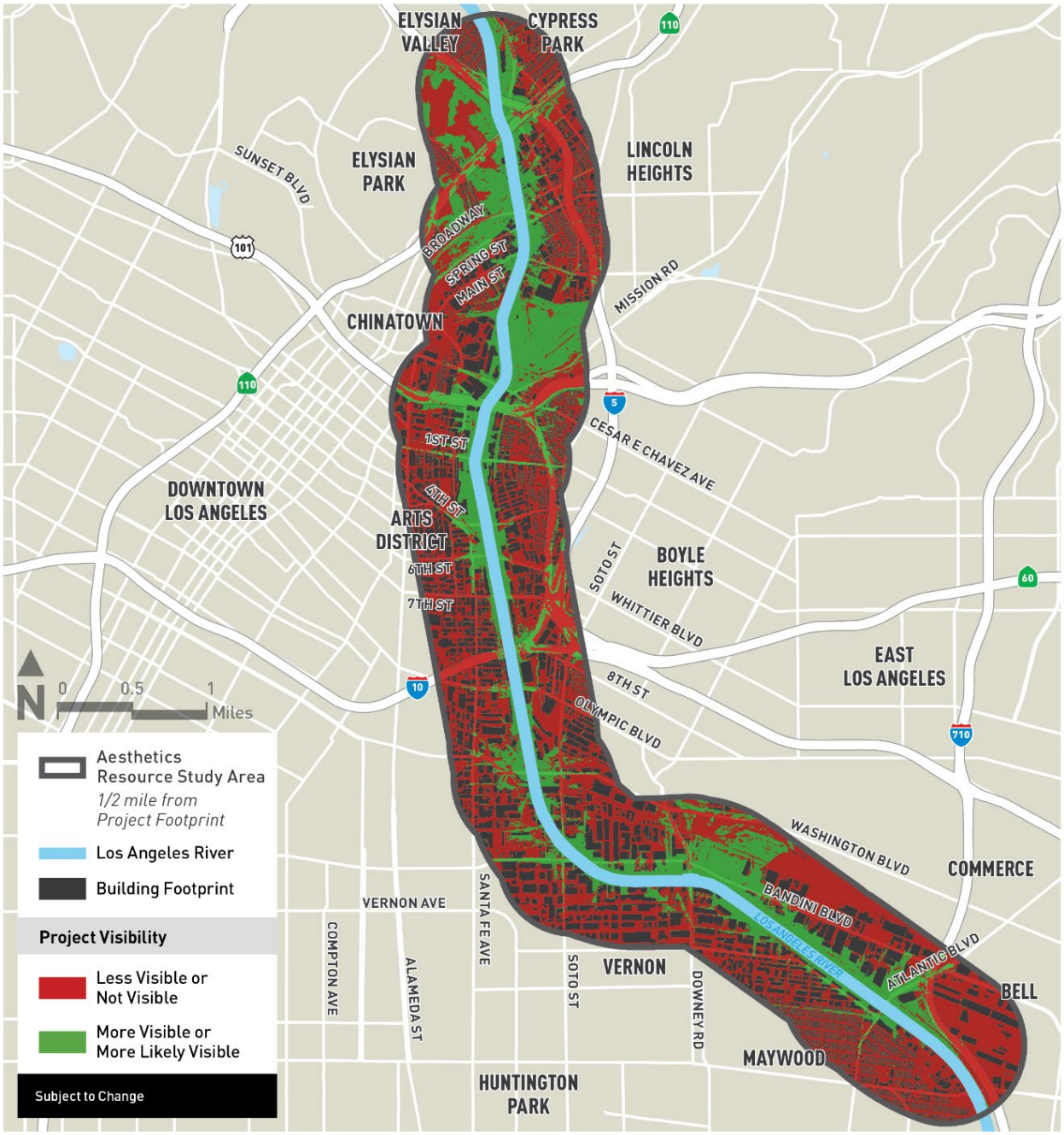
Establishing the RSA helps determine the viewshed, which is the surface area visible from a given point or series of points, as well as the area from which such points could be seen (FHWA 1988), of the Proposed Project and its options. The viewshed is larger than the RSA because built and natural features determine what can and cannot be seen. The viewshed of the Proposed Project and its options was determined by visiting the site and reviewing plans, aerial mapping, topography, and descriptions of the Proposed Project and its options. A computer viewshed analysis was conducted to generate the RSA based on digital elevation models of existing buildings, and the heights of elements of the Proposed Project and its options. The resulting map (Figure 3.2-4) demonstrates where these elements could be visible within 0.5 mile on either side of the LA River centerline, a distance that is expected to capture most views based on the highly developed nature of the RSA. However, such maps may not account for surface elements, like vegetation, that could block views.

The area of visual effect, or "AVE" discussed in Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources* is the same study area as the RSA identified here. For consistency with other sections of this Draft EIR, the term RSA is used in this section.

Figure 3.2-3. Aesthetics and Visual Resources Resource Study Area



Figure 3.2-4. Viewshed of the Proposed Project and Its Options in the Resource Study Area



3.2.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate impacts associated with aesthetics and visual resources are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to aesthetics and visual resources would occur if the Project would do any of the following:

- **Impact AES-1:** Have a substantially adverse effect on a scenic vista?
- **Impact AES-2:** Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historical buildings within a state scenic highway?
- **Impact AES-3:** Substantially degrade the existing visual character or quality of public views of the site and its surroundings, and conflict with applicable zoning and other regulations governing scenic quality? (Public views are those that are experienced from publicly accessible vantage point.)
- **Impact AES-4:** Create a new source of substantial light or glare, which would adversely affect day- or nighttime views in the area?

3.2.3.3 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Proposed Project and its options to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features are relevant to aesthetics and visual resources.

3.2.3.3.1 Construction

PF-AES-01, *Screen Direct Lighting and Glare for Nighttime Work*

When nighttime work is required, the construction contractor shall install temporary down lighting in a manner that directs light toward the construction area and away from residential units. The construction contractor shall install temporary shields as necessary so that light does not spill over into residential areas.

PF-AES-02, *Construction Lighting*

Construction-related light fixtures shall be equipped with glare diffusers and feature directional shielding to avoid the spillover of light onto adjacent residences.

PF-AES-03, *Construction Staging*

Construction staging shall be screened to minimize visual intrusion into the surrounding landscape. The screening shall be at a height and consist of a type of material that is appropriate for the context of the surrounding land uses. Lighting within construction areas shall face downward and shall be designed to minimize spillover lighting into adjacent properties.

3.2.3.3.2 Operations and Maintenance

PF-AES-04, *Permanent Lighting*

During final design, all new or replacement lighting shall comply with maximum allowable California Green Building Standards (CALGreen) glare ratings (Title 24 *California Building Standards Code* Part 11) and shall be designed to be directed away from residential units. Permanent operations-related light fixtures shall feature directional shielding to avoid the spillover of backlight and uplight onto adjacent residences. Screening elements, including landscaping, shall also be incorporated into the design, where feasible.

PF-AES-05, *Aesthetic Treatments*

Materials, color, artwork, murals, landscaping, or other aesthetic treatments shall be integrated into the design of the Project to minimize impacts, such as to limit the effects that lighting associated with the Project would have on the surround area, to limit new sources of glare, and to match or improve the aesthetic quality of the existing built environment.

3.2.4 Existing Setting

A landscape's aesthetics and visual resources form the stimuli upon which visual experience is based, which can be altered by transportation projects. Therefore, an inventory of existing visual resources and their characteristics enables analysis and comparison of the visual impacts of the Proposed Project and its options (FHWA 1988).

People experience a landscape as an integrated whole composed of individual objects. Visual understanding of the environment is based on the visual character of these objects and their interrelationships. The assessment of visual character is descriptive and not evaluative; it is not based on attributes considered "good" or "bad." Instead, visual character is based on visual pattern elements of form, line, color, and texture, and the pattern characteristics of dominance, scale, and continuity (FHWA 1988).

3.2.4.1 Affected Viewers and Viewer Sensitivity

The population affected by changes to the visual environment of a project is referred to as viewers. Viewers are composed of neighbors (static viewers) and travelers (dynamic viewers) based on activity (FHWA 2015):

- Neighbors are adjacent to a transportation facility and have views of it. They tend to prefer the status quo and are leery of visual encroachments that may cause adverse effects on the setting of their activity. Within the RSA, neighbor types that have the potential to be affected by the Proposed Project and its options are primarily industrial, but also include recreational, commercial, civic, and residential.
- Travelers have views from the transportation facility. Within the RSA, travelers that have the potential to be affected by the Proposed Project and its options include drivers of all types (such as commuters, truckers, tourists) traveling on bridges that cross the river channel, and new pedestrian and bicycling travelers who will use the Project facility when complete. Pedestrians represent the most common, and slowest, travel mode. Bicyclists travel at greater speeds than pedestrians but are typically much slower than motorized travelers (unless in congested urban areas).

FHWA guidance directs preparers of visual impact analyses to "evaluate the sensitivity of viewers to changes and define the sensitivity of viewers as either sensitive or insensitive to visual impacts." Viewer sensitivity is based on viewer exposure and viewer awareness. Viewers can be further subdivided into types based on activity, as follows (FHWA 2015).

3.2.4.1.1 Viewer Exposure

The greater the exposure to a view, the higher the viewer sensitivity. Viewer exposure is based on the following (FWHA 2015):

- Proximity: The farther the distance between an object (discernible Project elements) and a viewer, the less viewer exposure. The closer the distance between an object and viewer, the greater the viewer exposure. Distance is divided into three zones:
  - Foreground: 0.25 to 0.5 mile from the viewer
  - Middle ground: Extends from foreground to 3 to 5 miles from viewer
  - Background: Extends from middle ground to the limit of visibility
- Extent: Extent refers to the number of viewers. Fewer viewers mean less viewer exposure, and many viewers means greater viewer exposure.
- Duration: Duration refers to length of viewing time. Faster travel speed means short duration and viewer exposure. Slower (or no) travel speed means long duration and viewer exposure.
- Field of view: A narrow field of view encompasses fewer visual elements and results in shorter viewer exposure. A wider field of view encompasses more visual elements and results in longer viewer exposure.

3.2.4.1.2 Viewer Awareness

The greater a viewer is aware of a view, the higher the viewer sensitivity. Viewer awareness is based on the following (FHWA 2015):

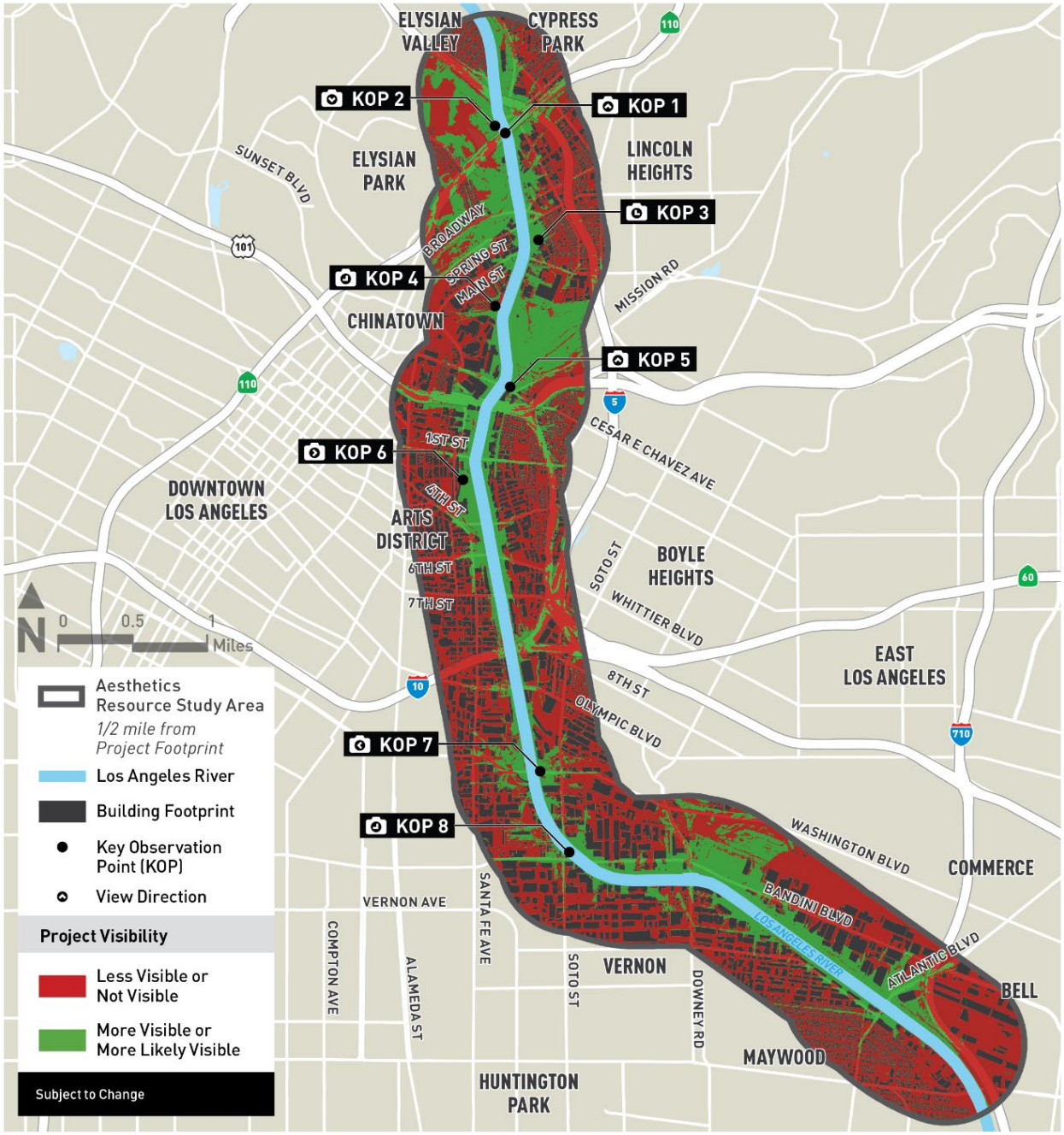
- Attention: The more routine a scene is, the less awareness of and sensitivity to it viewers have. The more unique a scene is, the greater awareness of and sensitivity to it viewers have.
- Focus: Views that contain no specific visual element or focal point result in less sensitivity. Views that contain single or a limited number of focal points result in greater sensitivity.
- Protection: Viewers are less sensitive to areas with no restrictions placed on the view or object being viewed, such as scenic byways. Viewers are more sensitive to areas with restrictions placed on the view or object being viewed.

3.2.4.2 Key Views

An analysis of viewer types and locations was conducted to identify areas of high viewer sensitivity and resulting representative key views, or KOPs. A total of 14 KOPs were initially identified based on sensitivity criteria (Section 3.2.4.1). These views were photographed using a 35-millimeter camera set to approximate the human field of vision most closely. The photographs were reviewed with Metro and eight were selected as the basis for the impact analysis. Figure 3.2-5 identifies the location of the KOPs, and Figures 3.2-6 through 3.2-12 presents the selected photographs for the KOPs. Detailed descriptions of the visual character of each KOP are also included in Appendix D, *Impact Analysis*

Report: Aesthetics and Visual Resources. An adequate photograph representing KOP 6 could not be obtained because public access is not available. More detail is provided in Section 3.2.4.3.

Figure 3.2-5. Key Views



Sources: Los Angeles County 2021, US Geological Survey 2019

Figure 3.2-6. KOP 1: SR-110 Looking North, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project and Options



Figure 3.2-7. KOP 2: Elysian Park Grandview Point, Looking South, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project



Figure 3.2-7. KOP 2: Elysian Park Grandview Point, Looking South, Existing and Simulated Views

Simulated View, Option 1



Simulated View, Option 2



Figure 3.2-8. KOP 3: Albion Riverside Park, Looking Southwest, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project



Simulated View, Option 1



Figure 3.2-8. KOP 3: Albion Riverside Park, Looking Southwest, Existing and Simulated Views

Simulated View, Option 2



Figure 3.2-9. KOP 4: William Meade Apartment Buildings, Looking Southeast, Existing and Simulated Views

Existing Conditions



Simulated View, Option 1



Simulated View, Option 2



Figure 3.2-10. KOP 5: Cesar E. Chavez Avenue Viaduct, Looking North, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project



Figure 3.2-10. KOP 5: Cesar E. Chavez Avenue Viaduct, Looking North, Existing and Simulated Views

Simulated View, Option 1



Simulated View, Option 2



Figure 3.2-11. KOP 7[2]: Washington Boulevard Bridge, Looking West, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project and Options



[2] No existing conditions photo or simulation exists for KOP 6.

Figure 3.2-12. KOP 8: Commercial Area at Bandini Boulevard and Soto Street, Looking Southeast, Existing and Simulated Views

Existing Conditions



Simulated View, Proposed Project and Options with Truss Bridge



Simulated View, Proposed Project and Options with Arch Bridge



3.2.4.3 Existing Aesthetics and Visual Resources and Character

The 51-mile LA River flows through the San Fernando Valley, Downtown LA, and the Cities of Vernon, Bell, and Maywood, reaching the Pacific Ocean at Long Beach Harbor. Between 1938 and 1960, the US Army Corps of Engineers (USACE) and the Los Angeles County Flood Control District (LACFCD) constructed the concrete-lined "engineered waterway" that now conveys the river for most of its length (Mountains Recreation and Conservation Authority [MRCA] 2021; Los Angeles County Public Works 2024). The *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) notes, "the river has become both literally and figuratively isolated from most

people and communities. Most residents cannot see the river, let alone enjoy it as a valuable public resource. For the six decades since the river was paved, it has been treated as an unwelcome guest in many neighborhoods.... Like many railroads, the river travels through the undesirable and neglected parts of the City—the back of everything—including backyards, warehouses, trash dumps, power lines, and freeways."

Within the RSA, the river channel is within a highly developed urban setting and flows primarily south, despite a few slight curves, until reaching 26th Street, after which it bends sharply to the east, taking a southeasterly path just beyond Downey Road. The concrete channel forms a broad, pale, generally flat surface approximately 160 feet wide, visually similar to a paved road, and is flanked on both sides with uniformly shallow-sloped concrete walls that form a trapezoidal shape for most of its length within the RSA. The walls display multiple, randomly applied, white rectangular patches of sealant or paint, creating a mottled effect. Because the channel is below grade, it is not typically visible from ground level, and most views of it are further blocked by development.

The presence and amount of water in the river channel varies by season, rain events, and release of wastewater discharged from three treatment plants in Los Angeles, Burbank, and Glendale (Guerin 2018). During dry weather, flows are "minimal" (City of Los Angeles 2018), and the river appears as a dark, flat ribbon following the center of the channel, occasionally widening or braiding. During rain events, the channel fills with floodwater that can become dark and turbulent depending on velocity (Chilhand 2019).

Dense urban development fronts both sides of the river channel and includes a variety of visual elements, both vertical and horizontal, such as numerous lattice-style transmission towers and lines; buildings of various heights, colors, ages, and designs; and multiple transportation facilities, including multi-lane highways, side streets, and railroad tracks. The primary land use and zoning type within the RSA is industrial, which is visually reflected by a prevalence of warehouses, railroad facilities, and parking areas. Concrete walls and chain-link fences, many topped with coils of barbed wire, are prevalent along the sides of the river channel. Although parks are few, they are prominent in the northwest area of the RSA.

More than 220,000 lights in the City of Los Angeles consisting of more than 400 designs, many of which are historical, illuminate 4,500 miles of streets and bridges. Within the RSA, City of Los Angeles street bridges include street lighting consisting of overhead street light poles. Street lighting is also adjacent to the LA River in the City of Vernon as well. Several locations along the river do not have street lighting, as indicated in Section 3.18, *Utilities and Service Systems*.

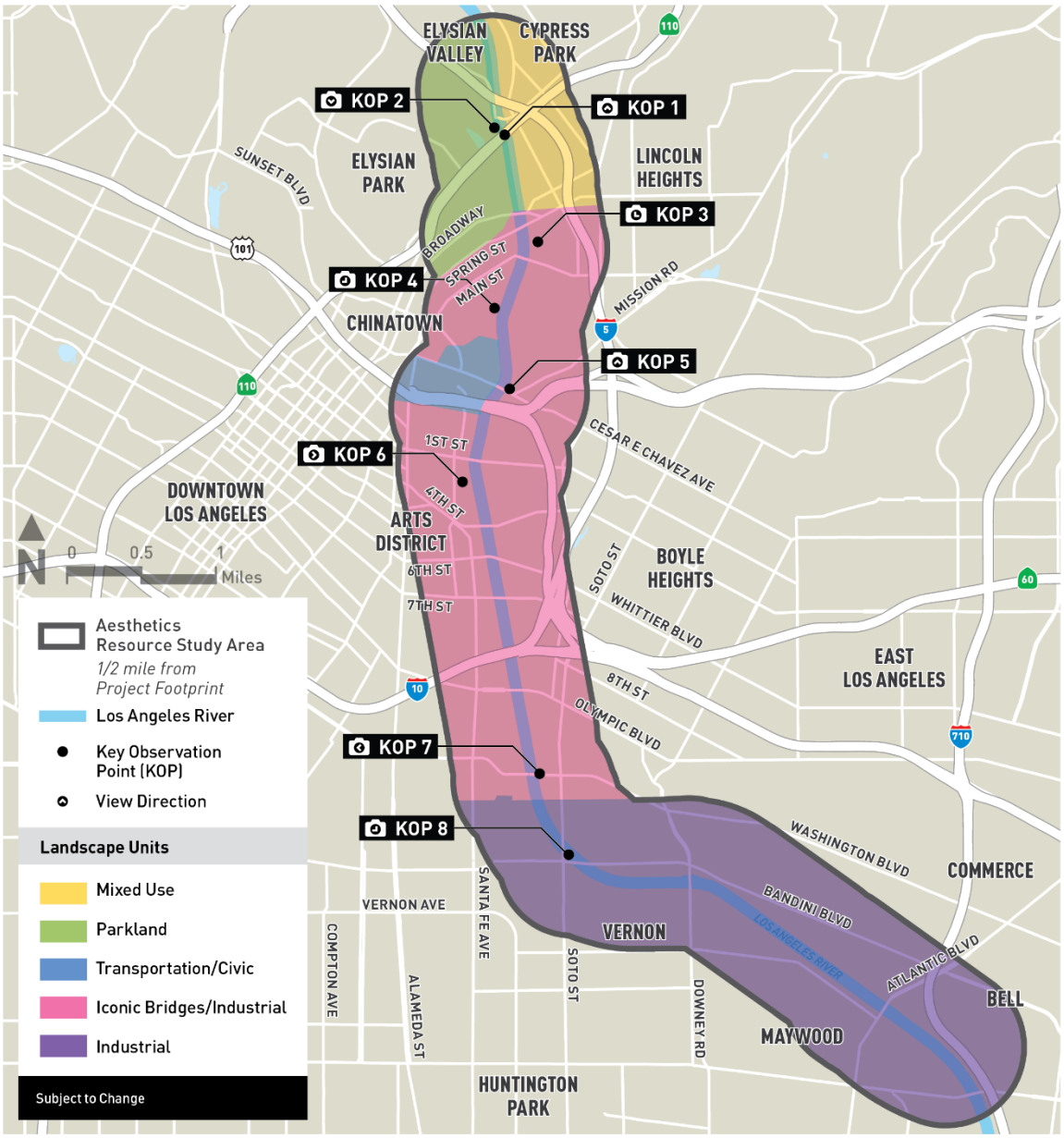
As indicated in Section 3.11, *Land Use and Planning*, most of the land uses within the RSA are industrial, followed by transportation/communications/utilities, which together account for approximately 75% of land uses within the RSA. Aerial maps indicate that the largest transportation land uses within the RSA are expansive rail yards. Exterior lighting associated with industrial facilities typically includes flood lights, canopy lights, or wall pack lights to illuminate parking areas, walkways, and landscaping. Large-scale operations can have hundreds of exterior lights, especially for large facilities (CommercialLEDLights.com 2023). Rail yards are lit for security and safety purposes, and lighting consists of high powered, high mast (tower), multi-directional luminaires to illuminate railway platforms and other areas (Kellwood Lighting 2024, Google Maps 2019).

3.2.4.3.1 Landscape Units

To assist in describing the RSA's existing visual character, the RSA is divided into landscape units (LUs) that identify a particular visual character and the neighbors who would potentially be affected by changes in the visual environment associated with the Proposed Project or its options. LUs are visually homogeneous geographic areas with only one viewshed and one landscape type. Landscape types are homogeneous combinations of slope (such as mountains, plains, and valleys) and landcover (such as water, vegetation, and human development). LUs are established using aerial imagery and often correspond to land use types (FHWA 1988, 2015).

Based on this approach, five LUs were identified within the RSA (Figure 3.2-13), all of which coincidentally correspond with Los Angeles County's Metro Planning Area, except for the Industrial LU, which is within the County's Gateway Planning Area. Describing the Metro Planning Area, the County states, "the majority of the Planning Area is urbanized, with little variation in elevation. There are no large areas of natural open space. All open space areas are contained within parks and recreational areas" (Los Angeles County 2015). The County's plan for the Gateway Planning Area notes the area's "built-out nature," "large percentage of industrial land," and a "lack of parks and recreational opportunities" (Los Angeles County 2015).

Figure 3.2-13. Landscape Units



Source: Metro 2021

The Parkland LU encompasses the east side of Elysian Park and Los Angeles State Historic Park and corresponds to the Open Space zoning identified by the City of Los Angeles (City of Los Angeles 2021b). The Mixed Use LU is on the opposite (east) side of the river from the Parkland LU, sharing the north side of Broadway as the southern boundary. Consistent with City zoning, this LU consists of a variety of uses, primarily industrial and commercial with associated large parking lots. The Iconic Bridges/Industrial LU includes Broadway as the northern border and extends south to 26th Street. Consistent with City zoning, this LU is heavily industrial but visually notable for the many historic or iconic bridges (some of which are referred to as viaducts) that cross the river or are under construction. The Transportation/Civic LU encompasses Union Station East, Metro Headquarters, the Los Angeles Police Department, the C. Erwin Piper Technical Center, and Metro Division 3, all of which occupy a large footprint, as well as US Highway (US-)101 on the west side of the channel. Most of this LU is zoned Public Facilities (City of Los Angeles 2021b). With the exception of the LA Metro Headquarters, these buildings feature unmemorable, windowless exteriors. The Industrial LU extends south from 26th Street, which is the approximate municipal boundary between Los Angeles and Vernon, to the southern boundary of the Proposed Project and its options. This LU is located primarily within Vernon, as well as a small part of Maywood. This LU is heavily industrial and is zoned as such.

3.2.4.3.2 Scenic Vistas and Scenic Resources

Chapter 9, Part VII, Scenic Resources of Los Angeles County's *General Plan 2035* (Los Angeles County Department of Regional Planning 2022) notes that "scenic resources consist of designated scenic highways and corridors (or routes), and hillsides and ridgelines.".

No scenic vistas or scenic resources were identified within, or within view of, the RSA other than the Arroyo Seco Historic Parkway – SR-110 National Scenic Byway, which connects Los Angeles and Pasadena (FHWA n.d. b). Within the RSA, the Arroyo Seco Historic Parkway crosses over the LA River channel on a bridge. The parkway was listed in the National Register of Historic Places in February 2011, designated a National Scenic Byway by the US Secretary of Transportation in 2002, and designated a National Historic Civil Engineering Landmark in 1999 by the American Society of Civil Engineers. The *Historic Arroyo Seco Parkway Corridor Partnership Plan* notes that the parkway "is considered by many engineers and transportation historians to be one of the most significant historic roads in the United States" (California Department of Transportation [Caltrans] 2012, NPS n.d.).

The Arroyo Seco Parkway (SR-110) was nominated as a National Scenic Byway for its historic, recreational, cultural, and natural qualities (Caltrans 2012). Because FHWA policy limits designation to a single intrinsic quality, it was designated under the historic quality only. However, the *Historic Arroyo Seco Parkway Corridor Partnership Plan*[3] recognizes and integrates all four qualities. The plan's vision statement states, "The Parkway is beautiful and well maintained, and the surrounding neighborhoods and parklands feel connected and accessible. Access to alternative travel modes is generous and convenient.... The landscape along the Parkway creates a park like setting and views of nature...." (Caltrans 2012). The plan's goals include "preserv[ing] the historic Parkway design features, views, and community relationships as a park corridor," and "maintain[ing] the Arroyo Seco Parkway as a historically significant road, designated a California State Historic Parkway, designated a National Scenic Byway and listed as part of the National Register of Historic Places historic district" (Caltrans 2012). The National Park Service notes that the parkway "was heavily landscaped with native plants and ran through dedicated parkland for much of the route in Los Angeles, including going

[3] According to the *Historic Arroyo Seco Parkway Corridor Partnership Plan* (Caltrans 2012), the plan does not necessarily reflect the official views or policies of the State of California or the Southern California Association of Governments, nor does it constitute a standard, specification, or regulation.

through Elysian Park near downtown," which "gave it much of the character of a parkway. To the contemporary observer, it feels much more like a parkway, despite many compromises to the landscaping for safety purposes over the years" (NPS n.d.).

3.2.4.3.3 Important Nighttime Views

No important nighttime views were identified within the RSA. The RSA is not within an area that is designated as part of the International Dark Sky Places Program (International Dark Sky Association n.d.). In addition, the RSA experiences substantial light pollution (Figure 3.2-14).

Figure 3.2-14. Light Pollution within the Resource Study Area

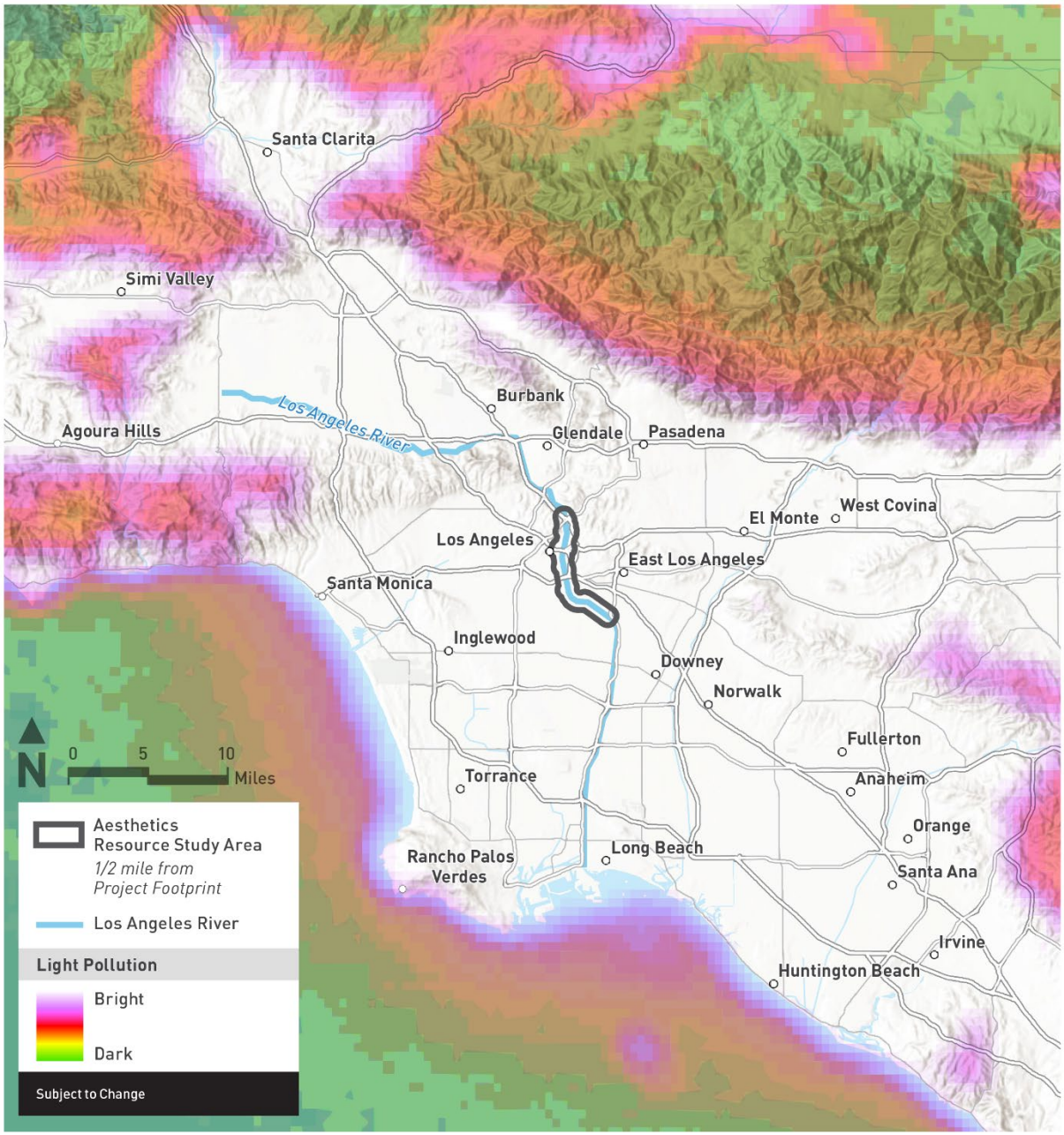


Image and data processing by NOAA's National Geophysical Data Center.
DMSP data collected by US Air Force Weather Agency.

3.2.4.4 Existing Visual Quality

The numerical rating system used in FHWA's 1988 *Visual Impact Assessment for Highway Projects* (FHWA 1988) was used to define the visual quality of specific KOPs. Each of the three dimensions of visual quality—vividness, intactness, and unity—were assessed and documented using an FHWA rating sheet. These dimensions are defined as follows:

- Vividness: "The memorability of the visual impression received from contrasting landscape elements as they combine to form a striking and distinctive visual pattern."
- Intactness: "The integrity of visual order in the natural and human-made landscape, and the extent to which the landscape is free from visual encroachment."
- Unity: "The degree to which the visual resources of the landscape join together to form a coherent, harmonious visual pattern. Refers to the compositional harmony, or the inter-compatibility, between landscape elements."

A numerical rating score was assigned to each dimension, ranging from very low (1) to medium (4) to very high (7) visual quality. The individual scores were then averaged to generate an overall visual quality score, summarized in Table 3.2-1. Results of this process show that the RSA generally has low to medium visual quality due to its highly developed industrial nature. The complete FHWA ratings spreadsheets are included in Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources*.

Table 3.2-1. Visual Quality Rating Summary by Key Observation Point

	KOP 1	KOP 2	KOP 3	KOP 4	KOP 5	KOP 6 [a]	KOP 7	KOP 8
Average Rating	3.46	3.88	2.85	1.71	2.69	1.17	2.17	1.83
Descriptive Equivalent	Medium	Medium	Moderately Low	Low	Moderately Low	Very Low	Low	Low

[a] Based on aerial and street view online imagery and photos taken looking southeast from First Street Viaduct because a photograph from the One Santa Fe apartment buildings could not be obtained

Photographs of existing conditions and simulations are presented in Figures 3.2-6 through 3.2-12 and included in Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources*. However, an adequate photograph representing KOP 6, the One Santa Fe apartment complex, could not be obtained due to inaccessibility to the public. A photograph from the First Street Viaduct at the north end of the apartment complex was considered but dismissed because it was not an accurate representation. Drone footage from above the apartment complex was also considered but dismissed because a drone's-eye-view would be higher than any residential view, and, to best approximate the field of human view, the drone would require a 35-millimeter camera, which would be cost-prohibitive for one viewpoint. Therefore, KOP 6 is analyzed in narrative only based on design drawings, with no accompanying photographs or simulations.

Detailed ratings spreadsheets for the KOPs are provided in Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources*. A summary description of each KOP follows.

3.2.4.4.1 Key Observation Point 1: State Route 110 Looking North

Although not a State Scenic Byway, the section of SR-110 through the RSA is designated scenic at the national level, as described in Section 3.2.4.3.2. Therefore, this KOP was selected to approximate views

from within a scenic highway of any designation to help evaluate the Impact AES-2 threshold of significance. The existing view from this KOP is shown in Figure 3.2-6.

The undulating topography and view of distant mountains, as well as the presence of water and vegetation, are moderately vivid elements, as are the strong lines and mass of the varying crisscrossing bridges, but to a lesser degree. However, the numerous patterns in the bridges lack integrity of visual order. The scene is somewhat unbalanced, with little visual relationship between the developed and natural elements, although the forms of distant hills are somewhat symmetrical and balance the farther view. Overall visual quality is medium.

3.2.4.4.2 Key Observation Point 2: Elysian Park Grandview Point, Looking South

As shown in the existing view in Figure 3.2-7, this elevated view provides sweeping views of the landscape. Clusters of dark deciduous trees on the foreground hill add vividness, as does the dark diagonal line of the water and river channel, which draws the eye through the scene. However, the visual patterns of the vegetation are not integrated with the surrounding urban development, and the industrial structures encroach upon the view. The scene appears somewhat chaotic and jumbled in the foreground but becomes more coherent as details fade in the distance. Overall visual quality is medium.

3.2.4.4.3 Key Observation Point 3: Albion Riverside Park, Looking Southwest

Vividness in this view is attributed mostly to the views of Downtown LA and the brilliant green color of the artificial turf, as shown in the existing view in Figure 3.2-8. However, there is no visual interrelationship of patterns between the cityscape and soccer field, which starkly contrast with each other and appear unbalanced, although landscaping at the edge of the soccer field helps transition between the two disparate halves of the view. The large lattice transmission towers encroach upon, and block, farther views. Overall visual quality is moderately low.

3.2.4.4.4 Key Observation Point 4: William Meade Apartment Buildings, Looking Southeast

The imposing lattice transmission towers are memorable (that is, vivid), but not necessarily positive, visual elements, as shown in the existing view in Figure 3.2-9. The bright green lawn in the foreground is also vivid but not memorable. The various visual patterns and textures, as well as the residential and industrial elements, are not integrated and lack visual order. The vegetation contrasts with the dominant industrial features, which encroach upon the residential setting in the foreground. The view lacks compositional harmony because it is unbalanced, and the various transmission structures lend a chaotic and jumbled appearance. Overall visual quality is low.

3.2.4.4.5 Key Observation Point 5: Cesar E Chavez Avenue Viaduct, Looking North

Although low, slightly undulating hills in the distance add a slight degree of vividness, the broad swath of the river channel is the dominant feature and imbues a sense of balance between the left and right sides of the view, as shown in the existing view in Figure 3.2-10. The sinuous curve of the channel creates an orderly flow through the foreground, but the various built elements, particularly the transmission towers, lack visual order because of their contrasting patterns. Paint patches on the

concrete channel and graffiti on the foreground walls lend a disorderly appearance. The transmission towers encroach upon the view because of their large numbers and vertical prominence. Overall visual quality is moderately low.

3.2.4.4.6 Key Observation Point 6: One Santa Fe Apartment Buildings, Looking East

As previously noted, public access is not available for this KOP. Flat landform, a general lack of vegetation, and obscured views of the river channel result in low vividness. A large number of railroad tracks in the foreground, as well as railroad cars, lattice transmission towers and lines, construction work, and industrial buildings, are dominant, but not memorable, visual elements. All of these disparate features lack visual order and encroach upon the view, resulting in a lack of unifying elements and, thus, compositional harmony. Overall visual quality is very low.

3.2.4.4.7 Key Observation Point 7: Washington Boulevard Bridge, Looking West

The Washington Boulevard Bridge's historic-style ornamentation contrasts with the utilitarian design of the rest of the scene, as shown in the existing view in Figure 3.2-11. An overhead railroad bridge cuts a dark, heavy swath across the view, creating a visually dominant crisscross pattern of substantial girth and a striking, but not necessarily memorable, element. The river channel is reinforced with a dark metal corrugated wall that is also vivid but unmemorable. These dark, disparate visual structures create an unbalanced composition. A lattice transmission tower is a prominent vertical element. The contrasting color, pattern design, and style of these structures lack an integral visual relationship and encroach upon the historic character of the Washington Boulevard Bridge. Overall visual quality is low.

3.2.4.4.8 Key Observation Point 8: Commercial Area at Bandini Boulevard and Soto Street, Looking Southeast

As shown in the existing view in Figure 3.2-12, the industrial nature of this view lacks striking or memorable elements and, thus, vividness. A handful of deciduous trees interject minimal color and texture but are unmemorable and not integrated into the setting. The patterns created by the asphalt paving, chain-link fence, and transmission towers lack an integral visual relationship, and parked cars encroach upon views of the river. The scene is primarily unbalanced. The parked cars appear large relative to other features, and the varying heights and girths of the lattice towers appear haphazardly arranged. Overall visual quality is low.

3.2.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to aesthetics and visual resources are substantially the same. The analysis presented here applies to the Proposed Project and its options, including design variations, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.2.5.1 Impact AES-1: Vistas

Impact AES-1: Have a substantially adverse effect on a scenic vista?

3.2.5.1.1 Proposed Project, Option 1, and Option 2

3.2.5.1.1.1 Construction

No impact. No scenic vistas are available within the RSA. Therefore, construction activities would not adversely affect scenic vistas, and **no impact** on scenic vistas is expected.

3.2.5.1.1.2 Operations and Maintenance

No impact. Impacts on scenic vistas from operations and maintenance (O&M) activities would not occur because none would be visible from the RSA. Therefore, **no impact** on scenic vistas is expected.

3.2.5.2 Impact AES-2: Scenic Highways

Impact AES-2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historical buildings within a state scenic highway?

3.2.5.2.1 Proposed Project, Option 1, and Option 2

3.2.5.2.1.1 Construction

Less than significant impact. One National Scenic Byway (but no state-designated Scenic Byways or scenic highways) is located within or would be visible from the RSA. The Arroyo Seco Historic Parkway – SR-110 (SR-110) is a National Scenic Byway and is also listed on the National Register of Historic Places. SR-110 crosses over the LA River channel via a bridge within the RSA. Because the Proposed Project and its options would be elevated over the LA River channel, but located below SR-110, construction activities associated with the Proposed Project and its options would not affect views of either the LA River channel and the surrounding area from SR-110 or views of SR-110. As shown in the simulated view of KOP 1 (Figure 3.2-6), a small, willowy tree north of the elevated highway at ground level and adjacent to the river would be removed. This tree is not within the SR-110 ROW, and the removal of this tree would not affect views to and from SR-110. Additionally, the Proposed Project and its options do not involve any construction activities that would damage SR-110 or alter SR-110 in a manner that would affect its National Scenic Byway designation. Therefore, a **less than significant impact** is anticipated regarding substantial damage to scenic resources.

3.2.5.2.1.2 Operations and Maintenance

Less than significant impact. The simulation developed for KOP 1 portrays expected changes to views from SR-110 looking north. The proposed elevated pathway associated with the Proposed Project and its options would be consistent with the visual character of the area, which primarily consists of infrastructure-related uses (for example, roadway bridges and the concrete-lined LA River channel). The components of the Proposed Project and its options would not alter or damage SR-110. As mentioned above for construction, SR-110 crosses over the LA River channel via a bridge within the RSA. Because the Proposed Project and its options would be elevated over the LA River channel, but located below SR-110, O&M activities and elements associated with the Proposed Project and its

options would not alter views of the LA River channel and the surrounding area from SR-110 or views of SR-110. Therefore, no change to SR-110 scenic byway designation would occur, and a **less than significant impact** is anticipated regarding substantial damage to scenic resources.

3.2.5.3 Impact AES-3: Visual Character and Quality

Impact AES-3: Substantially degrade the existing visual character or quality of public views of the site and its surroundings, and conflict with applicable zoning and other regulations governing scenic quality? (Public views are those that are experienced from publicly accessible vantage point.)

3.2.5.3.1 Proposed Project, Option 1, and Option 2

3.2.5.3.1.1 Construction

Less than significant impact. During construction, some large equipment (such as cranes and associated vehicles, including bulldozers, backhoes, graders, scrapers, and trucks), as well as stockpiled construction-related materials, would be visible from public streets, sidewalks, and adjacent properties. These construction-related views would be isolated and temporary. As provided by PF-AES-03, *Construction Staging*, construction staging would be screened to minimize visual intrusion into the surrounding landscape. The screening would be at a height and would consist of a type of material that is appropriate for the context of the surrounding land uses. Metro-branded community-relevant messaging would be incorporated along the perimeter of the construction staging walls. Lighting within construction areas would face downward and would be designed to minimize spillover lighting into adjacent properties.

MM-NOI-01, *Noise Control and Monitoring Plan* (discussed in Section 3.12, *Noise and Vibration*) would require installation of temporary noise barriers or noise control curtains, where appropriate and feasible, to reduce construction-related noise levels. These temporary noise barriers or noise control curtains may be visible from existing public places, including access points, parks, and Union Station. As with construction screening for PF-AES-03, *Construction Staging*, any necessary noise barriers or noise control curtains would be at a height and would use materials that are appropriate for the context of the surrounding land uses. The screenings and temporary noise barriers or noise control curtains would limit views of the construction area and would only be present during construction of the Proposed Project or its options.

Construction work in the LA River may require temporary water diversion structures, such as cofferdams, to address water pollution control within a construction work zone. These water diversion structures would be located mainly in the concrete-lined LA River channel and would not degrade the existing visual character or quality of public views of the channel and surrounding area. Visual intrusion into the surrounding landscape would be minimal and temporary, resulting in a **less than significant** impact.

Construction activities associated with the Proposed Project and its options would not conflict with applicable zoning or other regulations governing scenic quality. Therefore, the impact would be **less than significant**.

3.2.5.3.1.2 Operations and Maintenance

Less than significant impact. Due to the industrial nature and numerous transportation corridors within the RSA, the Proposed Project and its options would not change the existing visual character of the RSA (described in Section 3.2.4.4). The linear nature of the bike path and the materials that would be used for the Proposed Project and its options would be similar to and consistent with the visual character of the channelized river, roads, and railroads within the RSA. These existing elements, in addition to numerous lattice transmission towers and lines, create a highly urban visual character that would not change with the addition of the components of the Proposed Project and its options.

As with existing conditions, a numerical rating score was assigned to each dimension of visual quality based on simulations of the eight KOPs. Results of this process show that the RSA's existing low to medium visual quality would not change (Table 3.2-2). Visual quality was shown to decrease slightly at most KOPs, with small increases or no change at the remaining KOPs. Increased visual quality typically resulted from increased vividness, resulting from changes such as introduction of a bold, curving shape into an industrial setting, or integrating existing disparate elements. Decreased visual quality typically resulted from introduction of diverging pattern elements, visual clutter, or elements that obscure views.

Table 3.2-2. Visual Quality Rating Summary by Key Observation Point

Average Rating	KOP 1	KOP 2	KOP 3	KOP 4	KOP 5	KOP 6	KOP 7	KOP 8[a]
Existing Conditions	3.46	3.88	2.85	1.71	2.69	1.17	2.17	1.83
Proposed Project	3.88	3.88	2.86	1.71	2.58	1.17	2.19	-
Option 1	3.88	3.75	2.36	1.69	2.54	1.13	2.19	-
Option 2	3.88	3.79	2.54	1.56	2.45	1.17	2.19	-
Truss Bridge Design	-	-	-	-	-	-	-	2.08
Arch Bridge Design	-	-	-	-	-	-	-	2.52

7 = Very High, 6 = Moderately High, 5 = High, 4 = Medium, 3 = Moderately Low, 2 = Low, 1 = Very Low, 0 = None

[a] Truss and arch bridge designs only apply to KOP 8.

Viewer sensitivity to the impacts to visual resources determines the degree of impacts to visual quality (FHWA 2015). Viewer sensitivity to changes in visual quality would vary by viewing location and the factors listed under Section 3.2.4.1. Some viewers would be sensitive to visual impacts where visual quality would diminish, some would not be as sensitive where visual quality would increase. For example, viewers in close proximity to the Proposed Project and its options, such those traveling over Cesar E Chavez Avenue Viaduct at KOP 5 (Figure 3.2-10), would be more sensitive to changes associated with the Proposed Project and its options than viewers from farther viewpoints. However, viewers at KOP 5 would also be mobile, so the view of the components of the Proposed Project or its options would be temporary, although recurring for regular commuters. At other locations, such as Elysian Park at KOP 1 (Figure 3.2-6), viewers would experience a longer view duration and would likely pay more attention to the sweeping views that are somewhat unique in the area due to elevation. The number of viewers and the activities that the viewers are engaged in would also affect viewer sensitivity, which would vary by location. For example, viewers from the William Meade apartment buildings at KOP 4 (Figure 3.2-9) would be more sensitive to changes in visual quality because several people who have stationary, long-term views would be affected. Viewers at locations where elements of

the Proposed Project or its options obscure views of focal points, such as of Downtown LA from KOP 3 (Figure 3.2-8) at Albion Riverside Park, may also be more sensitive to changes in visual quality.

Implementation of the elements of the Proposed Project and its options would result in some change to the existing visual character and visual quality of historic resources. Particularly, the North Broadway Viaduct, River Station Area, North Spring Street Viaduct, North Main Street Bridge, the Factory building at 1734 N. Main Street, Cesar E Chavez Avenue Viaduct, First Street Viaduct, and Fourth Street Viaduct would experience a slight diminishing of visual quality. The Proposed Project and its options would add linear forms, a greyish color, and a smooth cement texture, which are generally consistent with the existing visual character of the LA River Channel. Refer to Table 4-2 of Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources* for additional details on changes to the visual character and visual quality of historic resources. Changes in the visual quality of historic resources resulting from the Proposed Project or its options would be minimal, and some changes in visual quality would be neutral and beneficial. Therefore, impacts to visual character or quality of historic resources would be less than significant.

As shown in Table 3.2-2 and Table 4-2 of Appendix D, *Impact Analysis Report: Aesthetics and Visual Resources*, overall changes in visual quality would be slight, and some changes in visual quality would be neutral and beneficial. Therefore, overall impacts to visual character or quality would be **less than significant**.

Implementation of elements of the Proposed Project or its options would not change zoning in the associated temporary or permanent footprints. Within the City of Los Angeles, the areas within the temporary and permanent footprints of the Proposed Project and its options are zoned Open Space, Commercial manufacturing, Public Facilities, Limited Industrial and Heavy Industrial. In the City of Vernon, the temporary and permanent footprints of the Proposed Project and its options are zoned as Industrial and Truck and Freight Terminal. In the City of Bell, the temporary and permanent footprints of the Proposed Project and its options are zoned as Commercial Manufacturing. In the unincorporated Bandini Island community, the temporary and permanent footprints of the Proposed Project and its options are zoned Manufacturing. None of the elements of the Proposed Project or its options would conflict with the zoning designations of the local jurisdictions in the RSA as it pertains to visual character and quality. As called for in regional and local plans, the Proposed Project and its options would consider opportunities for installation of art and/or architecturally distinctive focal points for appropriate elements, which would consider use of materials, color, and detailing relative to the surrounding built environment. Incorporating elements of good design would help visually enhance or improve the appearance of the river and create attractive public access to the river. Any paving materials would be light colored and pervious, and lighting would be designed to minimize light trespass. As described above, views of hillsides and from public lands and roadways would be preserved, and no scenic views, viewsheds, or historic structures would be destroyed. Any landscaping would include native, drought-tolerant plants. The aesthetics of the river's open space would not be degraded. For these reasons, O&M activities would not conflict with applicable zoning or other regulations governing scenic quality. Therefore, impacts would be **less than significant**.

3.2.5.4 Impact AES-4: Light and Glare

Impact AES-4: Create a new source of substantial light or glare, which would adversely affect day- or nighttime views in the area?

3.2.5.4.1 Proposed Project, Option 1, and Option 2

3.2.5.4.1.1 Construction

Less than significant impact. Construction lighting used to support work during daytime hours would be minimal. For nighttime construction, lighting would be focused on the immediate work environment to minimize light and glare impacts on surrounding sensitive uses. A moderate level of ambient nighttime light already exists because of the urban setting of the RSA. The Proposed Project and its options would include PF-AES-01, *Screen Direct Lighting and Glare for Nighttime Work*, PF-AES-02, *Construction Lighting,* and PF-AES-03, *Construction Staging*. These project features would direct lighting downward or toward construction areas and away from residential uses, install temporary shields so that light does not spill over into residential areas, and would equip light fixtures with glare diffusers. These project features would minimize potential construction light and glare intrusion onto the surrounding area. Therefore, impacts related to light and glare would be **less than significant**.

3.2.5.4.1.2 Operations and Maintenance

Less than significant impact. Nighttime lighting from O&M activities would be limited to those necessary for public safety. A moderate level of ambient nighttime light already exists because of the urban setting of the RSA. O&M lights would be used during the nighttime hours and would be down-shielded to reduce impacts on the night sky and adjacent properties to the extent feasible. Pursuant to PF-AES–04, *Permanent Lighting* and PF-AES-05, *Aesthetic Treatments*, Project design and ancillary path elements, such as new lighting along the path or at access points, would avoid creating substantial light or glare. Maintenance activities would have no measurable impact on light or glare because they would consist of minor actions, such as cleaning, repairing, or replacing path elements, primarily during the daytime hours. Therefore, O&M lighting is not expected to substantially alter the lighting levels in the RSA, is not expected to spill over onto adjacent properties, and would not adversely affect the clarity of nighttime views in the area. Impacts on light and glare would be **less than significant**.

3.2.6 Mitigation Measures

This section describes mitigation measures proposed to lessen anticipated visual impacts.

3.2.6.1 Construction

Construction of the Proposed Project or its options would not result in significant impacts on visual resources; therefore, mitigation measures are not required.

3.2.6.2 Operations and Maintenance

Operation of the Proposed Project and its options would not result in significant impacts on visual resources. No mitigation measures are required.

3.2.7 Significance After Mitigation

No mitigation measures are required for the Proposed Project or its options, Option 1 and Option 2. The impacts are less than significant.

3.2.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the footprint of the Proposed Project and its options that could contribute to cumulative impacts. This radius includes the RSA for aesthetics and visual resources and extends further to include other projects that may be considered in conjunction with Proposed Project elements that, due to the area's topography and existing infrastructure, may interact with the Project elements. The geographic scope for cumulative impacts to aesthetics and visual resources is 0.5-mile radius from the footprints of the Proposed Project and its options.

As discussed in Section 3.2.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.2.5, the Proposed Project and its options would result in substantially similar impacts related to aesthetics and visual resources. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.2.8.1 Proposed Project, Option 1, and Option 2

3.2.8.1.1 Construction

No scenic vistas are visible from the RSA. Because the Proposed Project and it options would be elevated over the LA River channel and would be located below SR-110, temporary construction activities would not permanently alter the visual character of these resources. Construction activities associated with the Proposed Project and its options would not affect views of the LA River channel and the surrounding area from SR-110 or views of SR-110. Additionally, construction activities would not damage SR-110 or alter SR-110 in a manner that would affect its National Scenic Byway designation.

The Proposed Project and its options are in a highly developed and well-lit area and would not represent a substantial change in the lighting environment of the area. Potential light or glare from construction vehicles onto adjacent properties would be isolated and temporary. Daytime construction lighting would be minimal, and nighttime construction lighting would be focused on the immediate work environment to minimize light and glare impacts on surrounding sensitive uses. The Proposed Project and its options would comply with applicable regulations related to light and glare. Additionally, PF-AES-01, *Screen Direct Lighting and Glare for Nighttime Work*, PF-AES-02, *Construction Lighting*, and PF-AES-03, *Construction Staging* would be integrated as part of the Proposed Project and its options and would ensure potential light and glare impacts are minimized. Therefore, impacts related to aesthetics and visual resources would be less than significant during construction.

Similarly, past, present, and probable future projects are in a highly developed and well-lit area and would not represent a substantial change in the lighting environment of the area. No scenic vistas and no scenic highways are in the vicinity of the past, present and probable future projects. Construction activities of past, present and probable future projects would be temporary, and those projects would

be required to comply with local regulations and would require project elements or mitigation measures, as applicable, to reduce impacts on visual character, light, and glare, if any. Therefore, the Proposed Project and its options, in combination with construction of past, present, and probable future projects, would not result in cumulatively significant impacts related to scenic vistas, scenic highways, and light and glare during construction.

3.2.8.1.2 Operations and Maintenance

The Proposed Project and its options and related projects are in a highly developed and well-lit area. In general, visual resource impacts of the related projects are site-specific and would not be expected to combine with other projects in separate viewsheds to create a cumulative impact.

No scenic vistas and no scenic highways are located within the RSA or in the vicinity of the related projects. Because the Proposed Project and its options would be elevated over the LA River channel and located below SR-110, the elements and O&M activities associated with the Proposed Project and its options would not alter the visual character of these resources. Project features and O&M activities associated with the Proposed Project and its options would not affect views of either the LA River channel and the surrounding area from SR-110 or views of SR-110. Additionally, the Proposed Project and its options do not consist of elements that would damage SR-110 or alter SR-110 in a manner that would affect its National Scenic Byway designation.

The Proposed Project and its options would not represent a substantial change in the lighting environment of the area to the extent that nighttime views that are currently available would become unavailable. Potential light or glare from O&M activities would be limited to those necessary for public safety. The Proposed Project and its options would comply with applicable regulations related to light and glare. PF-AES-04, *Permanent Lighting* and PF-AES-05, *Aesthetic Treatments* would be integrated into Project design to ensure potential light and glare impacts are minimized. These project features would reduce light trespass and light pollution onto the surrounding uses. Therefore, impacts related to aesthetics and visual resources would be less than significant during operation.

Similarly, past, present, and probable future projects are in a highly developed and well-lit area. In general, visual resource impacts of the past, present, and probable future projects are site-specific and would not be expected to combine with other projects in separate viewsheds to create a cumulative impact. No scenic vistas and no scenic highways are in the vicinity of the past, present, and probable future projects. The related projects would be required to comply with local regulations and would require project elements or mitigation measures, as applicable, to reduce impacts on visual character, light and glare, if any. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to scenic vistas, scenic highways, and light and glare during operation.

3.3 Air Quality

3.3.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to air quality. This section also describes the existing setting and current applicable regulatory framework.

Air pollutants are defined as two general types:

- Criteria pollutants, representing six pollutants for which National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) have been established.
- Toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations.

Generally, TACs do not have ambient air quality standards. The three TACs that do have CAAQS (that is, lead [Pb], vinyl chloride, and hydrogen sulfide [H_2S]) would not be expected to result from anticipated activities, are not considered to be pollutants of concern for the Proposed Project and its options, and thus are not discussed in the impact evaluation.

3.3.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to air quality.

3.3.2.1 Federal

Federal air quality policies are regulated through the Clean Air Act (CAA). Congress adopted the CAA in 1970 and passed amendments to the CAA in 1977 and 1990. Pursuant to the CAA, the US Environmental Protection Agency (EPA) has established nationwide air quality standards to protect public health and welfare, with an adequate margin of safety. The NAAQS are the maximum allowable atmospheric concentrations for six criteria pollutants: ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), particulate matter less than 10 micrometers in aerodynamic diameter (PM_{10}), particulate matter less than 2.5 micrometers in aerodynamic diameter ($PM_{2.5}$), sulfur dioxide (SO_2), and Pb. The NAAQS are primary standards that provide public health protection and secondary standards that protect public welfare. Table 3.3-1 summarizes the NAAQS, as well as the CAAQS.

Table 3.3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[b]	NAAQS[a]	
			Primary[c]	Secondary[d]
O_3	8 hours 1 hour	0.070 ppm 0.09 ppm	0.070 ppm –	0.070 ppm –
PM_{10}	Annual arithmetic mean 24 hours	20 µg/m^3 50 µg/m^3	– 150 µg/m^3	– 150 µg/m^3
$PM_{2.5}$	Annual arithmetic mean 24 hours	12 µg/m^3 –	12 µg/m^3 35 µg/m^3	15 µg/m^3 35 µg/m^3
CO	8 hours 1 hour	9.0 ppm 20 ppm	9 ppm 35 ppm	– –
NO_2	Annual arithmetic mean 1 hour	0.03 ppm 0.18 ppm	0.053 ppm 0.100 ppm	0.053 ppm –
SO_2	24 hours 3 hours 1 hour	0.04 ppm – 0.25 ppm	– – 0.075 ppm[e]	– 0.5 ppm –
Pb[f]	Calendar quarter Rolling 3-month average 30-day average	– – 1.5 µg/m^3	1.5 µg/m^3 (certain areas) 0.15 µg/m^3 –	1.5 µg/m^3 – –
Visibility-reducing particles	8 hours	[g]	–	–
Sulfates	24 hours	25 µg/m^3	–	–
H_2S	1 hour	0.03 ppm	–	–
Vinyl chloride[f]	24 hours	0.01 ppm	–	–

Source: CARB 2016a

[a] NAAQS other than O_3, PM, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

[b] CAAQS for O_3, CO (except Lake Tahoe), SO_2 (1 hour and 24 hours), NO_2, and suspended PM (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are not to be exceeded. All others are not to be equaled or exceeded.

[c] NAAQS Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[d] NAAQS Secondary Standards: The levels of air quality necessary to protect the public welfare from known or anticipated adverse effects of a pollutant.

[e] Final rule signed June 2, 2010. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 parts per billion.

[f] CARB has identified Pb and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. CARB made this determination following the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[g] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Notes:

µg/m^3 = micrograms per cubic meter
PM = particulate matter
ppm = parts per million (by volume)

The EPA classifies areas as being in attainment or nonattainment with the NAAQS for each criteria pollutant. A region that constantly meets the NAAQS for a pollutant is designated as being in attainment for that pollutant. A region that does not meet the NAAQS for a pollutant is designated as being in nonattainment for that pollutant. An area that was previously designated as a nonattainment area but has met the standard and has been reclassified by EPA as attainment with a maintenance plan is designated as a maintenance area.

The 1977 CAA amendment requires each state to develop and maintain a State Implementation Plan (SIP) for each nonattainment criteria pollutant. The SIP serves as a tool to help avoid and minimize emissions of nonattainment criteria pollutants and their precursor pollutants and achieve compliance with the NAAQS. In 1990, the CAA was amended to strengthen the regulation of both stationary and mobile emission sources.

In addition to the criteria pollutants, the EPA regulates emissions of hazardous air pollutants (HAPs), or TACs. TACs include airborne inorganic and organic compounds that can have both short-term (acute) and long-term (carcinogenic, chronic, and mutagenic) impacts on human health. Odorous compounds can be detected by the human olfactory system, such as H_2S and other sulfurous compounds.

3.3.2.2 State

The California Air Resources Board (CARB) oversees California air quality policies and regulations. The CAAQS were first established in 1969 pursuant to the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS and include the NAAQS pollutants and four additional pollutants: sulfates, H_2S, vinyl chloride, and visibility-reducing particulates. Relevant CAAQS are listed in Table 3.3-1.

The California Clean Air Act, which was approved in 1988, requires each local air district, where ambient concentrations violate the CAAQS, to prepare an air quality management plan to achieve compliance with the CAAQS as a part of the SIP. CARB has ultimate responsibility for the SIP for non-attainment pollutants but relies on each local air district to adopt mandatory statewide programs and provide additional strategies for sources under their jurisdiction. The SIPs are a compilation of new and previously submitted plans, programs (for example, monitoring, modeling, permitting), district rules, state regulations, and federal controls.

California regulates TACs through its Air Toxics Program, which is mandated in Health and Safety Code Chapter 3.5, *Toxic Air Contaminants*, and Part 6, *Air Toxics Hot Spots Information and Assessment* (California Health and Safety Code, Sections 39660 et seq. and 44300 et seq., respectively). In 1988, the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment completed a comprehensive health assessment of diesel exhaust. The assessment formed the basis for a CARB decision to formally identify particulate matter (PM) in diesel exhaust as a TAC that may pose a threat to human health.

CARB has adopted a series of airborne toxic control measures for mobile and stationary sources, which are intended to reduce overall diesel exhaust emissions in California. CARB also adopted two airborne toxic control measures for controlling naturally occurring asbestos: (1) the Asbestos Airborne Toxic Control Measure for Surfacing Applications and (2) the Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations. CARB and local air districts have the authority to enforce the federal National Emission Standards for HAPs regulations for asbestos.

3.3.2.3 Regional

3.3.2.3.1 South Coast Air Quality Management District

The Project is in the South Coast Air Basin (SCAB) under the jurisdiction of South Coast Air Quality Management District (SCAQMD). SCAQMD is the local agency responsible for ensuring that federal and state ambient air quality standards are attained and maintained in the basin.

SCAQMD has developed air quality plans for O_3, PM_{10}, and $PM_{2.5}$ to establish a strategy to attain the air quality standards. SCAQMD approved the latest regional air quality plan, the *2022 Air Quality Management Plan* (2022 AQMP) (SCAQMD 2022), in December 2022. The 2022 AQMP identifies strategies and control measures needed to achieve attainment of the 2015 8-hour ozone standard of 70 parts per billion (ppb).

The SCAQMD is the regional agency responsible for rulemaking, permitting, and enforcement activities affecting stationary sources in the SCAB. Specific rules and regulations adopted by the SCAQMD limit the emissions that can be generated by various activities and identify specific pollution reduction measures that must be implemented in association with various activities. These rules regulate not only emissions of the six criteria air pollutants, but also toxic emissions and acutely hazardous nonradioactive materials emissions. Any sources of stationary emissions constructed as part of a project would be subject to SCAQMD rules and regulations. Applicable rules would include the following:

- Regulation IV: Prohibitions, such as:
  - Rule 401: Visible Emissions
  - Rule 402: Nuisance
  - Rule 403: Fugitive Dust
- Regulation XIV: Toxics and Other Non-Criteria Pollutants
  - Rule 1403: Asbestos Emissions from Demolition/Renovation Activities.

3.3.2.3.2 Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the designated metropolitan planning organization (MPO) for the six-county region that includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. SCAG adopted *Connect SoCal, 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) on September 3, 2020 (SCAG 2020). The plan reflects the region's commitment to improve the region's mobility, sustainability, and economy, and demonstrates how the region will reduce greenhouse gas emissions from transportation sources and meet federal transportation conformity requirements. Connect SoCal was determined to conform to the SIP for attainment and maintenance of NAAQS.

3.3.2.4 Local

3.3.2.4.1 Los Angeles County Metropolitan Transportation Authority

Metro adopted a Green Construction Policy in August 2011 (Metro 2011) and is committed to using more sustainable construction equipment and vehicles as well as implementing best practices to reduce harmful diesel emissions from all Metro construction projects performed on Metro properties and in Metro rights-of-way. The Green Construction Policy encourages the use of construction equipment with technologies such as hybrid drives and specific fuel economy standards, which are methods to reduce emissions during the construction period. From January 2015 onward, the Green Construction Policy requires all off-road, diesel-powered construction equipment greater than 50 horsepower to meet Tier 4 off-road emission standards, at a minimum.

Best management practices (BMPs) in the Green Construction Policy include, but are not limited to, maintaining equipment according to manufacturer's specifications; restricting idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use; the use of diesel particulate traps or best available control technology (as feasible); the configuration of haul routes to conform to local requirements to minimize traversing through congested streets, near sensitive receptor areas, and during peak traffic periods; and limiting traffic speeds on unpaved roads to less than 15 miles per hour.

Metro's Environmental Policy provides guidance for identifying potential environmental impacts generated by the following:

- Development activities and developing mitigation measures to address those impacts
- Operating and maintaining Metro vehicles and facilities to minimize negative impacts on the environment
- Reducing the consumption of natural resources
- Reducing and/or diverting the amount of solid waste going to landfills

Strategies outlined in the Environmental Policy to reduce air quality impacts include, but are not limited to, the following:

- Complying with all environmental, federal, state, and local laws and regulations
- Restoring the environment by providing mitigation, corrective action, and monitoring to ensure that environmental commitments are implemented
- Avoiding environmental degradation by minimizing releases to air, water, and land
- Preventing pollution and conserving resources by reducing waste and reusing materials
- Ensuring that the planning, design, construction, and operation of facilities and services consider environmental protection and sustainable features

3.3.2.4.2 Los Angeles County and Cities

Los Angeles County and the cities within the Project study area have general plans that include goals and policies supportive of improving air quality with the region. Applicable goals and policies in the County's *General Plan 2035* (County of Los Angeles Department of Regional Planning 2022) include, but are not limited to, reducing air pollution and emissions through coordinated land use,

transportation, and air quality planning, and reducing emissions and fugitive dust from construction activities through implementation of BMPs. Relevant general plan policies of the cities of Los Angeles, Maywood, and Vernon are established to guide land use planning decisions to improve air quality within the region, including through supporting transit and development of transit-oriented communities.

3.3.3 Methodology

This section discusses the resource study area (RSA) for air quality analysis and presents the methods used to analyze air quality impacts from construction and operation of the Proposed Project and its options. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.3.3.1 Resource Study Area

For the purposes of evaluating air pollutant emissions, the RSA for the air quality analysis is defined as 1 mile from the permanent and temporary footprints (including construction staging areas, access points, and design variations) of the Proposed Project and its options. Due to the cumulative nature of air quality effects, air quality impacts are discussed at both local and regional levels.

3.3.3.2 SCAQMD CEQA Air Quality Significance Thresholds

The SCAQMD's air quality significance thresholds set forth quantitative emissions significance thresholds below which a project would not have a significant impact on ambient air quality under project-level and cumulative conditions (SCAQMD 2019). Emissions from the Proposed Project and its options were estimated and compared to the significance thresholds, as shown in Table 3.3-2. If the estimated daily emissions would be below the significance thresholds, impacts would be considered less than significant. If the daily emissions would be greater than the significance thresholds, impacts would be considered significant. While SCAQMD also has thresholds for Pb emissions, the Proposed Project and its options are not expected to have meaningful Pb emissions; therefore, Pb emissions are not discussed further.

Table 3.3-2. SCAQMD Air Quality CEQA Significance Thresholds

Air Pollutant	Construction Threshold (pounds per day)	Operation Threshold (pounds per day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

Source: SCAQMD 2019

Notes:

NOx = nitrogen oxides
SO_x = sulfur oxide(s)
VOC = volatile organic compound(s)

3.3.3.3 SCAQMD Localized Significance Thresholds

The localized significance thresholds (LST) methodology was developed by SCAQMD to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects (SCAQMD 2009). It is a screening methodology that allows users to determine, in lieu of conducting a dispersion modeling analysis, if a project would cause or contribute to an exceedance of the NAAQS or CAAQS for each source receptor area. An LST is set up as a series of look-up tables for emissions of nitrogen oxide (NO_x), CO, PM_{10}, and $PM_{2.5}$.

The most stringent LST for a 1-acre site and a receptor distance of 25 meters from the site was used for this study to be conservative (Table 3.3-3). If proposed construction and operational emissions would be below the LST levels, results would indicate that the Proposed Project and its options would not cause significant localized impacts on nearby receptors. Table 3.3-3 lists LSTs for the region.

Table 3.3-3. Localized Significance Thresholds for Source Receptor Area 1—Central Los Angeles County

Activity	Site Size (acres)	Receptor Distance (meters)	CO (pounds per day)	NO_X (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
Construction	1	25	680	74	5	3
Operation	1	25	680	74	2	1

Source: SCAQMD 2009

Notes:

lb/day = pounds per day

3.3.3.4 Construction Emissions

Construction emissions of NOx, CO, volatile organic compounds (VOCs), SOx, PM_{10}, and $PM_{2.5}$ from the Proposed Project and its options were estimated using the methodologies and emission factors described in *California Emissions Estimator Model (CalEEMod) User Guide Version 2022.1* (CAPCOA 2022). On-road vehicle emission factors were obtained from the CARB EMFAC2021 program (CARB 2021). Equipment types and predicted daily usages during each activity were based on the current design, anticipated overall activities, and how the activities would overlap based on the construction schedule of the Proposed Project and its options.

According to Metro's Green Construction Policy (Metro 2011), off-road equipment used for the Proposed Project and its options would be required to meet Tier 4 emission standards. CalEEMod default load factors for the corresponding equipment types were used in emissions calculations. Construction of the Proposed Project and its options would start in or after 2025 and take approximately 3 years. Because equipment emission factors tend to decrease in future years due to the use of cleaner and more efficient equipment, emission factors for all construction activities are based on calendar year 2025 to be conservative. The use of 2025 as the construction start year was based on the information available at the time of the analysis. While the construction start year may change, the anticipated construction activities would be the same as analyzed in this EIR. Therefore, if the construction starts later than 2025, the emissions analyzed in this EIR remains valid and represent a conservative emission scenario.

For comparison to the SCAQMD CEQA air quality significance thresholds, maximum daily construction emissions for the Proposed Project and its options were estimated by adding the

emissions from all activities that could overlap over the RSA for the length of the construction schedule. For onsite emissions to be compared to the LSTs, the construction areas were divided into five segments that represent five construction sites. Localized impact analysis was performed based on emissions in each of the segments. Not all proposed equipment for overlapping activities would be able to be operated onsite at the same time. Therefore, the emission calculation approach is conservative, and actual daily emissions would be lower than maximum daily levels estimated in this analysis.

3.3.3.5 Operation Emissions

Longer-term effects on air quality related to vehicle and equipment uses for operations and maintenance (O&M) of the Proposed Project and its options were estimated using the same methodology described for short-term construction emissions. On-road vehicle emissions were estimated using EMFAC2021 (CARB 2021a). O&M activities of the Proposed Project and its options would require minimal use of off-road construction equipment; therefore, emissions from off-road construction equipment would be expected to be negligible and not quantified. Maximum daily emissions were conservatively estimated by assuming that O&M activities may occur simultaneously on the same day. For onsite emissions, maximum daily emissions for the entire corridor were compared to the LST to determine localized impacts.

Potential effects on air quality related to people switching from driving to walking and bicycling due to the implementation of the Proposed Project and its options were evaluated based on potential changes to vehicle miles traveled (VMT) and passenger vehicle emission factors from EMFAC2021. Fugitive dust emissions associated with reduced trips were estimated using methodologies and defaults from CalEEMod for paved roads. The earliest operation year of the Proposed Project and its options would be 2028 if construction starts in 2025. Operation emissions from reduced vehicle trips were estimated using emission factors of 2028, the anticipated first year of operation. Operation activities are not expected to change regardless of operation starting year. Therefore, if the operation of the Proposed Project and its options would be later than 2028, the emissions analyzed in this EIR would remain valid and represent a conservative estimate of the operational emissions because future year equipment and vehicle emissions tend to be lower due to the improvements of emission control technologies and fleet turnover.

The traffic study estimated that the VMT of the Proposed Project and it options would reduce by approximately 0.2 to 2% in the RSA due to trip reduction compared to the existing VMT on average and depending on the evaluation methods. To be conservative, the lower end values of the trip reduction estimates were used in the emission analysis. The conservative vehicle trip reduction is approximately 0.2 to 0.39% based on a method developed by CARB (Metro 2021), corresponding to a potential reduction of 20 to 280 vehicle trips per day in 2028 depending on the roadway characteristics and surrounding environment. Air emissions due to reduced vehicle trips were estimated using a trip reduction of 150 trips per day (that is, the average between 20 and 280 trips), and using an average trip distance of 2.5 miles (FHWA 2021).

3.3.3.6 Health Effects

The Proposed Project and its options would cause emissions of criteria pollutants and diesel PM emissions from off-road construction equipment and on-road vehicles. Health effects of criteria pollutants are summarized in Table 3.3-4.

Table 3.3-4. Health Effects of Criteria Pollutants and Diesel Particulate Matter

Pollutant	Key Health and Welfare Effects
O_3	(a) Pulmonary function decrements and localized lung injury in humans and animals; (b) asthma exacerbation; (c) chronic obstructive pulmonary disease (COPD) exacerbation; (d) respiratory infection; (e) increased school absences, and hospital admissions and emergency department (ED) visits for combined respiratory diseases; (e) increased mortality; (f) possible metabolic effects. Vegetation damage; property damage.
CO	Visibility reduction (a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) possible impairment of central nervous system functions; (d) possible increased risk to fetuses; (f) possible increased risk of pulmonary disease; (g) possible ED visits for respiratory diseases overall and visits for asthma.
PM_{10} and $PM_{2.5}$	Short -term (a) increase in mortality rates; (b) increase in respiratory infections; (c) increase in number and severity of asthma attacks; (d) COPD exacerbation; (e) increase in combined respiratory diseases and number of hospital admissions; (f) increased mortality due to cardiovascular or respiratory diseases; (g) increase in hospital admissions for acute respiratory conditions; (h) increase in school absences; (i) increase in lost work days; (j) decrease in respiratory function in children; (k) increase medication use in children and adults with asthma. Long-term (a) reduced lung function growth in children; (b) changes in lung development; (c) development of asthma in children; (d) increased risk of cardiovascular diseases; (e) increased total mortality from lung cancer; (f) increased risk of premature death. Possible link to metabolic, nervous system, and reproductive and developmental effects for short-term and long-term exposure to $PM_{2.5}$.
NO_2	Short-term (a) asthma exacerbations (“asthma attacks”). Long-term (a) asthma development; (b) higher risk of all-cause, cardiovascular, and respiratory mortality. Both short- and long-term NO_2 exposure is also associated with COPD risk.
SO_2	Respiratory symptoms (bronchoconstriction, possible wheezing or shortness of breath) during exercise or physical activity in persons with asthma. Possible allergic sensitization, airway inflammation, asthma development.
Diesel Particulate Matter	Short-term exposure to high concentrations of diesel PM can cause headache, dizziness, and irritation of the eye, nose, and throat severe enough to distract or disable miners and other workers. Prolonged diesel PM exposure can increase the risk of cardiovascular, cardiopulmonary, and respiratory disease and lung cancer.

Source:
SCAQMD 2022; OSHA 2023

Due to a lack of approved guidance and tools, the limited information available, and the uncertainties of health effects analysis for criteria pollutants, the results of quantifying the health risks of the Proposed Project and its options would be unreliable and misleading. Therefore, this air quality analysis did not attempt to quantify specific health risks of criteria pollutant emissions from the Proposed Project and its options.

Because the air quality standards were developed to protect public health with adequate safety margin, a project that would not cause violations or worsen the existing violations to the NAAQS or CAAQS would not cause significant health effects. The health effects due to criteria pollutant emissions were

evaluated relying on whether the Proposed Project and its options would have criteria pollutant emissions exceeding the SCAQMD CEQA and LST thresholds that were developed to ensure attainment to the air quality standards, as listed in Sections 3.3.3.2 and 3.3.3.3, respectively. The Proposed Project and its options would not cause significant adverse health effects if their emissions are below the thresholds.

3.3.3.7 Thresholds of Significance

The significance threshold used in this EIR to evaluate air quality impacts are based on Appendix G of the CEQA Guidelines. Specifically, a significant impact related to air quality would occur if the Project would do any of the following:

- **Impact AQ-1:** Conflict with or obstruct implementation of the applicable air quality plan?
- **Impact AQ-2:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?
- **Impact AQ-3:** Expose sensitive receptors to substantial pollutant concentrations?
- **Impact AQ-4:** Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The air quality analysis was performed following the SCAQMD's *CEQA Air Quality Analysis Guidance Handbook* (SCAQMD 2021) and SCAQMD air quality significance thresholds were used to determine whether the Proposed Project and its options would have significant impacts on air quality.

3.3.3.8 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Project to ensure compliance with the laws, guidelines, and best practices of regulatory agencies. There are no specific project features for air quality.

3.3.4 Existing Setting

The LA River Path is an active transportation path, therefore supporting non-vehicular use. The study area is approximately an 8-mile stretch of the LA River between Elysian Valley in the City of Los Angeles, through downtown Los Angeles, and southerly to the City of Vernon and City of Maywood. Regional access to the Proposed Project would be provided by existing transportation infrastructure, such as Metrolink and multiple highways. The Proposed Project and its options would provide access to and between downtown Los Angeles, the surrounding communities of Elysian Valley, Cypress Park, Elysian Park, Lincoln Heights, Chinatown, the Arts District, Little Tokyo, the Industrial District, Boyle Heights, and East Los Angeles, and the cities of Maywood and Vernon.

3.3.4.1 Attainment Status and Air Monitoring Data

The Proposed Project and its options would be in Los Angeles County, which has been designated by EPA as in nonattainment under the NAAQS for O_3, $PM_{2.5}$, and Pb, and in maintenance for $PM_{10,}$ CO, and NO_2. Under CAAQS, the area is designated as nonattainment for O_3, PM_{10}, $PM_{2.5}$, and as attainment for CO, NO_2, and Pb. Los Angeles County is also in attainment of the CAAQS for sulfates

and H_2S. Table 3.3-5 summarizes the attainment status of each pollutant under federal and state standards.

Table 3.3-5. State and National Attainment Status for Criteria Pollutant Standards—Los Angeles County

Pollutant	Averaging Time	CAAQS Status	NAAQS Status
O_3	1 hour	Nonattainment	No Federal Standard
	8 hours	Nonattainment	Nonattainment (Extreme)
CO	1 hour	Attainment	Attainment (Maintenance)
	8 hours	Attainment	Attainment (Maintenance)
NO_2	1 hour	Attainment	Unclassifiable/Attainment
	annual average	Attainment	Attainment (Maintenance)
SO_2	1 hour	Attainment	Unclassifiable/Attainment
	24 hours	Attainment	Unclassifiable/Attainment
PM_{10}	24 hours	Nonattainment	Attainment (Maintenance)
	annual average	Nonattainment	No Federal Standard
$PM_{2.5}$	24 hours	No State Standard	Nonattainment (Serious)
	annual average	Nonattainment	Nonattainment (Serious)
Pb	30-day average	Attainment	No Federal Standard
	3-month average	Attainment	Nonattainment (Partial)

Source: CARB 2019, EPA 2021

Tables 3.3-6 and 3.3-7 displays air quality data recorded at the two closest monitoring stations to the Project between 2018 and 2022. The first monitoring station is the 1630 North Main Street (LA-NMS) station in Los Angeles; LA-NMS is within 1,000 feet of the RSA. The second monitoring station is the 700 North Bullis Road (C-NBR) station in Compton which is 6.6 miles to the south of the RSA. As shown in Table 3.3-6, during the period from 2018 to 2022, concentrations of O_3, PM_{10}, and $PM_{2.5}$ measured at LA-NMS exceeded the applicable NAAQS and CAAQS. As shown in Table 3.3-7, during the period from 2018 to 2022, concentrations of O_3 and $PM_{2.5}$ measured at C-NBR exceeded applicable NAAQS and CAAQS (note that PM_{10} data for this monitoring station were not available).

Table 3.3-6. Los Angeles—1630 North Main Street Monitoring Data, 2018–2022

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2018	2019	2020	2021	2022
O_3	Maximum 1-Hour Concentration (ppm) Days > 0.09 ppm (CAAQS)	0.098 2	0.093 0	0.185 14	0.099 1	0.138 1
	Maximum 8-Hour Concentration (ppm) Days > 0.070 ppm (NAAQS/CAAQS)	0.073 4	0.080 2	0.118 22	0.085 2	0.090 6
CO	Maximum 1-Hour Concentration(ppm) Days > 20 ppm (CAAQS) Days > 35 ppm (NAAQS)	2.0 0 0	2.0 0 0	2.1 0 0	2.0 0 0	1.7 0 0

Table 3.3-6. Los Angeles—1630 North Main Street Monitoring Data, 2018–2022

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2018	2019	2020	2021	2022
	Maximum 8-Hour Concentration (ppm) Days > 9.0 ppm (NAAQS/CAAQS)	1.7 0	1.6 0	1.6 0	1.6 0	1.5 0
NO_2	Maximum 1-Hour Concentration (ppm) Days > 0.18 ppm (NAAQS) Days > 0.10 ppm (NAAQS)	0.070 0 0	0.070 0 0	0.062 0 0	0.078 0 0	0.075 0 0
	Annual Average Concentration (ppm) > 0.030 ppm (CAAQS)	0.018 No	0.018 No	0.017 No	0.017 No	0.018 No
SO_2	Maximum 1-Hour Concentration (ppm) Days > 0.25 ppm (NAAQS) Days > 0.075 ppm (NAAQS)	0.0179 0 0	0.01 0 0	0.0038 0 0	0.022 0 0	0.006 0 0
	Maximum 24-Hour Concentration (ppm) Days > 0.040 ppm (CAAQS)	0.0013 0	0.0014 0	0.0009 0	0.0012 0	0.0012 0
PM_{10}	Maximum 24-Hour Concentration ($\mu g/m^3$) Days > 50 $\mu g/m^3$ (CAAQS) Days > 150 $\mu g/m^3$ (NAAQS)	81.2 31 0	93.9 15 0	185.2 34 0	138.5 14 0	61.0 0 0
	Annual Average Concentration ($\mu g/m^3$) > 20 $\mu g/m^3$ (CAAQS)	34.0 Yes	23.0 Yes	33.9 Yes	30.9 Yes	24.1 Yes
$PM_{2.5}$	Maximum 24-Hour Concentration ($\mu g/m^3$) Days > 35 $\mu g/m^3$ (NAAQS)	65.3 6	43.5 1	175.0 12	61.0 13	33.7 0
	Annual Average Concentration ($\mu g/m^3$) > 12 $\mu g/m^3$ (NAAQS/CAAQS)	16.0 Yes	10.8 No	15.0 Yes	14.8 Yes	12.5 Yes

Source: CARB 2023;2023, EPA 2023.

Notes:

2022 is the latest year with monitoring data available on CARB iADAM Air Quality Data Statistics at the time of study.

> = greater than
$\mu g/m^3$ = micrograms per cubic meter
ppm = parts per million (by volume)

Table 3.3-7. Compton—700 North Bullis Road Monitoring Data, 2018–2022

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2018	2019	2020	2021	2022
O_3	Maximum 1-Hour Concentration (ppm) Days > 0.09 ppm (CAAQS)	0.075 0	0.100 1	0.152 3	0.085 0	0.111 1
	Maximum 8-Hour Concentration (ppm) Days > 0.070 ppm (NAAQS/CAAQS)	0.064 0	0.079 1	0.115 4	0.077 1	0.085 1
CO	Maximum 1-Hour Concentration (ppm) Days > 20 ppm (CAAQS) Days > 35 ppm (NAAQS)	4.7 0 0	3.8 0 0	4.5 0 0	4.3 0 0	3.4 0 0
	Maximum 8-Hour Concentration (ppm) Days > 9.0 ppm (NAAQS/CAAQS)	3.5 0	3.2 0	3.1 0	3.7 0	3.0 0

Table 3.3-7. Compton—700 North Bullis Road Monitoring Data, 2018–2022

Pollutant	Metric	Maximum Concentrations and Frequencies of Exceeded Standards				
		2018	2019	2020	2021	2022
NO_2	Maximum 1-Hour Concentration (ppm) Days > 0.18 ppm (CAAQS) Days > 0.10 ppm (NAAQS)	0.068 0 0	0.070 0 0	0.072 0 0	0.068 0 0	0.065 0 0
	Annual Average Concentration (ppm) > 0.030 ppm (CAAQS) > 0.053 ppm (NAAQS)	0.015 No No	0.014 No No	0.014 No No	0.014 No No	0.014 No No
$PM_{2.5}$	Maximum 24-Hour Concentration (ppm) Days > 35 µg/m^3 (NAAQS)	49.4 2	39.5 1	67.5 19	102.1 12	52.8 6
	Annual Average Concentration (ppm) > 12 µg/m^3 (NAAQS/CAAQS)	13.3 Yes	10.9 No	14.7 Yes	14.4 Yes	14.0 yes

Source: CARB 2023;2023, EPA 2023.2023

PM_{10} and SO_2 are not monitored at this station.

Notes:

µg/m^3 = micrograms per cubic meter
ppm = parts per million (by volume)

3.3.4.2 Sensitive Receptors

Sensitive receptors identified in the SCAQMD *California Environmental Quality Act (CEQA) Air Quality Analysis Guidance Handbook* include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes (SCAQMD 2021). Construction sites for the Proposed project and its options would be in populated areas of Los Angeles County that are surrounded by industrial, commercial, and residential areas, and there would be schools and other sensitive receptors located next to the RSA. Land use in the RSA includes industrial, open spaces, manufacturing, public facilities, and commercial space. The highest percentage of zoned land use is industrial, followed by open space. Existing land uses along the Proposed Project and its options are in Figures 3.12-6 through 3.12-10 in Section 3.12, *Noise and Vibration*. Residential receptors include single-family houses and apartments. The closest residential receptors would be approximately 130 feet away from the alignment. Sensitive receptors within 0.25 mile of the project alignment are summarized in Table 3.3-8.

Table 3.3-8. Summary of Sensitive Receptors Within 0.25 Mile of the Proposed Project Footprint

Facility	Type	Address	Distance from the Proposed Project (miles)
Florence Nightingale Middle School	School	3311 N Figueroa Street, Los Angeles	0.25
Loreto Street Elementary School	School	3408 Arroyo Seco Avenue, Los Angeles	0.15
Hillside Elementary School	School	120 E Avenue 35, Los Angeles	0.06

Table 3.3-8. Summary of Sensitive Receptors Within 0.25 Mile of the Proposed Project Footprint

Facility	Type	Address	Distance from the Proposed Project (miles)
Los Angeles Leadership Academy	School	234 E Avenue 33, Los Angeles	0.2
Alliance Susan & Eric Smidt Technology High School and Alliance College-Ready Middle Academy 5	School	211 S Avenue 20, Los Angeles	0.25
Downey Child Care Center	Childcare center	219 S Avenue 18, Los Angeles	0.15
Albion Elementary School	School	322 S Avenue 18, Los Angeles	0.25
Albion Early Education Center	Childcare center	348 S Avenue 18, Los Angeles	0.25
PUC Milagro Charter School	School	1855 N Main Street, Los Angeles	0.25
Ann Street Elementary School	School	126 E Bloom Street, Los Angeles	0.2
AltaMed Medical Group—William Mead	Clinic	268 E Bloom Street Suite 322, Los Angeles	0.15
Metro Gateway Child Development Center	Childcare center	1 Gateway Plaza, Los Angeles	0.02
Beyond the Bell	Childcare center	611 Jackson Street, Los Angeles	0.1
Utah Street Elementary School	School	255 Gabriel Garcia Marquez Street, Los Angeles	0.15
Nishi Hongwanji Child Development Center	Childcare center	815 E First Street, Los Angeles	0.25
Temple Medical Center	Clinic	124 N Vignes Street, Los Angeles	0.18
Felicitas and Gonzalo Mendez High School	School	1200 Plaza Del Sol E, Los Angeles	0.05
Aliso Pico Preschool	School	1505 E First Street, Los Angeles	0.25
Telacu Pico Aliso (Senior, low-income apartment community)	Senior Housing	1450 E First Street, Los Angeles	0.15
Para Los Niños Elementary School	School	1617 E Seventh Street, Los Angeles	0.15
Metropolitan High School	School	727 Wilson Street, Los Angeles	0.25
All Saint's Nursey School	School	3205 E 27th Street, Vernon	0.2
Concentra Urgent Care	Clinic	3851 S Soto Street, Vernon	0.16
Southeast Community Foundation Enrichment Tutoring Academy	Tutoring center (K–12)	4555 Everett Avenue, Vernon	0.25
Maywood Elementary School	School	5200 Cudahy Avenue, Maywood	0.1

Table 3.3-8. Summary of Sensitive Receptors Within 0.25 Mile of the Proposed Project Footprint

Facility	Type	Address	Distance from the Proposed Project (miles)
Maywood Child Development Center	Childcare center	4803 E 58th Street, Maywood	0.2
Southeast Rio Vista YMCA at Maywood Center	Childcare center	4801 E 58th Street, Maywood	0.2
South Region High School 8/Maywood Center for Enriched Studies	School	5800 King Avenue, Maywood	0.25
Residences	Residential	N/A due to the large number of residences within the area.	Varies

Sources:

YMCA of Metropolitan Los Angeles (n.d.)

Southeast Community Foundation (n.d.)

3.3.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to air quality are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.3.5.1 Impact AQ-1: Air Quality Plan

Impact AQ-1: Conflict with or obstruct implementation of the applicable air quality plan?

3.3.5.1.1 Proposed Project, Option 1, and Option 2

3.3.5.1.1.1 Construction

Less than significant impact. Construction of the Proposed Project and its options is anticipated to begin in or after 2025 and last approximately 3 years. Construction activities would require use of off-road construction equipment and on-road vehicles that would burn fuels and result in combustion exhaust emissions of VOCs, CO, NOx, SOx, and PM. Earth-disturbance activities, such as site preparation, grading, and driving over unpaved surfaces, would generate PM emissions in the form of fugitive dust. The construction impacts of the Proposed Project and its options will be short-term and temporary.

The applicable air quality plan for SCAB is SCAQMD's AQMP. The AQMP proposes emission-reduction measures that are designed to bring SCAB into attainment of the CAAQS and NAAQS. SCAQMD adopts AQMP control measures into SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Construction of the Proposed Project and its options

would comply with applicable federal, state, and local regulations. Compliance with these requirements and operation of off-road construction equipment with engines that meet Tier 4 standards (or better), as required by Metro's Green Construction Policy (Metro 2011), would ensure that activities of the Proposed Project and its options would not obstruct implementation of the AQMP.

Specifically, the Proposed Project and its options would comply with fugitive dust control requirements specified in SCAQMD Rule 403, including the following:

- General—Implement applicable requirements in Tables 1 through 3 of SCAQMD Rule 403 to minimize fugitive dust emissions.
- For Disturbed Soil—Stabilize disturbed soil throughout the construction site.
- Earth-Moving Activities—Pre-apply and re-apply water as necessary.
- Track-out Control—All track-outs will be removed at the conclusions of each workday.
- For Bulk Materials, Handling/Stock Piles—Stabilize stock pile materials and maintain storage piles to avoid steep sides or faces.
- For Trenching—Stabilize surface soils where trencher or excavator and support equipment would operate and stabilize soils at the completion of trenching activities. For deep trenching activities, pre-trench to 18 inches, soak soils via the pre-trench, and resume trenching. Wash mud and soils from equipment at the conclusion of trenching activities to prevent crusting and drying of soil on equipment.
- For Backfilling—Stabilize backfill material and soil. Empty loader bucket slowly so that no dust plumes are generated. Minimize drop height from loader bucket.
- For Staging Areas—Stabilize staging areas during use and stabilize staging area soils at work completion. Limit the size of staging areas. Limit vehicle speeds to 15 miles per hour. Limit the number and size of staging area entrances/exits.
- For Off-road Traffic and Parking Areas—Stabilize all off-road traffic and parking areas, and direct construction traffic over established routes. Barriers would be used to ensure vehicles are only used on established parking areas and routes.
- Truck Loading and Material Transport—Use tarps or suitable enclosures on haul trucks, pre-water material prior to loading, and ensure 6 inches of freeboard.

The Proposed Project and its options would also implement Metro's Green Construction Policy (Metro 2011) for off-road equipment and on-road vehicles, such as using off-road construction equipment meeting Tier 4 emission standards, installing the best available control technologies to reduce diesel PM emissions, and limiting equipment and vehicle idling time to no more than 5 minutes. The following BMPs listed in the Green Construction Policy would be implemented:

- Maintain equipment according to manufacturers' specifications
- Individual truck idling in excess of five consecutive minutes will be prohibited, or what is allowed under Title 13 of the California Code of Regulations Section 2485 (CARB's Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling)
- Maintain a buffer zone that is a minimum of 1,000 feet between truck traffic and sensitive receptors, where feasible

- Where applicable and feasible, work with local jurisdictions to improve traffic flow by signal synchronization
- If feasible and as allowed by local jurisdictions, configure construction parking to minimize traffic interference
- Enforce truck parking restrictions, where applicable
- Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptor areas
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site, as feasible
- Schedule construction activities that affect traffic flow on the arterial system to off-peak hours to the extent practicable
- Use electric power in lieu of diesel power where available
- Traffic speeds on all unpaved roads to be 15 mph or less
- Suspend the use of all construction equipment during first-stage smog alerts
- Suspend all excavating and grading operations when wind speeds (as instantaneous gusts) exceed 25 miles per hour

The 2022 AQMP identified emission-reduction strategies for mobile sources and describes how AQMP measures EGM-01 and EGM-03 would achieve emission reductions through mitigating and reducing emissions from new development or redevelopment projects; and by developing a Clean Construction Policy that identifies measures to be implemented by local municipalities and public agencies during construction. The Proposed Project and its options will implement Metro's Green Construction Policy, use the cleanest engines that meet the most stringent emission standards (Tier 4), and will implement the emission-reduction measures described above. Therefore, the Proposed Project and its options are consistent with 2022 AQMP mobile source emission-reduction strategies.

Consistency with the AQMP planning assumptions and standards is also analyzed by evaluating whether emissions from the Proposed Project and its options would exceed CEQA significance thresholds established by SCAQMD. Construction emissions are estimated using the methodologies described in Section 3.3.3.4. Table 3.3-9 provides summaries of construction emissions and comparisons to SCAQMD's CEQA significance thresholds. Detailed construction schedule, equipment usage, vehicle travel information, and emission calculations are in Appendix E.

Table 3.3-9. Maximum Daily Construction Emissions

	Year	ROG (pounds per day)	NOx (pounds per day)	CO (pounds per day)	SOx (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
Proposed Project	2025	9.32	56.81	290.16	0.62	11.18	4.04
	2026	7.84	48.31	223.32	0.50	9.10	3.35
	2027	12.03	74.00	365.09	0.78	13.67	4.99
Option 1	2025	9.04	56.71	301.26	0.64	11.52	4.10
	2026	10.21	61.55	305.00	0.67	11.30	4.22
	2027	8.43	50.49	164.02	0.41	7.89	3.06

Table 3.3-9. Maximum Daily Construction Emissions

	Year	ROG (pounds per day)	NOx (pounds per day)	CO (pounds per day)	SOx (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
Option 2	2025	13.19	79.54	420.79	0.89	15.96	5.66
	2026	10.54	64.59	330.44	0.71	12.89	4.61
	2027	9.13	56.62	318.37	0.66	11.53	4.10
SCAQMD CEQA Thresholds		75	100	550	150	150	55
Exceeding Thresholds?		No	No	No	No	No	No

Notes:

ROG = reactive organic compound

As shown in Table 3.3-9, daily construction emissions from the Proposed Project and its options would be below the SCAQMD CEQA thresholds during the 3-year construction duration. Therefore, the Proposed Project and its options would not conflict with or obstruct implementation of the applicable air quality plan of the region, and impacts would be **less than significant**.

3.3.5.1.1.2 Operations and Maintenance

Less than significant impact. Implementation of the Proposed Project or its options would introduce operational air pollutant emissions associated with O&M activities during operation, such as the use of off-road equipment and on-road vehicles, and fugitive dust emissions associated with O&M activities. Operation of the Proposed Project and its options would be consistent with existing LA River Greenway O&M activities to the north of the Proposed Project and its options and existing LA River Bicycle Path O&M activities to the south. O&M activities would require workers to commute to the site, and to use light- or heavy-duty trucks. Off-road construction equipment use would be minimal.

The Proposed Project and its options would have the same equipment and follow the same schedule for O&M activities; therefore, O&M emissions would be the same. Emissions from vehicles and equipment used for O&M activities were estimated using EMFAC2021 emission factors, as discussed in Section 3.3.3.5 (CARB 2021). Annual emissions from O&M activities were estimated based on the anticipated frequency of each activity. For maximum daily emissions, it was conservatively assumed that various O&M activities may occur simultaneously on the same day. This is a conservative approach because O&M activities would be scheduled as needed on a weekly, quarterly, bi-annual, or annual basis, and not all activities would occur on the same day.

In addition, the Proposed Project and its options may reduce passenger vehicle trips when people switch from driving to walking or biking to access nearby destinations, resulting in VMT reduction and emission decreases. The traffic study estimated reduction rates of approximately 0.2 to 2% of the VMT on average depending on the evaluation methods. To be conservative, the lower end values of the trip reduction estimates were used in emission analysis. The conservative vehicle trip reduction ranges from approximately 0.2 to 0.39% based on a method developed by CARB (Metro 2021), corresponding to the potential reduction of 20 to 280 vehicle trips per day in 2028 depending on the roadway characteristics and surrounding area. Air emissions due to reduced vehicle trips were estimated using a trip reduction of 150 trips per day (that is, the average between 20 and 280 trips), an average trip

distance of 2.5 miles (FHWA 2021), and emission factors from EMFAC2021, as described in Section 3.3.3.5.

The applicable air quality plan for SCAB is SCAQMD's 2022 AQMP, which contains emission-reduction measures designed to bring SCAB into attainment of air quality standards. The Proposed Project and its options would reduce regional VMT, thus reducing vehicle emissions, which is consistent with the 2022 AQMP's emission-reduction strategies for reducing VMT of on-road vehicles. Similar to the discussion of construction activities in Section 3.3.5.1.1.1, operation of the Proposed Project and its options would comply with applicable federal, state, and local regulations. Compliance with these requirements would ensure that the Proposed Project and its options' O&M activities would not obstruct implementation of the 2022 AQMP. The O&M activities would also comply with fugitive dust control requirements specified in SCAQMD Rule 403.

The consistency of the O&M for the Proposed Project and its options with 2022 AQMP planning assumptions and standards is also analyzed by evaluating whether overall operation emissions would exceed CEQA significance thresholds established by SCAQMD. Overall operation emissions from the Proposed Project and its options include the emission increases from O&M activities and emission reductions due to reduced vehicle trips. Emissions are estimated using the methodologies described in Section 3.3.3.5. Summaries of operation emissions for the Proposed Project and its options are shown in Table 3.3-10; the table indicates that maximum emissions from O&M of the Proposed Project and its options would be higher than the emission reduction due to reduced VMT, resulting a net emission increase if all required O&M activities would occur on the same day. However, the overall annual operation emissions are expected to be lower due to the conservative assumptions used in the analysis. Operation emissions from the Proposed Project and its options were estimated using 2028 vehicle emission factors. Because vehicle emission factors would decrease in future years, emissions from O&M beyond 2028 may be lower than the estimated 2028 emissions summarized in Table 3.3-10. Similarly, future emission reduction due to reduced VMT may be lower. However, relative emission levels between O&M and VMT reduction would remain consistent.

Table 3.3-10. Daily Emissions during Operation (2028)

	ROG (pounds per day)	NOx (pounds per day)	CO (pounds per day)	SOx (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
O&M	0.057	2.162	3.436	0.031	2.116	0.636
Reduced VMT	-0.007	-0.031	-0.554	-0.002	-0.263	-0.067
Net Emission Increase	0.050	2.131	2.883	0.029	1.853	0.569
SCAQMD CEQA Thresholds	55	55	550	150	150	55
Exceeding Thresholds?	No	No	No	No	No	No

Notes:

Emissions apply to Proposed Project and its options.

lb/day = pounds per day

As shown in Table 3.3-10, daily operation emissions from the Proposed Project and its options would be below the SCAQMD CEQA thresholds during operation. Therefore, the Proposed Project and its options would not conflict with or obstruct implementation of the applicable air quality plan of the region during operation, and impacts would be **less than significant**.

3.3.5.2 Impact AQ-2: Regional Criteria Pollutant Emissions

Impact AQ-2: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

3.3.5.2.1 Proposed Project, Option 1, and Option 2

3.3.5.2.1.1 Construction

Less than significant impact. The Proposed Project and its options are located in the SCAB, which is currently in nonattainment with federal and/or state standards for O_3, PM_{10}, and $PM_{2.5}$. The Proposed Project and its options would contribute to impacts from cumulatively related projects and to the existing pollution burden in SCAB. Several completed, ongoing, and future projects or plans along the LA River or near the Proposed Project are identified Section 3.1.2. According to the SCAQMD white paper titled *Potential Control Strategies to Address Cumulative Impacts from Air Pollution, Appendix D Cumulative Impact Analysis Requirements Pursuant to CEQA* (SCAQMD White Paper) (SCAQMD 2003), a project that does not exceed the SCAQMD CEQA significance thresholds are generally not considered to be cumulatively significant. As shown in Table 3.3-9, the emissions increase of nonattainment pollutants (PM_{10}, $PM_{2.5}$, and ozone precursors NO_x and ROG) due to the Proposed Project and its options would not exceed the CEQA thresholds of significance set by SCAQMD for construction. According to the SCAQMD White Paper, because emission increases from the Proposed Project and its options would be less than the CEQA significance thresholds, construction of the Proposed Project or its options would not result in a cumulatively considerable contribution to a significant cumulative impact of nonattainment pollutants. The cumulative impact from construction of the Proposed Project or its options would be **less than significant**.

3.3.5.2.1.2 Operations and Maintenance

Less than significant impact. Projects that do not exceed the SCAQMD CEQA significance thresholds are generally not considered to be cumulatively significant. As shown in Table 3.3-10, the emissions increase of nonattainment pollutants (PM_{10}, $PM_{2.5}$, and ozone precursors NO_x and ROG) due to operation of the Proposed Project or its options would not exceed the CEQA thresholds of significance set by SCAQMD for operation. According to the SCAQMD White Paper, and because the operation emissions increases from the Proposed Project and its options would be less than the CEQA significance thresholds, the Proposed Project and its options' operation would not result in a cumulatively considerable contribution to a significant cumulative impact. The cumulative impact from Proposed Project and its options' operation would be **less than significant.**

3.3.5.3 Impact AQ-3: Localized Pollutant Concentrations

Impact AQ-3: Expose sensitive receptors to substantial pollutant concentrations?

3.3.5.3.1 Proposed Project, Option 1, and Option 2

3.3.5.3.1.1 Construction

Less than significant impact. The construction sites of the Proposed Project and its options are in populated areas and near sensitive receptors such as residential areas along the RSA. SCAQMD's LST methodology was used in this analysis to evaluate localized ambient air quality impacts to nearby

receptors due to criteria pollutants from Proposed Project and its options. Equipment and vehicle exhaust emissions and fugitive dust emissions from the construction sites were compared to LST appropriate to the source receptor area, site acreage, and distance to the nearest receptor, per SCAQMD policy (SCAQMD 2009).

Emissions were evaluated for each of the five segments along the construction areas, representing five construction sites, as discussed in Section 3.3.3.4. Table 3.3-11 summarizes onsite construction emissions and compares them to the LST. The table shows that onsite construction emissions from the Proposed Project and its options would not exceed LSTs during construction. Because LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest receptors, construction emissions from the Proposed Project and its options would not expose nearby sensitive receptors to substantial concentrations of criteria pollutants as indicated in Table 3.3-11. Health effects due to criteria pollutants emissions from the Proposed Project and its options would also be considered less than significant because they would not have construction emissions exceeding the CEQA thresholds and the LSTs.

Table 3.3-11. Maximum Daily Construction Emissions—Onsite Emissions from the Worst-Case Construction Segment

Options	Year	ROG (pounds per day)	NOx (pounds per day)	CO (pounds per day)	SOx (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
Proposed Project	2025	4.07	35.86	80.43	0.17	0.86	0.81
	2026	4.08	34.62	76.16	0.17	0.86	0.80
	2027	6.09	51.13	101.27	0.24	1.29	1.20
Option 1	2025	4.37	43.40	90.68	0.19	0.92	0.86
	2026	4.72	40.21	88.17	0.19	1.00	0.94
	2027	5.18	36.83	75.77	0.19	1.09	1.02
Option 2	2025	5.33	50.93	109.74	0.23	1.12	1.05
	2026	4.19	38.33	83.51	0.18	0.88	0.83
	2027	6.61	54.00	109.53	0.25	1.40	1.31
SCAQMD LST Thresholds for Central Los Angeles at 25 meters		NA	74	680	NA	5	3
Exceeding Thresholds?		NA	No	No	NA	No	No

Notes:

NA = not applicable

Impacts on sensitive receptors are also evaluated in terms of exposure to TACs. Construction of the Proposed Project and its options would result in short-term emissions of diesel PM from the combustion of diesel fuel in off-road construction equipment engines and on-road vehicles. While the main concern of exposure to diesel PM is cancer risk, cancer risks are usually evaluated based on a 30-year lifetime exposure. The construction period of approximately 3 years would be less than the 30 years used for cancer risk determination. Construction activities and associated TAC emissions would be temporary, relatively short-term, and would be restricted to relatively small areas where only a limited amount of construction equipment would be operating at any one time. In addition, the Proposed Project and its options would comply with applicable CARB Airborne Toxic Control

Measures by using off-road construction equipment meeting Tier 4 emission standards to minimize diesel PM emissions. Therefore, long-term exposure of sensitive receptors to diesel PM from construction of the Proposed Project and its options would not occur, and impacts would be **less than significant**.

3.3.5.3.1.2 Operations and Maintenance

Less than significant impact. Similar to the discussion for construction emissions impacts, SCAQMD's LST methodology was used in this analysis to evaluate localized ambient air quality impacts to nearby receptors due to criteria pollutants from operation of the Proposed Project and its options. Vehicle exhaust emissions and fugitive dust emissions from O&M activities along the RSA were compared to LST appropriate to the source receptor area, site acreage, and distance to the nearest receptor, per SCAQMD policy (SCAQMD 2009).

Table 3.3-12 summarizes the operation emissions from the Proposed Project and its options and compares them to the LST. The table shows that operation emissions from the Proposed Project and its options would not exceed LSTs during the operation. Because LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest receptors, operation emissions from the Proposed Project and its options would not expose nearby sensitive receptors to substantial concentrations of criteria pollutants. Health effects of the Proposed Project or its options would be **less than significant** following the methodologies discussed in Section 3.3.3.6.

Table 3.3-12. Maximum Daily Operations and Maintenance Emissions

Activities	ROG (pounds per day)	NOx (pounds per day)	CO (pounds per day)	SOx (pounds per day)	PM_{10} (pounds per day)	$PM_{2.5}$ (pounds per day)
O&M Emissions	0.007	0.606	0.196	0.006	0.239	0.090
SCAQMD LST Thresholds for Source Receptor Area 1 (Central Los Angeles) at 25 meters	NA	74	680	NA	2	1
Exceeding Thresholds?	No	No	No	No	No	No

Notes:

NA = not applicable

Impacts on sensitive receptors are also evaluated in terms of exposure to TACs during operation. The O&M activities of the Proposed Project and its options would result in short-term emissions of diesel PM from combustion of diesel fuel in off-road equipment engines and on-road vehicles when O&M occurs. O&M activities would occur at varying times and locations along the RSA and would not cause long-term emissions near a particular receptor. Cancer risks of diesel PM are usually evaluated based on a 30-year lifetime exposure. O&M activities and associated TAC emissions would be relatively short-term at any given location along the RSA, and in relatively small areas where only a limited amount of construction equipment would be operating at any one time. Therefore, long-term exposure of sensitive receptors to diesel PM from O&M activities of the Proposed Project and its options would not occur, and impacts would be **less than significant**.

3.3.5.4 Impact AQ-4: Other Emissions

Impact AQ-4: Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

3.3.5.4.1 Proposed Project, Option 1, and Option 2

3.3.5.4.1.1 Construction

Less than significant impact. The diesel-fueled engines that power both on- and off-road vehicles and heavy construction equipment could result in odor. In addition, odorous emissions may occur during paving activities and the use of architectural coatings. However, such emissions would be localized to the immediate area under construction and would be short in duration. The Proposed Project and its options would comply with the BMPs required in Metro's Green Construction Policy (Metro 2011) to minimize construction emissions and impacts. As feasible, construction equipment and truck traffic would be located or routed away from local neighborhoods or sensitive receptor areas. Emissions associated with construction activities would be dispersed over the construction site, would be short-term and transient, and would not create objectionable odors affecting a substantial number of people. Therefore, the Proposed Project and its options would result in a **less than significant impact** with regard to odor.

3.3.5.4.1.2 Operations and Maintenance

Less than significant impact. The diesel-fueled engines that power both on- and off-road vehicles and heavy construction equipment used for O&M activities could result in project-related odor; however, such emissions would be localized to the immediate area under maintenance and would be short in duration. As feasible, equipment and truck traffic for the O&M activities would be located or routed away from local neighborhoods or sensitive receptor areas. Emissions associated with O&M activities would be short-term at any given location and would not create objectionable odors affecting a substantial number of people. Therefore, the Proposed Project and its options would result in a **less than significant impact** with regard to odor.

3.3.6 Mitigation Measures

As identified in Section 3.3.5, the Proposed Project and its options, Option 1 and Option 2, would have less than significant impacts on air quality under Impact AQ-1, Impact AQ-2, Impact AQ-3, and Impact AQ-4. No mitigation measures would be required for operation or construction.

3.3.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options, Option 1 and Option 2. Impacts would be less than significant under Impact AQ-1, Impact AQ-2, Impact AQ-3, and Impact AQ-4.

3.3.8 Cumulative Impacts

3.3.8.1 Proposed Project, Option 1, and Option 2

3.3.8.1.1 Construction

The Proposed Project and its options, Option 1 and Option 2, would be located in substantially the same footprints. As analyzed in Section 3.3.5, the Proposed Project and its options would result in substantially similar impacts related to air quality. As such, cumulative impacts would be substantially the same for the Proposed Project and its options.

The cumulative setting for air quality conditions is the SCAB, and there is an existing cumulative impact in the Project area related to attainment of both the federal and state ambient air quality standards. The Los Angeles County portion of the SCAB is currently designated as nonattainment of the NAAQS for 8-hour average O_3 and 24-hour average $PM_{2.5}$ as well as the CAAQS for O_3, PM_{10}, and $PM_{2.5}$. The portion of Los Angeles County in the SCAB is in nonattainment for federal Pb standard. The cumulatively significant air quality conditions in the Project area for O_3 and particulate pollution will persist until measured concentrations of nonattainment pollutants remain below the corresponding air quality standards for a period of no less than 3 years, when the region would be eligible for reevaluation of attainment status. Therefore, consideration should be given to emissions of O_3 precursors (that is, VOCs and NO_X) and PM in the context of the existing cumulative conditions. The Proposed Project and its options, combined with the related projects, could contribute to the existing cumulative impact.

SCAQMD, in its SCAQMD White Paper, has promulgated guidance outlining the agency's approach to evaluating potentially significant cumulative air quality impacts. SCAQMD asserts that the project-specific CEQA screening thresholds for mass daily emissions can be applied to the cumulative impacts assessment such that, if daily emissions generated by construction or operation of a project remain below the regional mass daily thresholds, those emissions would not result in a significant air quality impact at either the project level or under regionally cumulative considerations. Conversely, if construction or operation of a project would generate emissions exceeding the project-level mass daily thresholds, and would remain above the thresholds with mitigation, those emissions would be considered cumulatively significant in addition to being significant at the project level.

Regarding emissions associated with construction of the Proposed Project and its options, as discussed in Section 3.3.5.1.1.1, the Proposed Project and its options would not generate emissions in excess of any applicable SCAQMD significance threshold for mass daily emissions. Construction contractors would be required to comply with the provisions of the Metro Green Construction Policy (Metro 2011), which require that all off-road equipment greater than 25 horsepower must have engines meeting Tier 4 emissions standards and an array of BMPs to minimize excess fugitive dust emissions. The CARB *Truck and Bus Regulation* (CARB 2008) also requires that all on-road heavy-duty trucks providing service to construction sites have engines meeting 2010 EPA emissions standards. Compliance with these requirements would ensure that emissions are controlled and would remain below the SCAQMD mass daily screening thresholds. Construction of the Proposed Project and is options would not interfere with or exacerbate emissions from other CEQA projects within Los Angeles County or the SCAB. Therefore, construction activities would not have a cumulatively considerable contribution to the existing cumulative impact.

3.3.8.1.2 Operations and Maintenance

Regarding operational activities, the Proposed Project and its options would introduce operational air pollutant emissions associated with O&M activities during long-term operations, such as use of off-road equipment and on-road vehicles. Importantly, these new sources of emissions would be partially offset as the Proposed Project and its options would reduce passenger vehicle trips when people switch from driving to walking or biking to access the nearby destinations, resulting in VMT reduction and emission decreases. Expanding the regional transit infrastructure network is a critical component of reducing on-road VMT, which is a fundamental pillar of regional planning initiatives undertaken by SCAG and SCAQMD. Furthermore, the Project is accurately listed and fully programmed in Connect SoCal's Financially-Constrained RTP/SCS Projects list (RTP ID 1TR1011). As discussed in Section 3.3.5.1.1.2, the Proposed Project and its options would not generate emissions that would exceed SCAQMD significance thresholds. Therefore, operational activities would not have a cumulatively considerable contribution to the existing cumulative impact.

3.4 Biological Resources

3.4.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Proposed Project) and its options with respect to biological resources. This section also describes the existing setting and current applicable regulatory framework.

3.4.2 Regulatory Framework

This section describes the applicable federal, state, regional, and local regulations and requirements related to biological resources. Agencies responsible for administering biological resources regulations are also identified and discussed.

3.4.2.1 Federal

3.4.2.1.1 US Fish and Wildlife Service and National Marine Fisheries Service

3.4.2.1.1.1 Federal Endangered Species Act

The federal Endangered Species Act (ESA) (16 *United States Code* [USC] Sections 1531–1544) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. The lead federal agencies responsible for implementing the ESA are the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). NMFS is a division of the National Oceanic and Atmospheric Administration. USFWS generally implements the federal ESA for terrestrial and freshwater species, while NMFS implements the federal ESA for marine and anadromous species. The USFWS and NMFS maintain a worldwide list of endangered and threatened species and are responsible for designating critical habitat for the protection of endangered and threatened species.

The law requires federal agencies, in consultation with the USFWS and NMFS, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of designated critical habitat of such species. The law also prohibits any action that causes "take," defined as to harass, harm (which includes habitat modification), pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct with any federally listed species. Projects that would result in "take" of any federally listed species are required to obtain permits from USFWS or NMFS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan) of the federal ESA, depending on federal government involvement in permitting or funding of the project. The permitting process is used to determine whether a project would jeopardize the continued existence of a listed species and what measures would be required to avoid jeopardizing the species.

Proposed or candidate species do not have full protection under the federal ESA; however, USFWS and NMFS advise project applicants that such species could be elevated to a listed status at any time.

3.4.2.1.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–712) implements various treaties and conventions between the United States and Canada, Japan, Mexico, and Russia for the protection of nongame migratory birds. Under the MBTA, taking, killing, or possessing migratory birds is unlawful. Unless permitted by regulations, the MBTA provides that it is unlawful to "pursue, hunt, take, capture or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver or cause to be shipped, exported, imported, transported, carried or received any migratory bird, part, nest, egg or product, manufactured or not."

According to the MBTA, a person, association, partnership, or corporation that violates the MBTA or its regulations is guilty of a misdemeanor and subject to a fine of up to $500, jail up to 6 months, or both. Anyone who knowingly takes a migratory bird and intends to, offers to, or actually sells or barters a bird is guilty of a felony, which carries fines of up to $2,000, jail time of up to 2 years, or both. Permissible fines are increased significantly by the Sentencing Reform Act of 1984, as amended in 1987. USFWS implements the MBTA.

3.4.2.1.1.3 Bald and Golden Eagle Protection Act and Birds of Conservation Concern

The Bald and Golden Eagle Protection Act (16 USC Section 668) protects bald and golden eagles. It prohibits anyone from taking bald or golden eagles, including their parts, nests, or eggs, without a permit from the Secretary of the Interior. It also makes it illegal to possess, sell, or hunt bald or golden eagles. A violation of the Act can result in a fine of $100,000 ($200,000 for organizations), imprisonment for 1 year, or both, for a first offense. Penalties increase substantially for additional offenses, and a second violation of this Act is a felony. USFWS implements the Bald and Golden Eagle Protection Act. In addition, the USFWS identifies Birds of Conservation Concern (that is, migratory and nonmigratory birds beyond those already federally listed as threatened or endangered) that they have determined are in greatest need of conservation action. The purpose of identifying Birds of Conservation Concern is to stimulate coordinated and proactive conservation actions among federal, state, tribal, and private partners (USFWS 2021a).

3.4.2.1.2 US Army Corps of Engineers

3.4.2.1.2.1 Clean Water Act

Under Clean Water Act (CWA) Section 404, the US Army Corps of Engineers (USACE) has authority to regulate activities associated with the dredge or discharge of fill material or that might otherwise adversely modify waters of the United States. Waters of the United States regulated under Section 404 include wetlands and other waters that have a sufficient nexus to interstate commerce. Federal jurisdiction over a non-wetland water of the US extends to the ordinary high-water mark (OHWM), defined in 33 CFR Section 328.3 as the line on the shore established by fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of the soil, destruction of terrestrial vegetation, or the presence of litter and debris (USACE 2008). The OHWM is a defining element for identifying the lateral limits of non-wetland waters; however, determining whether any non-wetland water is a jurisdictional water of the United States involves further assessment in accordance with the regulations, case law, and clarifying guidance.

Wetlands are considered jurisdictional waters of the United States if they have "a continuous surface connection to bodies that are 'waters of the United States' in their own right," so that they are "'indistinguishable' from those waters." (*Sackett v. Environmental Protection Agency* [2023]) (Sackett decision). USACE also implements federal policy embodied in Executive Order 11990, *Protection of Wetlands*, which is intended to result in no net loss of wetland value or acres. USACE, in achieving CWA's goals, seeks to avoid adverse impacts and offset unavoidable adverse impacts on existing aquatic resources. Any project requiring dredge, fill, or adverse modification of jurisdictional waters would require a permit from USACE prior to the start of work. Typically, when a project involves impacts on wetlands that meet the definition of waters of the United States, the goal of no net loss of wetland acres or values is addressed through compensatory mitigation, which involves creating or enhancing of similar habitats.

CWA Section 401 requires that any person applying for a Section 404 permit from USACE must obtain a state water quality certification showing that the activity complies with all applicable state water quality standards, limitations, and restrictions. No Section 404 permit may be issued by USACE until certification required by Section 401 has been granted by the state.

CWA Section 303(d) requires states, territories, and authorized tribes to develop a list of water quality-impaired segments of waterways. The federal CWA Section 303(d) list includes water bodies that do not meet water quality standards for the specified beneficial uses of that waterway, even after dischargers of point sources of pollution have installed the minimum required levels of pollution-control technology. The law requires these jurisdictions to establish priority rankings for water bodies on their own CWA Section 303(d) lists and implement a process, called total maximum daily loads (TMDLs), to meet water quality standards. The TMDL process establishes maximum allowable pollutant loads and provides the basis for establishing water quality-based standards.

3.4.2.1.2.2 Rivers and Harbors Act

The Rivers and Harbors Act of 1899 (33 USC Section 401 et seq.) gives USACE the regulatory authority to protect traditional navigable waters. Traditional navigable waters are waters that are, could be, or were once used to transport interstate or foreign commerce. Section 10 of the Act requires authorization from the Secretary of the Army, acting through USACE, for the construction of any structure in or over any navigable water of the United States. Structures or work outside the limits defined for navigable waters of the United States require a Section 10 permit if the structure or work affects the course, location, or condition of the water body. The law applies to any dredging or disposal of dredged materials, excavation, filling, re-channelization, or any other modification of a traditional navigable water of the US. USACE regulatory authority under the Rivers and Harbors Act has been integrated with regulatory authority under the CWA so that USACE uses one permit application for both types of permits.

In a 2010 jurisdictional determination, the US Environmental Protection Agency (EPA) concluded that the LA River is a traditional navigable water from its origins at the confluence of Arroyo Calabasas and Bell Creek to San Pedro Bay at the Pacific Ocean, a distance of approximately 51 miles (EPA 2010).

3.4.2.2 State

3.4.2.2.1 California Department of Fish and Wildlife

The California Department of Fish and Wildlife (CDFW) is charged with implementing and enforcing the regulations set by the Fish and Game Commission, as well as providing biological data and

expertise to inform the Commission's decision-making process. The mission of CDFW is to manage California's diverse fish, wildlife, and plant resources, and the habitats upon which they depend, for their ecological values and for their use and enjoyment by the public. CDFW works with agencies, organizations, and other interested persons to study, protect, and preserve species listed in the California Endangered Species Act (CESA) and their habitats. CDFW also conducts scientific reviews of species petitioned for listing under CESA, administers regulatory permitting programs to authorize take of listed species, maintains an extensive database of listed species occurrences, and conducts periodic reviews of listed species to determine if the conditions that led to original listing are still present. CESA is discussed in further detail below. Perennial and intermittent streams and associated riparian vegetation, when present, also fall under the jurisdiction of CDFW.

3.4.2.2.1.1 California Fish and Game Code

The *California Fish and Game Code* (FGC) establishes the basis of fish, wildlife, and native plant protections and management in the State of California. CDFW has the authority to administer the FGC. FGC Sections 3503, 3503.5, and 3511 protect all native, nongame migratory birds and describe the unlawful take, possession, or destruction of birds, nests, and eggs. FGC Section 4150 and the *California Code of Regulations* Title 14 Section 251.1 protect all nongame mammals in California including bat species. CESA and the Native Plant Protection Act are part of the FGC.

3.4.2.2.1.2 California Endangered Species Act

CESA (FGC Sections 2050–2115.5) conserves and protects plant and animal species at risk of extinction. Plant and animal species may be designated threatened or endangered under CESA after a formal listing process by the California Fish and Game Commission. Approximately 250 species are currently listed under CESA. CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, invertebrates, plants, and their respective habitats that are threatened with extinction, and those experiencing a significant decline which would lead to a threatened or endangered designation if not halted, will be protected or preserved. CDFW implements CESA to protect and preserve such sensitive resources and their habitats.

CESA prohibits the "take" of state-listed threatened, endangered, or fully protected species (FGC Section 2050 et. seq.). Under CESA, the "take" of a species is restricted to direct mortality of a listed species and does not prohibit indirect harm by way of habitat modification. CESA, via an Incidental Take Permit issued by CDFW, allows a permittee to "take" a CESA-listed species if such taking is incidental to, and not the purpose of, carrying out an otherwise lawful activity. These permits are most commonly issued for construction, utility, transportation, and other infrastructure-related projects. Permittees must implement species-specific minimization and avoidance measures, and fully mitigate the impacts of their projects (FGC Section 2081[b]). CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate mitigation planning to offset losses of listed species.

3.4.2.2.1.3 Native Plant Protection Act

The Native Plant Protection Act (FGC Section 1900 et seq.) requires CDFW to establish criteria for determining whether a species, subspecies, or variety of native plant is endangered or rare. Under Section 1913(c) of the Act, the owner of land where a rare or endangered native plant occurs is required to notify CDFW at least 10 days in advance of changing the land use to allow for salvage of the plant(s).

3.4.2.2.1.4 Lake and Streambed Alteration Agreements

Waters of the State are defined more broadly than waters of the United States and include "any surface water or groundwater, including saline waters, within the boundaries of the state" (*California Water Code* Section 13050(e)). Waters of the State are under the jurisdiction of the CDFW and are broadly construed to include all waters within the state's boundaries, whether private or public, including waters in natural and artificial channels. Waters of the State include all waters of the United States, as well as portions of the bank above the OHWM and overbank riparian areas with vegetation that is dependent on moisture from the waterway.

The Lake and Streambed Alteration Agreement (FGC Section 1600 et seq.) gives CDFW regulatory authority over work within waters of the State and riparian habitat zones. The Lake and Streambed Alteration Agreement requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may divert or obstruct the natural flow of any river, stream, or lake; change the bed, channel, or bank of any river, stream, or lake; use material from any river, stream, or lake; or deposit or dispose of material into any river, stream, or lake. The Lake and Streambed Alteration Agreement covers any river, stream, or lake that is dry for periods of time, as well as those that flow year-round.

3.4.2.2.2 State Water Resources Control Board and Regional Water Quality Control Boards

In California, the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs) have the authority to implement the CWA, including Section 401 certification, Section 402 National Pollutant Discharge Elimination System permits, and Section 303(d) TMDLs (that is, the maximum amount of a pollutant allowed in a water body). The Los Angeles Regional Water Quality Control Board (LARWQCB) is the RWQCB responsible for implementing the CWA in the resource study area (RSA). The SWRCB and RWQCBs are also responsible for implementing the applicable state regulations and plans that are discussed below.

3.4.2.2.2.1 Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

The *Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (LARWQCB 2019) applies to the RSA. This plan sets forth the regulatory water quality standards for surface waters and groundwater in the region. The plan's water quality standards address designated beneficial uses for each water body and the water quality objectives to meet them. The LARWQCB designates beneficial uses for surface and groundwater in the Los Angeles Basin area for the LA River Watershed, including for the LA River. Beneficial uses are identified by river reach, as defined by the LARWQCB in the plan. Where multiple designated beneficial uses exist, water quality standards are written to protect the most sensitive use. Water bodies that do not meet water quality standards for the specified beneficial uses of that waterway are placed on the federal CWA Section 303(d) list.

3.4.2.2.2.2 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (*California Water Code* Section 13000 et seq.) was established to protect the beneficial uses of water and water quality, including surface water bodies, groundwater, and wetlands. The Act designated SWRCB as the statewide water quality planning agency. The SWRCB was additionally authorized to establish water

quality guidelines for long-range resource planning concerning ground- and surface water management and the use of recycled water. The Porter-Cologne Act also created the nine RWQCBs to protect water rights and water quality in California. Pursuant to the Porter-Cologne Act, waters of the state are defined as any surface water or groundwater, including saline waters, within the boundaries of California. The Porter-Cologne Act requires the regulation of all pollutant discharges, including wastes in project runoff that could affect the quality of the state's water. Any entity proposing to discharge waste must file a Report of Waste Discharge with the appropriate RWQCB or SWRCB. The Porter-Cologne Act and the CWA create water quality policies, enforce standards for water quality, and regulate the discharge of pollutants from point and nonpoint sources.

3.4.2.3 Regional and Local

3.4.2.3.1 Los Angeles County

3.4.2.3.1.1 Los Angeles County General Plan 2035

General Plan 2035 was adopted in October 2015 (Los Angeles County Department of Regional Planning 2022). *General Plan 2035* provides the policy framework and establishes a long-range vision for how and where the unincorporated areas of the county will grow.

As part of *General Plan 2035,* the Conservation and Natural Resources Element includes several policies and goals related to the protection of biological resources. These policies are related to habitat linkages, riparian habitat, streambeds and wetlands, woodlands, chaparral, coastal sage scrub, significant ecological areas (SEAs), and coastal resources areas.

3.4.2.3.1.2 Los Angeles County Significant Ecological Areas Program

SEAs are a unique class of protected open space in Los Angeles County established to protect irreplaceable biological resources. SEAs and coastal resource areas represent the wide-ranging biodiversity of Los Angeles County and contain its most important biological resources. Each individual SEA is sized to support sustainable populations of its component species and includes undisturbed or lightly disturbed habitat along with linkages and corridors that promote species movement. The SEA Program, through the County's *General Plan 2035* goals and policies and the SEA Ordinance (*Los Angeles County Code of Ordinances*, Title 22, Division 5, Chapter 22.102) help guide development within SEAs. *General Plan 2035* goals and policies are intended to ensure that privately held lands within the SEAs retain the right of reasonable use, while avoiding activities and developments that are incompatible with the ability of SEAs to thrive in the long term. The SEA Ordinance establishes the permitting, design standards, and review process for development within SEAs, balancing preservation of the County's natural biodiversity with private property rights. The SEA Program's objective is to preserve genetic and physical diversity in Los Angeles County by designating areas that can sustain themselves into the future.

3.4.2.3.1.3 Los Angeles County Oak Tree Regulations

Within unincorporated areas of Los Angeles County, the Los Angeles County Code of Ordinances Chapter 22.174 prohibits damaging or removing oak trees that are 25 inches or more in circumference (8 inches in diameter) as measured 4.5 feet above mean natural grade without a permit. A permit must also be obtained for the damaging or removal of oak trees with more than one trunk whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured

4.5 feet above mean natural grade. As part of the permit application process, an oak tree report must be prepared. The report is required to identify the location of the oak tree that is being requested to be removed, its physical structure, and its health.

3.4.2.3.1.4 Los Angeles County Metropolitan Transportation Authority Tree Policy

In October 2022, the Los Angeles County Metropolitan Transportation Authority (Metro) Board of Directors approved the agency's first tree policy to help preserve and grow Los Angeles County's urban tree canopy, which will help protect Metro customers from extreme heat and improve air quality. Pursuant to the policy, Metro will plan and design new construction or additions so that large trees and other significant site features, such as vistas and views, are preserved. The policy provides that, prior to construction of Metro capital projects, Metro will prepare a tree protection plan identifying tree protection zones for all trees designated for retention. The policy further provides that during construction, Metro will protect large trees and other significant site features from immediate damage during construction and from delayed damage due to construction activities, such as loss of root area or compaction of the soil by equipment. The policy requires a minimum tree replacement ratio of 2:1 (or a ratio of 4:1 if the tree is considered a heritage tree by a local jurisdiction), planting California-native or other drought-tolerant trees, and collaborating with regional partners, local agencies and communities during the planning and design of capital projects.

3.4.2.3.2 City of Los Angeles

3.4.2.3.2.1 City of Los Angeles General Plan

The City of Los Angeles' *General Plan* addresses the City's natural resources and open space resources in two of the plan's elements: the Conservation Element (City of Los Angeles 2001) and the Open Space Plan Element (City of Los Angeles 1973). The Conservation Element focuses on the conservation, protection, development, and usage of natural resources, including rivers and other waters, harbors, forests, soils, fisheries, wildlife, minerals, and other natural resources. The Open Space Plan Element addresses the identification, preservation, conservation, and acquisition of open space in the City.

3.4.2.3.2.2 City of Los Angeles Preservation of Protected Trees

The City of Los Angeles *Preservation of Protected Trees (City of Los Angeles Municipal Code* [LAMC] Chapter IV, Article 6 as amended by Ordinance 186873 on February 4, 2021) provides for the protection of native trees and shrubs having greater than a 4-inch cumulative diameter (that is, the total diameter of a multi-trunk tree) at 4.5 feet above the ground level from the base of the tree. Protected native trees include oak (*Quercus* spp.), California bay (*Umbellularia californica*), Western sycamore (*Platanus racemosa*), and southern California black walnut (*Juglans californica*). Protected native shrubs include toyon (*Heteromeles arbutifolia*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). The removal of trees or shrubs is defined as any act that will cause a protected tree or shrub to die, including acts that inflict damage upon the root system or other part of the tree or shrub by fire, the application of toxic substances, the operation of equipment or machinery, or change of the natural grade of land by excavation or filling the drip line area around the trunk. The removal or relocation of street trees and protected native trees and shrubs regulated by the City of Los Angeles requires a permit, which is obtained from the Board of Public Works or the Board of Recreation and Park Commissioners, depending on the location of the tree or shrub.

3.4.2.3.2.3 City of Los Angeles Tree Preservation Policy and Urban Forest Program

On October 15, 2003, the Board of Recreation and Parks Commissioners approved the Tree Preservation Policy and Urban Forest Program (amended March 17, 2022) to protect and preserve trees in Los Angeles and promote healthy tree care and planning to guarantee the sustainability of the City's urban forest. The Los Angeles Department of Recreation and Parks (LADRP) Tree Preservation Policy regulates protection of Heritage Trees in Los Angeles. The purpose of the policy is to establish a regulatory tool to provide orderly protection of designated trees, protect their values, and avoid significant negative impacts to the ecosystems. Heritage Trees are individual trees of any size or species that are specifically designated as heritage because of their historical, commemorative, or horticultural significance. The list of designated Heritage Trees can be obtained from the LADRP Forestry Division and remains open for new designations and provides useful information to staff regarding the importance of their actions while planning activities near Heritage Trees. Since Heritage Trees are protected trees, recommendations from the LADRP Arborists and approval from the LADRP General Manager or his/her designee must be obtained before any alteration to Heritage Trees is made that may cause the tree to become damaged, relocated, or removed.

3.4.2.3.3 City of Vernon

3.4.2.3.3.1 City of Vernon General Plan

The *City of Vernon General Plan* Resources Element (City of Vernon 2007) was developed to focus on the protection and preservation of resources within the city limits. Due to the City's industrial nature, the major open space resources in the City of Vernon include the LA River and utility easements. The Resources Element's focus is on protecting and expanding these open spaces, as well as additional planting and maintenance of landscaped areas and street trees.

The Resources Element establishes goals and policies to preserve open space (including the LA River) and look for opportunities to upgrade the appearance of existing open space and create new open space areas for the benefit of the City.

3.4.2.3.3.2 City of Vernon Street Trees Ordinance

The Street Trees Ordinance (Chapter 12.24 of the *City of Vernon Municipal Code*) regulates the planting, maintenance, and removal of trees in the public rights-of-way (ROWs) and public property (that is, property that is dedicated for or uses by the public). The ordinance requires a permit to cut, trim, prune, plant, remove, injure or interfere with any City-owned tree. City-owned trees that will remain or will be relocated, as well as new trees that have been planted to replace the removed trees, are required to be preserved and protected during construction. All street trees are required to be planted in accordance with the City's *Standard Tree Planting Plan* (Standard Plan MV 1891; City of Vernon 2022), and/or as directed by the City Council or by standards set forth by the National Arborist Association and/or the International Society of Arboriculture.

3.4.2.3.3.3 City of Vernon Tree Protection Bylaw 4152

The Tree Protection Bylaw 4152 restricts damage to trees (including pruning or removal of certain limbs), destruction of trees, and removal of trees that have a diameter greater than 8 centimeters at 1 meter above the ground at the base of the tree unless a permit has been obtained from the City's

Community Development Director. The bylaw states that no person shall be issued a permit to destroy a tree growing within 15 meters of the natural boundary of a water course, except where a tree or the roots of a tree are blocking a water course or reducing its drainage capacity. Bylaw 4152 also directs the City's Community Development Director to identify those trees within the City's boundaries that are significant to the City, whether on public or private lands, because of their heritage, landmark, or wildlife habitat value. These trees are defined as "Significant Trees."

3.4.2.3.4 City of Bell

3.4.2.3.4.1 City of Bell General Plan

The *City of Bell 2030 General Plan*'s Open Space/Conservation/Recreation Element (City of Bell 2018) outlines conservation programs that deal with resource utilization, preservation techniques, and the regulation of activities that affect or preclude the use of resources. The Open Space/Conservation/Recreation Element focuses on the natural resources in the City that must be considered in future City planning and development. The City is largely urbanized and no ecologically sensitive habitat for plants and animals occurs in the City. The Open Space/Conservation/Recreation Element and other *City of Bell 2030 General Plan* elements do not contain any applicable goals, objectives or policies pertaining to the preservation of biological resources.

3.4.2.3.4.2 City of Bell Street Trees Regulations

City of Bell Municipal Code Chapter 12.24 regulates the planting, maintenance, and removal of street trees. *Municipal Code* Section 12.24.020 requires the Director of Recreation and Parks to prepare a list of approved tree varieties that can be planted in all parkways and public areas within the City. The regulations also require the Director of Recreation and Parks to prepare a plan for the planting and maintenance of trees in streets and public areas in the City. Any trees to be removed must be approved by the City Council.

3.4.2.3.5 City of Maywood

3.4.2.3.5.1 City of Maywood General Plan

The City of Maywood *General Plan*'s Conservation Element (City of Maywood 1990a) and Open Space Element (City of Maywood 1990b) focus on the protection and maintenance of the City's natural resources and open spaces inside city limits. The amount of open space remaining in Maywood is limited because the City is entirely developed. As a result, there are no large, undeveloped areas or parcels remaining in the City. In addition, Maywood's natural resources are limited due to the City's built urban environment. The Conservation Element requires landscaping and vegetative cover for landscaped areas, street medians, parkways, and new development, and requires drought-resistant trees and plants for all new landscaping for commercial and industrial development. A review of the *General Plan* (City of Maywood n.d.) found no indication of an existing protection ordinance for trees or shrubs.

3.4.3 Methodology

The following sections describe the methodology used for the analysis of biological resources. The same methodology is applied to evaluating the impacts of the Proposed Project and its options, including design variations.

3.4.3.1 Resource Study Area

For the purposes of evaluating biological resources impacts, the RSA is defined as 500-feet from the permanent and temporary footprints (including construction staging areas, design variations, and access points) of the Proposed Project and its options. Figure 3.4-1 shows the RSA for the biological resources analysis. This RSA provides adequate survey coverage for biological resources that may occur within the space needed for all potential construction, staging, and access areas, as well as in areas immediately surrounding the temporary construction footprints that could be affected by the Proposed Project and its options, including design variations.

3.4.3.2 Literature, Database, and Aerial Image Review and Field Survey

Determinations on the potential for special-status species to occur in the permanent and temporary footprints of the Proposed Project and its options were based on a biological resources database search, literature review, an evaluation of aerial imagery, and an April 2021 field survey and ecological evaluation of the RSA. The determinations included factors such as species range, habitat condition, habitat suitability, habitat connectivity, species requirements, field observations, and recorded species occurrences in the region.

3.4.3.2.1 Literature and Database Review

Literature and database reviews were conducted to evaluate documented sensitive habitat and the potential for special-status species to occur in the RSA. A summary of the literature and database review is provided in Section 3.4.4. Appendix F, *Biological Resources* presents the results of a literature and database review of habitat and species with the potential to occur in the RSA.

Figure 3.4-1. Biological Resources Study Area for the Proposed Project and Options



The literature and database review used the following works and databases:

- *A Manual of California Vegetation*, Second Edition (Sawyer et al. 2009)
- USFWS Information for Planning and Consultation System (IPaC) (2021b)
- USFWS *Environmental Conservation Online System Threatened & Endangered Species Active Critical Habitat Report* (USFWS 2021c)
- California Native Plant Society (CNPS) Inventory of Rare and Endangered Plants of California (CNPS 2021)

- Calflora (Calflora 2021)
- iNaturalist (iNaturalist 2021)
- Biogeographic Information and Observation System (CDFW 2021a)
- California Natural Diversity Database (CNDDB) (CDFW 2021b) review of special-status species and habitat occurrences recorded in US Geological Survey 7.5-minute quadrangles within and surrounding the RSA. The US Geological Survey 7.5-minute quadrangles searched were Burbank, Hollywood, Los Angeles, Pasadena, and South Gate, each representing approximately 60 square miles in area.

Because of the similarities in the permanent and temporary footprints of the Proposed Project and its options in relation to existing habitat, the determinations of potential for occurrence were the same for the Proposed Project and its options, including design variations. As such, only one determination is presented for each species in the CNDDB summary. The USFWS IPaC list summarizes species and habitat of endangered and threated species; and any critical habitat, migratory birds, wildlife refuges, and wetlands under the USFWS jurisdiction that are known or expected to be found within or near the RSA.

Appendix F, *Biological Resources* includes a CNDDB summary of the special-status species recorded in the quadrangles searched and determinations of their potential for occurrence in the temporary and permanent footprints; and the USFWS IPaC resource list.

3.4.3.2.2 Aerial Satellite Image Review and Field Survey

Aerial satellite images were reviewed to identify existing areas of potential habitat for plants and wildlife within the temporary and permanent footprints, evaluate general existing ecological and physical conditions, and identify safe and accessible vantage points to survey existing habitat during the April 2021 field survey. Based on the review of aerial satellite images, each vegetated habitat that was identified within or immediately adjacent to the temporary and permanent footprints was field surveyed on April 22 and 23, 2021, by EcoKai Environmental, Inc. (EcoKai) biologists familiar with the biological resources of the LA River and southern California region.

The purpose of the field survey was to identify and document existing site conditions, existing habitat and habitat types, and the occurrence of any special-status plant and wildlife species. All species observed during the field survey within the temporary and permanent footprints were documented. Each bridge crossing the LA River channel in the RSA was observed from the nearest vantage point possible; open-water habitat within the channel was observed primarily from bridge vantage points. A comprehensive list of plant and wildlife species observed during the April 2021 field survey is presented in Appendix F, *Biological Resources*, along with representative site photographs. Additionally, a 1-evening visual survey for bat occurrence was conducted on May 15, 2021, along a portion of the LA River channel within the RSA from approximately 30 minutes before sunset to dusk (that is, from approximately 7:15pm to 8:15pm). The LA River channel and adjacent areas were observed from the vantage points of the north and south sides of the North Spring Street and North Broadway viaducts. Field survey results are discussed in Section 3.4.4.

Appendix F, *Biological Resources* presents the results of the aerial imagery review of existing habitat and field conditions, as well as the results of the field survey performed by biologists familiar with the area to confirm, identify, and evaluate habitat and species' potential to occur in the temporary and permanent footprints.

3.4.3.3 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with biological resources are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to biological resources would occur if the Project would do any of the following:

- **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 the California Department of Fish and Wildlife or US Fish and Wildlife Service?
- **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 the California Department of Fish and Wildlife or US Fish and Wildlife Service?
- **Impact BIO-3:** Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?
- **Impact BIO-4:** 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-5:** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- **Impact BIO-6:** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

3.4.3.4 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies The following project features have been developed for biological resources.

PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles*

Trees and shrubs that are protected by the City of Los Angeles Preservation of Protected Trees regulations are listed in *Los Angeles Municipal Code* (LAMC) Section 46.01 and include oak (*Quercus* spp.), California bay (*Umbellularia californica*), Western sycamore (*Platanus racemosa*), and southern California black walnut (*Juglans californica*). Protected native shrubs include toyon (*Heteromeles arbutifolia*) and blue elderberry (*Sambucus nigra* ssp. *caerulea*). For trees and shrubs occurring within the City of Los Angeles, the Project shall comply with the City of Los Angeles Preservation of Protected Trees Ordinance 186873, which requires a permit to be obtained through the Los Angeles Department of Public Works Bureau of Street Services Urban Forestry Division prior to relocation or removal of any protected native trees or shrubs having greater than a 4-inch cumulative diameter at 4.5 feet above the ground level. The term "removed" or "removal" shall include any act that will cause a protected tree or shrub to die, including but not limited to acts that inflict damage upon the root system or other parts of the tree or shrub by fire, application of toxic substances, operation of equipment or machinery, or by changing the natural grade of land by excavation or filling the drip line area around the trunk. Metro shall consult with the City's Chief Forester and complete the Bureau of Street Services' permit

application process for any protected tree or shrub that will be removed or damaged as part of the Project. Protected trees and shrubs that will be removed or damaged shall be relocated or replaced, in accordance with the Bureau of Street Services' permit requirements. The Bureau of Street Services requires that any protected tree or shrub that is removed or relocated be replaced within the property by at least four specimens of a protected variety included within the definition set forth in the ordinance. The size and number of replacement trees and shrubs shall be determined by the Bureau of Street Services and shall approximate the value of the tree or shrub to be replaced.

Consistent with the City of Los Angeles Tree Preservation Policy, Metro shall coordinate and consult with the City of Los Angeles Department of Recreation and Parks (LADRP) prior to the removal, relocation, or damage of any Heritage Tree as defined by LADRP, that occurs in the City of Los Angeles. Metro shall consult with and obtain recommendations from the LADRP Arborists, as well as obtain approval from the LADRP General Manager or their designee, before any alterations to a Heritage Tree is made that may cause the tree to become damaged, relocated, or removed.

PF-BIO-01b, *Protected Tree and Shrub Permitting—City of Vernon*

In the event that any tree that is protected by the City of Vernon Street Tree Ordinance or Tree Protection Bylaw 4152 is damaged, destroyed, or removed by Project construction activities within the city limits, the City of Vernon shall be consulted prior to an impact and the Project shall comply with any permitting or other requirements associated with impacts to protected trees. The City of Vernon's Tree Protection Bylaw 4152 requires a permit prior to any activities that damage, destroy, or remove any tree, the stem of which exceeds 8 centimeters in diameter at 1 meter above the average ground level of the base of the tree. The bylaw also states that no person shall be issued a permit to destroy a tree growing within 15 meters of the natural boundary of a water course, except where a tree or the roots of a tree are blocking a water course or reducing its drainage capacity.

PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*

The Project shall comply with the Los Angeles County Metropolitan Transportation Authority's (Metro's) tree policy (October 2022). As required by the Metro tree policy, prior to construction Metro shall prepare a tree protection plan identifying tree protection zones for all trees designated for retention. During construction, Metro shall protect large trees and other significant site features from immediate damage during construction and from delayed damage due to construction activities, such as loss of root area or compaction of the soil by equipment. The policy requires a minimum tree replacement ratio of 2:1 (or 4:1 if the tree is considered a heritage tree), planting California-native or other drought-tolerant trees and collaborating with regional partners, local agencies and communities during the planning and design of capital projects.

PF-BIO-02, *Preconstruction Tree and Shrub Survey and Report*

Prior to the start of construction, a certified arborist shall conduct a survey of all construction areas to identify and document any trees and shrubs protected by local ordinances that are within the construction footprint. A protected tree and shrub report shall be prepared to provide readily available information about existing protected trees and shrubs in the construction footprint prior to the start of construction. The report shall identify the location and property owner of any protected trees and shrubs within the construction footprint and provide (1) physical descriptions of each tree and shrub including species, approximate height and diameter, and overall condition, and (2) any trees and shrubs that would be disturbed including, but not limited to, tree trimming, tree relocation, tree or shrub removal, or trees with root zones that would be damaged through excavation activities. If it is determined that any protected tree or shrub that occurs within the boundaries of a jurisdiction along

and within the construction footprint would be removed or disturbed by construction, the report information shall be submitted to the appropriate local jurisdiction for permitting consultation. All required tree or shrub removal permits shall be obtained prior to the removal of any trees and shrubs protected by local ordinances.

An additional applicable project feature related to biological resources includes the following. Refer to Section 3.10, *Hydrology and Water Quality* for additional detail.

- PF-HWQ-03, *Continued Los Angeles Metropolitan County Transportation Authority and US Army Corps of Engineers Engagement*

3.4.4 Existing Setting

The RSA for biological resources, as defined in Section 3.4.3.1, is in a Mediterranean climate region characterized by hot, dry summers and mild, wet winters. The elevation of the LA River channel in the RSA is between approximately 150 feet above mean sea level at the RSA's southern terminus to approximately 300 feet above mean sea level at the RSA's northern terminus.

The RSA is in an urbanized area within the cities of Los Angeles, Vernon, Bell, and Maywood, as well as the unincorporated Bandini Islands community. The RSA consists of predominantly industrial and commercial uses and the LA River channel. The Arroyo Seco meets the LA River channel just south of where State Route (SR-)110 intersects Interstate (I-)5. A few parks and open space areas are located in the RSA, most of which are toward the northern portion of the RSA. Parks and open space areas in the RSA include Egret and Elysian Parks at the northern end, Ed P. Reyes River Greenway, Los Angeles State Historic Park, Albion Riverside Park, and a pocket park at an air treatment facility. A few residential areas are in the RSA, including a residential neighborhood east of Albion Riverside Park and a housing development west of Leroy Street. The bed and banks of the LA River are nearly completely concrete-lined through the RSA, with a small section that includes metal sheet piling walls. The Arroyo Seco is also concrete-lined within the RSA. The LA River traverses in a generally north-to-south alignment. Several railway lines and utility tower lines directly parallel both east and west riverbanks over much of the RSA. I-5, SR-110, I-10 and several local roads also cross over the LA River channel via bridges through the RSA.

The LA River conveys low-flow discharge throughout the year due to urban runoff and tertiary-treated effluent discharges from publicly owned treatment works upstream of the RSA. During the rainy season, the LA River transports high-volume storm flow during storm events. Therefore, the LA River typically provides a perennial source of water along its course.

3.4.4.1 Existing Habitat

Large areas of open space parkland occur west of the LA River along the northern portion of the RSA and include Elysian Park and Los Angeles State Historic Park. Development encroaches on the top of the LA River channel banks along most of the RSA; however, several strips or patches of highly disturbed, unpaved, and vegetated areas occur intermittently along the top of banks on both sides of the LA River. Based on direct observations of habitat and vegetation composition during the biological field survey, habitat types identified within the RSA were categorized according to the following classifications, which are described in detail in the paragraphs that follow:

- California walnut/coast live oak woodland
- Disturbed upland

- Ruderal
- Parklands and greenways
- Open water
- Urban developed

These habitat types in the RSA are shown in Figures 3.4-2 through 3.4-14 and in Appendix F, *Biological Resources*. The temporary and permanent footprints for the Proposed Project and its options are also shown overlaying the habitat types in Appendix F, *Biological Resources*. The urban developed habitat type in the RSA includes all the areas that are not color coded in the figures.

Figure 3.4-2. Habitat Types in Resource Study Area for Biological Resources between Northern Terminus and the Metro A Line LA River Bridge

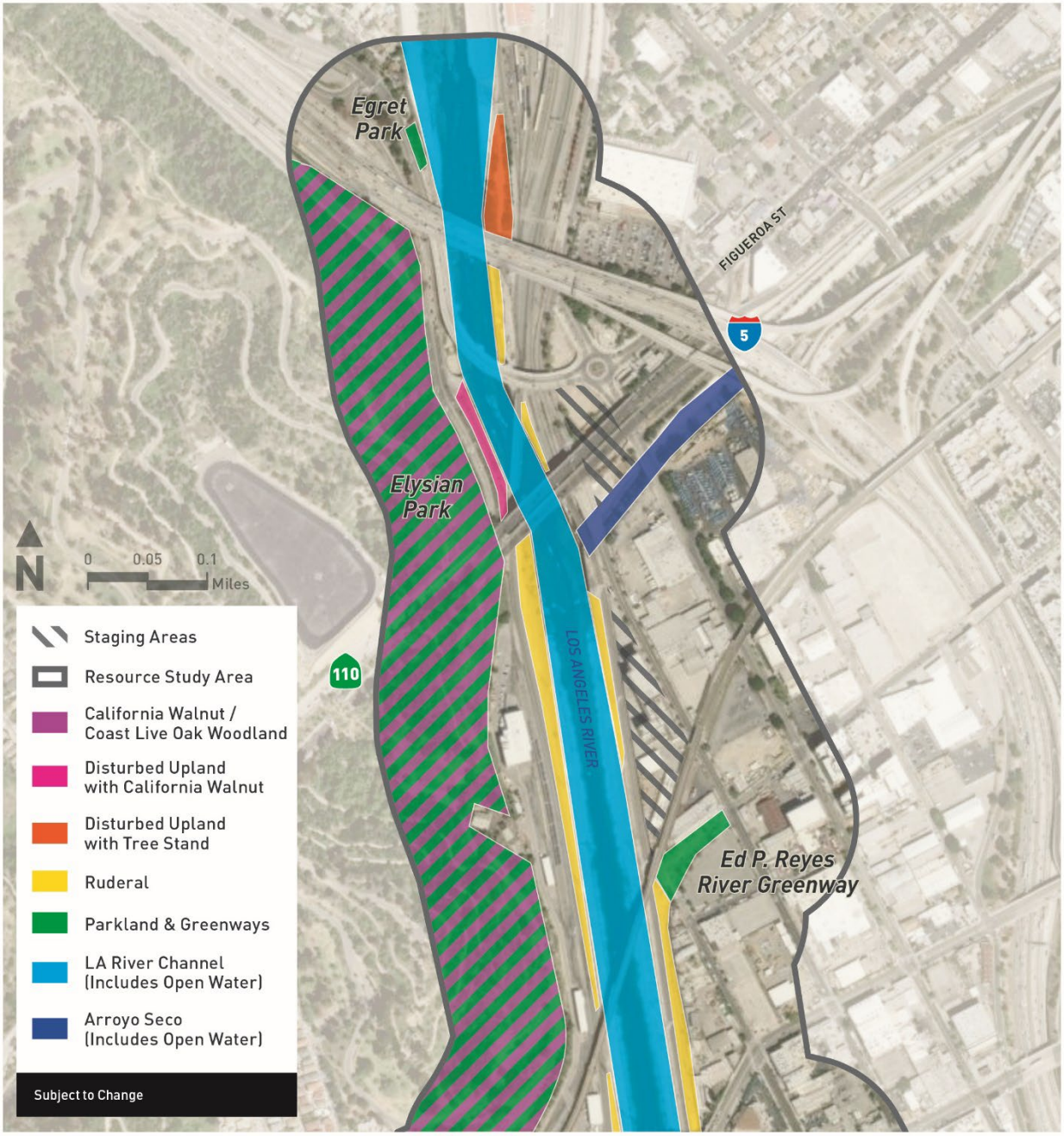


Figure 3.4-3. Habitat Types in Resource Study Area for Biological Resources between Metro A Line LA River Bridge and North Main Street Bridge

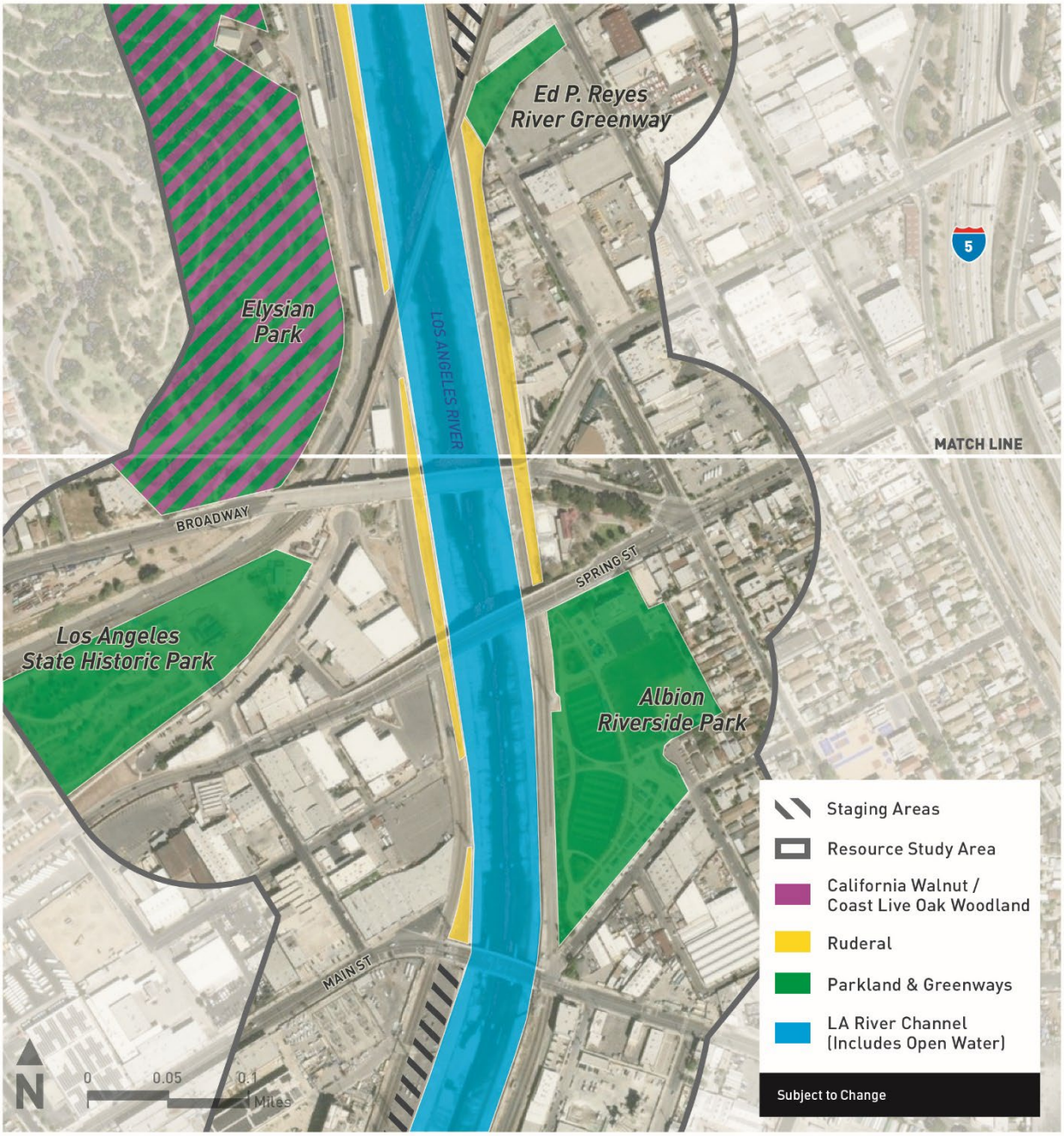


Figure 3.4-4. Habitat Types in Resource Study Area for Biological Resources between North Main Street Bridge and Cesar E Chavez Avenue Viaduct

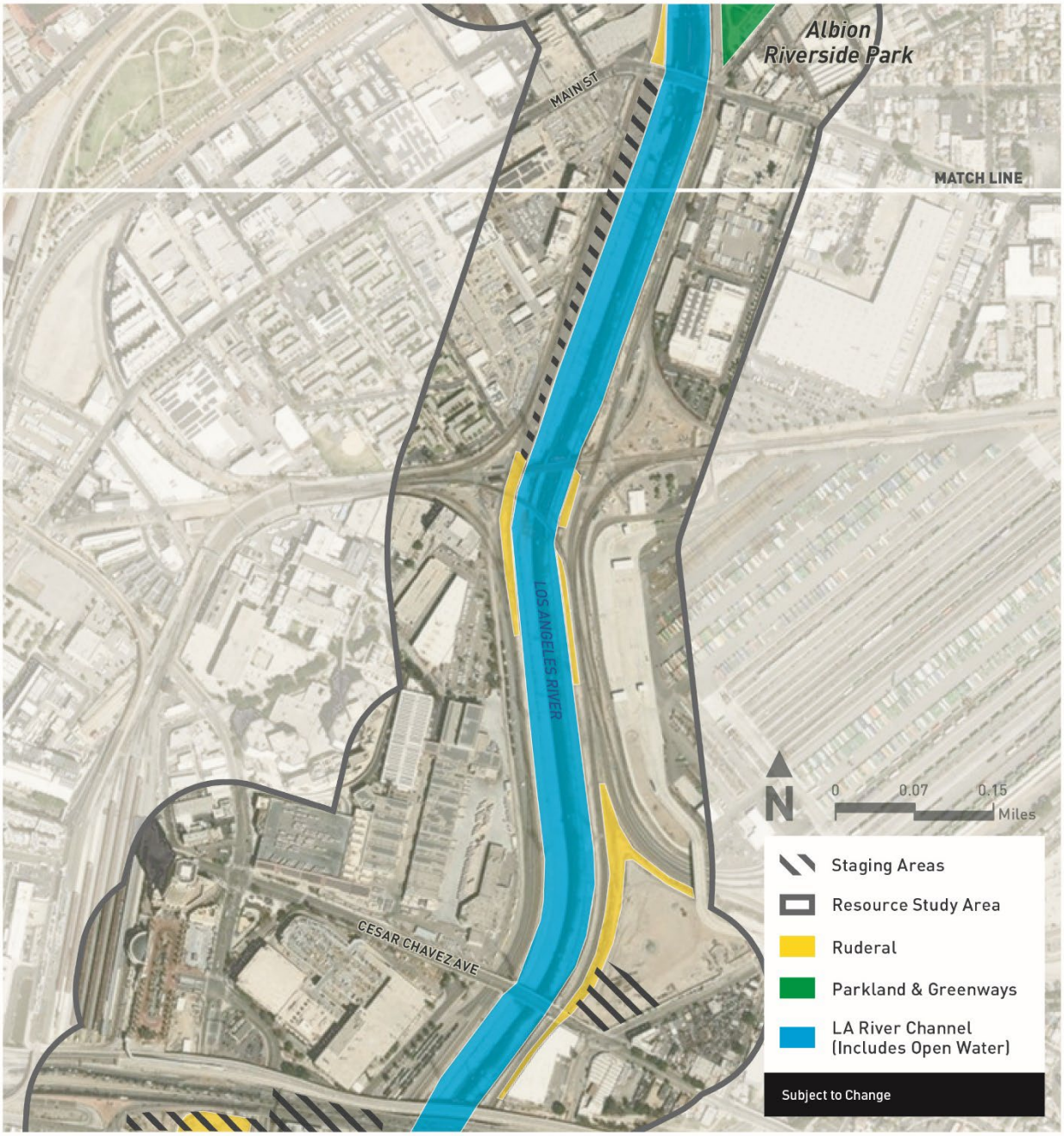


Figure 3.4-5. Habitat Types in Resource Study Area for Biological Resources between the Cesar Chavez Avenue Viaduct and Sixth Street Viaduct

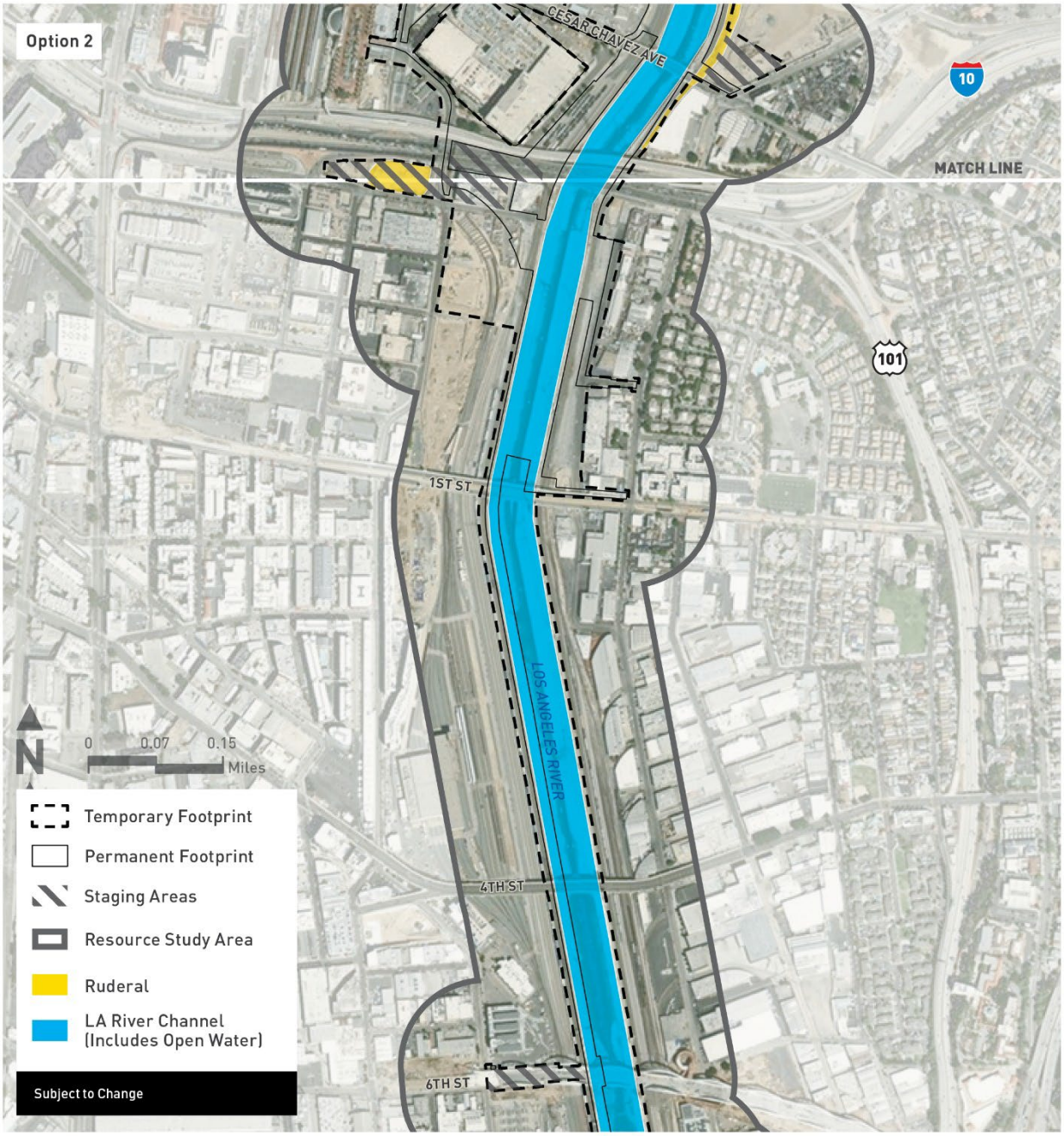


Figure 3.4-6. Habitat Types in Resource Study Area for Biological Resources between the Sixth Street Viaduct and the Olympic Boulevard Viaduct

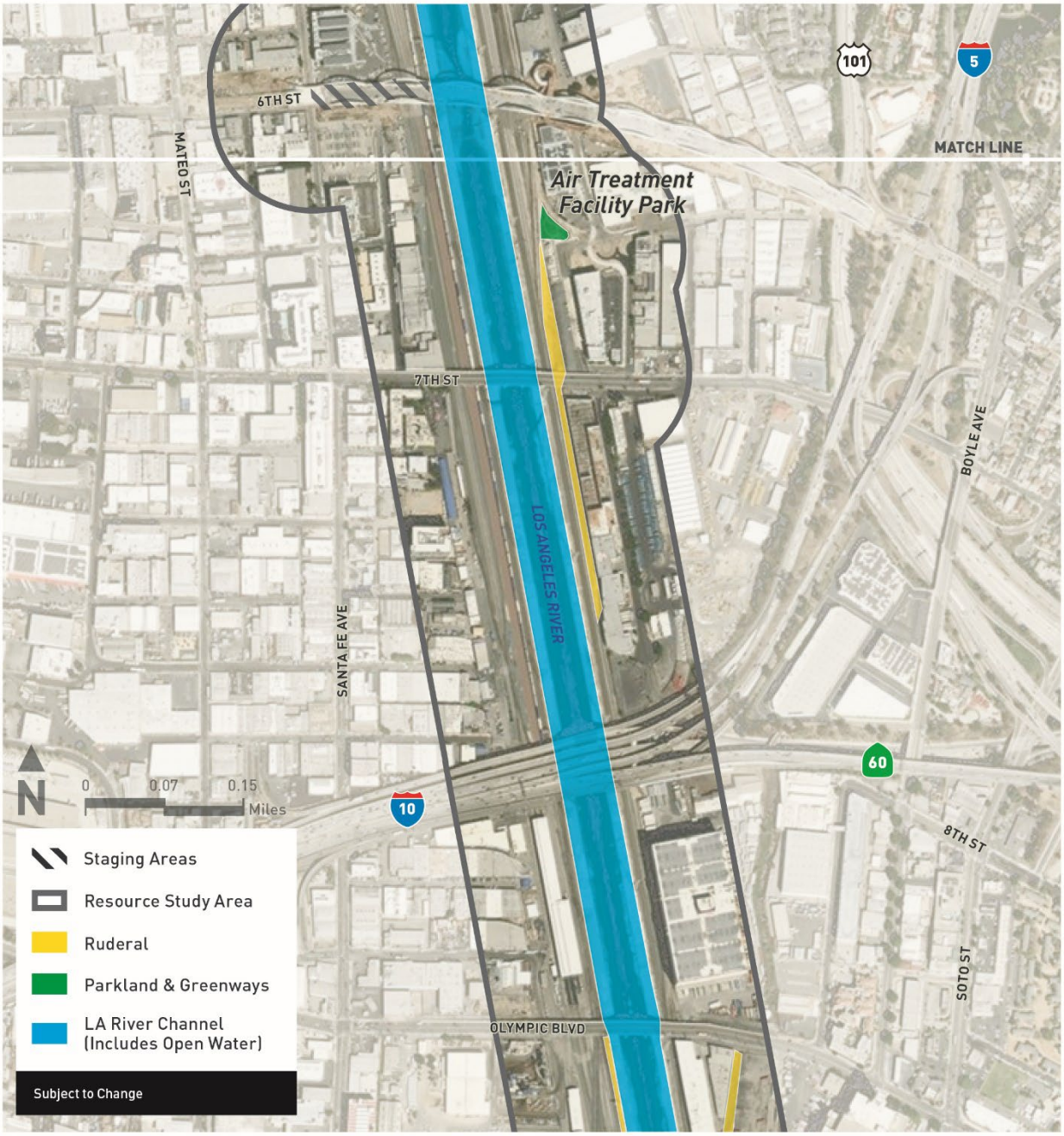


Figure 3.4-7. Habitat Types in Resource Study Area for Biological Resources between the Olympic Boulevard Viaduct and Soto Street Bridge



Figure 3.4-8. Habitat Types in Resource Study Area for Biological Resources between Soto Street Bridge and Downey Road Bridge

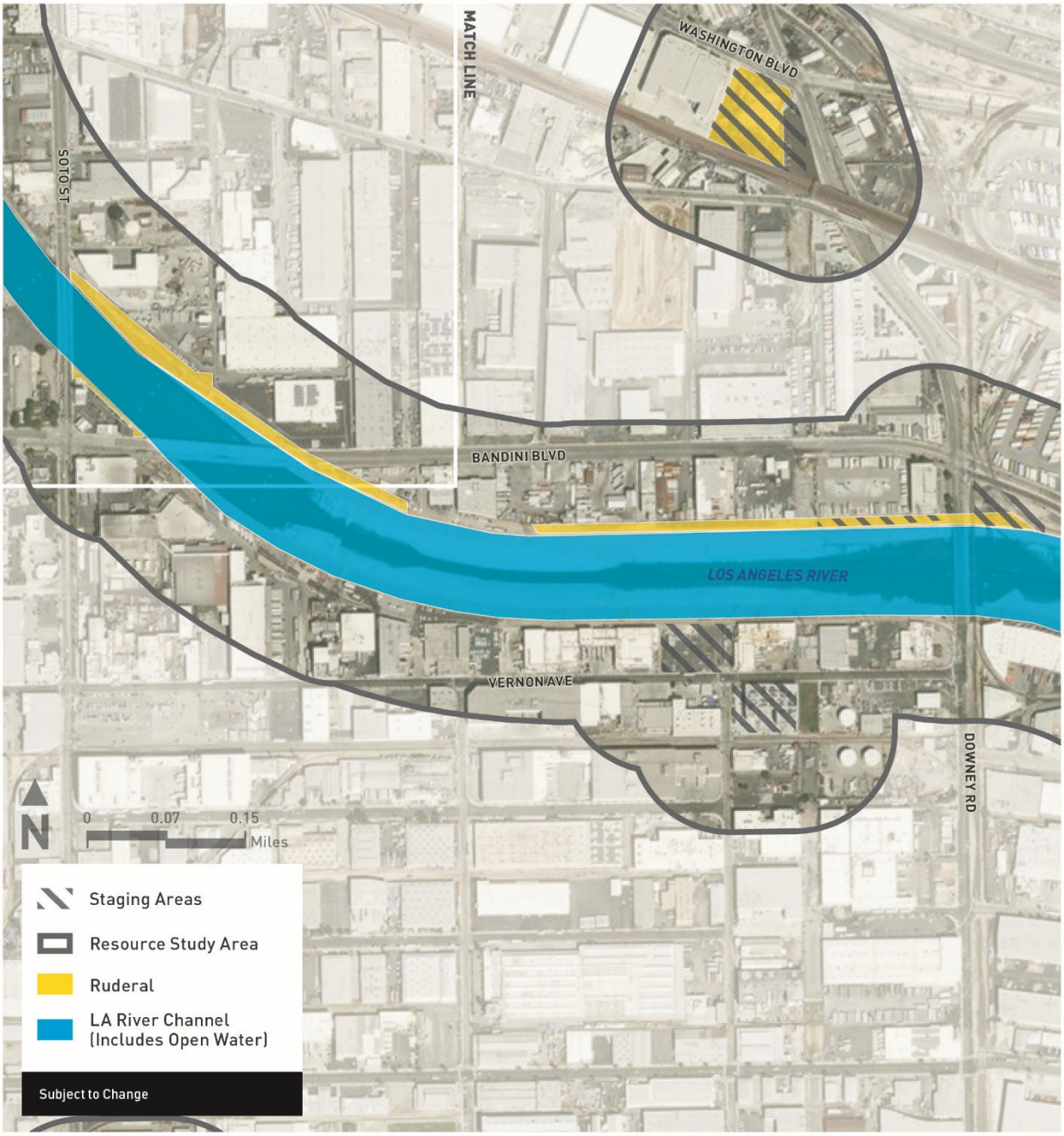


Figure 3.4-9. Habitat Types in Resource Study Area for Biological Resources between Downey Road Bridge and Atlantic Boulevard Bridge



Figure 3.4-10. Habitat Types in Resource Study Area for Biological Resources between Atlantic Boulevard Bridge and the Southern Terminus and Rickenbacker Road Staging Areas

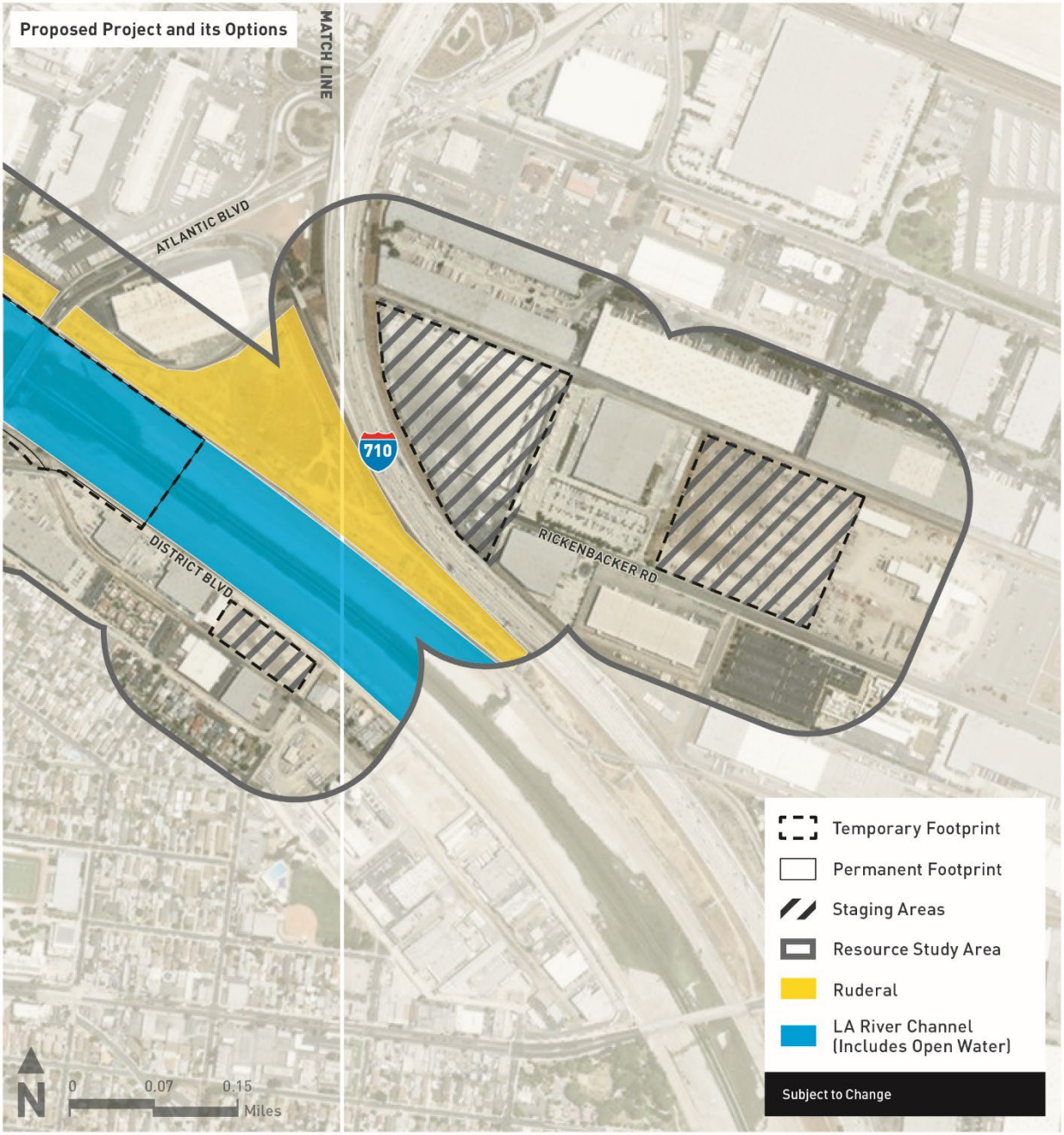


Figure 3.4-11. Habitat Types in Resource Study Area for Biological Resources at SR-110/Pasadena Avenue Staging Area

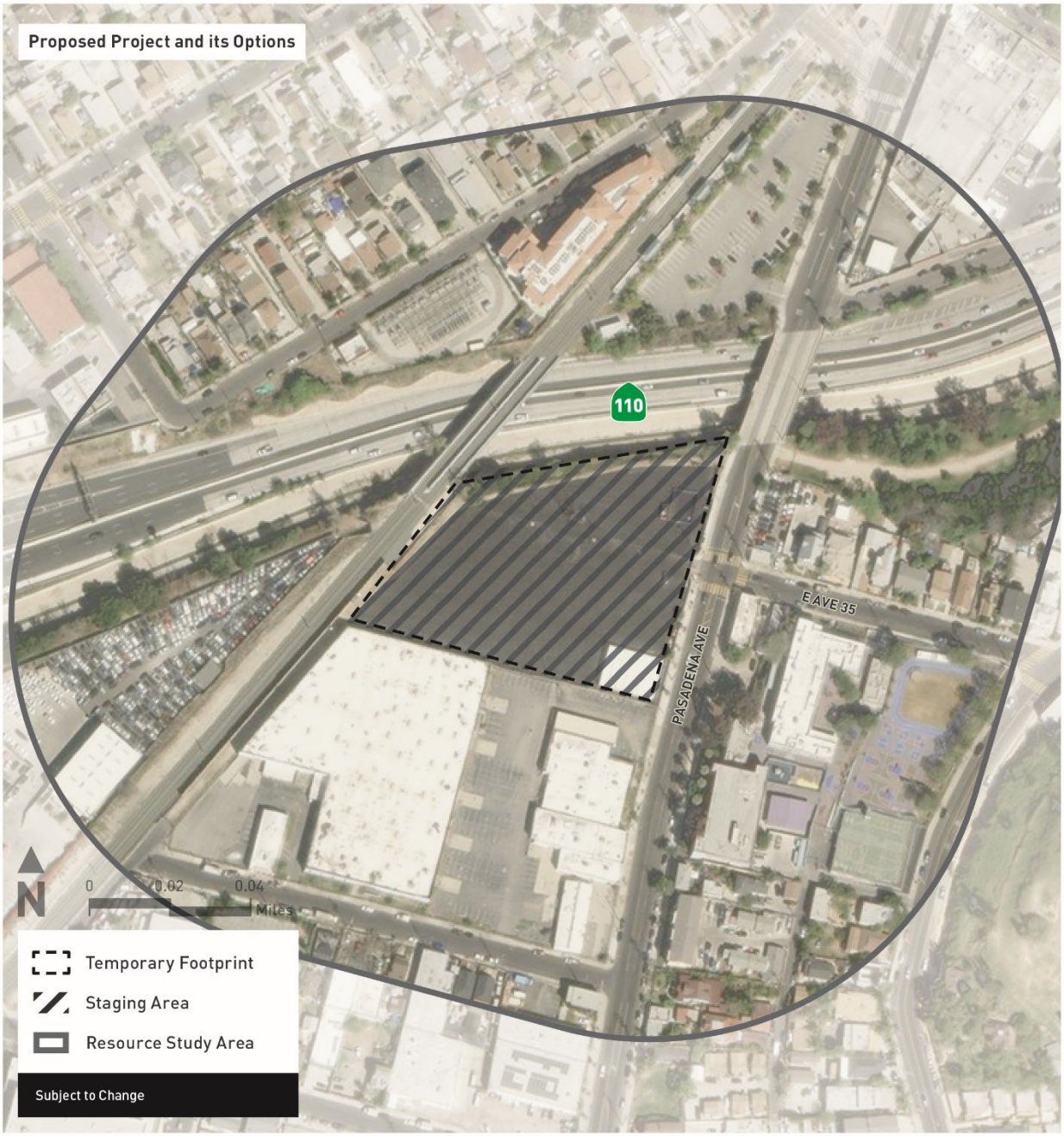


Figure 3.4-12. Habitat Types in Resource Study Area for Biological Resources at Washington Boulevard/Downey Road Staging Area

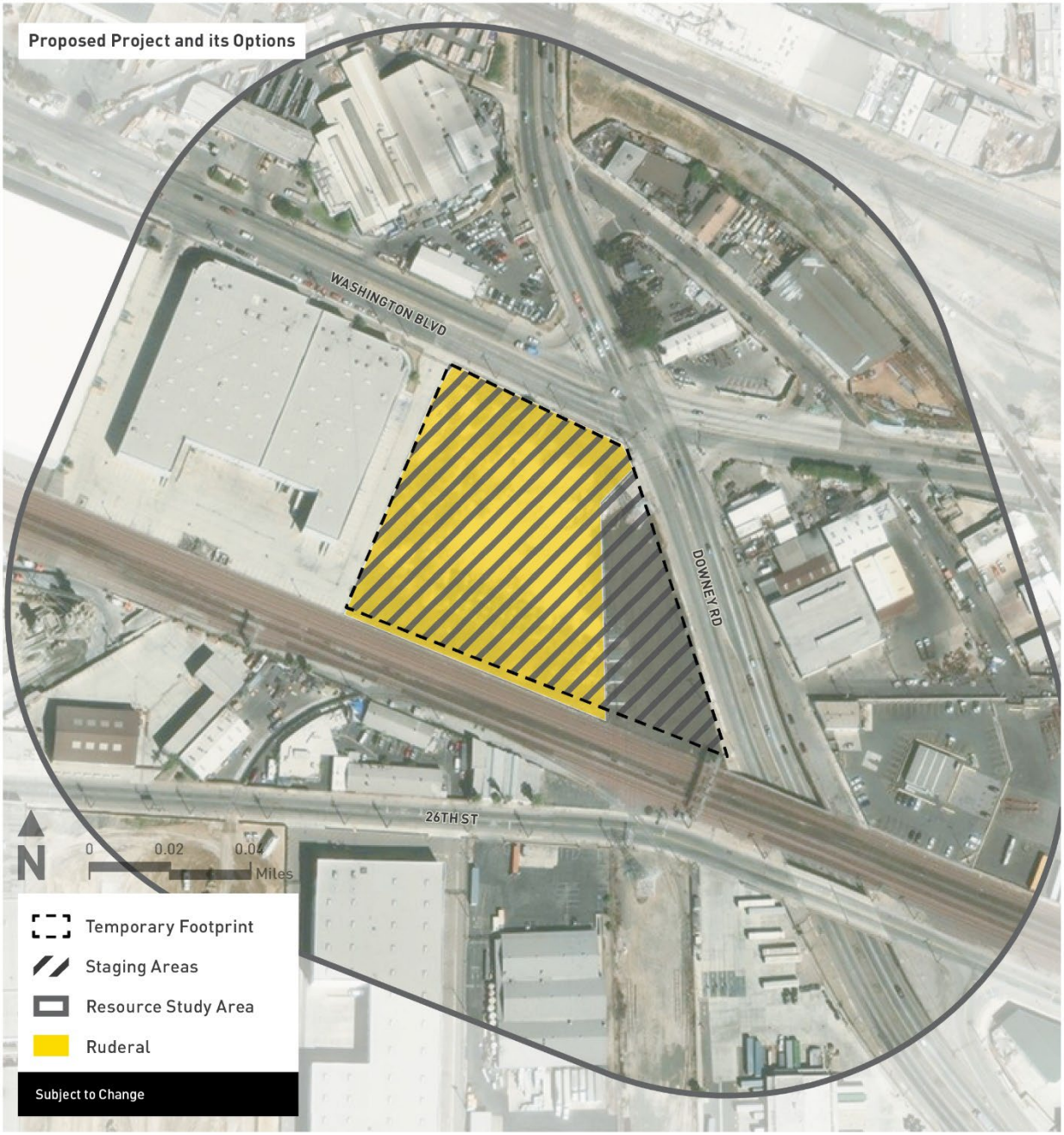


Figure 3.4-13. Habitat Types in Resource Study Area for Biological Resources at Center Street/Alameda Street Staging Area

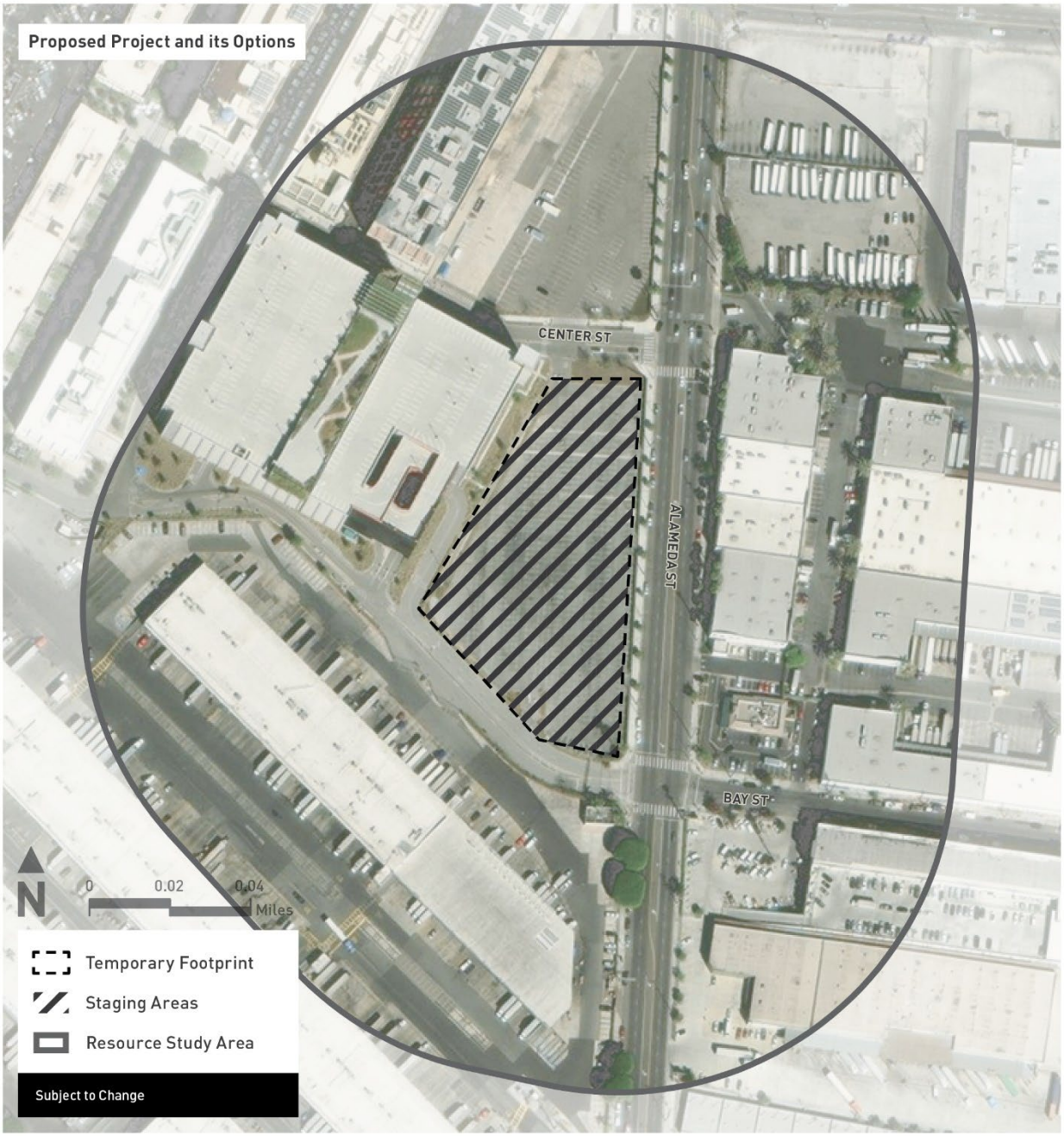
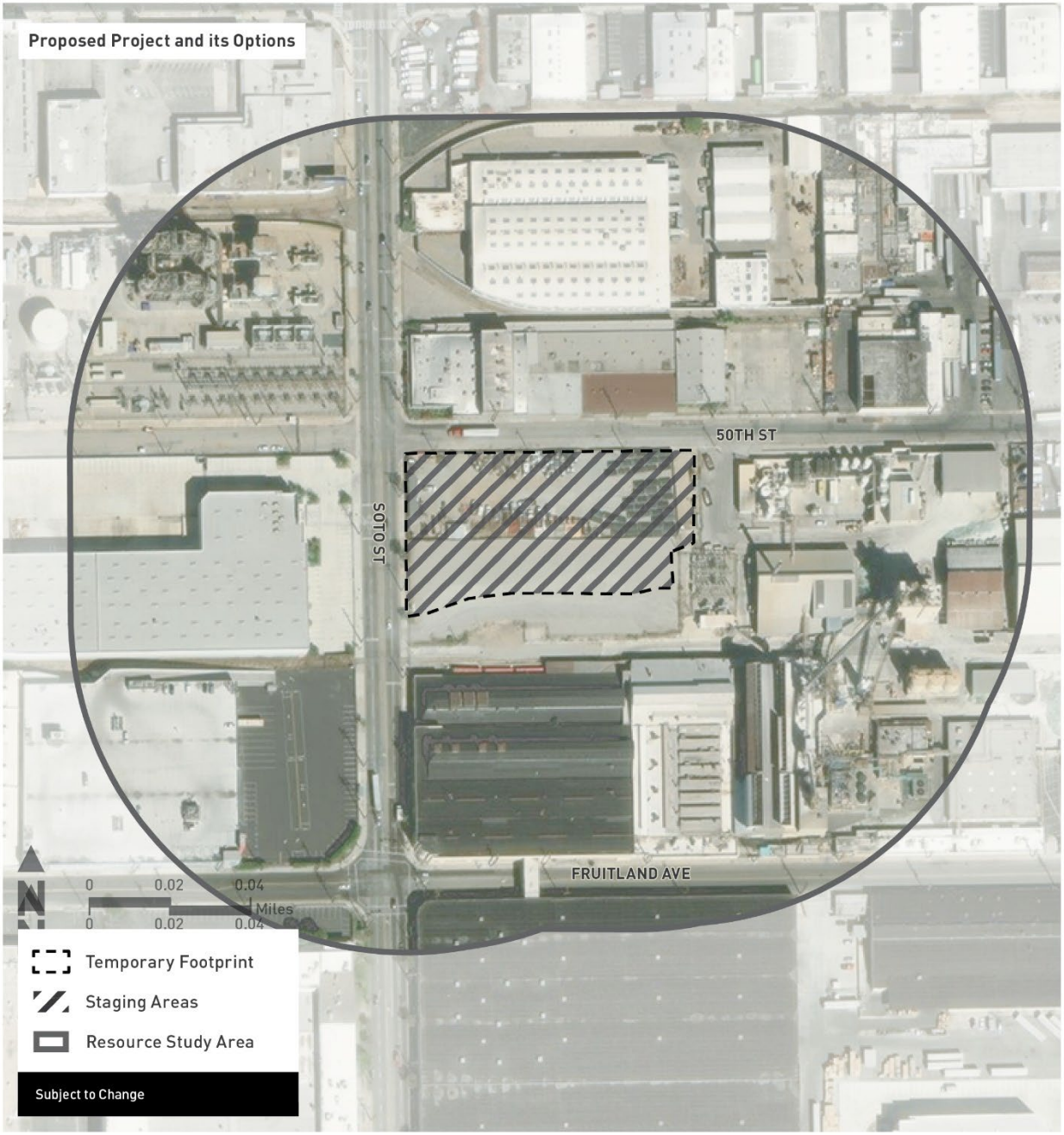


Figure 3.4-14. Habitat Types in Resource Study Area for Biological Resources at 50th Street/Soto Street Staging Area



3.4.4.1.1 California Walnut/Coast Live Oak Woodland

The California walnut/coast live oak woodland habitat type occurs interspersed throughout portions of Elysian Park in the northwestern part of the RSA and outside of the footprints of the Proposed Project and its options, Option 1 and Option 2, west of the LA River (Figures 3.4-2 and 3.4-3). California walnut/coast live oak woodland is one of the prominent habitat types within Elysian Park (Verna Jigour Associates 2005). This habitat occurs within approximately 50 acres of the northwest RSA and is interspersed with park roads and non-native vegetation. The native vegetation of this habitat is dominated by southern California black walnut (California Rare Plant Rank [CRPR] 4.2) and coast live oak (*Quercus agrifolia*) along with other native species, including toyon, blue elderberry, laurel sumac (*Malosma laurina*), California sagebrush (*Artemisia californica*), and California buckwheat (*Eriogonum fasciculatum*). California black walnut generally dominates the northern portion of this 50-acre habitat area, including along the steep eastern slopes of the area, and coast live oak generally dominates the middle and southern portions of this habitat area.

Non-native species occur sporadically mixed within this habitat type in the portion of the RSA that overlaps with Elysian Park and include pepper trees (*Schinus* spp.), eucalyptus (*Eucalyptus* spp.), Mexican fan palm (*Washingtonia robusta*), and tree tobacco (*Nicotiana glauca*), with non-native annual grasses dominating the majority of the understory. This habitat type within the RSA is adjacent to, but separated from, the footprints of the Proposed Project and its options and the LA River by roadways and rail lines.

3.4.4.1.2 Disturbed Upland

Two patches of vegetated habitat within the RSA and along the top of the LA River riverbanks are categorized as disturbed upland. Both are located along the northern portion of the RSA and include areas that do not appear to be routinely disturbed by vehicle access or vegetation maintenance and are generally dominated by trees rather than by ruderal species (Figure 3.4-2).

A small disturbed and isolated strip of habitat supporting fewer than 10 California black walnut trees occurs along the top of the western bank of the LA River between the Riverside Drive bridge and the SR-110 bridge (refer to Disturbed Upland with California Walnut in Figure 3.4-2 and Photos 1 and 2 in Appendix F, *Biological Resources*). This strip of habitat is approximately 0.5 acre and is located immediately above the western LA River concrete channel and along the foot of a hillside that extends into Elysian Park. This disturbed habitat patch is effectively separated from connectivity to the California walnut/coast live oak woodland habitat in Elysian Park by major roadways and is degraded and contains many non-native species. Predominant native plant species identified within this disturbed upland habitat area include California black walnut, blue elderberry, lacy phacelia (*Phacelia tanacetifolia*), mulefat (*Baccharis salicifolia*), laurel sumac, saltgrass (*Distichlis spicata*), and a thick understory of poison oak (*Toxicodendron diversilobum*). Non-native species include eucalyptus, tree of heaven (*Ailanthus altissima*), tree tobacco, castor bean (*Ricinus communis*), wild oat (*Avena* sp.), fountain grass (*Pennisetum setaceum*), and brome grasses (*Bromus* spp.) (Photos 3 and 4 in Appendix F, *Biological Resources*). This habitat area occurs within the temporary and permanent footprints of the Proposed Project and its options, Option 1 and Option 2.

A second patch of disturbed upland habitat occurs along the top of the eastern bank of the LA River immediately north of the I-5 Viaduct and between the concrete river channel and multiple rail lines to the east (refer to Disturbed Upland with Tree Stand in Figure 3.4-2). This disturbed habitat patch is approximately 1.1 acres and is dominated by a small stand of approximately 20 large trees of various species, including coast live oak, sycamore, California black walnut, laurel sumac, and blue elderberry.

This disturbed upland habitat with tree stand occurs within the RSA but is outside of the footprints of the Proposed Project and its options, Option 1 and Option 2.

3.4.4.1.3 Ruderal

Ruderal habitat is the most abundant habitat type in the footprints of the Proposed Project and its options, Option 1 and Option 2, and is highly disturbed, characterized by unpaved areas with exposed soils containing sparse vegetation, and dominated by non-native plant species. Several small, fragmented, and narrow strips of ruderal habitat are found intermittently throughout the footprints along the tops of the western and eastern banks of the LA River (Figures 3.4-2 through Figure 3.4-10; Photos 3 through 8 in Appendix F, *Biological Resources*). Ruderal habitat is also found within the Washington Boulevard/Downey Road staging area footprint (Figure 3.4-12). The total area of ruderal habitat within the RSA is approximately 61.5 acres. This habitat type varies somewhat among each strip of ruderal habitat but is typically dominated by non-native vegetation, including fountain grass, tree tobacco, Mexican fan palm, red brome (*Bromus rubens*), ripgut brome (*Bromus diandrus*), black mustard (*Brassica nigra*), shortpod mustard (*Hirschfeldia incana*), hedge mustard (*Sisymbrium irio*), wild oat, various thistles, redstem stork's bill (*Erodium cicutarium*), castor bean, tall fescue (*Festuca arundinacea*), giant reed (*Arundo donax*), and cheeseweed mallow (*Malva parviflora*).

Several species native to California were also identified, but not dominant, within some patches of ruderal habitat and include sacred datura (*Datura wrightii*), blue elderberry, seacliff buckwheat (*Eriogonum parvifolium*), mule fat, California brittlebush (*Encelia farinosa*), telegraph weed (*Heterotheca grandiflora*), laurel sumac, saltgrass, common sunflower (*Helianthus annuus*), bush sunflower (*Encelia californica*), purple lovegrass (*Eragrostis spectabilis*), common fiddleneck (*Amsinckia menziesii*), turkey mullein (*Croton setiger*), branching phacelia (*Phacelia ramosissima*), salt heliotrope (*Heliotropium curassavicum*), California sun cup (*Camissoniopsis bistorta*), and coyote brush (*Baccharis pilularis*). One individual southern California black walnut tree was observed at the northernmost end of a ruderal habitat patch, located along the western top of the LA Riverbank just south of SR-110. This ruderal habitat patch is adjacently south of the patch of disturbed upland habitat that contains fewer than 10 southern California black walnut trees.

One area of ruderal habitat includes a higher diversity of native vegetation species than other areas of ruderal habitat. This strip of ruderal habitat is located along the eastern top of the LA River bank between the North Broadway Viaduct and the A Line LA River Bridge and is south of the Ed P. Reyes River Greenway (Figure 3.4-3). Aerial photography suggests that the commercial property directly adjacent to and east of the habitat includes a plant nursery, and dozens of observations posted on iNaturalist from within this property suggest that California-native vegetation is being grown on the property. Nevertheless, non-native species are dominant in this ruderal habitat area and are typical of other ruderal habitat areas within the RSA. Native plant species identified within this habitat patch include black sage (*Salvia mellifera*), white sage (*Salvia apiana*), California sagebrush (*Artemisia californica*), hummingbird sage (*Salvia spathacea*), desert broom (*Baccharis sarothroides*), cliff aster (*Malacothrix saxatilis,* CRPR 4.2), seacliff buckwheat, common sunflower, blue elderberry, lacy phacelia, laurel sumac, mule fat, narrowleaf milkweed (*Asclepias fascicularis*), California poppy (*Eschscholzia californica*), sacred datura, saltgrass, and toyon (Photos 8 through 10 in Appendix F, *Biological Resources*). It is unclear if this native vegetation was planted intentionally or naturally dispersed into the ruderal habitat from the nursery.

3.4.4.1.4 Parklands and Greenways

Existing parklands and greenways located within the RSA from north to south include Egret Park, Elysian Park, Ed P. Reyes River Greenway, Los Angeles State Historic Park, Albion Riverside Park, and a small pocket park located at the air treatment facility where Mission Road meets Jesse Street (Figures 3.4-2, 3.4-3, and 3.4-6) (refer to Section 3.15, *Recreation*, for more information about parklands and recreation facilities). In addition, in fall 2023, the City of Los Angeles Bureau of Engineering began construction of the 12-acre Sixth Street Park, Arts, River and Connectivity Improvements (Sixth Street PARC) under the Sixth Street viaduct. This open and recreational space would connect Boyle Heights, the Arts District, and the LA River and would be accessible via improved streets, intersections, and bicycle lanes and from the viaduct via accessible ramps and stairs. Construction is expected to be completed in early 2026.

Egret Park is a small 0.16-acre park owned by Mountains Recreation and Conservation Authority located at the terminus of the existing LA River Greenway Trail at Riverside Drive just north of the I-5 viaduct in the City of Los Angeles (Figure 3.4-2). This park features a view of the LA River, native plantings, and interpretive displays as well as direct access to the existing LA River Greenway Trail.

Elysian Park is the City of Los Angeles' oldest park and, at 575 acres, is the City's second largest park after Griffith Park. This park occurs within a hilly landscape to the west of the LA River generally between North Broadway and the I-5 freeway and includes several hiking trails and open space. The most prominent native vegetation in the park is California walnut/coast live oak woodlands, as described above. Approximately 50 acres of the eastern slopes of Elysian Park occur within the RSA (Figures 3.4-2 and 3.4-3); however, Elysian Park is not located within the footprints of the Proposed Project and its options, Option 1 and Option 2, is separated from the LA River and the footprints by several busy roadways and fencing.

The Ed P. Reyes River Greenway is a 1.13-acre Los Angeles Bureau of Sanitation vegetated treatment facility designed to treat urban runoff and stormwater within a 135-acre drainage area (Figures 3.4-2 and 3.4-3). The greenway is contained within a fenced area but is typically open to public access. The greenway is located along the eastern bank of the LA River at the end of Humboldt Street in the Lincoln Heights neighborhood of the City of Los Angeles, adjacent to the A Line LA River Bridge. The greenway is planted with species native to southern California habitats, including sycamore, Fremont cottonwood, willow (*Salix sp.),* wild rose (*Rosa californica),* laurel sumac, toyon, California sagebrush, California buckwheat, and mulefat (Photos 11 and 12 in Appendix F, *Biological Resources*). The greenway is separated from the LA River channel by fencing and railway lines. Options 1 and 2 propose an access connection that passes through the Ed P. Reyes River Greenway.

The Los Angeles State Historic Park is located west of the LA River channel between Spring Street and Broadway (Figure 3.4-3). Approximately 8.4 acres of the eastern portion of the park occur within the RSA. The portion of the park within the RSA includes a disturbed area that is under renovation, as well as park offices and a nursery area for park plants (Photos 13 and 14 in Appendix F, *Biological Resources*). At the time of the survey, this disturbed park area included several native plant species, such as California sagebrush, common sunflower, bush sunflower, black sage, white sage, hummingbird sage, white alder (*Alnus rhombifolia),* sycamore, toyon, coast live oak, California poppy, California buckwheat, seacliff buckwheat, and golden bush (*Isocoma menziesii)*. Option 1 proposes to connect the LA River path to the eastern portion of the park.

Albion Riverside Park is an approximately 8-acre park located along the east side of the LA River channel between North Main Street and North Spring Street (Figure 3.4-3). This park opened in 2019 and is owned by the City of Los Angeles. Features of the park include a renovated baseball

field, synthetic soccer fields, basketball courts, an outdoor plaza/event space, walking trails, fitness areas, a playground, picnic areas, public restrooms, and an outdoor classroom. The park's landscaping is maintained in part by recycled stormwater that is filtered through permeable pavement in the parking lot and through bioswales throughout the open space. The Proposed Project and Options 1 and 2 propose access points to connect Albion Riverside Park.

The pocket park at the air treatment facility is located along the eastern side of the LA River where Mission Road meets Jesse Street and is part of a sewage treatment facility owned by the City of Los Angeles. This small 0.3-acre park includes a vegetated area enclosed within a fence line (Figure 3.4-6). The vegetated area was closed to the public during two site visits, and it is unclear if the area is typically open to the public. Option 1 proposes to connect the path to this small park.

3.4.4.1.5 Open Water

The LA River in the RSA includes a concrete channelized bed and concrete or metal sheet piling banks. The river's perennial flow creates relatively permanent open-water habitat primarily within the concrete low-flow channel, providing foraging and resting habitat as well as a water source for a variety of wildlife species. Algal beds are common throughout the wetted channel, mostly in areas outside of the low-flow channel where shallow water spreads across the channel bottom, where they provide habitat for insects and other invertebrates (Photos 15 through 17 in Appendix F, *Biological Resources*). Other vegetation observed along the concrete channel was markedly sparse and occurred only sporadically along cracks formed in the concrete. Some of this vegetation included native California bulrush (*Schoenoplectus californicus)* and willow weed (*Persicaria lapathifolia),* as well as patches of non-native vegetation including knotweed (*Polygonum sp.)* and Bermuda grass (*Cynodon dactylon)*. Although the amount of open-water habitat within the LA River channel at any given time depends on the amount of stormwater and urban runoff flowing through the LA River, open-water habitat is defined in this section as areas with flowing or standing water for sufficient duration to establish an OHWM. The RSA contains approximately 128 acres of open-water habitat.

The existing open-water habitat in the RSA is impaired for water quality. As discussed in Section 3.10, *Hydrology and Water Quality,* the LA River in the RSA is on the CWA Section 303(d) list of impaired water bodies due to not meeting water quality standards established for the LA River by the LARWQCB. Pollutants listed on the CWA Section 303(d) list as responsible for the impairment of the LA River in the RSA include ammonia, nutrients, copper, lead, indicator bacteria, oil, toxicity, and trash.

Many birds of various species were observed foraging in the LA River channel during the field survey, including birds actively nesting and others leading their young along the river channel. Several black-necked stilts (*Himantopus mexicanus*) were observed nesting on hummocks of vegetation within open-water habitat along the concrete channel bed, and a Canada goose (*Branta canadensis*) was observed tending to three eggs laid on top of a discarded backpack along the top of a bridge footing (Photo 18 in Appendix F, *Biological Resources*).

Riparian or wetland habitat does not occur within the footprints of the Proposed Project and its options, Option 1 and Option 2. North of the I-5 Viaduct, and outside of the footprints, the LA River bottom is natural and supports dense riparian habitat dominated by willow, Fremont cottonwood, cattail (*Typha* spp.*),* California bulrush, and the invasive giant reed (*Arundo donax)*. The Arroyo Seco connects to the LA River along its eastern bank just south of the SR-110 bridge (Figure 3.4-2). Fremont cottonwood and sycamore trees line the top of banks along the Arroyo Seco but do not occur within the Arroyo Seco channel bed or banks, which are concrete-lined (Photo 19 in Appendix F, *Biological Resources*).

3.4.4.1.6 Urban Developed

Urban developed lands occur within and surrounding the RSA, and account for the remainder of the RSA that is not occupied by another habitat type described above. A majority of the urban developed land is industrial-related, with some commercial- and residential-related development. The northern portion of the RSA from the northern terminus to the North Broadway Viaduct includes land that has been developed with primarily industrial uses to the east; Elysian Park is to the west (Figures 3.4-2 and 3.4-3). South of the North Broadway Viaduct, the RSA includes urban land that borders the east and west banks of the LA River and staging areas (Figures 3.4-4 through 3.4-14). Urban developed land in this area includes a variety of urban structures, such as industrial, commercial, and residential buildings; parking lots and other paved surfaces; electrical transmission towers; utility poles; bridges; railways; streets; and highways. Except for ornamental landscaping, this habitat is generally devoid of vegetation. Many urban structures, trees, and ornamental vegetation have the potential to support wildlife species, including insects, nesting birds, and roosting bats.

3.4.4.2 Common Wildlife

Because of sparse vegetation, dominance of non-native species, and the highly disturbed, low-quality and fragmented nature of the existing habitat occurring in the footprints of the Proposed Project and its options, Option 1 and Option 2, wildlife species are more likely to be those adapted to urban development and tolerant of human activity. Various and multiple human-made barriers along the LA River channel in the RSA hinder wildlife movement between the LA River and adjacent habitat areas. Other than birds, wildlife observed in the RSA during the field survey include opossum (*Didelphis virginiana*), California ground squirrel (*Otospermophilus beecheyi*), western fence lizard (*Sceloporus occidentalis*), and desert cottontail (*Sylvilagus audubonii*). Mammal burrow complexes were observed within ruderal habitat along the east side of the LA River just south of Bandini Boulevard. The burrows resemble those of the kangaroo rat (*Dipodomys* sp.); however, mammals or sign of recent use were not observed associated with the burrow complexes.

The most observed bird species during the field survey include cliff swallow (*Petrochelidon pyrrhonota*), rock pigeon (*Columba livia*), house sparrow (*Passer domesticus*), American crow (*Corvus brachyrhynchos*), house finch (*Carpodacus mexicanus*), gulls (*Larus* sp.), northern mockingbird (*Mimus polyglottos*), mallard (*Anas platyrhynchos*), black-necked stilts, and mourning dove (*Zenaida macroura*). Appendix F, *Biological Resources* provides a complete list of all wildlife species observed during the April 2021 field survey.

Other common wildlife species not observed during the field survey but known to occur along or adjacent to the LA River channel include, but are not limited to, fox squirrel (*Sciurus niger*), black rat (*Rattus rattus*), common side-blotched lizard (*Uta stansburiana*), various shorebirds, wading birds, ducks of the Pacific Flyway, and various mesocarnivores, including coyote (*Canis latrans*), raccoon (*Procyon lotor*), striped skunk (*Mephitis mephitis*), and gray fox (*Urocyon cinereoargenteus*) (Garrett 1993; iNaturalist.org 2021).

3.4.4.2.1 Wildlife Movement Through the LA River

Connectivity across landscapes is an important component for the long-term viability of many plants and animals. Access to resources, reproduction, and dispersal of individuals are critical for species in the region with variations in geographic and temporal scales being unique to each species. The following terminology is generally used to describe particular movement routes:

- Wildlife Corridors: A wildlife corridor is an area of habitat through a landscape that connects two or more natural habitat areas that have been separated by human activities or development. Wildlife corridors exist throughout the Los Angeles Basin. Wildlife corridors and associated natural habitat areas (landscape blocks) in the region were mapped by the California Essential Habitat Connectivity Project (Spencer et al. 2010), which built upon previous studies, including the Missing Linkages: Restoring Connectivity to the California Landscape Project (Penrod et al. 2001). Mapped corridors connect patches of habitat throughout the landscape.
- Linkages: Linkages are areas that have been identified by local experts but not formally and quantitatively mapped by the California Habitat Connectivity Project (Spencer et al. 2010). Linkages include those identified as part of *Missing Linkages: Restoring Connectivity to the California Landscape Project* (Penrod et al. 2001). Linkages aid in genetic dispersal and help to distribute and connect local populations of species across the landscape.
- Local Connectivity: Local connectivity refers to areas that have not been identified as a corridor or linkage but still provide connectivity for local species.

Corridors, linkages, and local connectivity may differ depending on the taxa of species with variations existing for aquatic, terrestrial, and avian species.

The LA River channel provides approximately 51 miles of relatively unobstructed linkage and contiguous open-water habitat beginning from the western San Fernando Valley at the foothills of the Simi Hills and the Santa Monica and Santa Susana Mountains to the Pacific Ocean. The LA River is generally constrained by channelization throughout the LA Basin with variations in the active channel occurring through the course of the LA River. The portion of the LA River in the RSA is channelized with concrete and generally constrained to low-flow channels during periods of dry weather. Aquatic species, including fish and amphibians, may use the LA River channel but in most areas in the RSA, the LA River is relatively shallow, narrow, and lacks vegetation or other natural cover. Although aquatic connectivity exists through the RSA, habitat quality is low throughout.

Like other linear corridors in the region, the LA River likely provides some function as a wildlife corridor. The LA River provides unobstructed movement along the channel for terrestrial species; however, the lack of native vegetation and other natural features precludes many native species from using the LA River. The California Essential Habitat Connectivity Project did not identify any major wildlife corridors in the RSA (Spencer et al. 2010). However, many species, including mesocarnivores, may use the LA River channel for local movement and may use it as a means of linkage between habitat patches along the LA River.

3.4.4.2.2 Fish of the LA River

Historically, the LA River supported several species of native fish, including the federally listed endangered (FE) southern California Distinct Population Segment of steelhead (*Oncorhynchus mykiss),* the state-listed endangered (SE) and FE unarmored threespine stickleback (*Gasterosteus aculeatus williamsoni),* the federally listed threatened (FT) Santa Ana sucker (*Catostomus santaanae),* the CDFW species of special concern (SSC) arroyo chub (*Gila orcutti) a*nd Santa Ana speckled dace (*Rhinichthys osculus),* the USFWS species of concern Pacific lamprey (*Lampetra tridentate),* and the nonlisted Pacific brook lamprey (*Lampetra pacifica)* (Garrett 1993; Friends of the Los Angeles River 2008).

According to the *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report* (USACE 2015), in 2004 the City of Los Angeles Department of Water and Power conducted surveys along the LA River north, and outside, of the RSA at Balboa Boulevard, Los Feliz Boulevard, and near SR-2. Six non-native fish species were collected, including mosquitofish (*Gambusia affinis),* green

sunfish (*Lepomis cyanellus*), bluegill (*Lepomis macrochirus*), black bullhead (*Ameiurus melas*), fathead minnow (*Pimephales promelas*), and tilapia (*Oreochromis* spp.). According to the report, the timing of the survey was ideal to determine the presence or absence of native species, yet native fishes were not collected during the survey. These locations surveyed by the City of Los Angeles contain portions of riparian habitat that provide shading and suitable shelter and foraging habitat for fish species. As discussed in Section 3.4.4.1, no riparian or wetland habitat occurs within the LA River channel in the footprints of the Proposed Project, Option 1, and Option 2.

On four occasions during the late summer and fall of 2007, the Friends of the Los Angeles River conducted fish surveys within the LA River along an 8-mile stretch of unpaved, natural bed river to the north, and outside, of the RSA (Friends of the Los Angeles River 2008). The surveys resulted in the capture of eight species of fish, all non-natives, including fathead minnow, carp (*Cyprinus carpio*), black bullhead, Amazon sailfin catfish (*Pteroplichthys pardalis*), mosquitofish, green sunfish, largemouth bass (*Micropterus salmoides*), and tilapia. Native species were not encountered during any of the surveys.

Fish species native to the LA River have not been recorded near the RSA in known recent surveys and are not expected to occur in the open-water habitat of the LA River in the RSA. The LA River within the footprints of the Proposed Project and its options does not include a natural bed or deep pools, and it lacks riparian habitat that typically cools the water and provides fish with shade and protection from predation.

3.4.4.3 Sensitive Biological Resources

3.4.4.3.1 Special-Status Species

"Special-status species" is a term used in the regulatory community to describe species that have been determined to require special consideration during an environmental review process, such as agency permitting or in CEQA and NEPA processes. Determinations of special status are typically made by federal or state government resource agencies because a species is rare or sensitive and has limited distribution. In addition, CNPS maintains an Inventory of Rare and Endangered Plants of California and assigns a rank to these plants to indicate their rarity and endangerment status. Although CNPS is not a regulatory agency, the CNPS inventory list is a widely accepted authoritative resource on California's rare and endangered plants and is often used during CEQA review. Special-status species include the following:

- Federal Special-Status Species: Species listed or proposed for listing as threatened or endangered by USFWS and National Oceanic and Atmospheric Administration's NMFS under the federal ESA (16 USC Sections 1531–1544; 50 *Code of Federal Regulations* [CFR] Sections 17.1–17.108).
- State Special-Status Species: Species listed or proposed for listing as threatened or endangered by CDFW under the CESA (14 CCR Sections 783.0–787.9; FGC Chapter 1.5, Sections 2050–2115.5).
- Fully Protected (FP) Species (FGC Sections 3511, 4700, 5050, and 5515): Species designated as fully protected by the FGC. The FP classification provides additional protection to those animals that are rare or face possible extinction. Such species may not be taken or possessed at any time, and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of bird species for the protection of livestock. Most FP species have also been listed as threatened or endangered under CESA.
- Species Designated by CDFW as SSC and Watchlist (WL) Species: SSC is a category used by the CDFW for animal species, subspecies, or distinct populations that are native to California and

considered to be indicators of regional habitat changes or considered to be potential future protected species. SSCs include species that are extirpated from the state, species that meet the state definition of threatened or endangered but have not formally been listed, species that are experiencing or have experienced serious (noncyclical) population declines or range retraction that, if continued or resumed, could lead to the species qualifying for listing under the CESA, and species that have naturally small populations exhibiting high susceptibility to risks that could lead the species to qualify as threatened or endangered under the CESA. SSCs do not have any special legal status except that which may be afforded by the FGC. The SSC category is intended by CDFW for use as a management tool to include these species for special consideration when decisions are made concerning the development of natural lands.

WL species are taxa that were previously SSCs but do not currently meet SSC criteria, and for which there is a concern and a need for additional information to clarify status.

- Plant species identified on lists in the Inventory of Rare and Endangered Plants of California by the CNPS: CRPRs are a ranking system developed by CNPS to define and categorize rarity in the California flora. The CRPRs range from presumed extirpated or extinct species (CRPR 1A) to limited distribution/watchlist species (CRPR 4), with CRPR 1A species being the most rare and CRPR 4 taxa being the least rare. Plant ranks are defined as follows:
  - CRPR 1A: Plants presumed extirpated in California and either rare or extinct elsewhere
  - CRPR 1B: Plants rare, threatened, or endangered in California and elsewhere
  - CRPR 2A: Plants presumed extirpated in California but common elsewhere
  - CRPR 2B: Plants rare, threatened, or endangered in California but common elsewhere
  - CRPR 3: Plants about which more information is needed, a review list
  - CRPR 4: Plants of limited distribution, a watch list
- Plant ranks at each level also include a threat rank that follows the plant rank (for example, CRPR 4.3) and are determined as follows:
  - 0.1: Seriously threatened in California (over 80% of occurrences threatened/high degree and immediacy of threat)
  - 0.2: Moderately threatened in California (20–80% of occurrences threatened/moderate degree and immediacy of threat)
  - 0.3: Not very threatened in California (less than 20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

Special-status species recorded in the CNDDB quadrangle search are presented in Appendix F, *Biological Resources*. Determinations of the potential for each species to occur in areas subject to temporary or permanent impacts of the Proposed Project and its options are provided in a table in Appendix F, *Biological Resources*. Factors considered to make these determinations included species range, habitat condition, habitat suitability, habitat connectivity, species requirements, field observations, and recorded occurrences in the region. The factors considered in the occurrence determinations are summarized for each species in the table in Appendix F, *Biological Resources*. The determinations for the potential for each special-status species to occur in the permanent and temporary footprints of the Proposed Project and its options were classified as follows:

- None: No habitat to support the species exists and/or is outside the range of the species or is considered extirpated.

- Highly Unlikely: Habitat required by the species, if present, is highly disturbed, very low quality, and disconnected from suitable habitat, and/or marginally within the species range or the species is possibly extirpated.
- Low: Habitat required by the species is generally present but is disturbed, fragmented, and of low quality, and/or suitable habitat occurs in adjacent areas. No CNDDB occurrences have been recorded and no direct observations have been made.
- Moderate: Moderately suitable habitat required by the species occurs and is within the range of the species, and/or suitable habitat occurs in adjacent areas, but no CNDDB occurrence has been recorded and no direct observations were made.
- High: Suitable quality habitat occurs and is within the range of the species and/or CNDDB occurrences have historically been recorded.
- Present: The species was directly observed during a project-related field survey or was recorded in a recent survey by others.

3.4.4.3.1.1 Special-Status Wildlife

The potential for special-status wildlife species occurrences in the temporary and permanent footprints of the Proposed Project and its options, Option 1 and Option 2, is limited due to the concrete channelization of the LA River, lack of suitable habitat, and the highly disturbed and developed adjacent urban areas. Areas along the top of the LA River channel banks that are not hardscaped or developed are highly disturbed, contain sparse, mostly non-native vegetation, are surrounded by development, and are generally of low quality to support the needs of most special-status wildlife identified in Appendix F, *Biological Resources*. The LA River channel and habitats along the tops of the banks are separated from adjacent higher-quality habitat areas that may potentially support special-status wildlife, such as Elysian Park and Los Angeles State Historic Park (AECOM 2012; Verna Jigour Associates 2005), by various barriers to migration including railway lines, electrical transmission lines, roadways, fencing, buildings, and other infrastructure.

The LA River provides a year-round water source that can support wildlife, but due to multiple existing obstructions along the top-of-channel banks on both sides of the river, it is unlikely that substantial migration from adjacent higher-quality habitats to the LA River by special-status wildlife occurs regularly, other than potentially by bird and bat species. No special-status wildlife species were observed during the April 2021 field survey.

The CNDDB search resulted in special-status species occurrences for nine bird species, four reptile species, three amphibian species and eight mammal species recorded in the quadrangles reviewed (refer to Appendix F, *Biological Resources*). Of these special-status wildlife species, one amphibian and five bird species are state or federally listed as threatened or endangered. The single listed amphibian species is the southern mountain yellow-legged frog (*Rana muscosa*), which is FE and SE. Suitable habitat does not exist in the temporary and permanent footprints of the Proposed Project and its options to support this species and this species does not have the potential to occur within the footprints.

The CNDDB database search identified five bird species that are listed as threatened or endangered under ESA and CESA: Coastal California gnatcatchers *(Polioptila californica,* FT), bank swallows (*Riparia riparia,* state threatened [ST]), western yellow-billed cuckoo (*Coccyzus americanus occidentalis,* FT and SE), southwestern willow flycatcher (*Empidonax traillii extimus,* FE and SE), and least Bell's vireo (*Vireo bellii pusillus,* FE and SE). None of these species is likely to be found in the temporary and permanent footprints of the Proposed Project and its options. Coastal California gnatcatchers (*Polioptila*

californica) nest and forage in coastal sage scrub habitat and, because this habitat does not occur along the LA River in the temporary and permanent footprints of the Proposed Project and its options, this bird species is highly unlikely to be found in the footprints. The Ed P. Reyes River Greenway includes some sage scrub plant species that could potentially support foraging gnatcatchers, but this is unlikely due to the disturbed and fragmented condition of the habitat. Bank swallows are potentially extirpated in southern California and suitable nesting habitat for this species does not occur within the footprints. The remaining three of these threatened and endangered bird species (western yellow-billed cuckoo, southwestern willow flycatcher, and least Bell's vireo*)* nest exclusively within riparian habitat. These species do not have the potential to nest within the footprints and are highly unlikely to be found foraging within the footprints due to the lack of suitable habitat.

Although riparian habitat does not occur within the temporary and permanent footprints of the Proposed Project and its options, low-quality riparian habitat does occur north of, and outside of, the footprints. Sightings of least Bell's vireo were reported north, and outside of, the RSA near the Taylor Yard area in surveys conducted by others between 2005 and 2007; vireo were not detected in a subsequent 2009 survey. An incidental observation of an unpaired male vireo near Taylor Yard was documented in April 2013 during a 1-day nesting bird survey. However, a similar 1-day nesting survey in May 2013 did not detect any vireo. The vegetation where these sightings occurred north of, and outside of, the RSA is linear and confined, lacks suitable adjacent foraging habitat, and is unlikely to support nesting (USACE 2015). Occurrences of threatened or endangered bird species have not been reported within the RSA since the early twentieth century (CDFW 2021b).

Only one special-status bird species, the peregrine falcon (*Falco peregrinus anatum),* designated as FP, was determined to have a moderate potential to occur in the temporary and permanent footprints of the Proposed Project and its options. Suitable nesting habitat potentially occurs in the nearby mountainous areas, and there is suitable foraging habitat along the LA River. Peregrine falcons hunt medium-sized birds and typically build nests on the ledges of high cliffs. Because the LA River is a perennial water source, many birds are drawn to it, which provides potential prey for foraging peregrine falcons. However, no nesting habitat was identified to occur within the RSA.

It was determined that all of the other special-status bird species listed in Appendix F, *Biological Resources* would have either a low or highly unlikely probability to occur within the temporary and permanent footprints of the Proposed Project and its options due to either low-quality or unsuitable habitat.

Four special-status bat species shown in Appendix F, *Biological Resources* have a moderate potential to occur within the temporary and permanent footprints of the Proposed Project and its options because these species are known to occur in the Greater Los Angeles area and due to the presence of many structures (including buildings and bridges, as well as mature trees) available for roosting and adequate areas for drinking and foraging along the LA River and adjacent park areas. Potential special-status bat species include pallid bat (*Antrozous pallidus,* SSC), western mastiff bat (*Eumops perotis californicus,* SSC), western yellow bat (*Lasiurus xanthinus,* SSC), and big free-tailed bat (*Nyctinomops macrotis*, SSC). Western yellow bats are commonly found roosting in palm trees while the other bat species may be found roosting on structures, including bridges. Pallid bats in particular are commonly found roosting on bridges. Bats are discussed further in a subsequent section below.

The remaining wildlife species listed in Appendix F, *Biological Resources* were determined to have potentials of none, low, and highly unlikely to occur in the temporary and permanent footprints of the Proposed Project and its options. Details regarding the habitat requirements and determinations of occurrence potentials for each of the species evaluated are provided in Appendix F, *Biological Resources*.

3.4.4.3.1.2 Special-Status Plants

The potential for special-status plant species occurrences within the temporary and permanent footprints of the Proposed Project and its options, Option 1 and Option 2, is generally low due to the presence of only highly disturbed and fragmented habitat patches. The bed and banks of the LA River are completely hardscaped throughout the RSA and existing habitat patches along the top of banks of the river are highly degraded. Northwest portions of the footprints are adjacent to higher-quality habitat within Elysian Park, but these portions are also highly disturbed and separated from Elysian Park by barriers including fencing, roadways, railways, and other infrastructure. Special-status plant species listed in Appendix F, *Biological Resources* include those with a protection status assigned by USFWS, CDFW, or CNPS. The CNDDB table in Appendix F, *Biological Resources* contains 32 special-status plant species recorded in the quadrangle search area. All 32 plant species have been assigned a CRPR status by CNPS and 29 of the 32 plant species were determined to have a potential to occur of either none or highly unlikely in the footprints. One species, Nuttall's scrub oak (*Quercus dumosa,* CRPR 1B.1) was given a potential of low, and two species, Southern California black walnut (CRPR 4.2) and cliff aster (CRPR 4.2), were observed during the survey and are discussed further below.

In addition to the CRPR rankings assigned by CNPS to the special-status plants in Appendix F, *Biological Resources,* 7 of the 32 plant species identified in the CNDDB search are also state or federally listed as threatened or endangered. Six of those seven plant species listed as threatened or endangered were given potential occurrence determinations of none because they require habitat that is not present in the temporary and permanent footprints of the Proposed Project and its options. These species include marsh sandwort (*Arenaria paludicola,* FE, SE), San Fernando Valley spineflower (*Chorizanthe parryi var. fernandina,* SE), slender-horned spineflower (*Dodecahema leptoceras,* FE, SE), Gambel's watercress (*Nasturtium gambellii,* FE, ST), Braunton's milk-vetch (*Astragalus brauntonii,* FE), and California Orcutt grass (*Orcuttia californica,* FE, SE). The seventh listed species, Nevin's barberry (*Berberis nevinii,* FE, SE), was given a potential occurrence determination of highly unlikely because, although small portions of the northwestern footprints contain low-quality habitat adjacent to higher-quality habitat in Elysian Park, the habitat in this area is highly disturbed and fragmented from the higher-quality habitat.

Two plant species, Nevin's barberry and Nuttall's scrub oak, appeared in a plant list for an ecological restoration approach for a project in Elysian Park, unrelated to the Project, and outlined in the *Elysian Park Natural Resources Report* (Verna Jigour Associates 2005). Nevin's barberry (FE, SE), as discussed in the paragraph above, was given an occurrence determination for the Project of highly unlikely and was not observed during the April 2021 field survey. Nuttall's scrub oak (CRPR 1B.1) has previously been observed within Griffith Park in the Santa Monica Mountains (Occurrence 186); however, the species was given a potential occurrence determination of low for the Project due to low-quality habitat in the footprints of the Proposed Project and its options, the general lack of occurrences recorded in the region, and because it was not observed during the April 2021 field survey. If Nuttall's scrub oak or Nevin's barberry has been previously planted in Elysian Park as part of a restoration plan unrelated to the Project, the potential exists, although low to highly unlikely, for these species to appear within the disturbed, upland habitat along the temporary and permanent footprints of the Proposed Project and its options.

Two special-status plant species with CRPR rankings of 4.2 (plants of limited distribution) were observed during the April 2021 field survey: southern California black walnut (CRPR 4.2) and cliff aster (CRPR 4.2). Fewer than 10 black walnut trees were observed along the northern portion of the footprints of the Proposed Project and its options, primarily along the western bank of the LA River between the Riverside Drive bridge and the SR-110 bridge adjacent to the hillside of Elysian Park. One individual walnut tree was identified along a strip of ruderal habitat just south of the SR-110 bridge. A

small number of individual cliff aster plants (also fewer than 10) were observed within two ruderal habitat locations along the eastern LA River channel and within the Option 1 and Option 2 footprints. The first ruderal habitat area where cliff asters were observed is along the top of the eastern LA River channel between North Broadway and the Ed P. Reyes River Greenway. The second location is along the top of the eastern LA River channel between Seventh Street and Jesse Street. No cliff aster plants were observed within the footprints of the Proposed Project and its options during the field survey.

Although these two species are ranked as CRPR 4.2 in California, they are common throughout the region, including occurrences recorded by CNDDB and iNaturalist throughout the Santa Monica Mountains to the northwest, Verdugo Mountains to the north, Elysian Park to the west, and the San Rafael Hills to the east and northeast. The most prominent native vegetation type in Elysian Park today is the southern California walnut/coast live oak woodlands (Verna Jigour Associates 2005). According to iNaturalist, hundreds of occurrences of southern California black walnut and cliff aster have been recorded throughout the southern California region, including within Griffith Park, Elysian Park, and at locations along the LA River both within and outside of the RSA (iNaturalist 2021).

3.4.4.3.2 Critical Habitat and Sensitive Vegetation Communities

Critical habitat is a term defined and used in the federal ESA. Critical habitat is a specific geographic area that includes features essential for the conservation of a threatened or endangered species and that may require special management and protection. A designation requires federal agencies to ensure that actions they plan to undertake, fund, or authorize do not destroy or adversely modify that habitat. A critical habitat designation affects activities that involve a federal permit, license, or funding, and that are likely to destroy or adversely modify a critical habitat. USFWS and NMFS are responsible for designating critical habitat.

USFWS- or NMFS-designated critical habitat does not occur in the RSA and does not occur within approximately 5 miles of the RSA. The closest critical habitat is designated for coastal California gnatcatcher and occurs within the Puente Hills more than 5 miles to the east of the RSA.

The CNDDB search showed five sensitive vegetation communities occurring within the quadrangles that were reviewed including California walnut woodland, southern coast live oak riparian forest, southern cottonwood willow riparian forest, southern sycamore alder riparian woodland, and walnut forest. Sensitive vegetation communities are specifically defined associations of vegetation types that are considered rare or sensitive by CDFW. No CNDDB occurrences of a habitat classified as a sensitive vegetation community occur within the RSA. Southern California black walnut trees occur within Elysian Park to the west of the LA River and a few individual walnut trees were identified within disturbed upland habitat along the footprints of the Proposed Project and its options, Option 1 and Option 2. Although these walnut trees in the RSA provide an important native habitat throughout Elysian Park and walnut trees are protected by the City of Los Angeles Preservation of Protected Tree Ordinance, this habitat has not been classified as a sensitive vegetation community in CNDDB. Two CNDDB occurrences of California walnut woodland are found in the CNDDB search area within the eastern Santa Monica Mountains, approximately 45 miles north, and well outside of, the RSA.

3.4.4.3.3 Bats

As nongame mammals, bats are protected by California law from take and harassment (FGC Section 4150, 14 CCR Section 251.1). More than a dozen species of bats are known to occur in the Los Angeles region despite the region's high level of urbanization. Little survey data were available at the time of this reporting that focus on bat occurrence and distribution in the Los Angeles region or

along the LA River. One study that monitored bat presence by identifying calls with acoustic equipment was conducted between April and November of 2008 in Griffith Park within the eastern Santa Monica Mountain range approximately 4 to 5 miles north of the RSA (Remington and Cooper 2014). This study confirmed the presence of seven species of bat in Griffith Park with the most frequently detected being the canyon bat (*Parastrellus hesperus),* Mexican free-tailed bat (*Tadarida brasiliensis*), big brown bat (*Eptesicus fuscus*), hoary bat (*Lasiurus cinereus*), and Yuma myotis (*Myotis yumanensis*). Two other species, California myotis (*Myotis californicus) a*nd western red bat (*Lasiurus blossevillii*) accounted for less than 1% of all recorded calls. Species detected in the eastern-most portion of Griffith Park nearest to the LA River included Yuma myotis, Mexican free-tailed bat, western red bat, and hoary bat.

Another study was performed during a 4-month period in 2013 using acoustical equipment set up along a service road on the outskirts of the Los Angeles Zoo approximately 6 miles north of the RSA. Species of bat detected during this period include Mexican free-tailed bat, California myotis, Yuma myotis, canyon bat, hoary bat, pocketed free-tailed bat (*Nyctinomops femorosaccus*), and western mastiff bat.

More recently, the Los Angeles Natural History Museum began a Backyard Bat Survey Project that is a partnership between museum scientists and residents in the greater Los Angeles region to track and record bat activities as part of the first large-scale study of bat habitat usage in urban and suburban habitats. Acoustic monitoring equipment was deployed over a wide region of the greater Los Angeles area spanning from Santa Monica to Riverside. Sampling occurred during portions of each year from 2016 through at least 2018. The Backyard Bat Survey detected 11 bat species, with the most common being the Mexican free-tailed bat followed by the canyon bat. Two survey locations of this study are approximately 2 to 3 miles to the north/northwest of the RSA. Bats detected at these locations include Yuma myotis, Mexican free-tailed bat, canyon bat, and silver-haired bat (*Lasionycteris noctivagans)*.

Four bat species considered SSC by CDFW were reported in the CNDDB search: pallid bat, western mastiff bat, western yellow bat, and big free-tailed bat (Appendix F, *Biological Resources*).

Highly disturbed, yet suitable, habitat exists within the footprints of the Proposed Project and its options, Option 1 and Option 2, to potentially support the needs of several of the bat species discussed above. Vegetated habitat patches and open-water habitat along the LA River support insect populations that could provide a food source for nearly all the bat species identified in the Los Angeles region. Potential roosting habitat in the footprints include bridge structures crossing the LA River channel, buildings, mature trees, and other structures.

A visual survey for bat occurrence was conducted in which the LA River channel and adjacent areas were observed from the vantage points of the north and south sides of North Spring Street Viaduct and North Broadway Viaduct. Bats were not observed along this portion of the RSA during this survey.

3.4.4.3.4 Nesting Birds

FGC Sections 3503 and 3503.5 and the federal MBTA provide for the protection of native, nongame nesting birds. Potential nesting habitat for birds occurs throughout the footprints of the Proposed Project and its options, including within trees and shrubs, as well as structures such as electrical poles and towers, buildings, and bridges. Black-necked stilts and Canada geese were observed actively nesting during the April 2021 field survey and mallards and Canada geese were observed foraging along the river channel with their young. Swallow nests from previous breeding seasons were observed along the sides of some bridges in the RSA. Although swallows were not observed using these nests

during the field survey, many swallows were observed foraging along the LA River and flying beneath bridges where they may potentially be building nests. Some ground-nesting species, notably killdeer (*Charadrius vociferus)*, typically create nests in depressions on bare ground in open habitats. Several killdeer were observed foraging during the April 2021 field survey.

Most birds in southern California nest between approximately February 1 to August 31 for passerine birds, and February 1 to September 30 for raptors. Not all birds have a designated special status but the nests of all native nongame birds (most bird species) are protected by federal and state laws and disturbance of active nests must be avoided.

3.4.4.4 Locally Protected Trees and Shrubs

As discussed in Section 3.4.2.3, trees protected by local city or county ordinances include the following:

- Los Angeles County
  - In unincorporated areas of Los Angeles County, oak trees that are 25 inches or more in circumference (8 inches in diameter) as measured 4.5 feet above mean natural grade
  - In unincorporated areas of Los Angeles County, oak trees with more than one trunk whose combined circumference of any two trunks is at least 38 inches (12 inches in diameter) as measured 4.5 feet above mean natural grade
- City of Los Angeles
  - Protected trees and shrubs as defined by and identified in the City of Los Angeles Preservation of Protected Trees Ordinance (LAMC Chapter IV, Article 6) – oak, California bay, Western sycamore, southern California black walnut, toyon, and blue elderberry that have greater than a 4-inch cumulative diameter at 4.5 feet above the ground level from the base of the tree or shrub
  - Heritage Trees as defined by LADRP – individual trees of any size or species that are specifically designated as heritage by LADRP because of their historical, commemorative, or horticultural significance
- City of Vernon
  - Trees in public ROWs and on public properties (street trees and City-owned trees)
  - Trees with a diameter greater than 8 centimeters at 1 meter above the ground at the base of the tree
  - Significant Trees as defined by the City of Vernon Tree Protection Bylaw 4152 – trees that are significant to the City because of their heritage, landmark, or wildlife habitat value as identified by the city's Community Development Director
- City of Bell
  - Street trees

The RSA was evaluated for the occurrence of trees and shrubs that are protected by local jurisdictions, with a focus along the top of the LA River channel and within the temporary and permanent footprints of the Proposed Project and its options, Option 1 and Option 2.

In the City of Los Angeles, Heritage Trees are identified near the Downey Recreation Center. All other observations of protected trees occurred in the northern portion of the RSA, generally from the Arroyo Seco just south of the SR-110 Arroyo Seco Parkway bridge to the terminus for the Project just north of the I-5 Viaduct. Elysian Park, which is adjacent to the west side of the LA River channel, contains large areas of native vegetation and is the likely source of the trees observed along the LA River channel in this area, including southern California black walnut.

Trees protected by the City of Los Angeles Preservation of Protected Trees Ordinance that occur in the footprints of the Proposed Project and its options include fewer than 10 southern California black walnut trees identified along the western top of the LA River channel generally between SR-110 and the Riverside Drive bridge. These walnut trees occur within the northwest portion of the footprints. Additionally, a small stand of fewer than 20 trees including sycamore, oaks, and walnut occur within a highly disturbed upland habitat along the eastern top-of-channel north of the I-5 Viaduct. This small tree stand is bounded by the LA River channel to the west and north, by the I-5 Viaduct to the south, and by multiple railway lines to the east. The footprints of the Proposed Project and its options are not within this tree stand. Sycamore trees were also observed south of this tree stand and east of the LA River bank; five mature sycamores were observed along North Avenue 19 north of the Riverside Drive bridge and several more along the top-of-channel of the Arroyo Seco just south of the SR-110 Arroyo Seco Parkway bridge. Several sycamore and oak trees also occur within the Los Angeles State Historic Park to the west of the LA River channel.

Seven Heritage Trees designated by LADRP are located in the Option 2 footprint east of the LA River along North Broadway and North Spring Streets adjacent to the Downey Recreation Center in the City of Los Angeles. These Heritage Trees include two lavender trumpet trees (*Tabebuia avellanadae*) along North Broadway and five Canary Island date palms (*Phoenix canariensis*) along North Spring Street. The two lavender trumpet trees and one Canary Island date palm tree are located within the permanent footprint of Option 2 that would provide access to Broadway and Spring Streets. The remaining four Canary Island date palm trees are located within the temporary footprint of Option 2. The proposed alignments for the Proposed Project and Option 1 do not pass through this or any other area containing Heritage Trees.

Shrub species protected by the LAMC, toyon and blue elderberry, were observed at various locations along both the western and eastern top of banks along the LA River channel. These shrubs are not protected by other City ordinances. Toyon was observed in two locations during the 2021 survey, the Los Angeles State Historic Park and within ruderal habitat along the eastern top-of-channel north of North Broadway, which is within the proposed footprints of Options 1 and 2. A few blue elderberry shrubs were observed scattered within several ruderal habitat locations along both sides of the river channel from the southern terminus south of Atlantic Boulevard to the northern terminus north of the I-5 Viaduct.

The RSA within the Cities of Vernon and Bell, as well as the unincorporated Bandini Island community, are highly industrialized. The staging area at the southwest corner of Washington Boulevard and Downey Road in the City of Vernon is unpaved with exposed soils. The staging areas for the Proposed Project and its options in the City of Bell are within completely built and paved areas. No trees protected by ordinances of the City of Vernon, City of Bell, or Los Angeles County were identified within the footprints of the Proposed Project and its options.

It should be noted that, due to access and safety issues associated with active railway lines and homeless encampments, the length of the RSA, and because natural conditions, including the presence, size, and health of trees and shrubs could change in the time between initial surveys performed in 2021 and the start of construction, a comprehensive inventory of all individual trees and

shrubs throughout the footprints of the Proposed Project and its options was not recorded during the site survey.

3.4.4.5 Federal and State Jurisdictional Waters

The 8-mile stretch of the LA River in the RSA includes non-wetland waters of the United States/waters of the State but does not contain wetlands as defined by SWRCB (SWRCB Resolution 2019-0015) or by USACE (33 CFR Section 328.3).

The LA River and the Arroyo Seco, a tributary to the LA River, are defined as "waters of the United States" as established by the US Supreme Court's Rapanos decision of 2006 and the Sackett decision of 2023. The LA River and the Arroyo Seco are, therefore, jurisdictional and regulated by USACE pursuant to CWA Section 404.

Refer to Section 3.10, *Hydrology and Water Quality* for further discussion on jurisdictional waters.

3.4.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, including design variations, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to biological resources are substantially the same. For instances where the Proposed Project, Option 1, or Option 2 would result in substantially different or additional impacts, the impact analysis is separated. Impact evaluations for the Proposed Project and its options include the design variations for each.

This section describes the impact analysis using the thresholds of significance set forth in Section 3.4.3, above.

3.4.5.1 Impact BIO-1: Protected Species

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 the California Department of Fish and Wildlife or US Fish and Wildlife Service?

3.4.5.1.1 Proposed Project, Option 1 and Option 2

3.4.5.1.1.1 Construction

Less than significant with mitigation incorporated. The evaluation of Impact BIO-1 includes a discussion of the effects the Proposed Project and its options would have on the existing habitat, and special-status plants and wildlife identified in Section 3.4.4.3, with a particular focus on bats and nesting birds, within the combined temporary and permanent footprints of the Proposed Project and its options, including design variations. Although existing habitat types occurring within the RSA are not sensitive and do not have a special status designation, they may support sensitive biological

resources that would be affected by construction activities and they are, therefore, discussed in this section. As discussed in the paragraphs below, impacts to special-status plants during construction of the Proposed Project or its options, including design variations, would be less than significant, and impacts to special-status wildlife (specifically nesting birds and bats) would be **less than significant with mitigation incorporated**.

3.4.5.1.1.1.1 Existing Habitat

Although the existing habitat occurring within the RSA, as described in Section 3.4.4.1, is not sensitive and does not have a special status designation, proposed construction activities would affect existing habitats that are located within the combined temporary and permanent footprints of the Proposed Project and its options, including design variations. Effects from construction include disturbance, degradation, destruction, modification, or alteration of existing habitat.

Construction activities affecting existing habitat would include, but not be limited to, excavation and installation of driven piles and pouring concrete piers; constructing abutments, retaining walls, and piers; installation of base materials; removal of some portions of the existing channel wall lining; installation of retaining walls; construction of the asphalt or concrete path surface; and reconstruction of the channel wall lining. Temporary disturbance to some vegetated habitat would occur during establishment of staging areas in the cities of Los Angeles and Vernon that contain ruderal vegetation, setting up construction trailers, mobilizing equipment and materials to staging areas, clearing and grading, and preparation of the footprint of the Proposed Project and its options in support of the upcoming construction activities. Permanent effects to existing habitat would occur during construction due to the installation of infrastructure in its place.

Four of the existing habitat types discussed in Section 3.4.4.1 occur outside of the LA River channel and are vegetated to some degree. These existing habitat types include California walnut/coast live oak woodland, disturbed upland, ruderal, and parklands and greenways. California walnut/coast live oak woodland habitat within the RSA occurs entirely outside of the temporary and permanent footprints of the Proposed Project and its options, and is separated from them by major roadways and would not be affected. As shown in Table 3.4-1, the Proposed Project and its options would temporarily and permanently alter the disturbed upland and ruderal habitats due to construction of the Proposed Project and its options. The existing disturbed upland and ruderal habitat along the temporary and permanent footprints of the Proposed Project and its options consist of narrow strips or patches of highly disturbed, unpaved, often disconnected, and sparsely vegetated areas that occur intermittently along the top of both riverbanks. These habitats are fragmented, mostly dominated by non-native species, and separated from higher-quality habitat by barriers including fencing, roadways, railways, and other infrastructure along the LA River. Construction of the Proposed Project and its options would also affect some landscaped and hardscaped areas of the parklands and greenways along with some native vegetation that may be planted in these areas.

As shown in Table 3.4-1, construction of the Proposed Project and its options would also temporarily affect the open-water habitat along the LA River channel in the RSA. As discussed in Section 3.10, *Hydrology and Water Quality,* construction of the Proposed Project and its options could temporarily affect water quality by increasing the risk of discharge of contaminants to surface water of the LA River and cause increased turbidity, sediment/total suspended solids, trash, metals, altered pH, and similar materials. In addition, construction may require multiple simultaneous temporary diversion structures to protect work areas. MM-HWQ-02, *Temporary Water Diversion Plan,* specifies measures to divert LA River flows around the work zone in a manner to protect water quality. PF-HWQ-01, *Stormwater/Water Quality Management During Construction,* would implement a stormwater pollution prevention plan (SWPPP) and maintain BMPs to reduce pollutants and non-stormwater discharges

and minimize the exposure of construction materials, sediments, trash and debris, and potential contaminants from the construction site. Implementation of these project features would ensure that the Proposed Project and its options would not violate water quality standards or water discharge requirements or otherwise substantially degrade surface water quality. These project features would limit the effects that construction of the Proposed Project and its options would have on the existing level of ecological support provided by the open-water habitat.

Table 3.4-1 summarizes the amount of each existing habitat type that would be affected within the temporary and permanent footprints of the Proposed Project and its options, including design variations. Habitat areas were estimated based on the temporary and permanent footprint maps for the Proposed Project and its options. Figure sets PP-1 through PP-13, Opt1-1 through Opt1-13, and Opt2-1 through Opt2-13 in Appendix F, *Biological Resources* show permanent and temporary footprints overlaying the habitat areas for the Proposed Project, Option1, and Option 2, respectively. Permanent Area Affected is the amount of habitat within the permanent footprint that would be affected by the Proposed Project or its options, including design variations. The Temporary Area Affected is the amount of habitat that would be affected within the temporary footprint that is outside of the permanent footprint of the Proposed Project or its options, including design variations.

Table 3.4-1. Estimated Affected Areas to Existing Habitat Types for the Proposed Project, Option 1 and Option 2, Including Design Variations (acres)

Habitat Type	Total Area in RSA	Proposed Project		Option 1		Option 2	
		Permanent Area Affected	Temporary Area Affected	Permanent Area Affected	Temporary Area Affected	Permanent Area Affected	Temporary Area Affected
California Walnut/ Coast Live Oak Woodland	50	0	0	0	0	0	0
Disturbed Upland	1.6	0.4	0.1	0.4	0.1	0.4	0.1
Ruderal	61.5	9.1	12.2	11.2	12.1	11.1	11.7
Parkland and Greenways *	17.9	1	1.2	2.3	5.1	1.7	3.2
Open Water	128	0	128	0	128	0	128

* Not including Elysian Park which is accounted for under California Walnut/Coast Live Oak Woodland

As shown in Table 3.4-1, the amount of habitat within the Proposed Project permanent footprint that would be affected is estimated at 0.4 acre for the disturbed upland habitat, 9.1 acres for ruderal habitat, and 1 acre for parkland and greenways habitat. The amount of habitat that would be affected within the Proposed Project temporary footprint (but outside of the permanent footprint) includes 0.1 acre of disturbed upland habitat,12.2 acres of ruderal habitat, 1.2 acres of parkland and greenways habitat, and 128 acres of open-water habitat. The Proposed Project would not involve activities that would affect California walnut/coast live oak woodland habitat.

It is estimated that the amount of habitat that would be affected within the Option 1 permanent footprint includes 0.4 acre of disturbed upland habitat, 11.2 acres of ruderal habitat, and 2.3 acres of parkland and greenways habitat. The amount of habitat that would be affected within the Option 1 temporary footprint (but outside of the permanent footprint) includes 0.1 acre of disturbed upland habitat, 12.1 acres of ruderal habitat, 5.1 acres of parkland and greenways habitat, and

128 acres of open-water habitat. Option 1 would not involve activities that would affect California walnut/coast live oak woodland habitat.

It is estimated that the amount of habitat that would be affected within the Option 2 permanent footprint includes 0.4 acre of disturbed upland habitat, 11.1 acres of ruderal habitat, and 1.7 acres of parkland and greenways habitat. The amount of habitat that would be affected within the Option 2 temporary footprint (but outside of the permanent footprint) includes 0.1 acre of disturbed upland habitat, 11.7 acres of ruderal habitat, 3.2 acres of parkland and greenways habitat, and 128 acres of open-water habitat. Option 2 would not involve activities that would disturb California walnut/coast live oak woodland.

3.4.5.1.1.1.2 Special-status Wildlife

Construction of the Proposed Project and its options, including design options, would have the potential to directly affect special-status wildlife species, as defined in Section 3.4.4.3, specifically by the disturbance or displacement of bat species and nesting birds. Other than bat species and nesting birds, the temporary and permanent footprints of the Proposed Project and its options either lacks habitat required by or contain low-quality habitat unsuitable to support sensitive wildlife species as defined in Section 3.4.4.3. In addition, due to urbanization and multiple existing obstructions along the top-of-channel on both sides of the LA River, it is unlikely that special-status wildlife would migrate from adjacent habitats, other than potentially bird and bat species. Other than the peregrine falcon (which is FP) and four bat species (which are all SSC), wildlife species listed in Appendix F, *Biological Resources* were determined to have potentials of none, low, or highly unlikely to occur in the temporary and permanent footprints of the Proposed Project and its options. The peregrine falcon was determined to have moderate potential to occur in the footprints of the Proposed Project and its options, including design variations, because of suitable foraging habitat along the LA River. This species is not expected to be substantially or permanently affected by the Proposed Project and its options, including design variations, because the temporary and permanent footprints of the Proposed Project and its options, including design variations, do not have any suitable nesting habitat and the species would likely avoid the area during construction activities. Other bird species that are prey for the falcon would likely also avoid the area during construction activities. Accordingly, the Proposed Project and its options are not anticipated to result in a significant impact to peregrine falcons or other special-status wildlife. Bats and nesting birds are discussed in more detail in subsections below.

3.4.5.1.1.1.3 Special-status Plants

Construction of the Proposed Project and its options, including design variations, would have the potential to directly impact special-status plant species, as defined in Section 3.4.4.3, by damaging or removing them. No plant species identified as threatened, endangered, or rare, or that are candidates for listing as threatened or endangered by the USFWS or CDFW were observed and are not anticipated to occur within the temporary and permanent footprints of the Proposed Project and its options, including design variations. No plants with CRPR Plant Ranks of 1, 2, or 3, as defined in Section 3.4.4.3, were observed and are not anticipated to occur along the temporary and permanent footprints of the Proposed Project and its options, including design variations.

Two special-status plant species with CRPR rankings of 4.2, southern California black walnut and cliff aster, were observed in habitats in the temporary and permanent footprints of the Proposed Project and its options during the April 2021 field survey. Fewer than 10 walnut trees were observed along the northern portion of the footprints within the City of Los Angeles, and it is likely that construction of the Proposed Project and its options would require some or all of these walnut trees to be removed during

construction. A small number of individual cliff aster plants (also fewer than 10) were observed within two ruderal habitat locations along the eastern river channel within the City of Los Angeles. As discussed in Section 3.4.4.3.1.2, one of these ruderal habitat areas containing cliff aster occurs north of North Broadway and the second area occurs north of Seventh Street. Neither of these two ruderal habitat locations are within the Proposed Project footprint. The North Broadway habitat location is within the Option 1 and Option 2 footprints and the Seventh Street habitat location is within the footprint of a design variation for Option 1. Cliff aster plants would likely be removed by construction of Option 1 or Option 2.

These two CRPR 4.2 species are common and abundant throughout the southern California region, including in locations near the Project such as the Santa Monica Mountains, Elysian Park, and the southern San Rafael Hills. As discussed in Section 3.4.4.1.1, the most prominent native vegetation type in Elysian Park, directly adjacent to the temporary and permanent footprints of the Proposed Project and its options, is southern California walnut/coast live oak woodlands (Verna Jigour Associates 2005). According to iNaturalist, hundreds of occurrences of both southern California black walnut and cliff aster have been recorded throughout the southern California region, including the Santa Monica Mountains, Griffith Park, Elysian Park, and at a few locations along the LA River (iNaturalist 2021). California black walnut trees are protected by a City of Los Angeles tree ordinance, but cliff asters are not protected by the ordinance.

Per PF-BIO-01a, if the Proposed Project or its options, including design variations, would require the removal or damage of any California black walnut trees, which are protected by a Los Angeles tree ordinance, Metro would comply with the City of Los Angeles Preservation of Protected Tree Ordinance as outlined in Section 3.4.2.3. Additionally, the Proposed Project and its options include PF-BIO-01a, PF-BIO-01b, and PF-BIO-01c. Under these project features, Metro would follow the requirements of local jurisdictions for any trees, including southern California black walnut, and shrubs that are protected by local ordinances and would need to be removed or damaged. Because the special-status plant species with CRPR 4.2 taxa, California black walnut and cliff aster, are common and abundant throughout the region and only a small number of individuals (likely fewer than 10 of each species) would be impacted, construction of the Proposed Project and its options, including design variations, would not have a substantial adverse effect on these species. Therefore, a less than significant impact on special-status plants would occur.

3.4.5.1.1.1.4 Bats

Construction of the Proposed Project and its options, including design options, would have the potential to directly impact bat species by disturbance or displacement of roosting bats and damage to their roosting habitat. The combined temporary and permanent footprints of the Proposed Project and its options contain highly disturbed, yet suitable, habitat that may potentially support the needs of several bat species that have been documented to occur in the Los Angeles region, four of which are considered SSC by CDFW (pallid bat, western mastiff bat, western yellow bat, and big free-tailed bat). These four species of bats were determined to have a moderate potential to occur in the temporary and permanent footprints of the Proposed Project and its options. As outlined in Section 3.4.2.2.1.1, all bats, including roosting colonies, are protected by California law from take and harassment.

Potential roosting habitat for bats in the combined temporary and permanent footprints of the Proposed Project and its options include bridges, buildings, and mature trees, depending on the species. Due to the high level of existing human disturbance, lighting, and traffic associated with the surrounding urban environment, minor construction activities are not anticipated to disturb roosting bats. Construction activities associated with the Proposed Project and its options, including design variations, with the potential to disturb roosting bats include, but are not limited to, activities that

would modify, alter, damage, or destroy trees; alteration, modification, or disturbance of bridges or bridge components, buildings, and mature trees; ground disturbance, dust, and light from construction equipment; and construction activities that could generate noise and/or vibration within 300 feet of known bat roosting habitat. Trees may need to be trimmed, relocated, or removed during construction, and the root zone may be damaged during excavation. These construction activities may disturb roost sites, which could cause the direct mortality of bats during construction or could cause the bats to be displaced from a roost, including maternity roosts. Bats require roost sites for stable temperatures, resting, and predator avoidance; if suitable alternate roost sites are not available, bats may be predated or die from exposure. Such impacts are considered significant and mitigation measures would be required.

As set forth in Section 3.4.6, below, MM-BIO-01, *Worker Environmental Awareness Program,* would require all personnel associated with construction to undergo training prior to the initiation of construction activities to aid workers in recognizing special-status species, including bats, and their habitats that may occur within the construction area. MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites,* would require a focused bat field survey to be conducted prior to the initial start of construction activities. The focused bat survey would identify and document any active bat roosting habitat within 300 feet of the temporary and permanent footprints of the Project and provide information for the avoidance of impacts to roosts during the construction process to implement through MM-BIO-2b, *Avoid Disturbing Active Bat Roosts*. During construction, MM-BIO-02b would guide and prevent construction activities from disturbing any identified active bat roosts, including revising and/or rescheduling construction activities to a time outside of the maternity season. With implementation of MM-BIO-01, MM-BIO-02a, and MM-BIO-02b, impacts on bats would be reduced to less than significant levels for the Proposed Project and its options, including design variations.

3.4.5.1.1.1.5 Nesting Birds

Construction of the Proposed Project and its options, including design variations, would have the potential to directly impact nesting birds by the disturbance, abandonment, or destruction of bird nests, eggs, nestlings, or fledglings. The potential exists for various birds of native nongame species to nest within the LA River channel, within trees and other vegetation along the top of the riverbanks, as well as on structures such as electrical poles and towers, buildings, bridges, and other structures in or adjacent to the combined temporary and permanent footprints of the Proposed Project and its options. Construction of the Proposed Project or its options would involve site clearing and demolition activities and would temporarily increase noise and vibration levels. These activities could occur near an active nest, potentially causing the loss of eggs or developing young (that is, flushing adults off the nest or nest abandonment during incubation, nestling, or fledgling stages). Additionally, disturbance or removal of trees and shrubs within the construction footprint could directly impact nesting birds if an active nest is in the vegetation. If construction occurs within or adjacent to vegetated areas or other potential nesting habitat during the general nesting season (that is, from February 1 to August 31 for most bird species and February 1 to September 30 for raptors), active nests protected by FGC and the federal MBTA could be impacted. Such impacts to nesting birds would be significant and mitigation measures would be required.

MM-BIO-03, *Nesting Bird Surveys,* set forth in Section 3.4.6, below, would require nesting bird surveys to be conducted prior to construction activities if construction were to occur during nesting season. If active nests are identified, a protective buffer zone would be established and a biologist would monitor the activity of FGC- and MBTA-protected nests at least weekly, and construction activities that would disturb the protected nests would be avoided until a biologist determines that the nests are no longer active. With implementation of MM-BIO-03, impacts on nesting birds during construction would be less than significant for the Proposed Project and its options, including design variations.

3.4.5.1.1.2 Operations and Maintenance

Less than significant. Operations and maintenance activities generally would include path repair; maintenance and cleaning; waste and graffiti removal; repair and replacement of signage, fencing, and lighting; weed control; and landscaping maintenance. Operations and maintenance activities and the increase in human presence along the LA River due to people using the proposed path and access points would indirectly affect wildlife species. Although existing habitat types occurring within the RSA are not sensitive and do not have a special status designation, they may support sensitive biological resources that would be affected by operations activities, and they are therefore discussed in this section. As discussed below, potential impacts on special-status plants and special-status wildlife, including nesting birds and bats, during operations and maintenance activities for the Proposed Project or its options would be **less than significant**.

3.4.5.1.1.2.1 Existing Habitat

Existing vegetated habitat that remains after construction of the Proposed Project or its options, including design variations, would not be affected by operations and maintenance activities and the increase in human presence because activities would be limited to the path and access points.

Potential effects on open-water habitat from operations and maintenance include, but are not limited to, sedimentation caused by runoff from newly added impervious surfaces; nitrates from landscape fertilizing; and trash, debris, vehicle-sourced pollutants, and bacteria from increased human presence. As discussed in Section 3.10, *Hydrology and Water Quality,* operation of the Proposed Project and its options, including design variations, would not cause a violation of any water quality standards or wastewater discharge requirements and would not substantially degrade surface water. In addition, PF-HWQ-02, *Low-Impact Design Requirement,* which involves the application of low-impact design BMPs to prevent or minimize stormwater discharges of stormwater contaminants that would affect surface water quality, would be implemented. In addition, trash capture devices would be installed on new and existing catch basins to prevent debris and trash from entering the stormwater drainage system.

3.4.5.1.1.2.2 Special-status Wildlife

The Proposed Project and its options either lack habitat or contain low-quality habitat unsuitable to support special-status wildlife species as defined in Section 3.4.4.3, except for bats and nesting birds. In addition, due to urbanization and multiple existing obstructions along the top-of-channel on both sides of the river, it is unlikely that special-status wildlife would migrate from adjacent habitats, other than potentially bird and bat species. Therefore, impacts from operations and maintenance on special-status wildlife species would be less than significant. Operation-related impacts on bats and nesting birds are discussed in subsections below.

3.4.5.1.1.2.3 Special-status Plants

Impacts on special-status plants from operations and maintenance activities are not anticipated. As discussed in Section 3.4.4, during the surveys conducted in April 2021, no plant species classified as threatened, endangered, or rare by the USFWS or CDFW, nor any candidates for listing, were observed. These species are not anticipated to be present within the permanent footprint of the Proposed Project or its options during operations and maintenance because the permanent footprints consist only of highly disturbed or unsuitable habitat. Additionally, no plants with CRPR Plant Ranks of 1, 2, or 3 were observed within and along the permanent footprints of Proposed Project and its

options and are therefore not anticipated to be present during operations and maintenance. Fewer than 10 individuals of two plant species with CRPR rankings of 4.2, southern California black walnut and cliff aster, were observed in the temporary and permanent footprints of the Proposed Project and its options during the April 2021 surveys and these species are commonly found in the natural habitat areas adjacent to and surrounding the RSA.

Special-status plants are not expected to establish in vegetated habitat following construction of the Proposed Project or its options. If these plants were to establish, they are unlikely to be affected by operations and maintenance activities because these activities would occur along the proposed path and access points. Operations activities affecting vegetation would be limited to weed control, trimming, and irrigation within new landscaped areas along the path and access points. Operations activities outside of the permanent footprint of the Proposed Project and its options would not occur.

Raised sections of the proposed path could create shading in areas not previously shaded and could prevent or hinder the establishment of new plants in those areas. However, special-status plants are not anticipated to establish due to the presence of highly disturbed or unsuitable habitat within the Proposed Project and its options. Therefore, impacts on special-status plant species would be less than significant.

3.4.5.1.1.2.4 Bats and Nesting Birds

Lighting, noise, and human activities from people using the proposed path and access points have the potential to displace birds and bats from foraging, nesting, or roosting areas. The Proposed Project and its options would be located in a highly disturbed urban area that currently has a moderate level of ambient nighttime lighting, noise, and human activities. As discussed in Section 3.2, *Aesthetics/Visual Resources*, although the Proposed Project and its options would provide nighttime lighting, the lighting would be down-shielded to minimize its impacts on the night sky and adjacent properties. Lighting would be directed toward the proposed path and access points, limiting spillover into adjacent or nearby habitats that would be potentially suitable for birds and bats to forage, nest, or roost. Due to the moderate level of exterior lighting currently present in the area of the Proposed Project and its options and that the proposed lighting would be shielded and directed to the proposed path and access points, lighting proposed by the Proposed Project and its options is not anticipated to adversely affect the habitat of nesting bird and roosting bat species.

As discussed in Section 3.12, *Noise and Vibration*, ongoing long-term increases in noise are not anticipated with operations of the Proposed Project or its options because users of the proposed path would consist mainly of pedestrians and bicyclists. Noise levels from the Proposed Project and its options would be overshadowed by or similar to existing noise sources and noise levels.

Since operations and maintenance activities are not expected to increase lighting and noise levels compared to existing conditions, the Proposed Project and its options would have a less than significant impact on bats and nesting birds.

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

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 the California Department of Fish and Wildlife or US Fish and Wildlife Service?

3.4.5.2.1 Proposed Project, Option 1 and Option 2

3.4.5.2.1.1 Construction

No impact. As of the drafting of this Draft EIR, there are no riparian habitats or other sensitive natural vegetation communities present within the combined temporary and permanent footprints of the Proposed Project and its options, including design variations. Therefore, **no impact** related to riparian and sensitive natural habitat would occur during construction of the Proposed Project or its options.

3.4.5.2.1.2 Operations and Maintenance

No impact. Existing riparian habitat and other sensitive natural vegetation communities do not occur within the permanent footprints of the Proposed Project or its options and, thus, would not be affected by operations and maintenance of the Proposed Project or its options. **No impact** related to riparian and sensitive natural habitat would occur during operations and maintenance of the Proposed Project or its options.

3.4.5.3 Impact BIO-3: Wetlands

Impact BIO-3: Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

3.4.5.3.1 Proposed Project, Option 1 and Option 2

3.4.5.3.1.1 Construction

No impact. No wetlands as defined by the SWRCB (SWRCB Resolution 2019-0015) and by USACE (33 CFR Section 328.3) occur within the combined temporary and permanent footprints of the Proposed Project and its options, including design variations, and **no impacts** related to wetlands would occur during construction of the Proposed Project or its options.

3.4.5.3.1.2 Operations and Maintenance

No impact. Existing wetlands are not located within the permanent footprint of the Proposed Project and its options and, thus, would not be affected by operations and maintenance activities. **No impacts** related to wetlands would occur.

3.4.5.4 Impact BIO-4: Movement of Fish and Wildlife Species

Impact BIO-4: 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?

3.4.5.4.1 Proposed Project, Option 1 and Option 2

3.4.5.4.1.1 Construction

Less than significant with mitigation incorporated.

3.4.5.4.1.1.1 General Wildlife

Construction of the Proposed Project and its options, including design variations, generally would consist of site clearing, partial structural demolition, excavation for structural foundations, and construction of the proposed path. These construction activities would occur within and along the banks of the LA River, which would temporarily interrupt local wildlife movement along the LA River. Local wildlife that would be affected are generally adapted to urban development and tolerant of human activity. As previously mentioned in Section 3.4.4.2, very little natural habitat occurs along the LA River to support resources needed by migratory species apart from the open-water sections of the LA River and patches of ruderal habitat in scattered open space areas along the tops of the LA River banks that do not contain concrete or infrastructure. The lack of native vegetation and other natural features along the LA River channel precludes many native or migratory wildlife species from using the LA River. Native fish species have not been recorded in the RSA in known recent surveys and are not expected to occur in the open-water habitat of the LA River in the RSA. Additionally, the California Essential Habitat Connectivity Project did not identify any major wildlife corridors in the RSA (Spencer et al. 2010). Therefore, construction of the Proposed Project or its options are not expected to interfere with wildlife movement of native resident, migratory fish, and other migratory wildlife species, and a **less than significant impact** on wildlife movement, including fish species, would occur.

3.4.5.4.1.1.2 Bats

Although construction of the Proposed Project or its options, including design variations, would not substantially interfere with fish or wildlife movement, construction of the Proposed Project or its options, including design variations, has the potential to impede the use of native wildlife nursery sites by disturbing or displacing of roosting bats and damaging their roosting habitat. Roosting bats, including bat maternity (nursery) sites, may potentially occur within the temporary and permanent footprints of the Proposed Project and its options. Construction activities with the potential to disturb roosting bats include, but are not limited to, activities that would modify, alter, damage, or destroy trees; alteration, modification, or disturbance of bridges or bridge components, buildings, and mature trees; ground disturbance, dust, and light from construction equipment; and construction activities that could generate noise and/or vibration within 300 feet of known bat roosting habitat. Tree trimming, relocation, and removal, as well as excavation activities that would damage the tree root zone, would disturb roosting bats. Therefore, potentially significant impacts would occur, and mitigation measures would be required.

MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites* would require a focused bat field survey to be conducted during the bat maternity season (March 1 – August 31) prior to the initial start of construction activities. The survey would be performed during the maternity season in order to best identify all active roosts and numbers of bats during this period of peak activity. The focused bat survey would identify and document any active bat roosting habitat within 300 feet of the combined temporary and permanent footprints of the Project and provide information to avoid disturbing bat roosts during the construction process, as required by MM-BIO-02b, *Avoid Disturbing Active Bat Roosts*. MM-BIO-02b would guide and prevent construction activities from disturbing any identified active bat roosts, including revising and/or rescheduling construction activities to a time outside of the

maternity season. Thus, with implementation of these mitigation measures, impacts on bat nursery sites from the Proposed Project or its options, including design variations, would be reduced to less than significant levels.

3.4.5.4.1.2 Operations and Maintenance

Less than significant.

3.4.5.4.1.2.1 General Wildlife

The proposed path would run primarily along the banks of the LA River channel, and mainly parallel to the LA River channel, would not obstruct the channel at crossings, and would occupy a relatively small area along the LA River channel. Therefore, operations and maintenance of the Proposed Project or its options, including design variations, are not expected to interfere with wildlife movement, and a less than significant impact is anticipated.

3.4.5.4.1.2.2 Bats

Within the permanent footprints of the Proposed Project and its options, including design variations, lighting, noise, human activities from people using the path and access points, and maintenance activities, such as tree trimming, cleaning, and repair of bridge components, have the potential to disturb or displace bats from nursery roosting habitat. The Proposed Project and its options, including design variations, would be located in a highly disturbed urban area with a moderate level of ambient nighttime lighting, noise, and human activities. As discussed in Section 3.2, *Aesthetics/Visual Resources*, although the Proposed Project and its options, including design variations, would provide nighttime lighting, this lighting would be down-shielded to minimize impacts on the night sky and adjacent properties. Lighting would be directed toward the proposed path and access points, limiting spillover into adjacent or nearby habitats that would be potentially suitable for bats to forage, nest, or roost.

As discussed in Section 3.12, *Noise and Vibration*, ongoing long-term increases in noise are not anticipated with operations of the Proposed Project and its options, including design variations, because users of the path would consist mainly of pedestrians and bicyclists. Noise levels from the Proposed Project and its options, including design variations, would be overshadowed by or similar to existing noise sources and noise levels. Thus, noise associated with operations and maintenance activities are not expected to disturb roosting bats.

Operations and maintenance activities are not expected to increase lighting and noise levels compared to existing conditions and, thus, are not expected to disturb roosting bats. Therefore, operations and maintenance of the Proposed Project or its options, including design variations, are not expected to disturb bat nursery sites, and impacts would be less than significant.

3.4.5.5 Impact BIO-5: Local Policies/Ordinances

Impact BIO-5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

3.4.5.5.1 Proposed Project

3.4.5.5.1.1 Construction

Less than significant. Construction of the Proposed Project, including design variations, would have the potential to damage or remove trees and shrubs protected by local ordinances. The Proposed Project would remove fewer than 10 southern California black walnut trees having greater than a 4-inch cumulative diameter at 4.5 feet above the ground. Sycamore trees, which are identified along the east side of the LA River on North Avenue 19, north and south of Riverside Drive and along the Arroyo Seco, would not be damaged or removed by construction of the Proposed Project. Additionally, construction of the Proposed Project may require removal of some blue elderberry and toyon shrubs of various sizes within the City of Los Angeles. These trees and shrubs are protected by the City of Los Angeles Preservation of Protected Trees regulations (LAMC Section 46, *Preservation of Protected Trees* regulations as amended by City of Los Angeles Ordinance 186873 [February 4, 2021]).

Metro, the City of Vernon, and Los Angeles County also have tree protection ordinances or policies, and the City of Bell has street tree regulations. No protected trees would be damaged or removed within the City of Vernon, City of Bell, and the unincorporated Bandini Islands community.

The Proposed Project includes PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. These project features involve coordination and consultation with the affected local jurisdiction when the Proposed Project, including design variations, would damage or remove the locally protected trees. PF-BIO-01a involves compliance with the City of Los Angeles Preservation of Protected Trees regulations. This project feature provides protection for native tree and shrub species, including southern California black walnut, native oak trees, western sycamore, California bay, toyon, and blue elderberry within the City of Los Angeles ROW. As part of PF-BIO-01, Metro would consult with the City's Chief Forester and complete the Los Angeles Department of Public Works Bureau of Street Services permit application process for any protected tree or shrub that would be removed or damaged. Protected trees and shrubs that would be removed or damaged would be relocated or replaced, in accordance with the Bureau of Street Services' permit requirements. The Bureau of Street Services requires that for each protected tree or shrub removed or relocated, at least four specimens defined as protected in the ordinance must be planted within the property. The size and number of replacement trees and shrubs would be determined by the Bureau of Street Services and would approximate the value of the tree or shrub to be replaced.

No Heritage Trees designated by LADRP, as described in Section 3.4.2.3, would be damaged or removed by the Proposed Project.

Although no locally protected trees would be damaged or removed within the City of Vernon, City of Bell, or the unincorporated Bandini Islands community, the Proposed Project includes PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon* and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. PF-BIO-01b would ensure that the City of

Vernon is consulted in the unlikely event that trees and shrubs protected by the City of Vernon are damaged or removed during construction. PF-BIO-01c would ensure that trees that are designated for retention are protected from damage during construction.

As noted previously, due to access and safety issues, and because natural conditions, including the presence, size, and health of trees and shrubs could change in the time between initial surveys performed in 2021 and the start of construction, a comprehensive inventory of all individual trees and shrubs throughout the footprints of the Proposed Project and its options, Option 1 and Option 2, was not recorded during the site survey. The surveys that have been completed are expected to accurately represent the overall scale of impacts to protected trees and shrubs because the largest, and majority, of the vegetated areas were surveyed. To confirm the number of protected trees and shrubs that could be affected, the Proposed Project would include PF-BIO-02, *Protected Tree and Shrub Survey and Report,* which requires a preconstruction protected tree and shrub survey and report to be completed by a certified arborist. The report would provide pertinent information to support PF-BIO-01a through c including physical descriptions of each tree and shrub species, approximate height and diameter, and overall condition. The report would also identify trees and shrubs that the Project, including design variations, would trim, relocate, or remove. Trees with root zones that would be damaged by excavation activities would also be identified. This survey and report would be performed as close to the start of construction as possible since natural conditions could change in the time between initial Project surveys in 2021 and the start of construction, and to allow surveys to focus on areas where trees would be damaged or removed.

Because of the small number of protected trees and shrubs potentially affected, as well as compliance with regulations to protect trees and shrubs through PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction,* impacts to protected trees and shrubs from the Proposed Project, including design variations, would be **less than significant**.

The Proposed Project would not conflict with any other local policies or ordinances protecting biological resources.

3.4.5.5.1.2 Operations and Maintenance

No impact. Locally protected trees and shrubs are not expected to be removed or disturbed in the footprint of the Proposed Project during operations and maintenance activities. Therefore, **no impact** is expected.

3.4.5.5.2 Option 1

3.4.5.5.2.1 Construction

Less than significant. Construction of Option 1, including design variations, would have the potential to damage or remove trees and shrubs protected by local ordinances. Option 1 would remove fewer than 10 southern California black walnut trees having greater than a 4-inch cumulative diameter at 4.5 feet above the ground and would remove five mature sycamore trees along North Avenue 19 north of Riverside Drive that also have greater than a 4-inch cumulative diameter at 4.5 feet above the ground. Sycamore trees, which were identified along the east side of the LA River on North Avenue 19,

south of Riverside Drive and along the Arroyo Seco, would not be damaged or removed by construction of Option 1. Additionally, construction of Option 1 may require removal of some blue elderberry and toyon shrubs of various sizes within the City of Los Angeles. These trees and shrubs are protected by the City of Los Angeles Preservation of Protected Trees regulations (LAMC Section 46, *Preservation of Protected Trees* regulations as amended by City of Los Angeles Ordinance 186873 [February 4, 2021]).

Metro, the City of Vernon, and Los Angeles County also have tree protection ordinances or policies, and the City of Bell has street tree regulations. No protected trees would be damaged or removed within the City of Vernon, City of Bell, and the unincorporated Bandini Islands community.

Option 1 includes PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. These project features involve coordination and consultation with the affected local jurisdiction when Option 1, including design variations, would damage or remove the locally protected trees. PF-BIO-01a involves compliance with the City of Los Angeles Preservation of Protected Trees regulations. This project feature provides protection for native tree and shrub species, including southern California black walnut, native oak trees, western sycamore, California bay, toyon, and blue elderberry within the City of Los Angeles ROW. As part of PF-BIO-01, Metro would consult with the City's Chief Forester and complete the Los Angeles Department of Public Works Bureau of Street Services permit application process for any protected tree or shrub that would be removed or damaged. Protected trees and shrubs that would be removed or damaged would be relocated or replaced, in accordance with the Bureau of Street Services' permit requirements. The Bureau of Street Services requires that for each protected tree or shrub removed or relocated, at least four specimens defined as protected in the ordinance must be planted within the property. The size and number of replacement trees and shrubs would be determined by the Bureau of Street Services and would approximate the value of the tree or shrub to be replaced.

No Heritage Trees designated by LADRP, as described in Section 3.4.2.3, would be damaged or removed by Option 1.

Although no locally protected trees would be damaged or removed within the City of Vernon, City of Bell, or the unincorporated Bandini Islands community, Option 1 includes PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon* and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. PF-BIO-01b would ensure that the City of Vernon is consulted in the unlikely event that trees and shrubs protected by the City of Vernon are damaged or removed during construction. PF-BIO-01c would ensure that trees that are designated for retention are protected from damage during construction.

As noted previously, due to access and safety issues, and because natural conditions, including the presence, size, and health of trees and shrubs could change in the time between initial surveys performed in 2021 and the start of construction, a comprehensive inventory of all individual trees and shrubs throughout the footprints of the Proposed Project and its options was not recorded during the site survey. The surveys that have been completed are expected to accurately represent the overall scale of impacts to protected trees and shrubs because the largest, and majority, of the vegetated areas were surveyed. To confirm the number of protected trees and shrubs that could be affected, Option 1 would include PF-BIO-02, *Protected Tree and Shrub Survey and Report,* which requires a preconstruction protected tree and shrub survey and report to be completed by a certified arborist. The report would provide pertinent information to support PF-BIO-01a through c including physical

descriptions of each tree and shrub species, approximate height and diameter, and overall condition. The report would also identify trees and shrubs that the Project, including design variations, would trim, relocate, or remove. Trees with root zones that would be damaged by excavation activities would also be identified. This survey and report would be performed as close to the start of construction as possible since natural conditions could change in the time between initial Project surveys in 2021 and the start of construction, and to allow surveys to focus on areas where trees would be damaged or removed.

Because of the small number of protected trees and shrubs potentially affected, as well as compliance with regulations to protect trees and shrubs through PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction,* impacts to protected trees and shrubs from Option 1, including design variations, would be **less than significant**.

Option 1 would not conflict with any other local policies or ordinances protecting biological resources.

3.4.5.5.2.2 Operations and Maintenance

No impact. Locally protected trees and shrubs are not expected to be removed or disturbed in the footprint of Option 1 during operations and maintenance activities. Therefore, **no impact** is expected.

3.4.5.5.3 Option 2

3.4.5.5.3.1 Construction

Less than significant. Construction of Option 2, including design variations, would have the potential to damage or remove trees and shrubs protected by local ordinances. Construction of Option 2 would remove fewer than 10 southern California black walnut trees having greater than a 4-inch cumulative diameter at 4.5 feet above the ground, and five mature sycamore trees along North Avenue 19 north of Riverside Drive that also have greater than a 4-inch cumulative diameter at 4.5 feet above the ground. Sycamore trees identified along the Arroyo Seco on the east side of the LA River would not be removed or damaged by construction of Option 2. Additionally, construction of Option 2 may require removal of some blue elderberry and toyon shrubs of various sizes within the City of Los Angeles. These trees and shrubs are protected by the City of Los Angeles Preservation of Protected Trees regulations (LAMC Section 46, Preservation of Protected Trees regulations as amended by City of Los Angeles Ordinance 186873 [February 4, 2021]).

Metro, the City of Vernon, and Los Angeles County also have tree protection ordinances or policies, and the City of Bell has street tree regulations. No protected trees would be damaged or removed within the City of Vernon, the City of Bell, or the unincorporated Bandini Islands community.

Option 2 would include PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. These project features involve coordination and consultation with the affected local jurisdiction when Option 2, including design variations, would damage or remove the locally protected trees. PF-BIO-01a involves compliance with the City of Los Angeles Preservation of Protected Trees regulations. This project feature provides protection for native tree and shrub species, including southern California black walnut, native oak

trees, western sycamore, California bay, toyon, and blue elderberry within the City of Los Angeles ROW. As part of PF-BIO-01, Metro would consult with the City's Chief Forester and complete the Bureau of Street Services permit application process for any protected tree or shrub that would be removed or damaged. Protected trees and shrubs that would be removed or damaged would be relocated or replaced, in accordance with the Bureau of Street Services' permit requirements. The Bureau of Street Services requires that for each protected tree or shrub removed or relocated, at least four specimens of a variety defined as protected under the ordinance must be planted within the property. The size and number of replacement trees and shrubs shall be determined by the Bureau of Street Services and would approximate the value of the tree or shrub to be replaced.

Three Heritage Trees designated by LADRP would be removed or damaged during construction of a design variation of Option 2. These Heritage Trees are located adjacent to the Downey Recreation Center in the City of Los Angeles where the proposed path branches east to the design variation for Option 2 for at the North Broadway/Spring Street access point. Two lavender trumpet trees located along North Broadway Street and one Canary Island date palm tree at the corner with North Spring Street are located within the permanent footprint for the Option 2 design variation. Per PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles*, Metro would include consultation with and obtaining approval from LADRP prior to removing or damaging Heritage Trees. Tree replacement would be provided if necessary.

In addition to PF-BIO-01a, *Protected Tree and Shrub Permitting–City of Los Angeles*, Option 2 would include PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*. These project features provide for consultation and permit application with any city for which a protected tree or shrub would be damaged or removed by Option 2.

As noted previously, due to access and safety issues, and because natural conditions, including the presence, size, and health of trees and shrubs could change in the time between initial surveys performed in 2021 and the start of construction, a comprehensive inventory of all individual trees and shrubs throughout the footprints of the Proposed Project and its options was not recorded during the site survey. The surveys that have been completed are expected to accurately represent the overall scale of impacts to protected trees and shrubs because the largest, and majority, of the vegetated areas were surveyed. To confirm the number of protected trees and shrubs that could be affected, Option 2 would include PF-BIO-02, *Protected Tree and Shrub Survey and Report*, which requires a preconstruction protected tree and shrub survey and report to be performed by a certified arborist. The report would provide pertinent information for the implementation of PF-BIO-01a through PF-BIO-01c, including physical descriptions of each tree and shrub species, approximate height and diameter, and overall condition. The report would identify trees and shrubs that Option 2 would trim, relocate, or remove. Trees with root zones that would be damaged by Option 2 excavation activities would also be identified. This survey would be performed, and this report would be developed as close to the start of construction as possible since natural conditions could change in the time between initial surveys in 2021 and the start of construction, and to allow surveys to be focused on areas where trees would be damaged or removed.

Because of the small number of protected trees, including Heritage Trees, and shrubs potentially affected, as well as compliance with regulations to protect trees and shrubs through PF-BIO-01a, *Protected Tree and Shrub Permitting—City of Los Angeles,* PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*, impacts to protected trees, Heritage Trees, and shrubs from construction of Option 2, including design variations, would be **less than significant**.

Option 2, including design variations, would not conflict with any other local policies or ordinances protecting biological resources.

3.4.5.5.3.2 Operations and Maintenance

No impact. Locally protected trees and shrubs are not expected to be removed or disturbed in the footprint of Option 2 during operations and maintenance activities. Therefore, **no impact** is expected.

3.4.5.6 Impact BIO-6: Local, Regional, and State Plans

Impact BIO-6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

3.4.5.6.1 Proposed Project, Option 1 and Option 2

3.4.5.6.1.1 Construction

Less than significant with mitigation incorporated. No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan(s) are located within the RSA. However, USACE Los Angeles District and the City of Los Angeles are planning to restore the aquatic riparian ecosystem native to and along an approximately 11-mile stretch of the LA River. The Los Angeles River Ecosystem Restoration (LARER) project (USACE 2015) would provide ecosystem benefits while maintaining existing levels of flood risk management in the LA River. Although it is not a conservation plan, USACE has expressed concern that the Project could conflict with the LARER project (USACE 2022). In light of this, for purposes of evaluation in this Draft EIR, the LARER project is conservatively treated as such.

The LARER project involves the proposed restoration of 11 miles of the LA River from approximately Griffith Park to Downtown Los Angeles, while maintaining existing levels of flood risk management. In 2015, and in coordination with the City of Los Angeles, USACE completed a Final Integrated Feasibility Report (IFR), which includes a Final Environmental Impact Statement/EIR (EIS/EIR) (USACE 2015). Congress authorized the LARER project in the Water Resources and Development Act of 2016 and the City of Los Angeles City Council adopted the IFR on June 29, 2016. In 2020, the City applied for, and USACE designated, the LARER project as a public-private partnership (P3)/Alternative Delivery pilot project to accelerate delivery, with the goal of completing the majority of the LARER project's benefits by 2028.

The LARER project overlaps with the Project for approximately 2.3 miles, from approximately Elysian Valley (Upstream of I-5) to First Street. The LARER project's IFR and EIS/EIR identifies this area as within Reach 7 (I-5 to Main Street) and Reach 8 (Main Street to First Street). A description of the LARER project at Reaches 7 and 8 is provided in Section 3.10, *Hydrology and Water Quality*.

The Proposed Project and its options (including design variations) would create a bike path in the areas defined as Reaches 7 and 8 in the LARER project's IFR and EIS/EIR (USACE 2015). The Proposed Project could conflict with the LARER project components at the following locations:

- Riverside Drive daylight channel and the North Broadway daylight channel
- Arroyo Seco confluence
- Bank terracing, slope layback, and railroad trestle between North Broadway to Spring Street

- Bank terracing between Main Street and UP Railroad Bridge and between Cesar E Chavez Avenue and First Street
- Aquatic restoration area and railroad trestle north of Cesar E Chavez Avenue

These locations are shown in Figures 3.10-14 through 3.10-19 in Section 3.10, *Hydrology and Water Quality*. The Proposed Project, including design variations, could introduce features that could interfere with the conceptual design of the LARER project, which could hinder or preclude implementation of LARER project restoration features. The Proposed Project, including design variations, would not conflict with the LARER project at the Los Angeles State Historic Park because the Proposed Project would not introduce features that would physically interfere with the freshwater marsh proposed by the LARER project at this location. At the Arroyo Seco confluence, the Proposed Project design variation would place a single at-grade connection from the path starting north of the SR 110 bridge to just south of the freeway. This design variation would eliminate new structures in the LA River channel, which would allow for the daylight channels proposed by the LARER project.

Option 1 could conflict with the LARER project components at the following location:

- Riverside Drive daylight channel, North Broadway daylight channel, and Metro A Line Bridge daylight channel
- Arroyo Seco confluence
- Railroad trestle between North Broadway and Spring Street
- Freshwater marsh at the Los Angeles State Historic Park
- Aquatic restoration area north of Cesar E. Chavez Avenue
- Railroad trestle north of Cesar E. Chavez Avenue

The locations are shown in Figures 3.10-20 through 3.10-24 in Section 3.10, *Hydrology and Water Quality*. Option 1, including design variations, could introduce features that could interfere with the conceptual design of the LARER project, which could hinder or preclude implementation of LARER project restoration features. Although Option 1 could conflict with the LARER project components between North Broadway and Spring Street, Option 1 includes a design variation that would shift the Option 1 support columns away from the railroad trestle, which would not interfere with the LARER project components at this area. At the Los Angeles State Historic Park, the connector structure for the Option 1 would span over the channel and existing rail lines and touch down to provide access at Baker Street. Physical interference of the connector path structures or embankment could hinder or preclude implementation of the LARER project restoration concepts. The Option 1 design variation would reduce the required footprint for these structures and locate them as close as possible to Baker Street. The design variation would not interfere with the LARER project components.

Option 2 could conflict with the LARER project components at the following location:

- Riverside Drive daylight channel and Metro A Line Bridge daylight channel
- Arroyo Seco confluence
- Bank terracing between Main Street to UP Bridge and between Cesar E Chavez Avenue and First Street
- Aquatic restoration area and railroad trestle north of Cesar E Chavez Avenue

The areas of potential conflict between Option 2 and the LARER project are shown in Figures 3.10-25 through 3.10-30 in Section 3.10, *Hydrology and Water Quality*. Option 2, including design variations, could introduce features that could interfere with the conceptual design of the LARER project, which could hinder or preclude implementation of LARER project restoration features.

During the preparation of this Draft EIR, Metro has consulted with the City of Los Angeles and USACE on the potential for the Project to conflict with the LARER project, including early input from USACE about the Project's design, with USACE providing early feedback on the Project's conceptual engineering and technical studies. Metro and USACE acknowledge the importance of ongoing communication and coordination to ensure the two projects do not interfere with each other and support the LARER project's goal of restoring the LA River. The Proposed Project and its options would implement PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, which involves continued coordination and consultation between Metro and USACE to identify opportunities where the Project design could be refined to simultaneously meet multi-agency objectives. However, impacts could remain significant after implementation of this project feature if the Proposed Project or its options would preclude construction of LARER project restoration features.

As discussed in Section 3.10.5.10, implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* would ensure that the Project would not conflict with the LARER project. MM-HWQ-04, *Fully Incised Path* would require that the proposed incised path is constructed to avoid obstructing the flow area within the LA River and have the potential to enhance the hydraulic capacity of the river. This mitigation measure would preserve the ecological integrity of the LA River. Where the LA River would have limited right-of-way at top-of-bank and bank terracing improvements are anticipated along the channel side slopes, MM-HWQ-06, *Elevated-in-Channel Incised Path* would require the construction of an elevated incised path. This mitigation measure would elevate the path footprint, which would minimize interference with the river channel. This mitigation measure would accommodate the LARER project restoration features by providing for surface flow paths between structure supports. In the portions of the Project where the proposed fully incised paths would transition to elevated in-channel paths, these path types would be built in accordance with MM-HWQ-05, *Incised/Elevated Transition Widening*, which would require that the proposed path be widened to replace any flow area taken by the structure in the channel. MM-HWQ-07, *Channel Daylight Crossing Structure* would require that the proposed bike path be built on a structure that span the daylight channels proposed by the LARER project, which would create open space between the structure support and provide flow paths across the Project. This mitigation measure would allow for the daylight channels proposed by the LARER project. Therefore, impacts would be **less than significant with mitigation incorporated**.

3.4.5.6.1.2 Operations and Maintenance

No impact. No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan(s) are located within the RSA. Operations and maintenance of the Proposed Project and its options, including design options, would not preclude implementation of planned LARER project improvements. PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that coordination and consultation between Metro, USACE, and the City of Los Angeles continues into the final design phase of the two projects. Continuing this consultation and coordination would allow these agencies to identify opportunities where the Project and the LARER project can reach LARER project goals and provide the active transportation corridor and ecosystem restoration to the local and regional

communities. Therefore, operations and maintenance of the Proposed Project and its options, including design options, would have **no impact** on these adopted plans.

3.4.6 Mitigation Measures

As identified in Section 3.4.5, the Proposed Project and its options, including design variations, would result in no impacts or less than significant impacts on biological resources under Impact BIO-1 (operations and maintenance), Impact BIO-2 (construction, operations and maintenance), Impact BIO-3 (construction, operations and maintenance), Impact BIO-4 (operations and maintenance), Impact BIO-5 (construction, operations and maintenance), and Impact BIO-6 (operations and maintenance). Mitigation measures are not required for these topic areas. Mitigation measures would be required for construction under Impact BIO-1, Impact BIO-4, and Impact BIO-6.

3.4.6.1 Construction

The following mitigation measures would be incorporated into the Project to mitigate construction impacts to a level that is less than significant.

MM-BIO-01, *Worker Environmental Awareness Program*

All personnel associated with construction activities shall attend worker environmental awareness program (WEAP) training prior to the initiation of construction activities (including staging and mobilization). The WEAP training shall be conducted by a qualified biologist (in-person or via video) to aid workers in recognizing special-status species, including bat species, and their habitats that may occur within the construction area. The WEAP training shall include a description of the regulatory status and general ecological characteristics of sensitive resources, and a description of the measures intended to avoid or reduce impacts on these resources within the RSA (that is, 500 feet of the Project footprint). The program shall be implemented throughout all construction phases and must be provided to workers that are new to the Project, as needed. The content of the training shall be based on preconstruction conditions and shall include a review of the demarcated construction areas and any relevant biological issues at the time of training. A brief information sheet shall be provided to all on-site workers, including all contractors and subcontractors. Once training is complete, personnel shall receive a WEAP sticker for their hardhats and shall be required to sign a form documenting that they have received the WEAP training and understand the information provided.

MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites*

During the bat maternity season (March 1 to August 31) prior to start of construction (including staging and mobilization), a preconstruction focused bat field survey shall be completed by a qualified bat biologist to identify and document the occurrence of any active bat roosting habitat, including day roosts and maternity roosts within 300 feet of the construction footprint, including bridges, trees, and other structures. The information collected during this preconstruction survey shall be used in the assessment and avoidance of potential disturbance to bat roosts during construction and shall be updated as new information regarding bat roosts within 300 feet of the construction footprint becomes available. The biologist shall have experience in the identification of bat roosting habitat and the identification of bat species. During the survey, the biologist shall use visual confirmation to determine the presence of any bat roosts occurring within 300 feet of the construction footprint and acoustic recognition equipment to identify species to the greatest extent possible. Data collected during this survey shall include, but not be limited to, roost location, activity status, species present, and any other relevant details. Details of any active bat roosts identified within 300 feet of the

construction footprint shall not be shared with the public or published in any public documents for the protection of the roosts.

MM-BIO-02b, *Avoid Disturbing Active Bat Roosts*

If construction activities occur within 300 feet of where an active bat roost has been identified by preconstruction surveys, conducted in accordance with MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites,* or as otherwise determined by a qualified bat biologist, the qualified bat biologist shall determine whether construction activities, such as the generation of noise, vibration, dust, and/or light, could disturb the roost. In making this determination, baseline noise and vibration levels shall be considered along with the anticipated level of disturbance and sensitivities of the particular bat species, if known. Construction activities with the potential to disturb roosting bats include, but are not limited to, activities that would modify, alter, damage, or destroy trees, bridges or bridge components, buildings, and mature trees; ground disturbance; construction activities that could generate noise and/or vibration; and the use of mechanical equipment. If these or similar activities would occur within 300 feet of known bat roosting habitat, a qualified bat biologist shall review the action and determine if avoidance measures are needed to ensure that roosting bats are not disturbed.

If it is determined by a qualified bat biologist that construction activities may result in the potential disturbance or abandonment of a roost, the activities and/or work periods (time of day/year) shall be revised to avoid disturbance of the roost. If it is determined that construction activities conducted during the bat maternity season (generally March through August) may result in disturbance of a roost, the activities shall be revised and/or rescheduled to a time outside of the maternity season. Activities occurring within 300 feet of a known bat roost shall be monitored by a qualified bat biologist during the work for signs of disturbance of roosting bats. If bats are observed by the biologist to be abandoning the roost, the biologist shall have authority to stop work until further assessment.

MM-BIO-03, *Nesting Bird Surveys*

If construction activities cannot be performed outside of the bird nesting season (that is, from February 1 to August 31 for most bird species, and from February 1 to September 30 for raptors), nesting surveys will be performed by a qualified biologist within active work areas and within 500 feet of the work area boundary (as accessible/visible) prior to the start of activities. Construction activities include, but are not limited to, any construction-related ground disturbance or vegetation clearance, trimming, or removal within or adjacent to vegetated or other suitable nesting habitat. Surveys shall be performed preferably within 72 hours, but no more than 7 days, prior to the onset of construction activities within a newly disturbed area and shall include adjacent electrical transmission towers and other structures within the survey boundary. If an area has had no construction activity for 2 weeks or more, subsequent nest surveys will be performed prior to resuming construction activities. If an active nest protected by the California *Fish and Game Code* (FGC) and Migratory Bird Treaty Act (MBTA) is identified (regardless of season), a protective buffer zone of 200 feet (500 feet for raptors) from construction activities shall be established and marked as determined by the biologist and based on-site conditions, activities, and bird species. The biologist shall monitor the activity of any FGC- and MBTA-protected nest(s) at least weekly for any signs of disturbance or distress and will confirm that the established buffer zone is sufficient, adjusting the buffer as needed. Construction activities that would disturb protected nest(s) shall be avoided until the nest is determined by the biologist to no longer be active.

Additional applicable mitigation measures related to biological resources include the following. Refer to Section 3.10, *Hydrology and Water Quality* for additional detail.

- MM-HWQ-04, *Fully Incised Path*
- MM-HWQ-05, *Incised/Elevated Transition Widening*
- MM-HWQ-06, *Elevated-in-Channel Incised Path*
- MM-HWQ-07, *Channel Daylight Crossing Structure*

3.4.6.2 Operations and Maintenance

No mitigation measures are required for the Project during operations and maintenance.

3.4.7 Significance After Mitigation

3.4.7.1 Construction

With implementation of the mitigation measures for the Proposed Project and its options, including design variations, impacts would be reduced to less than significant levels under Impact BIO-1, Impact BIO-4, and Impact BIO-6 during construction. No impacts or less than significant impacts would occur under Impact BIO-2, Impact BIO-3, and Impact BIO-5.

3.4.7.2 Operations and Maintenance

No mitigation measures are required for the Proposed Project and its options, including design variations, during operation. No impacts or less than significant impacts would occur under Impact BIO-1, Impact BIO-2, Impact BIO-3, Impact BIO-4, Impact BIO-5, and Impact BIO-6.

3.4.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for biological resources, and extends further to include other projects that, due to the area's topography and existing infrastructure, may interact with the Project elements. The geographic scope for cumulative impacts to biological resources is 500 feet from the permanent and temporary footprints of the Proposed Project and its options.

As discussed in Section 3.4.4, the Proposed Project and its options, including design variations, would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.4.5, the Proposed Project and its options, including design variations, would result in substantially similar impacts related to biological resources. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

Table 3.4-2 identifies the related projects located within 500 feet of the Proposed Project and its options.

Table 3.4-2. Related Projects Located within 500 feet of the Proposed Project and Options

Project ID	Project Name	Description	Status
3	I-710 Soundwall Project	Construction of new soundwalls along the I-710, plus redesign of an additional 7 miles of existing walls.	Pending Construction
4	I-710 North Mobility Improvement Projects	A transportation improvement project that aims to improve and transform auto, bus, bicycle, and pedestrian activities along its corridors. Components of the project include Class IV protected bike lanes and bus rapid transit.	Undergoing Environmental Review
5	Arts District/Sixth Street Station	New Metro B Line or Metro D Line station in the Arts District between Sixth and Seventh Streets using the river-adjacent tracks on the west bank. The project would provide regional and local transit connections to and from Arts District, Boyle Heights, Little Tokyo and surrounding communities.	Undergoing Environmental Review
10	Los Angeles Union Station Forecourt and Esplanade Improvements	The project would reestablish the connection between Union Station and surrounding communities to provide a better passenger experience and connectivity for residents, visitors, and workers in the Downtown Los Angeles area.	Pending Construction
15	1024 Mateo Project	8-story, 106 live/work units (with eight affordable units), and 119,843-square-foot commercial space.	Pending Construction
21	2159 Bay Street Project	3 buildings up to 8 stories with 202,954-square-foot creative office space, 16,000-square-foot retail and restaurant space, and 3,235-square-foot meeting space.	Undergoing Environmental Review
22	216 Spring St. Project	17-story, 120 apartment units with ground-floor retail space.	Pending Construction
23	222 West 2nd Project	30-story, 107 residential units, 7,200-square-foot ground-floor commercial space, and 534,044-square-foot of office space.	Pending Construction
33	6AM	7 buildings containing 1,736 residential units, 415 hotel rooms, 253,514 square feet of office space, 127,609 square feet of commercial space, 29,316 square feet of school space, and 22,429 square feet of art space.	On Hold
41	Cambria Hotel	13-story, 180 hotel rooms.	Under Construction
44	**LA River Ecosystem Restoration (LARER) Project**	Habitat restoration of 11 miles of the Los Angeles River from Griffith Park to Downtown Los Angeles while maintaining existing levels of flood risk management.	Planned
46	College Station	7-story, 725 residential units, 52,000-square-foot commercial space, and a series of central courtyards.	Pending Construction
58	Go For Broke Apartments	6-story, 228 affordable residential units on top of 41,936 square feet of commercial space.	Pending Construction
84	Radisson RED Hotel	140-guest room hotel.	Pending Construction
93	Taylor Yard G2 Parcel	42-acre green space project containing park space, walking trails, wetlands, wildlife habitat, river access, and public recreation.	Under Construction
94	The Alvidrez	14-story, 151 residential units (with 150 affordable units).	Undergoing Environmental Review

Table 3.4-2. Related Projects Located within 500 feet of the Proposed Project and Options

Project ID	Project Name	Description	Status
98	**NOS Rehab Unit 11—Humboldt St to Cardinal St**	Rehabilitation of 3,869 linear feet of the existing 100-year-old 54-inch North Outfall Sewer.	Pending Environmental Review
102	**Air Treatment Facility—Mission and Jesse Expansion**	Expansion of the sewer air treatment facility near the intersection of Mission Road and Jesse Street.	Pending Construction
103	Asphalt Plant 1—Phase 2	City of Los Angeles satellite site to store and process recycled asphalt pavement.	Undergoing Environmental Review
106	**City of Vernon Los Angeles River Path Active Transportation Access Plan**	Potential new multi-modal improvements within the City of Vernon to connect to the Project.	Undergoing Environmental Review

Bold Text denotes projects within the permanent and temporary footprints of the Proposed Project and its options.
Project ID is in association with Table 3-1 in Section 3.1, *Introduction to Environmental Analysis*.

3.4.8.1 Proposed Project, Option 1 and Option 2

The Project and past, present, and probable future projects are in dense urban environments that are highly disturbed and fragmented due to urban development, infrastructure, and human influences. Past, present, and probable future projects adjacent to the Project footprint are predominantly at street level with the exception of the LARER project.

3.4.8.1.1 Construction

3.4.8.1.1.1 Protected Species

Special-Status Wildlife Species. The Proposed Project, its options, design variations, and related past, present, and probable future projects are located in a dense urban environment that is highly disturbed and fragmented due to urban development, infrastructure, and human influences. A highly urbanized area primarily contains low-quality habitat for sensitive wildlife and plant species. Wildlife species in the geographic scope for cumulative impacts are more likely to be common species that are adapted to urban development, noise, and disturbance and are generally tolerant of human activity. The geographic scope for cumulative impacts either lacks habitat required by or contains low-quality habitat unsuitable to support sensitive wildlife species (such as the peregrine falcon). Because there is no suitable nesting habitat, the species would likely avoid the area during construction. Other bird species that are prey for the falcon would likely also avoid areas with construction activities. Therefore, the Proposed Project and its options, including design variations, in combination with past, present, and future projects, would have a less than significant cumulative impact on special-status wildlife species (other than bats and nesting birds) during construction.

Special-Status Plant Species. The two special-status plant species observed in habitats in the footprints of the Proposed Project and its options, southern California black walnut and cliff aster, are common and abundant throughout the region and only a small number of individuals would be affected by construction of the Proposed Project and its options, including design variations. The Proposed Project and its options, including design variations, will implement project features (PF-BIO-01a,

Protected Tree and Shrub Permitting – City of Los Angeles PF-BIO-01b, *Protected Tree and Shrub Permitting – City of Vernon* and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*) that involves compliance with the requirements of local tree protection ordinances. Additionally, related projects in the RSA would be required by the local jurisdiction in which the related projects are located to comply with the affected local jurisdiction's tree protection ordinance. One of the goals and purpose of the LARER project is to improve and restore the ecosystem and habitat along the LA River and are not expected to degrade the habitat containing special-status plant species along the LA River. Therefore, the Proposed Project and its options, in combination with past, present, and future projects, would have a less than significant cumulative impact on special-status plant species.

Bats. Construction of the Proposed Project and its options, including design variations, would have the potential to disturb potential roosting habitat for bat species that have been documented to occur in the Los Angeles region. Construction activities associated with related past, present, and future projects that would modify, alter, damage or destroy bridges or bridge components, buildings, or certain mature trees have the potential to disturb or destroy roosting bats, if present. Disturbance of roost sites could cause the direct mortality of bats during construction or could cause the bats to be displaced from a roost, including maternity roosts. The Project would implement MM-BIO-01, *Worker Environmental Awareness Program,* MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites,* and MM-BIO-02b, *Avoid Disturbing Active Bat Roosts,* to prevent construction activities from disturbing any identified active bat roosts, which would reduce impacts on bats to less than significant levels for the Proposed Project and its options, including design variations. Related projects would similarly include mitigation measures, as needed, to ensure impacts to bats are reduced or avoided.

The geographic scope for cumulative impacts is a highly disturbed urban area that currently has a moderate level of ambient nighttime lighting, noise, and human activities. Operations and maintenance activities associated with the Proposed Project and its options, including design variations, are not expected to increase lighting and noise levels compared to existing conditions. Related projects are expected to comply with the lighting and noise regulations of the local jurisdiction in which the related projects are located. These regulations would limit the lighting and noise levels associated with operations of the related projects. Therefore, the Proposed Project and its options, including design variations, in combination with related past, present, and probable future projects, would not result in significant cumulative impacts related to bats.

Nesting Birds. Construction of the Proposed Project, its options, design variations, and related past, present, and future projects would involve site clearing and demolition activities that could occur near an active nest, potentially causing the loss of eggs or developing young (that is, flushing adults off the nest or nest abandonment during incubation, nestling, or fledgling stages). Additionally, disturbance or removal of trees and shrubs could directly affect nesting birds if an active nest is in the vegetation. The Project would implement MM-BIO-03, *Nesting Bird Surveys* to avoid disturbing nesting birds during construction. Related projects would also include mitigation measures to ensure impacts to nesting birds are reduced or avoided.

The geographic scope for cumulative impacts is a highly disturbed urban area that currently has a moderate level of ambient nighttime lighting, noise, and human activities. Operations and maintenance activities associated with the Proposed Project and its options, including design variations, are not expected to increase lighting and noise levels compared to existing conditions. Related projects are expected to comply with the lighting and noise regulations of the local jurisdiction in which the related projects are located. These regulations would limit the lighting and noise levels associated with operations of the related projects. Therefore, the Proposed Project and its options,

including design variations, in combination with related past, present, and probable future projects, would not result in significant cumulative impacts related to nesting birds.

3.4.8.1.1.2 Riparian Habitat and Wetlands

No riparian habitat, other sensitive natural vegetation community, and wetlands occur within the geographic scope for cumulative impacts. With the exception of the regional related projects identified in Table 3.4-2, past, present and probable future projects would be located at street level and outside of the LA River. These related projects would not result in significant impacts to riparian habitat, other sensitive natural vegetation community, or wetlands as none are located in the area.

The Project would be built prior to the LARER project. The LARER project would restore the aquatic riparian ecosystem along portions of the LA River, including within some of the same areas of the Proposed Project and its options, including design variations, between I-5 and First Street. LARER project improvements would create supplemental channels with associated riparian habitat hydrologically connected to the LA River along portions of the Project alignment. Project components have the potential to interfere with the conceptual design of the LARER project, which could affect the new riparian habitat and wetlands that the LARER project would create. Metro has consulted with the City of Los Angeles and USACE on the potential for the Project to conflict with the LARER project, during the preparation of this Draft EIR, including early input from USACE about the Project's design, with USACE providing early feedback on the Project's conceptual engineering and technical studies. Metro and USACE acknowledge the importance of ongoing communication and coordination to ensure the two projects do not interfere with each other and support LARER project's goal of restoring the LA. However, impacts could remain significant after implementation of this project feature if the Project would preclude construction of LARER project restoration features.

The Proposed Project and its options, including design variations, would implement PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, which involves continued coordination and consultation between Metro and USACE to identify opportunities where Project design could be refined to simultaneously meet multi-agency objectives. The consultation would allow these agencies to identify opportunities where the Project and the LARER project can achieve their goals and provide the active transportation corridor (Proposed Project and its options, including design variations) and ecosystem restoration (LARER project). The LARER project would also involve coordination between Metro, USACE, and the City of Los Angeles.

As discussed in Impact BIO-6 and HWQ-10, implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* would ensure that the Project would not conflict with the LARER project's restoration efforts for the LA River. Any future plans associated with the LARER project are not expected to adversely affect riparian habitat and wetlands since no riparian habitat, other sensitive natural vegetation community, or wetlands occur within the geographic scope for cumulative impacts and the LARER project would potentially create new riparian habitat and wetlands along the LA River after the Project is implemented. Therefore, the Proposed Project and its options, including design variations, in combination with past, present and probable future projects, would not result in significant cumulative impacts to riparian habitat and wetlands with implementation of Mitigation Measures MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure*.

3.4.8.1.1.3 Movement of Fish and Wildlife

The Proposed Project and its options, including design variations, would be located along the banks of the LA River channel, mainly parallel to the channel, would not obstruct the channel at crossings, and would occupy a relatively small area along the LA River channel. The Proposed Project, its options, design variations, and past, present, and probable future projects would be located in the urban landscape that is highly developed. Most of the related projects are site specific and not linear in nature. The geographic scope for cumulative impacts lacks native vegetation and other natural features and is not expected to obstruct or interfere with wildlife movements.

Construction of the Proposed Project and its options, including design variations, has the potential to disturb roosting bats, including bat maternity (nursery) sites. Tree trimming, relocation, and removal, as well as excavation activities that would damage the tree root zone have the potential to disturb roosting bats. Related projects that involve similar activities also would have the potential to disturb roosting bats. The Project would implement MM-BIO-01, *Worker Environmental Awareness Program,* MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites,* and MM-BIO-02b, *Avoid Disturbing Active Bat Roosts* to reduce the impacts on bats to less than significant. Past, present and probable future projects that have the potential to disturb roosting bats would or other wildlife nursery sites would also be required to implement mitigation measures to reduce or avoid impacts on native resident or migratory fish and wildlife species. Therefore, the Proposed Project and its options, including design variations, in combination with past, present and probable future projects, would not result in significant cumulative impacts related to movement of fish and wildlife during construction.

3.4.8.1.1.4 Local, Regional, State Plans and Ordinances

The Proposed Project and its options, including design variations, would comply with applicable local policies and ordinances protecting biological resources, including tree ordinances. Implementation of PF-BIO-01a, *Protected Tree and Shrub Permitting–City of Los Angeles*, PF-BIO-01b, *Protected Tree and Shrub Permitting–City of Vernon*, and PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*, and PF-BIO-02, *Protected Tree and Shrub Survey and Report* would ensure impacts to protected trees and shrubs from the Proposed Project and its options, including design variations, would be less than significant. The Project would not conflict with any other local and regional policies or ordinances or state plans protecting biological resources, including any approved conservation plans.

Past, present, and probable future projects would be required to comply with applicable local and regional regulations and ordinances that protect biological resources, including trees. Related projects are not expected to conflict with the provisions of any adopted habitat conservation plans as none are located within the geographic scope for cumulative impacts. Therefore, the Proposed Project and its options, including design variations, in combination with past, present and probable future projects, would not result in cumulatively significant impacts related to local and regional policies or ordinances and state plans protecting biological resources.

3.4.8.1.1.5 Summary

The majority of the past, present, and probable future projects located adjacent to the Project footprint are located at street level and outside of the LA River. These areas are in a highly urbanized area with limited biodiversity and would comply with applicable regulations to reduce or avoid impacts to biological resources during construction. The goals of the LARER project would improve and restore the ecosystem and habitats along the LA River, which would be beneficial to biological resources along

the LA River. The LARER project would restore riparian and aquatic habitats, potentially support plant and animal species in the LA River and provide environmental benefits to local and migratory birds. Construction of the Project has the potential to affect the new riparian habitat and wetlands that the LARER project would create. Per PF-HWQ-03, *Continued Los Angeles Metropolitan County Transportation Authority and US Army Corps of Engineers Engagement* Metro would coordinate with USACE and the City of Los Angeles to ensure the Project would not preclude and would complement planned restoration of the aquatic riparian ecosystem associated in the LARER project. Consultation and coordination would allow these agencies to identify opportunities where the Project and the LARER project can achieve LARER project goals and provide the active transportation corridor (Proposed Project and its options) and ecosystem restoration (LARER project). The LARER project would also involve coordination between Metro, USACE, and the City of Los Angeles. The LARER project and other regional related projects along the LA River would also comply with applicable regulations and ordinances to minimize and avoid impacts to biological resources. Therefore, the Proposed Project and its options, including design options, in combination with past, present and probable future projects, would not result in cumulatively significant impacts to biological resources during construction.

3.4.8.1.2 Operations and Maintenance

3.4.8.1.2.1 Protected Species

The Proposed Project, its options, design variations, and related past, present, and probable future projects are located in a dense urban environment that is highly disturbed and fragmented due to urban development, infrastructure, and human influences. The area either lacks habitat required by or contains low-quality habitat unsuitable to support special-status wildlife species and special-status plants. With the exception of the regional related projects identified in Table 3.4-2, special-status wildlife and special-status plants are not expected to establish in vegetated habitat following construction of the Proposed Project, its options, design variations, and related projects that would be developed outside of the LA River. The goals of the LARER project include restoring habitats that are suitable to support special-status wildlife species and plants in the LA River. The Project would implement PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, which involves coordination and consultation between Metro and USACE to identify opportunities where Project design could be refined to simultaneously meet multi-agency objectives, including the restoration of the aquatic riparian ecosystem associated with the LARER project. The consultation would allow these agencies to identify opportunities where the Proposed Project and the LARER project can achieve their goals and provide the active transportation corridor (Proposed Project and its options) and ecosystem restoration (LARER project). Implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* would ensure that the Project would not conflict with the LARER project's restoration efforts for the LA River.

Due to the moderate level of exterior lighting currently present in the geographic scope for cumulative impacts, lighting associated with the Proposed Project, its options, design variations, and related projects are not anticipated to displace or modify the habitat of nesting bird and roosting bat species. Lighting for the Proposed Project and its options, including design variations, would be down-shielded and directed toward the proposed path and access points, limiting spillover into adjacent or nearby habitats that would be potentially suitable for birds and bats to forage, nest, or roost. Related past, present, and probably future projects would be required to comply with the lighting and noise standards of the affected local jurisdiction, which would also limit disturbances to habitats that would

be potentially suitable for birds and bats. Therefore, the Proposed Project and its options, including design variations, in combination with past, present and probable future projects, would not result in cumulatively significant impacts related to protected species with implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure*.

3.4.8.1.2.2 Riparian Habitat and Wetlands

No riparian habitat, other sensitive natural vegetation community, and wetlands occur within the geographic scope for cumulative impacts. Past, present and probable future projects would be located at street level and outside of the LA River and would not result in significant impacts to riparian habitat, other sensitive natural vegetation community, or wetlands as none are located in the area.

The Proposed Project and its options, including design variations, would not result in impacts to riparian habitat or other sensitive natural vegetation community, or wetlands and these natural communities do not occur within the Project footprint. Once completed, the LARER project would restore riparian and aquatic habitats, potentially support plant and animal species in the LA River and provide environmental benefits to local and migratory birds. The Project would implement PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, which involves continued coordination and consultation between Metro and USACE to identify opportunities where Project design could be refined to simultaneously meet multi-agency objectives, including the restoration of the aquatic riparian ecosystem associated with the LARER project. The consultation would allow these agencies to identify opportunities where the Proposed Project and the LARER project can achieve their goals and provide the active transportation corridor (Proposed Project and its options) and ecosystem restoration (LARER project). Implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* would ensure that the Project would not conflict with the LARER project's restoration efforts for the LA River.

Any future plans associated with the LARER project are not expected to adversely affect riparian habitat and wetlands since no riparian habitat, other sensitive natural vegetation community, or wetlands occur within the geographic scope for cumulative impacts and the LARER project would potentially create new riparian habitat and wetlands along the LA River after the Proposed Project is implemented. Therefore, with implementation of MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure*, the Project, in combination with past, present and probable future projects, would not result in cumulatively significant impacts to riparian habitat and wetlands during operation.

3.4.8.1.2.3 Movement of Fish and Wildlife

The Proposed Project, its options, and past, present, and probable future projects would be located in the urban landscape that is highly developed. Most of the related projects are site specific and not linear in nature. The geographic scope for cumulative impacts lacks native vegetation and other natural features and is not expected to obstruct or interfere with wildlife movements. The majority of past, present, and probable future projects would consist of typical everyday operations consistent with commercial, industrial, and residential uses and is not anticipated to affect wildlife nursery sites. The goals of the LARER project include improving and restoring the ecosystem and habitats along the LA River. Any plans associated with the LARER project would likely improve wildlife movement along the LA River.

Potential displacement of birds or bats from foraging, nesting, or roosting areas due to disturbance from noise and human activity associated with relatively minor O&M activities of the Proposed Project, its options, design variations, and related past, present, and probable future projects is unlikely these projects would operate in a highly disturbed urban area. Moderate levels of exterior lighting are currently present in the geographic scope for cumulative impacts. Lighting for the Proposed Project and its options, including design variations, would be down-shielded and directed toward the proposed path and access points, limiting spillover into adjacent or nearby habitats that would be potentially suitable for birds and bats to forage, nest, or roost. Related past, present, and probably future projects would be required to comply with the lighting and noise standards of the affected local jurisdiction, which would also limit disturbances to habitats that would be potentially suitable for birds and bats. Since O&M activities are not expected to interfere with the movement or migration of any native wildlife species or increase lighting and noise levels compared to existing conditions, O&M activities associated with the Proposed Project and its options, including design variations, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to movement of wildlife and roosting.

3.4.8.1.2.4 Local, Regional, State Plans and Ordinances

O&M activities associated with the Proposed Project, its options, design variations, and related past, present, and probable future projects would not result in the removal of protected trees and shrubs. The Proposed Project, its options, and related past, present, and probable future projects would not conflict with any local or regional policies or ordinances or state plans protecting biological resources, including any approved conservation plans.

Past, present, and probable future projects would be required to comply with applicable local and regional regulations and ordinances that protect biological resources, including trees. Related projects are not expected to conflict with the provisions of any adopted habitat conservation plans as none are located within the geographic scope for cumulative impacts. Therefore, the Proposed Project and its options, including design variations, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to local and regional policies or ordinances and state plans protecting biological resources.

3.4.8.1.2.5 Summary

The majority of the past, present, and probable future projects located adjacent to the project footprint are located at street level and outside of the LA River. These areas are in a highly urbanized area with limited biodiversity and would comply with applicable regulations to reduce or avoid impacts to biological resources during operation. Some regional related projects are located along the LA River. The goals of the LARER project include improving and restoring the ecosystem and habitats along the LA River. The LARER project would restore riparian and aquatic habitats, potentially support plant and animal species in the LA River and would provide environmental benefits to local and migratory birds. Similar to the Proposed Project and its options, the LARER project would also comply with applicable regulations and ordinances to minimize and avoid impacts to biological resources during O&M activities. Metro has been and will continue to coordinate and consult with USACE to identify opportunities where the Project design could be refined to simultaneously meet multi-agency objectives (PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*). Additionally, the Project would implement MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* to ensure that the Project would not conflict with the LARER project. Therefore, with implementation of these mitigation measures, the

Proposed Project and its options, including design variations, in combination with past, present and probable future projects, would not result in significant cumulative impacts to biological resources during O&M activities.

3.5 Cultural Resources

3.5.1 Introduction

This section examines potential environmental effects of construction and operation of the Proposed Project and its options on cultural resources. Cultural resources covered in this section include built-environment historical resources, archaeological resources, and human remains. This section also describes the existing setting and applicable regulatory framework, and potential impacts to cultural resources from construction and operation of the Proposed Project and its options. This section is based on the technical reports prepared for archaeological resources (refer to Appendix G, *Archaeological Resources)* and historic built-environment cultural resources (refer to Appendix H, *Built-Environment Historical Resources*).

3.5.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to cultural resources.

3.5.2.1 Federal

3.5.2.1.1 National Historic Preservation Act of 1966

The National Historic Preservation Act of 1966 (NHPA), as amended (54 *United States Code* [USC] 300101 et seq.), and through implementing regulations Protection of Historic Properties (36 *Code of Federal Regulations* [CFR] Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979 is intended to preserve historical and archaeological sites in the United States. Under the NHPA, a "historic property" is a resource (prehistoric or historic district, site, building, structure, or object) that is included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The NRHP was authorized by the NHPA of 1966 to serve as an authoritative guide to the nation's historic places worthy of preservation, as codified in CFR Title 36, Section 60, Part 60.2 (36 CFR 60, Section 60.2). The National Register Program is administered by the US Department of the Interior's National Park Service (NPS). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels. Unless the property possesses exceptional significance, it must be at least 50 years old to be eligible for NRHP listing.

The criteria for listing in the NRHP follow established guidelines for determining the significance of properties and are listed below.

- **Criterion A:** The resource is associated with events that have made a significant contribution to the broad patterns of our history;
- **Criterion B:** The resource is associated with the lives of persons significant in our past;
- **Criterion C:** The resource embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or

- **Criterion D:** The resource has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of these criteria, a property must have integrity, which is defined as "the ability of a property to convey its significance" (NPS 1997). There are seven aspects of integrity: location, design, setting, materials, workmanship, feeling, and association (36 CFR Part 60.4). To retain historic integrity, a property will always possess several, and usually most, of these aspects (NPS 1997).

The Secretary of Interior's (SOI's) *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* (Standards) (SOI 2017) are issued by the NPS to guide historic preservation best practices. In 1995, the Standards were codified in 36 CFR Part 68, and while they are advisory, they are frequently relied on in carrying out historic preservation responsibilities at the local, state, and federal levels. The Standards establish treatments for preservation, rehabilitation, restoration, and reconstruction. Each of these terms (preservation, rehabilitation, restoration, and reconstruction) have specific definitions as they relate to historic preservation and historic properties, and there are specific guidelines for the treatment of historic properties as well as cultural landscapes, sustainability, and rehabilitation. For the purposes of the California Environmental Quality Act (CEQA), properties listed in or determined eligible for the NRHP are considered historic resources because the California Register of Historic Resources (CRHR) includes resources listed in or formally determined eligible for listing in the NRHP; refer Section 3.5.2.2 for further detail on the CRHR.

3.5.2.2 State

Applicable California laws and regulations include CEQA, the CRHR (as codified in PRC Section 5024.1), California *Health and Safety Code* Sections 7052 and 7050.5, the California Native American Historical, Cultural, and Sacred Sites Act per *Public Resources Code* (PRC) Section 5097, and Assembly Bill (AB) 52 (as codified in PRC Sections 21080.3.4, 21080.3.2, and 21082.3).

3.5.2.2.1 California Environmental Quality Act

CEQA Section 21084.1 requires a project's lead agency to determine whether it could have a significant effect on historic resources and equates a substantial adverse change in the significance of a historical resource with a significant effect on the environment. Pursuant to CEQA Guidelines Section 15064.5, a "historical resource" is defined as follows:

- A resource listed in, or determined to be eligible by, the State Historical Resources Commission for listing in, the CRHR, or
- A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in an historical resource survey meeting the requirements of PRC Section 5024.1(g), or
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

Under CEQA, resources may be "historical resources" whether they are of a historic or prehistoric age. According to the CEQA Guidelines, a significant impact related to historical resources would occur if a project results in a "substantial adverse change in the significance of a historical resource" as defined by CEQA Guidelines Section 15064.5(a). *Substantial adverse change* is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired" (CEQA Guidelines Section 15064.5[b][1]). According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is *materially impaired* when a project demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that:

- Convey its historical significance, and that justify its inclusion in, or eligibility for inclusion in, the California Register, or
- Account for its inclusion in a local register of historical resources pursuant to PRC Section 5020.1(k) or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g), unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant, or
- Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

In general, a project that complies with the SOI Standards is considered to have impacts that are less than significant (CEQA Guidelines Section 15064.5[b][3]). California PRC Section 5024.5 outlines specific requirements for proposed actions to state-owned historical resources, including a requirement for consultation with the California Office of Historic Preservation (OHP).

CEQA also applies to unique archaeological resources that may not qualify as "historical" within the meaning of CEQA. A unique archaeological resource is defined in PRC Section 21083.2 as an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and for which there is a demonstrable public interest
- Has a special and particular quality such as being the oldest of its type or the best available example of its type
- Is directly associated with a scientifically recognized important prehistoric or historic event or person

In most situations, resources that meet the definition of a unique archaeological resource also meet the definition of a historical resource. As a result, it is current professional practice to evaluate cultural resources for significance based on their eligibility for listing in the CRHR. For the purposes of this CEQA cultural resources analysis, a resource would be considered significant if it meets the CRHR eligibility (that is, significance and integrity) criteria.

Even without a formal determination of significance and nomination for listing in the CRHR, the lead agency can determine that a resource is potentially eligible for such listing, to aid in determining whether a significant impact would occur. The fact that a resource is not listed in the CRHR, or that it has not been determined eligible for such listing and is not included in a local register of historic resources, does not preclude an agency from determining that a resource may be a historical resource for the purposes of CEQA.

3.5.2.2.2 California Register of Historic Resources

The CRHR was established under California PRC Section 5024.1 to serve as an authoritative guide to the state's significant historical resources. The CRHR is administered by the California OHP. A resource is considered historically significant if it meets the criteria for listing in the CRHR (PRC Section 5024.1; 14 CCR Section 4852). For a property to be considered eligible for listing, it must be found to be significant under at least one of the four following criteria established by the State Historical Resources Commission:

- **Criterion 1:** The resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
- **Criterion 2:** The resource is associated with the lives of persons important in our past.
- **Criterion 3:** The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
- **Criterion 4:** The resource has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of these criteria, a property must have integrity. Integrity is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Eligible resources must retain enough of their historical character or appearance to be recognizable as historical resources and to convey the reasons for their significance. The CRHR uses the same seven aspects of integrity used for evaluating properties for the NRHP: location, design, setting, materials, workmanship, feeling, and association. It is possible that a historical resource may not retain sufficient integrity to meet the criteria for listing in the NRHP but may still be eligible for listing in the CRHR. Additionally, the CRHR consists of resources that are listed automatically, including the following:

- California properties listed on the NRHP and those formally determined eligible for the NRHP,
- California Registered Historical Landmarks from Number 770 onward, and
- Those California Points of Historical Interest that have been evaluated by the California OHP and have been recommended to the State Historical Resources Commission for inclusion on the CRHR.

3.5.2.2.3 State-Owned Historical Resources

As outlined in California PRC Section 5024.5, proposed actions to state-owned historical resources require consultation with the California OHP, as follows:

(a) No state agency shall alter the original or significant historical features or fabric, or transfer, relocate, or demolish historical resources on the master list maintained pursuant to subdivision (d) of Section 5024 without, early in the planning processes, first giving notice and a summary of the proposed action to the officer who shall have 30 days after receipt of the notice and summary for review and comment.

(b) If the officer determines that a proposed action will have an adverse effect on a listed historical resource, the head of the state agency having jurisdiction over the historical resource and the officer shall adopt prudent and feasible measures that will eliminate or mitigate the adverse

effects. The officer shall consult the State Historical Building Safety Board for advice when appropriate.

(c) Each state agency shall maintain written documentation of the officer's concurrence with proposed actions which would have an effect on a historical resource on the master list.

(d) The officer shall report to the Office of Planning and Research for mediation instances of state agency refusal to propose, to consider, or to adopt prudent and feasible alternatives to eliminate or mitigate adverse effects on historical resources on the master list as specified in subdivision (f) of Section 5024.

(e) The officer may monitor the implementation of proposed actions of any state agency.

(f) Until such time as a structure is evaluated for possible inclusion in the inventory pursuant to subdivisions (b) and (c) of Section 5024, state agencies shall assure that any structure which might qualify for listing is not inadvertently transferred or unnecessarily altered.

(g) The officer may provide local governments with information on methods to preserve their historical resources.

3.5.2.2.4 California Health and Safety Code Sections 7052 and 7050.5; California Native American Historical, Cultural, and Sacred Sites Act; Assembly Bill 52

Health and Safety Code Section 7052 states that the disturbance of Native American cemeteries is a felony. *Health and Safety Code* Section 7050.5 and the California Native American Historical, Cultural, and Sacred Sites Act require stopping construction or excavation in the vicinity of discovered human remains until a coroner can determine whether the remains are Native American. If determined to be Native American, a coroner must contact the California Native American Heritage Commission (NAHC). Further, AB 52 establishes a new class of resources under CEQA known as tribal cultural resources (TCRs). An evaluation of TCRs is provided in Section 3.17, *Tribal Cultural Resources*.

3.5.2.3 Local

The Project traverses the Cities of Los Angeles, Vernon, and the unincorporated community of Bandini Islands in Los Angeles County. Additionally, the resource study area (RSA) for cultural resources also encompasses portions of the Cities of Bell and Maywood. Each jurisdiction includes applicable goals, objectives, and policies related to the preservation of archaeological and historical cultural resources as part of the general plan and municipal codes. In addition, Los Angeles County and the Cities of Los Angeles, Vernon, and Maywood have local preservation ordinances. All of the jurisdictions' general plan policies and municipal codes require the protection of designated historic buildings, landmarks, neighborhoods, and works of art.

The Los Angeles County Historic Preservation Ordinance (*Los Angeles County Code*, Chapter 22.124) seeks to preserve, conserve, and protect buildings, objects, landscapes, and other artifacts of historical and cultural significance. The Los Angeles County Historical Landmarks and Records Commission reviews and recommends cultural heritage resources in the unincorporated areas for inclusion in the State Historic Resources Inventory.

3.5.3 Methodology

3.5.3.1 Archaeological Resources

For archaeological resources, an area of direct impact (ADI) has been developed that includes the maximum footprint associated with the construction and operation of the Proposed Project and its options, including all associated access points, design variations, and temporary construction staging areas. The ADI defines the area in which foreseeable direct or indirect impacts of the Proposed Project and its options, including design variations, may occur. The ADI has been developed to include the maximum footprint for construction and operation and the vertical extent of activities of the Proposed Project and its options. All areas associated with ground-disturbing activities or temporary uses during construction are included in the ADI and encompass the full extent of the footprints of the Proposed Project and its options. The vertical extent of the ADI typically ranges from 10 to 15 feet deep for the crossing but extends up to 80 feet deep for drilling foundations for elevated paths. The horizontal extent of the ADI is shown on Figures 3.5-1 through 3.5-5.

The known boundary of archaeological site P-19-001575, which contains known human burials (refer to Section 3.5.4.1.2.5), is located directly west of the areas expected to be associated with ground-disturbing activities. However, it is possible that subsurface elements of this archaeological site extend past the current known boundary and may intersect with areas of ground disturbance. Therefore, to be cautious, archaeological site P-10-001575 is included in the ADI for the purpose of impact evaluation.

For the purposes of evaluating archaeological resources impacts, the RSA is defined as 0.25-mile radius around the ADI. The purpose of this extent is to develop a broad understanding of the Project's existing and historical setting, including the various communities through which the Project passes. The RSA was used to conduct a records search and literature review, draft the environmental setting, and review the area's overall archaeological sensitivity.

To analyze the Project's potential impacts on archaeological resources, the following took place:

- Delineated an RSA and ADI based on Project plans
- Completed a records search and literature review
- Carried out field surveys and resource-specific research
- Assessed Project impacts from construction and operation on historical or unique archaeological resource (PRC Sections 21084.1 and 21083.2), as defined in CEQA Guidelines Section 15064.5. and sensitive archaeological areas

Figure 3.5-1. Archaeological Resources Area of Direct Impact Aerial Map, Segment 1



Figure 3.5-2. Archaeological Resources Area of Direct Impact Aerial Map, Segment 2

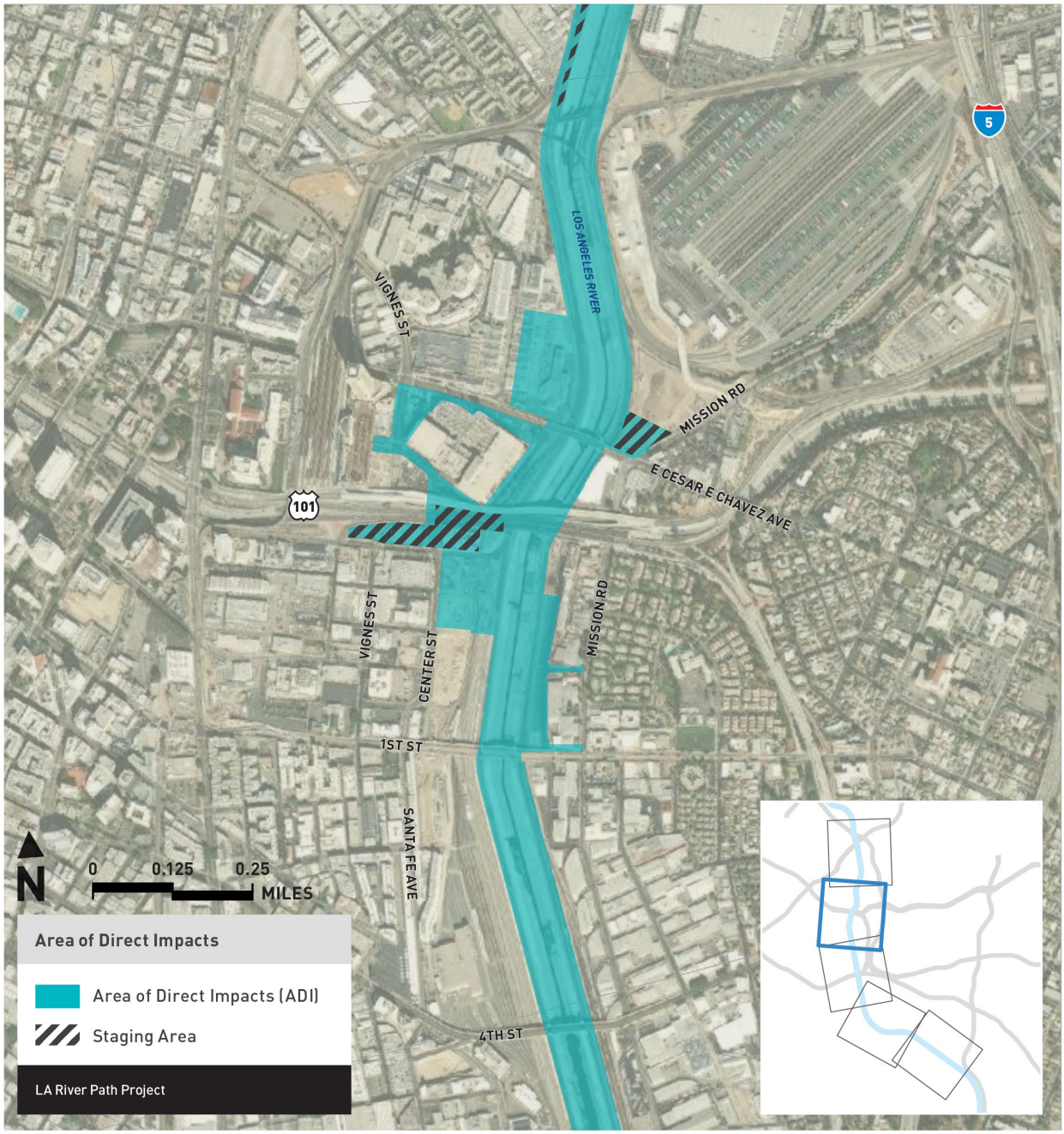


Figure 3.5-3. Archaeological Resources Area of Direct Impact Aerial Map, Segment 3

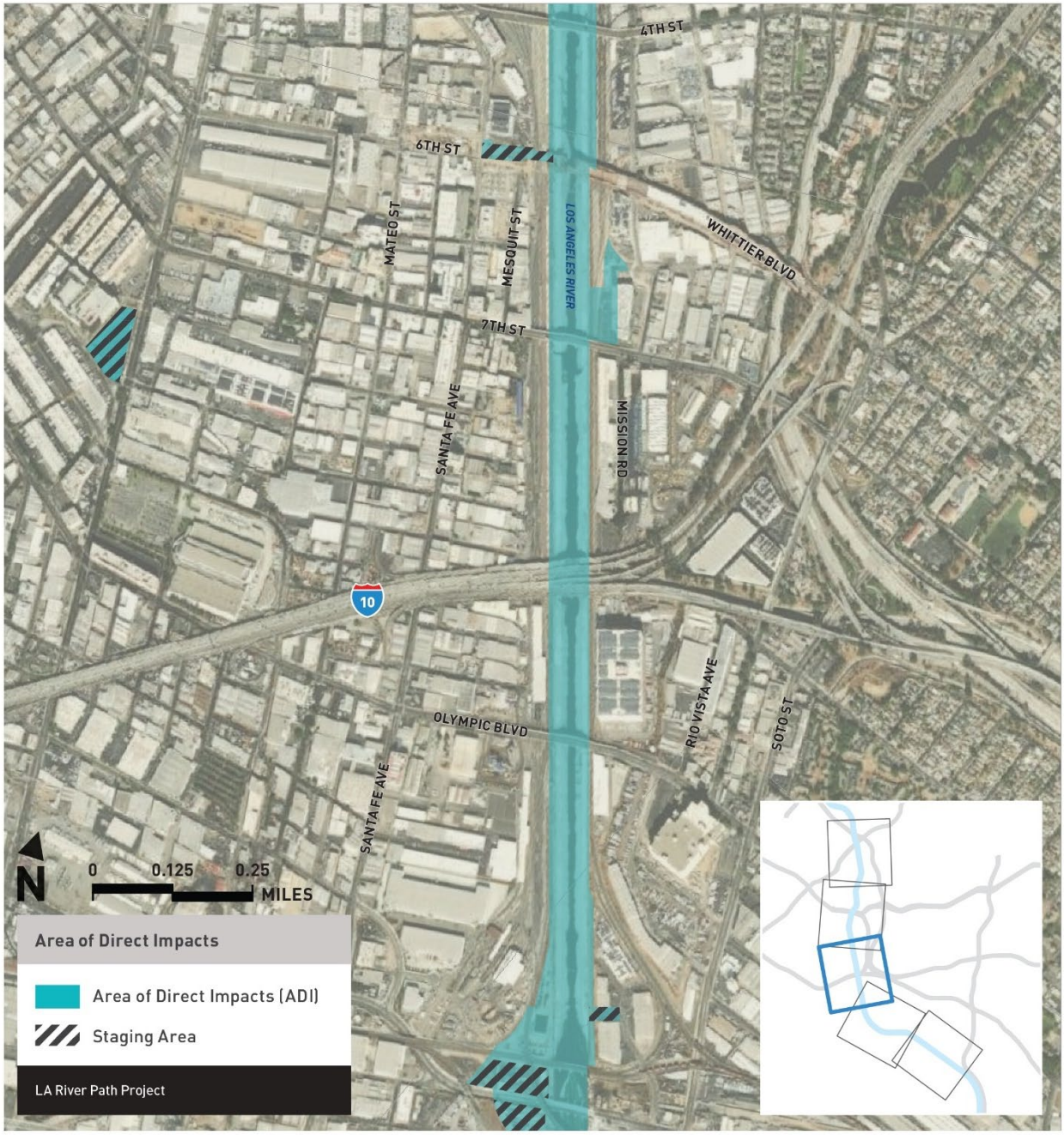


Figure 3.5-4. Archaeological Resources Area of Direct Impact Aerial Map, Segment 4

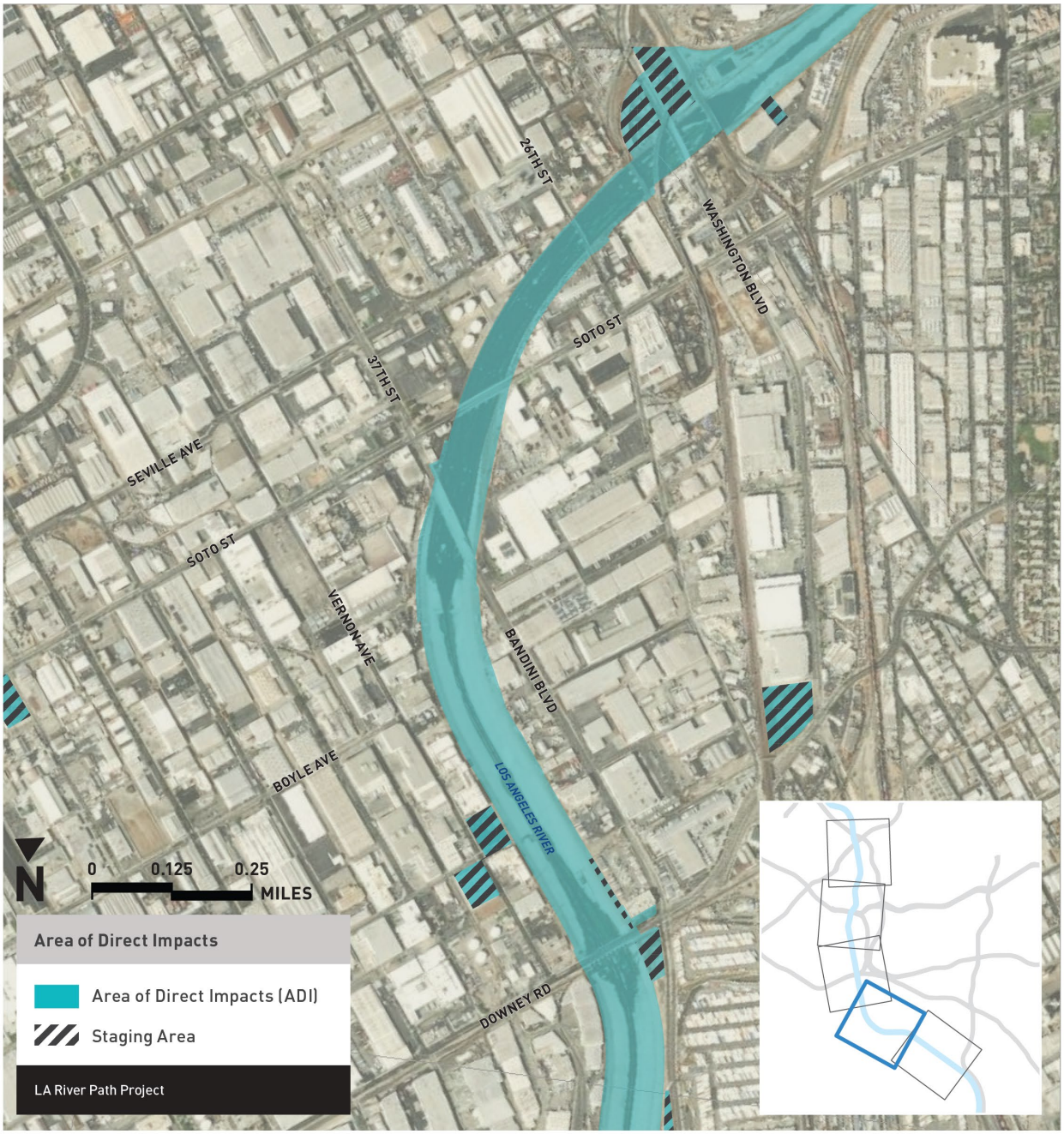
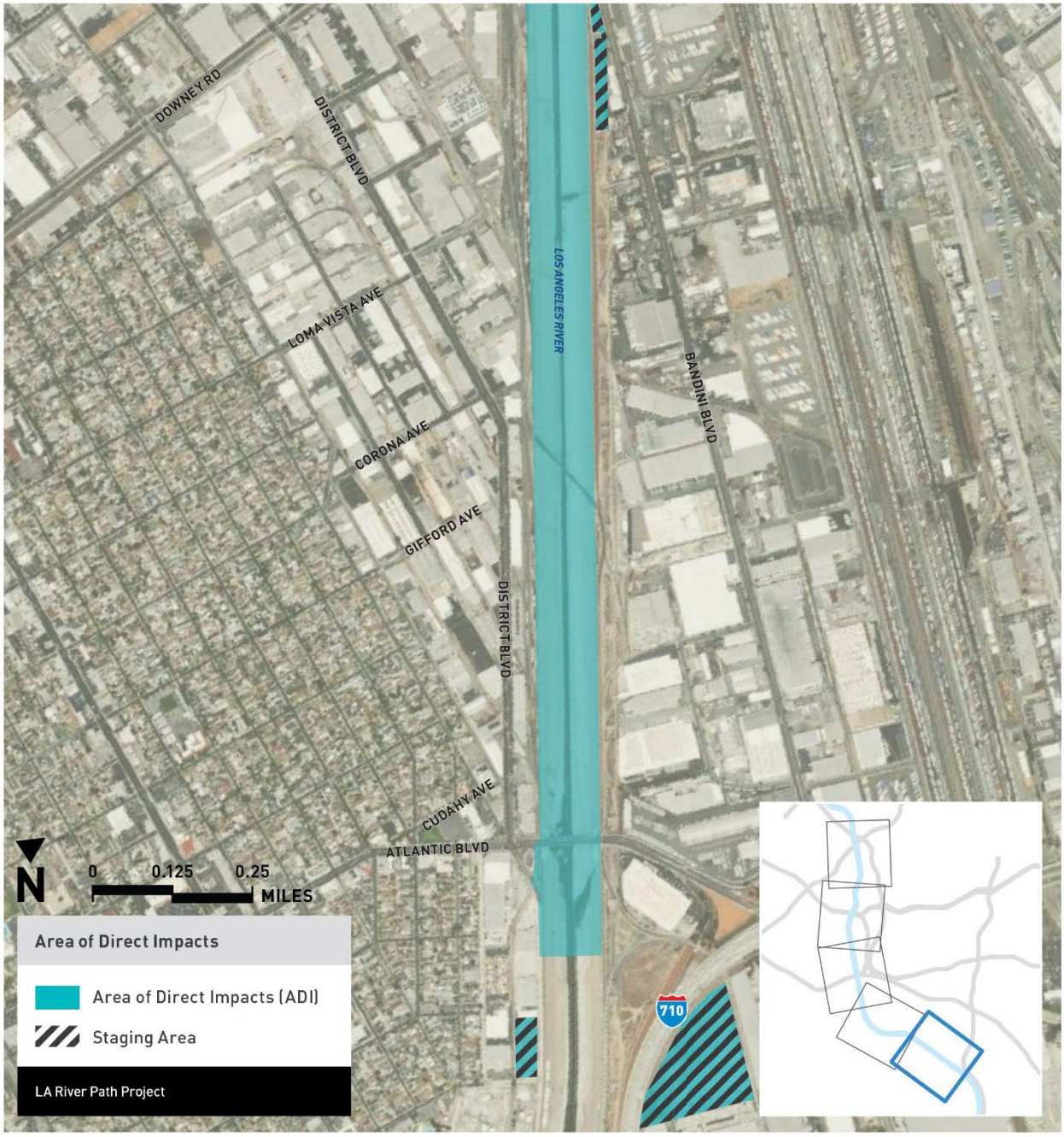


Figure 3.5-5. Archaeological Resources Area of Direct Impact Aerial Map, Segment 5



3.5.3.1.1 Data Sources and Standards

The following sources were used as part of this analysis:

- Records on file with the South Central Coastal Information Center (SCCIC) at California State University, Fullerton
- NRHP Digital Archive
- US Department of the Interior Bureau of Land Management (BLM) General Land Office (GLO) survey plat maps (BLM 1868, 1870, 1872, and 1874) and land patent records
- Historical 7.5-minute US Geological Survey (USGS) topographic quadrangle maps (USGS 1894, 1896, 1900a, 1900b, 1901, 1904, 1928, 1966, 1972, 1979, and 1981)
- Historical aerial imagery available at NETROnline.com (Nationwide Environmental Title Research LLC 2021)
- Preliminary Geologic Map of the Long Beach 30' x 60' Quadrangle, California. Version 2.0 (Saucedo et al. 2016)
- *Geologic Composition of Quaternary Surficial Deposits in Southern California. California Geological Survey* Special Report 217 (Bedrossian et al. 2012)
- Various online library collections, archives, and other repositories
- Historical periodicals, maps, and photographs
- CRHR, California Points of Historic Interest, California Historical Landmarks, and other information available through the California OHP
- General plans, including:
  - *City of Los Angeles General Plan* Conservation Element (City of Los Angeles 2001)
  - *City of Vernon General Plan* (City of Vernon 2015)
  - *Maywood General Plan* (City of Maywood 2007)
  - *City of Bell 2030 Comprehensive General Plan* (City of Bell 2018)
  - Los Angeles County's *General Plan 2035* (County of Los Angeles Department of Regional Planning 2022)
- Various Los Angeles County Metropolitan Transportation Authority (Metro) reports prepared for other recent projects

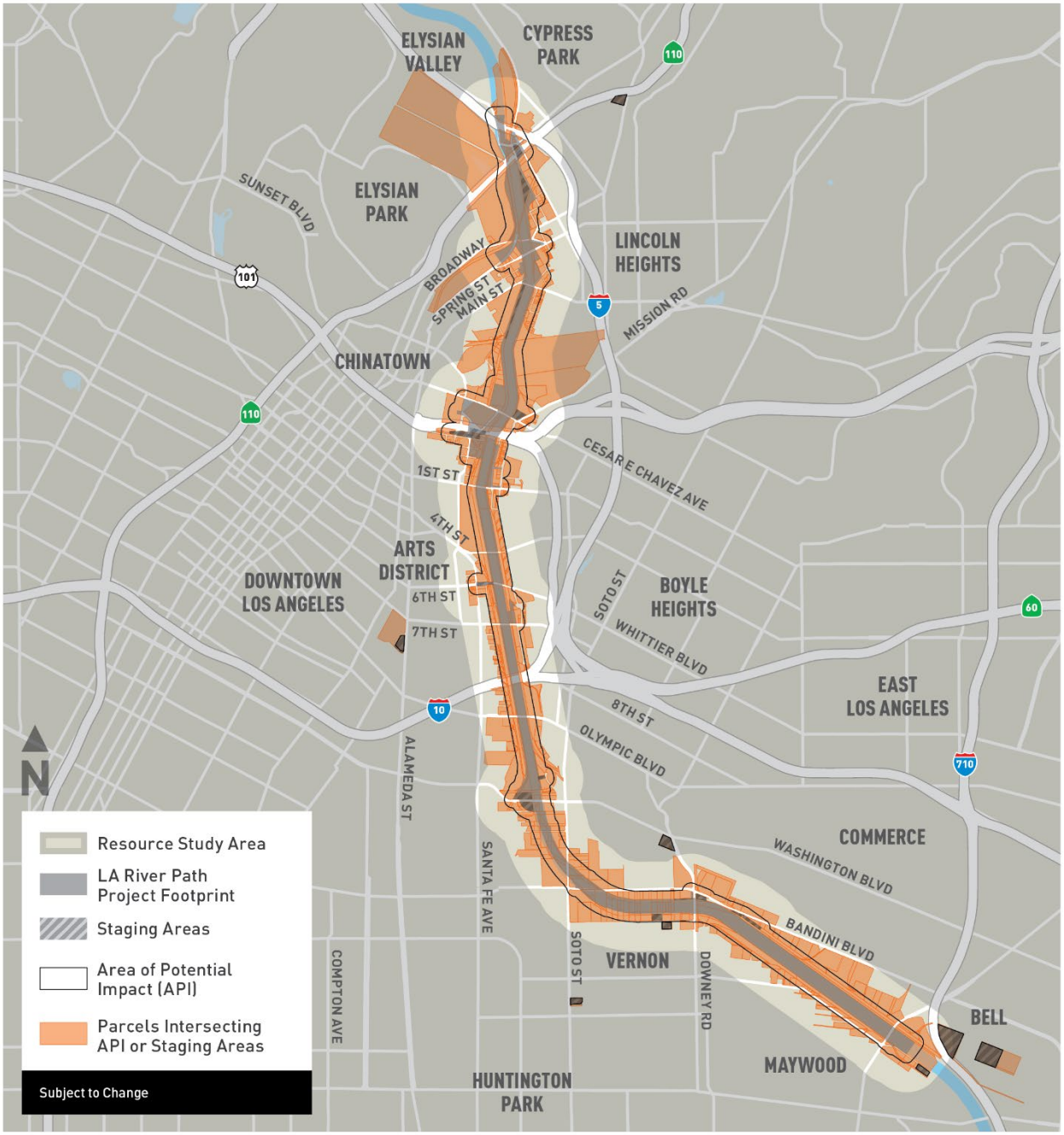
3.5.3.2 Built-Environment Historical Resources

3.5.3.2.1 Delineation of Areas of Study

For the purpose of identifying and analyzing impacts to historical resources within the built environment, two areas of study were delineated: a 0.25-mile radius RSA and a 300-foot radius area of potential impact (API). Both of these areas of study are based on the permanent and temporary footprints (including construction staging areas) that encompass the alignments and access points for the Proposed Project and its options. The RSA was used to conduct a records search and literature review and to draft a historical context for the built environment. The API is considered the extent within which potential impacts—both direct and indirect—to historic structures and buildings may

reasonably be expected to occur. As such, the API defines the area within which fieldwork was conducted, historical resources were identified, and impacts of the Proposed Project and its options are analyzed. Figure 3.5-6 is a map illustrating the footprint with the 0.25-mile radius RSA and 300-foot radius API.

Figure 3.5-6. Historical Resource Study Area and Area of Potential Impact Map



3.5.3.2.2 Records Search

This impact analysis included a detailed review of existing documentation relating to previously identified historical resources in the RSA. As part of this process, Historic Resources Group (HRG) conducted a cultural resources records search through the SCCIC at California State University Fullerton in December 2019. This records search entailed a review of all available cultural resource surveys and site records for the RSA, including the California Historical Resources Information System (CHRIS). CHRIS compiles data on properties listed in and determined eligible for listing in the NRHP, properties listed in and determined eligible for listing in the CRHR, California Historical Landmarks, California Points of Historical Interest, the California Historical Resources Inventory, and properties that have been evaluated through historic resources surveys and other planning activities. Other reviewed sources of information include California OHP's Built-Environment Resources Directory, the California Department of Transportation's (Caltrans') historic bridge inventories, the City of Los Angeles' City of Los Angeles Historic-Cultural Monument (LA-HCM) list and Historic Preservation Overlay Zone (HPOZ) Program, and the Los Angeles Historic Resources Inventory (HPLA).

3.5.3.2.3 SurveyLA

SurveyLA is the City of Los Angeles' citywide historic resources survey, which identified and documented potentially significant historic resources representing important themes in the history of Los Angeles. SurveyLA field surveys were conducted from 2010 to 2017 in order of Community Plan Area (CPA). The part of the API in the City of Los Angeles is also in portions of four CPAs surveyed by SurveyLA: Boyle Heights CPA (December 2014), Central City North CPA (September 2016), Northeast Los Angeles CPA (February 2017), and Silver Lake – Echo Park – Elysian Valley CPA (May 2014). For the purposes of this EIR, properties identified by SurveyLA as eligible for listing in the NRHP, CRHR, or for local designation as an LA-HCM or in the HPOZ Program are considered historical resources.

3.5.3.2.4 Community Redevelopment Area and Specific Plan Area Surveys

The Community Redevelopment Agency of the City of Los Angeles (CRA/LA) completed historical resources surveys in some areas within Redevelopment Project Areas. The City of Los Angeles also undertook historical resource surveys for a number of Specific Plan Areas. The part of the API in the City of Los Angeles is also in portions of three other survey areas: the Adelante Eastside Redevelopment Area (July 2008), the Cornfield Arroyo Seco Specific Plan Area (June 2011), and the Northeast LA River Revitalization Area (June 2012). As with SurveyLA, resources identified through recent CRA/LA surveys of Specific Plan Areas are not designated resources, but in practice are presumed to be historical resources for purposes of CEQA. Consistent with this practice, resources identified through these surveys are treated here as historical resources under CEQA. Intensive-level research and documentation of these properties was not conducted as part of this analysis.

3.5.3.2.5 Literature Review

In addition to conducting a records search for the RSA, an extensive literature review of the larger study area was undertaken to inform the development of the historic context, which in turn provides a framework within which to identify and evaluate additional potential historical resources within the API in the Cities of Los Angeles, Vernon, Bell, and Maywood.

3.5.3.2.6 Fieldwork and Documentation

Field surveys of the approximately 1,000 parcels that comprise the API were conducted from June 15 to 17, 2021. All parcels in the API were observed from the public right-of-way (ROW) to confirm the presence of previously identified historical resources, and to identify and document any additional properties that appear to meet criteria for listing in the CRHR that may be considered historical resources under CEQA. Consistent with the field methodology used for SurveyLA, parcels with a post-1980 date of construction (according to the Los Angeles County tax assessor) were screened from further consideration as historical resources under CEQA, unless observation in the field suggested a property might be of exceptional importance.

Previously identified historical resources were observed in the field to confirm their current status but were not reevaluated. All other developed parcels were observed in the field to determine if they appeared potentially historically significant and retained sufficient integrity to be eligible for listing in the CRHR. For properties that appeared potentially significant in the field, property specific research was conducted to establish significance, including date of construction, original use, original owner/occupant, architect, and alterations over time.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.5.3.3 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with cultural resources are based on the questions set forth in Appendix G of the CEQA Guidelines, as modified, and the definition of "substantial adverse change in the significance of a historical resource" set forth in Section 15064.5(b)of the CEQA Guidelines, as modified.

In particular, a significant impact to cultural resources would occur if the Project would do any of the following:

- **Impact CUL-1:** Cause a substantial adverse change in the significance of a built-environment historical resource as defined in Section 15064.5?
- **Impact CUL-2:** Cause a substantial adverse change in the significance of a unique or historical archaeological resource pursuant to Section 15064.5?
- **Impact CUL-3:** Disturb any human remains, including those interred outside of formal cemeteries?

A substantial adverse change in the significance of a historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surrounding such that the significance of the historical resource would be materially impaired. As defined by Section 15064.5(b)(2) of the CEQA Guidelines, the significance of a historical resource is materially impaired when the project demolishes or materially alters in an adverse manner those physical characteristics of the historic resource that convey its historical significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR or a local register.

This impact analysis distinguishes between two categories of potential impacts:

- **Direct Impacts**—These are primary effects that are caused by a project and occur at the same time and place (per Section 15358[a][1] of the CEQA Guidelines). They involve the demolition, material alteration, relocation or conversion of a historical resource and/or important character-defining features of a historical resource.

- **Indirect Impacts—**These are secondary effects that are caused by a project but occur at a different time or place but are still reasonably foreseeable (per Section 15358[a][2] of the CEQA Guidelines). They involve alteration to the surroundings of a historical resource that could remove part or all of the associated setting of a historical resource, or substantially impair or obscure the ability of the resource to convey its historical significance. Indirect impacts may also involve potential damage related to adjacent underground excavation and general construction procedures that could undermine the stability of a historical resource.

3.5.3.4 Project Features

As described in Chapter 2, *Project Description*, and Appendix C, *Project Features*, a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for cultural resources.

PF-AR-01, *Inadvertent Discovery of Human Remains*

In the event that human remains are encountered during construction activities, the human remains shall be treated in accordance with applicable state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate. California *Health and Safety Code* Section 7050.5, and *California Public Resources Code* (PRC) Sections 5097.94 and 5097.98 outline procedures to be followed in the event human remains are discovered during the course of California projects.

All construction affecting a discovery of human remains shall immediately cease until the Los Angeles County Medical Examiner-Coroner is contacted. The coroner must be contacted within 24 hours of the discovery of potential human remains as required by California Environmental Quality Act (CEQA) Guidelines Section 15064.5([e)]. The Los Angeles County Medical Examiner-Coroner must determine, within 2 working days of being notified, if the remains are subject to their authority. PRC Section 5097.98 requires no further disturbance and adequate protection of the immediate vicinity where the discovery occurred according to generally accepted cultural and archaeological standards and requires that any further activities consider the possibility of multiple burials. Adequate protection includes establishing a protective buffer around a discovery through exclusionary fencing or flagging.

If the remains are determined to be of Native American origin, the Los Angeles County Medical Examiner-Coroner shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC shall be asked to determine the most likely descendants, who are to be notified of a discovery and shall establish procedures for burial. All parties involved shall ensure that any such remains are treated in a respectful manner and that all applicable local, state, and federal laws are followed.

Additional applicable project features related to cultural resources include the following. Refer to Section 3.2, *Aesthetics and Visual Resources*, for additional detail.

PF-AES-05, *Aesthetic Treatments*

Materials, color, artwork, landscaping, or other aesthetic treatments shall be integrated into the design of the Project to minimize impacts, such as light glare, and to match or improve the aesthetic quality of the existing built environment.

3.5.4 Existing Setting

The following section describes the existing conditions for cultural resources.

3.5.4.1 Archaeological and Historic Context

3.5.4.1.1 Soils and Geology

The region surrounding the Project is primarily underlain by unconsolidated alluvial, or waterborne, deposits that were laid down in approximately the last 2.6 million years (Table 3.5-1). These can be divided into those deposited during the Pleistocene-Epoch (approximately 11,000 to 2.6 million years ago) and those that were deposited during the Holocene Epoch (that is, the last 11,000 years). Holocene-age deposits, which have the potential to bury and preserve cultural resources, and that have been mapped in the ADI include Alluvial Wash Deposits (geological map designation is Qw), Young Alluvial Fan Deposits (Qyf), and Young Alluvial Valley Deposits (Qya, Qya_2). The Pleistocene-age deposits within the ADI consist of Old Alluvial Fan Deposits (Qof).

Table 3.5-1. Sedimentary and Soil Units Mapped within the Area of Direct Impact

Map Unit/Description	Age	Subsurface Archaeological Potential
Artificial fill, variable, throughout study area	Historic to modern	Low; intact buried structures occasionally may be present within fill, or older structures constructed on older fill episodes may be present; however, the potential for CRHR-eligible properties is low because materials are likely not intact or lack historic integrity of location and association.
Qw/Alluvial wash deposits/within river channel, East side of river from US-101 to South Downey Road	Late Holocene	High; fill soils could overlay intact soils that have a high potential for undisturbed historic and/or pre-contact deposits or features between approximately 0 and 10 feet in depth, though Holocene soil depths may vary, or near the surface where no fill is present.
Qyf/Young alluvial fan deposit/west side of river from North Broadway to south end, east side of river from South Downey Road to south end of study area	Holocene and latest Pleistocene	High; fill soils could overlay intact soils that have a high potential for undisturbed historic and/or pre-contact deposits or features between approximately 0 and 10 feet in depth, though Holocene soil depths may vary.
Qya/Young alluvial valley deposits/east side of river from SR-110 to US-101	Holocene and latest Pleistocene	High; fill soils could overlay intact soils that have a high potential for undisturbed historic and/or pre-contact deposits or features between 0 and 10 feet in depth, though Holocene soil depths may vary.
Qof/Old alluvial fan deposits/east side of river from US-101 to South Downey Road	Late to middle Pleistocene	Low within approximately the top 1 foot of soil; low below this depth.
Tss/Tsh bedrock/west side of river from SR-110 to North Broadway	Pliocene to Miocene	No potential in bedrock. Moderate in soils that overlay the bedrock typically between approximately 0 and 1 foot in depth.

The Pleistocene deposits within the ADI are Qof deposits, which usually are early to middle Pleistocene and do not typically extend into the latest Pleistocene when humans were in the area. Therefore, the Qof deposits within the ADI have a low potential for cultural resources. There is a moderate to high probability for Holocene-age alluvial deposits to have buried and preserved cultural materials. A small portion of the Project is surrounded by bedrock that dates to more than 2.6 million years ago (Tss, Tsh). The bedrock itself has no potential for archaeological sites but may be covered in thin, modern alluvial deposits that have some archaeological potential. Such deposits would generally be on the order of approximately 1 foot.

The contact between Holocene and Pleistocene deposits is estimated based on geotechnical borings to be about 10 feet below surface, though the depth of deposits could vary throughout the Project area. The transition zone between Holocene and Pleistocene may contain very old and deep pre-contact deposits, though the archaeological potential decreases rapidly below this transition zone. This transition may be abrupt or gradual and may vary locally in depth based on the original local topography prior to development. Because the contact does not represent an instantaneous and continuous depositional event but rather a series of staggered erosional (for example, water scouring/gouging during floods) and depositional events (for example, overbank flood deposits), it is likely to undulate throughout the ADI and is not immediately predictable from surface observations.

Typically, soils develop in sediments that have been stable for hundreds to thousands of years and this is broadly true for the alluvial deposits discussed in this section. However, because of the heavily developed nature of the Project environs, virtually all traces of intact soils have been disturbed or obliterated. Consequently, sediments that underlie the Project are best described as artificial fill present locally and continuously within and along the ADI. Note that "fill" does not refer to purposefully placed sterile sediment but rather sediments that have been mixed and disturbed by human activities. In general, any cultural materials present within artificial fill typically lack integrity of location and association and would not meet the criteria for inclusion in the CRHR. Occasionally, intact buried structures are identified in artificial fill, but this is predominantly the case in depositional locations with long historic occupations that stretch back millennia.

The depth and lateral extent of these fill deposits is dependent on the original topography (for example, deeper in depressions and shallower on ridges and hills) as well as past and recent development activities in the ADI. Pockets of undisturbed soils may be present within these disturbed areas of fill, and intact archaeological resources may be present within these undisturbed pockets. Table 3.5-1 describes the soil units within the ADI and their potential for including intact archaeological deposits. The geology and soils within the ADI are depicted on Figures 3-1 through Figure 3-7 in Appendix G, *Archaeological Resources*. Based on the review of the geology and soils within the ADI, the entire Proposed Project and its options are in areas with potential for intact archaeological deposits.

3.5.4.1.2 Prehistoric Background

Abundant evidence exists that humans were present in North America for the past 20,000 years. Most chronological adaptations for prehistoric southern California, including the Los Angeles region, have been adapted from two primary regional syntheses commonly used for the southern California deserts: Wallace (1955, 1978) and Warren (1968, 1984). The first, advanced by Wallace in 1955 and then refined in 1978, uses major cultural developments to define four cultural horizons, each with characteristic local variations. The following chronology is based on adaptations of Wallace and Warren's works.

3.5.4.1.2.1 Paleoindian Period (12,000 to 9,600 Before Common Era)

The Paleoindian Period covers the interval from the first accepted presence of humans in southern California in the late Pleistocene until approximately 9,600 Before Common Era (BCE). Artifacts and cultural activities from this period represent a predominantly hunting culture; diagnostic artifacts include extremely large, often fluted bifaces associated with use of the spear and the atlatl. Populations appeared to have been relatively small and highly mobile, living in temporary camps near readily available water.

Ancient sites are known in southern California. In January 1936, Works Progress Administration workers were digging a storm drain along the LA River (north of Baldwin Hills) during which they recovered human bones from an ancient stream bed (Moratto 2004). In March 1936, imperial mammoth teeth were exposed at the same depth as the human remains (Moratto 2004). The next oldest early site in southern California where both human skeletal remains and artifacts have been found is the La Brea Tar Pits (CA-LAN-159). The Arlington Spring site on Santa Rosa Island has provided occupation dates as early as 13,000 years old; the discovery of Arlington Springs Man is the second find in North America that is dated to this period (NPS n.d.).

Two clusters of Paleoindian sites are reported to be located in coastal southern California. One cluster runs between San Luis Obispo and Santa Barbara, which includes sites found on the Channel Islands; the second cluster of sites is reportedly located in San Diego County (TKC and SRI 2005).

3.5.4.1.2.2 Early Holocene (9,000 to 5,600 Before Common Era)

The first groups to inhabit California (for which there is significant evidence) are described as hunters and gatherers with specialized bifacial projectile points, well-made scrapers, knives, and many other tools designed for subsistence related tasks (food processing). They adapted to a number of environments and developed a variety of secondary subsistence strategies that enabled them to live in a changing environment (Pleistocene to Holocene). As the (Wisconsin) Ice Age ended, previously stable water sources began to dry up in inland California, prompting migrations to the coast. California's islands were occupied as early as 9,600 to 9,000 BCE, as indicated by the oldest levels at Daisy Cave on San Miguel Island. Southern California dwellers exploited a wider range of plants and animals, and the archaeological record shows that a greater emphasis was placed on gathering wild grasses and seeds, rather than hunting large mammals. Coastal groups, including those living on the islands off California's coast, used marine resources such as shellfish, fish, sea lions, and dolphins. Shell midden sites of the early Holocene are characterized by cobble tools, basin metates, manos, discoidals, and flexed burials (Byrd and Raab 2007).

3.5.4.1.2.3 Millingstone Period (5,600 to 3,000 Before Common Era)

At the start of this period, also called the Middle Holocene Period, milling stone cultures appeared throughout central and southern California. This period represents an adaptive subsistence shift indicated by the first occurrence of milling stones (manos and metates) that were used to process hard seeds like sages (*Salvia* sp.) and California buckwheat (*Eriogonum fasciculatum*). Sites from this period are characterized by the majority of artifacts being manos and metates, suggesting the importance of vegetal resources. Most of these sites are located in grassland and sagebrush communities where these hard seeds could support small populations on a yearly basis. Late fall and winter were difficult seasons when vegetal foods were scarce, and their diet had to be supplemented with deer and small mammal hunting and shellfish collecting (Tartaglia 1976).

This period's sites are found in a wide range of environments, and the flourishing of new economies, including greater plant exploitation, is seen both in the desert as well as on the coast during the Millingstone Period. Olivella (*Olivella biplicata*) shell beads have been found in southern California desert sites, indicating the beginnings of trade with the coast. Diagnostic artifacts recovered from Millingstone Period archaeological sites include heavy keeled scrapers, metates, manos, cogged stones, discoidals, and doughnut stones. The mortar and pestle are largely uncommon during this period. Though Pinto series projectile points, which are large, coarsely made points indicating the continued use of darts and atlatls, are found in other parts of the region (Warren 1984), in coastal southern California, projectile points are rare (TKC and SRI 2005).

Milling stone cultures were quite diverse. Large sites have been well documented along the coast as well as inland. Archaeological evidence of extensive trade networks between southern California and the Southwest has been found. Rare artifact types, including the marine purple olive shell, indicate that trade networks extending from Catalina Island through the Mojave Desert and into Oregon were extant in the Middle Holocene (Byrd and Raab 2007).

3.5.4.1.2.4 Intermediate Period (3,000 Before Common Era to Common Era 1,000)

This period has other commonly referred to monikers such as the Gypsum Period in other desert regions of southern California; it is considered to be a continuation of the Middle Holocene for the Southern Bight regions (which southern Los Angeles County belongs to) and is called the Intermediate Period for Orange County and inland Los Angeles County. This era is marked by the increase of flaked tool technology. This period also gave rise to the use of mortar and pestle, and the mano and metate were relied upon to a lesser degree. This may indicate a shift in harvesting food types; with the introduction of the mortar and pestle, it is clear that acorn processing was practiced and preferred over small seed harvesting. Perhaps, due to the change in resource exploitation, settlements become became more sedentary.

Temporary settlements (comprised of 10–25 individuals per family) have been recorded. These sites were seasonal campsites for exploiting yuca (*Manihot esculenta*) and acorns from April throughout September. The seasonal pattern has been documented as regional variations in sites in southern California (King 1971). These sites are characterized by plant processing tools (scraper planes, milling stones, and earth ovens—necessary to prepare yuca) and an absence of hunting implements. This period had an intensive exploitation of the environment with reliance on no particular food resource. Characteristic features of this period also include crude chopping tools, large projectile points, manos and metates, purple olive shell beads, quartz crystals and cog stones, few ornaments, earth roasting pits, extended posture burials, reburials (secondary interment), and rock cairns (Wallace 1955). The first evidence of cemeteries is recorded during this period, and based on the relative absence of nonutilitarian artifacts, an egalitarian social system was likely to have been in operation (Tartaglia 1976). Recent evidence indicates that the first permanent villages may have been erected on San Clemente Island (Byrd and Raab 2007). The presence of daub (a mud mixture) at coastal sites indicates that at least some of the villages along the coast may have had permanent structures (Strudwick 2005). Testing of archaeological materials in Redondo Beach and neighboring Hermosa Beach has resulted in occupation dates extending over 5,000 years (Greenwood & Associates 1990).

3.5.4.1.2.5 Late Historic Period (Common Era 1,000 to Historic Period)

During this period, there was a strong reliance on plant food gathering and hunting of small game, and a decreased reliance on large game (Warren 1984). This period is marked by an increase in

population size and cultural complexity. This is not only represented by large material assemblages but by the diversity of items, including the rise in use of nonutilitarian objects. Seasonal movement was still common, and it resulted in a diverse array of site types. For the populations in southern California, characteristics of large village sites include steatite bowls and other containers, bone tools, shell and steatite ornaments and beads, Desert series and Cottonwood projectile points, buffware and brownware ceramics, and milling tools. During this period, interment practices are distinguished by the amount and types of burial goods. Coastal trade continued to develop and expanded to desert groups.

The Late Prehistoric Period is characterized by a larger number of more specialized and diversified sites. Population increased substantially and is reflected in a greater number of sites recorded during this time period. This period is characterized by large village sites, tightly flexed burials, bow and arrows, arrowshaft straighteners, ollas (jars) and comals (cooking flats), personal ornaments, pottery vessels, circular shell fishhooks, an extensive trade network, a wide variety of ritual objects, and large stone bowls (Wallace 1955). Elaborate mortuary artifacts are recovered from sites of this period.

Villages were erected in the same general locations as they did in earlier time periods, but they increased in size and decreased in number; base camps were often associated with villages. There was also an increase in the number of specialized and/or diversified sites. Trade was extensive during this period and long distances are reflected in artifacts recovered from the American Southwest (pottery) in California sites, while steatite objects and Pacific Coast seashells were found in American Southwest sites. Many more classes of artifacts have been uncovered in the archaeological record from the Late Period, and they reveal a higher order of workmanship. Larger and more extensive settlement systems are evident, likely a byproduct of a more intensive subsistence base exploiting all of the available food resources. The bow and arrow were introduced along with other aspects of their culture being expanded (population growth, more complex social system, and trade network).

New studies indicate that culture change in southern California may have been rapid, rather than gradual. Overexploitation of resources may have caused shifts to new resources that occurred in greater amounts (Byrd and Raab 2007). On the coast, intensified fishing and small sea mammal hunting replaced hunting of large sea mammals and shellfish collection. Fish resources were concentrated on smaller nearshore species, rather than on deep sea resources. Vegetal resources focused on grasses rather than acorns and direct evidence for acorn use is minimal at Late Holocene sites. Changes in subsistence strategies in late prehistoric California appear to be related to overexploitation of preferred resources, leading to a shortage of the desired resource, followed by shifts to more costly resources (Byrd and Raab 2007).

Village sites that have yielded important information about this period include the village sites at Goleta Slough: Helo, Saxpilil, Geliec, Alcas; the Palmer-Redondo site CA-LAN-127; Yaanga (CA-LAN-1575/HP 19 001575); and the Old Salt Lake site of Engva.

Site P-19-001575 (CA-LAN-1575/H) is a multicomponent site located around Los Angeles Union Station (Union Station). The multicomponent site includes archaeological evidence from the prehistoric through the historic periods. The prehistoric and protohistoric components of the site include Native American internments associated with the site led to the probable association of the area with the Gabrielino village of Yaanga, described in historical accounts as located at the site of the later Pueblo de Los Angeles (Greenwood & Associates 1994). Radiocarbon dates returned from the analysis of the human remains indicate that the location was used for Native American mortuary activities for nearly 1,000 years. Recent archaeological investigations for the Patsaouras Plaza project, directly adjacent to the ADI, have identified numerous historic-era artifacts and features and Native American human remains. As a result, this area is considered to be highly sensitive for the presence of

intact archaeological features and deposits, including Native American human remains. Aside from the human remains, numerous projectile points, flake tools, bowls, metates, and beads have been identified within the portions of the site associated with Yaanga village.

3.5.4.1.3 Ethnohistory (Gabrielino Context)

The study area is located within the traditional occupation areas of the Gabrielino Tribe (also known as the Gabrieleno or Gabrieleño). This group was given the Spanish name after Mission San Gabriel, the mission they were removed to, but within the Gabrielino some tribes identify themselves by their traditional names as Tongva or Kizh. Spanish records and early ethnographies describe this group as "mission Indians" and refer to them by their Spanish moniker, not by their native name for themselves.

Los Angeles County was the pre-European territory of the Gabrielino. The following is a summary from McCawley's work, *The First Angelinos: The Gabrielino Indians of Los Angeles* (1996), which is a comprehensive study of the Gabrielinos. The Gabrielinos' language belongs to the Takic sub-family of the Uto-Aztecan language stock. The territory of the Gabrielino was comprised of inland valleys and coastal plains and spanned from Topanga Canyon (Los Angeles County) in the north to El Toro (Orange County) in the south; Catalina, San Clemente, and San Nicolas Islands in the Channel Islands; and the San Gabriel and San Bernardino inland valleys in the east (McCawley 1996).

Pre-European contact population numbers are difficult to assess due to discrepancies in the record. In 1852, Scottish-born Los Angeles resident Hugo Reid published letters about the Gabrielino lifeways and he believed there were some 68 villages, 28 of which he identified in Los Angeles County (McCawley 1996:25). Each village was reported to have contained an average of 100 people and McCawley (1996) offers an estimate of over 5,000 Gabrielinos at the time of contact.

Distribution of settlements did not fall into a consistent pattern throughout the Gabrielino territory; this was in large part due to the diverse ecological zones within the Gabrielino territory boundaries, which included coastal areas, islands, valleys, and foothills. Villages were placed where there was access to varying types of environments and resources, and a system of satellite camps stemming from main villages for the specific procurement of resources was then established. The level of use of these satellite campsites was in direct response to population and village size as well as distance from the main village to the campsite (The Keith Companies 1994).

Ethnographies have not consistently documented the indigenous groups of southern California. Often various tribes, such as the Chumash, the Gabrielino, and the Luiseño, have been intertwined so that it becomes difficult for the researcher to distinguish one from the other in the written record. Due to this discrepancy, architecture for the southern groups and documentation for the use of space are largely unknown (Ciolek-Torrelo 1998). What is known is that domestic structures for southern California groups were constructed of reeds, grass, and tule. The Gabrielino houses were semi-subterranean structures built by erecting a pole at the center of an approximately 2.5-foot-deep circular pit; postholes would have been dug around its circumference into which willow reeds would be placed, leaned toward the center and secured, then covered in tule and grasses. While neighboring groups covered their houses in daub, it is reported that the Gabrielino did not; however, their sweat lodges were covered in daub after construction (Bean 1974; Ciolek-Torrelo 1998; McCawley 1996).

Neighbors of the Gabrielino included the Chumash and Tataviam in the north, the Serrano to the east, the Cahuilla to the southeast, and the Luiseño and Juaneño to the south.

3.5.4.2 Built-Environment Historic Context

The built-environment historic context developed for the Project describes the historical development of the LA River and adjacent communities over time. The purpose of this historic context is to highlight trends and patterns critical to the understanding of the built environment and to provide a framework for identifying and evaluating potential historical resources within the Proposed Project API. The historic context is organized into three themes: the history and development of the LA River itself; the construction of the many bridges crossing the river; and the development of the railroads and associated industrial districts along the river.

3.5.4.2.1 Theme: The LA River

Exploration and Early Settlement Along the River. The LA River was a historical focal point for the earliest human inhabitants of the Los Angeles Basin. The 1700s marked a period of Spanish colonization and settlement within the Los Angeles Basin. Many scholars believe Juan Bautista de Anza's 1776 expedition from New Spain (Mexico) to San Francisco (NPS 2021) camped along the LA River. The Pueblo de los Ángeles was founded by the Spanish in September of 1781 along the west bank of the LA River. Within a month of the pueblo's founding, the Zanja Madre (or "Mother Ditch") was constructed to carry water from the river to the pueblo (Peleg 2017). This irrigation ditch ran from a point near the present-day North Broadway Viaduct, along the base of the bluff to the pueblo's central plaza, forming the first portion of what would become Los Angeles' original water system. By 1904, this system of irrigation ditches was largely abandoned.

Flooding in a Growing City. Reports from the California missions indicate that severe flooding along the LA River was a regular occurrence (Geosyntec 2021). Some of these floods were substantial enough to alter the course of the river itself, which posed greater hazards to human habitation as the region became increasingly populated (Gumprecht 2001). In 1815, the river flooded both the plaza and the village of Yang-na, re-routing the river's path closer to the plaza, along present-day North Spring Street (Water and Power Associates 2021). As a result, in 1818 the plaza was relocated to higher ground, where it is today. As the Los Angeles region continued to grow in the 1880s, the flood danger grew with it (Gumprecht 2001). Construction activity along the LA River altered the topography and ecology of the flood plain by reducing the land area available to absorb rainfall and runoff, such that even smaller flooding events would cause substantial damage (Orsi 2004).

In February 1914, the Los Angeles region experienced what was considered the most damaging flood to date, which caused significant damage to infrastructure networks and commercial and industrial operations located near the river. This flood took place just four months after the completion of William Mulholland's Los Angeles Aqueduct, which replaced the LA River as the region's primary source of water. In response to these two events, the 1915 Los Angeles County Flood Control Act established the Los Angeles County Flood Control District (LACFCD) and empowered it to develop a comprehensive flood control program (Gumprecht 2001). Soon thereafter, the LACFCD's chief engineer proposed channelization of the LA River to control downstream impacts.

US Army Corps of Engineers and the Channelization of the LA River. More destructive flooding occurred in 1934, spurring the development and passage of the Flood Control Act of 1936, which allowed the US Army Corps of Engineers (USACE) to take a lead role in supervising permanent future flood control plans for the region. The Flood Control Act of 1938 authorized the USACE to prepare the first comprehensive flood control effort for the LA River (LACDPW 1996). In 1939, the first segment of trapezoidal concrete channel was completed at the border of Los Angeles and the City of Vernon (Gumprecht 2001).

The design of the channel itself varied substantially depending on the conditions of the river and existing surrounding development. Channelization required the removal of trees and vegetation and the lowering and straightening of the riverbed's natural path to increase water flow. Due to the presence of freshwater springs, the Elysian Valley is one of the few sections of the river that has not been channelized. The last section of concrete channelization was completed in November 1959 (LACDPW 1996). While the USACE's channelization of the LA River was successful in controlling damaging flood events, it consequently separated the river from the rest of the City.

LA River Renaissance. As successful as USACE's channelization of the LA River was in controlling damaging flood events, it was equally successful at separating a city from its river. Recognizing the river's potential for habitat restoration, open space, and recreation, Friends of the LA River (FoLAR) began its fight to re-establish the river's identity as one of the region's great natural amenities (FoLAR 2021). In 2005, FoLAR and the City of Los Angeles developed a program to install iconic signs at river crossings, effectively branding the LA River and alerting passersby to its presence. Efforts to reclaim, reimagine, and restore the LA River to a more natural habitat have resulted in various plans and studies over the years, including the *Los Angeles River Master Plan* (LACDPW 1996, 2022); the *Los Angeles River Revitalization Master Plan* (City of Los Angeles Bureau of Engineering [BOE] 2007); the *Los Angeles River Ecosystem Restoration Integrated Feasibility Report* (USACE 2015); and the updated *LA River Master Plan* (Los Angeles County Department of Public Works 2022). Although isolated projects have been realized along certain portions of the LA River, to date none of these comprehensive plans have been successfully implemented.

3.5.4.2.2 Theme: LA River Bridges

The story of the bridges constructed across the LA River is a reflection of the development of Los Angeles. These bridges enabled the growth and expansion first of the pueblo, and then of the burgeoning city. They carried the railroads that brought people and goods to the region, and distributed Southern California's abundance of agricultural and manufactured products throughout the country. In the first half of the 20th century, the LA River bridges were a demonstration of Los Angeles' enthusiastic embrace of the automobile. In the postwar era, the bridges were evidence of the ways in which the city was being transformed by widespread suburbanization and an extensive system of freeways. Today, new bridges across the LA River represent the city's return to a more diverse transportation ecosystem that incorporates pedestrians, bicyclists, and mass transit.

Early Bridges Across the LA River. The bridge structures over the LA River have evolved considerably over time, however the locations of these bridges have remained consistent. Typically, the earliest bridges were either relatively short-lived wooden structures, or sturdier iron-truss bridges constructed by the railroads. An 1894 perspective drawing of Los Angeles depicts nine bridge structures over the LA River, all of which were historically situated within the Proposed Project footprint. Historic flooding events resulted in damage to these river crossings, and none of the earliest LA River bridges survive today. Of the 31 existing bridges that span the LA River within the Proposed Project footprint, only the Metrolink Mission Junction Railroad Bridge North (Yuma Main Connector) dates from this early period of bridge building. Continuing flooding events often rendered bridges impassable, if they did not wash them away completely.

City of Los Angeles Monumental Bridges, 1910–1932. By the early 20th century, the City's booming population required upgraded capacity for railroads, roadways, and other transportation infrastructure, including building more and better bridges across the LA River. Homer Hamlin, a City Engineer with the BOE, initiated a program for the systematic replacement of existing bridges over the LA River with reinforced concrete structures that were "permanent, adequate for future needs, and at the same time sightly" (HAER 2002). The first two LA River bridges to be designed under the BOE's new policy were

the North Main Street Bridge (Caltrans Bridge 53C1010), a 311-foot open-spandrel concrete-arch bridge designed in the Beaux Arts style, and the North Broadway Viaduct (Caltrans Bridge 53C0545), at the time the longest and widest concrete bridge in California (Los Angeles Conservancy 2008), as well as the first open-spandrel arch bridge in the state (Caltrans 1990).

Under the stewardship of Merrill Butler, the BOE designed and constructed nine monumental LA River bridges in Downtown Los Angeles over a period of just seven years. The Ninth Street Viaduct (Caltrans Bridge 53C0163) replaced the old Ninth Street Bridge, which was later renamed the Olympic Boulevard Viaduct to commemorate the 1932 Olympic Games held in Los Angeles. In 1926, the Macy Street Viaduct (now the Cesar E Chavez Avenue Viaduct, Caltrans Bridge 53C0130) replaced the old steel-truss Macy Street Bridge. This is the only one of the monumental LA River bridges designed in the Spanish Baroque style, in honor of its location along the historic El Camino Real.

In 1927, the Seventh Street Viaduct (Caltrans Bridge 53C1321) constructed an upper-deck addition atop a 1910 at-grade streetcar bridge to span the railroad tracks along the river. The lower deck is no longer functional. Two LA River bridges were constructed in 1928. The North Spring Street Viaduct (Caltrans Bridge 53C0859) replaced the old metal-truss Spring Street Bridge. The Dayton Avenue Bridge, another open-spandrel concrete-arch bridge, was demolished in 2014 and replaced with the new Riverside Drive Viaduct just to the north (Caltrans Bridge 53C2355) However, remnants of the original Dayton Avenue Bridge—known colloquially as the "Riverside Ruins"—remain along the west bank of the river.

The First Street Viaduct (Caltrans Bridge 53C1166) is a 1,300-foot structure that spans the LA River and Santa Fe Railway in 28 spans. The Fourth Street Viaduct (Caltrans Bridge 53C0044), which replaced the last remaining wooden bridge in Downtown Los Angeles in 1931, is one of only two LA River bridges to depart from the Beaux Arts and Classical aesthetic, instead using a Gothic Revival design (Los Angeles Conservancy 2008). The Washington Boulevard Bridge (Caltrans Bridge 53C1375), completed in 1931, is notable primarily for the terra cotta frieze panels on its four monumental pylons, which prefigures the style and themes of the Works Progress Administration (WPA) Federal Art Project of the late 1930s (Caltrans 1990).

Completed in 1932, the Sixth Street Viaduct (Caltrans Bridge 53C1880) was the last of the monumental LA River bridges (Los Angeles Conservancy 2008). This steel-arch structure was also the first bridge in Los Angeles to incorporate Moderne and Art Deco elements. The original Sixth Street Viaduct was demolished in 2016; its replacement (Caltrans Bridge 53C2329) was completed in 2022. In 1979, the Macy Street Viaduct (now the Cesar E Chavez Avenue Viaduct) became the first of the monumental LA River bridges to be locally designated as an LA-HCM. In 2008, a collection of 11 additional LA River bridges were locally designated as what the Los Angeles Cultural Heritage Commission called "one of the largest and most architecturally significant groupings of historic bridges in the State of California and the United States."

Roadway LA River Bridges in Vernon. The LA River bridges erected in the City of Vernon during this same period embraced similar concrete-arch technology and Neoclassical design elements as the City of Los Angeles bridges. The Soto Street Bridge (Caltrans Bridge 53C0867), built in 1928, is a five-pier open-spandrel concrete-arch bridge. The 26th Street Bridge (Caltrans Bridge 53C0868), built around 1930, is a three-span closed-spandrel concrete-arch bridge and originally featured a decorative concrete guardrail with a Roman lattice pattern, similar to the North Main Street Bridge. Two LA River bridges were constructed in Vernon in 1931. The Pasadena Avenue Bridge (now the Atlantic Boulevard Bridge, Caltrans Bridge 53C0252), a seven-span closed-spandrel concrete-arch bridge designed in a simplified Neoclassical style, and at-grade Downey Road Bridge (Caltrans Bridge 53C0576) composed of 12 concrete and steel girder spans with concrete piers.

Railroad Bridges over the LA River. During the 1920s, railroads were moving more trains and more railcars than ever, thus requiring additional grade separations and improvements to existing bridge infrastructure. This resulted in new rail bridges over the LA River including a new bridge near the site of the Union Pacific Southern Railway Bridge at Downey Avenue in Vernon (now the BNSF Railway Bridge at Downey Road).

In the mid to late 1930s, an expansion program for Mission Junction required the reconfiguration of tracks and improvements to the LA River crossings. The existing Mission Tower Bridge No. 1 (now the Metrolink Mission Junction Railroad Bridge North [Yuma Main Connector]) was expanded to accommodate a double-track reverse loop. In 1937, a new single-tract bridge, Mission Tower Bridge No. 2 (now the Metrolink Mission Junction Railroad Bridge South [San Gabriel Connector]) was constructed for Union Pacific ("Mission Tower" 1939). Around 1950, the Los Angeles Junction Railway bridge, a single-track, steel sectional railroad bridge, was constructed across the LA River at District Boulevard in Vernon (now the BNSF Railway Bridge at District Boulevard) to connects parts of the Central Manufacturing District on opposite sides of the river. By 1955, the words "Los Angeles Junction Railway" had been painted along the side of the bridge ("Los Angeles Junction" 1955).

Freeway Bridges over the LA River. The bridge that now carries the northbound lanes of the Pasadena Freeway over the LA River (SR-110 Bridge S, Caltrans Bridge 53-0042R) was constructed in 1936 as the Figueroa Street Viaduct. At the time of its construction, the 200-foot steel girder main span was the largest of its type in the nation (Caltrans 1990). The Arroyo Seco Parkway, constructed in 1940, originally terminated at the Figueroa Street Viaduct. However, in 1944, the parkway's Southerly Extension was constructed, supplementing the Figueroa Street Viaduct and Tunnels with a new southbound roadway (SR-110 Bridge N, Caltrans Bridge 53-0042L).

Los Angeles' exponential population growth during and after World War II accelerated efforts to build a regional freeway system in Southern California. In 1939, construction began on a new Highway 101 bridge (US-101 LA River Bridge, Caltrans Bridge 53-0405) across the LA River and was finally completed in September of 1944. In 1955, a second bridge structure was constructed immediately to the north, effectively doubling the US-101 bridge over the LA River.

The 4-mile-long I-10/Santa Monica Freeway bridge (I-10 Santa Monica Viaduct, Caltrans Bridge 53-1301) was completed in 1959. This complex structure a component of the freeway system that crosses over the LA River at one point. The I-5 Elysian Viaduct (I-5 Viaduct, Caltrans Bridge 53-1424) was constructed in 1962. With 21 spans, this freeway bridge crosses over the LA River adjacent to Elysian Park, as well as the railroad tracks along the east side of the channel, San Fernando Road, Riverside Drive, and both the northbound and southbound portions of the Arroyo Seco Parkway/Pasadena Freeway.

Bridges for an Evolving City. Of the 31 LA River bridges located within the Proposed Project API, nearly all except the newest structures have undergone substantial upgrades since their original construction, many of them multiple times. Interventions have included seismic retrofitting, bridge widening, adding light rail lines, adding or improving sidewalks, adding bike lanes, historic rehabilitation and restoration, and replication of missing architectural details. After the 1971 San Fernando earthquake, Caltrans created the Seismic Retrofit Program, which completed improvements to a number of LA River bridges during the 1970s. Following the 1989 Loma Prieta earthquake in the San Francisco Bay Area, Caltrans sponsored additional retrofit research which resulted in updates to the existing seismic safety standards. The 1994 Northridge earthquake resulted in an acceleration of the Seismic Retrofit Program. This work is ongoing.

New bridges have been constructed to accommodate options to the automobile. In 1989, the western leg of the 11-mile-long El Monte Busway (begun in the 1970s) was finally completed, linking the busway to Union Station. Part of this project was the construction of the El Monte Busway Bridge (Caltrans Bridge 53-2673) over the LA River, which runs parallel to the US-101 freeway bridge immediately to the north. In 1995, a new railroad bridge was constructed just north of the North Broadway Viaduct, where the Salt Lake Railroad first erected a wooden bridge in the 1870s. This crossing has been reconstructed and replaced multiple times over the decades. The current bridge has been upgraded to accommodate the expansion of the Metro A Line light rail system. In 1998, it was announced that a new flyover commuter rail bridge was to be built in the City of Vernon to reduce travel times for Metrolink and Amtrak trains traveling to and from Union Station. The BNSF-Redondo Junction Flyover in the City of Vernon (Redondo Junction Grade Separation, Caltrans Bridge 53C2081), completed in 2001, spans the LA River, Washington Boulevard, Soto Street, two sets of railroad tracks, and several large industrial properties situated along the river.

In 2017, the new Riverside Drive Viaduct (Caltrans Bridge 53C2355) replaced the 1939 steel-truss Riverside-Figueroa Bridge (demolished in 2014), which itself replaced the 1928 concrete-arch Dayton Avenue Bridge. The existing concrete girder bridge is located just north of the previous crossing and incorporates a protected pedestrian path, bike lanes, and three viewing balconies. The new Sixth Street Viaduct, which opened in Summer 2022, replaced the 1932 steel-arch Sixth Street Viaduct. The new viaduct measures approximately 3,500 feet in length with 10 sets of soaring outward-canting arches. The project also incorporates the Sixth Street Park, Arts, River, & Connectivity Improvements (PARC) project, a 12-acre park underneath the new structure with a public arts plaza, open and recreational space, and access to the LA River (City of Los Angeles Department of Public Works 2021).

3.5.4.2.3 Theme: Railroad and Industrial Development Along the LA River

Prior to the 1870s, only local rail lines ran through Los Angeles. However, the opening of the SPRR line to San Francisco in 1876 linked the city with the transcontinental railroad, an event that would change everything for the burgeoning city. In 1876, the SPRR line to San Francisco linked the City with the transcontinental railroad, bringing in new settlers and tourists to the region during the late 19th century. The railroads would soon become the driving force behind the LA River's rapid industrialization in the late 19th and early 20th centuries. Development of the railroads in Los Angeles was closely tied to the LA River. Both passengers and freight were carried along rail lines built along the river's banks, thus prompting the development of railroad infrastructure along the river.

Arrival of the Transcontinental Railroad. In 1872, Southern Pacific proposed building a rail connection in Los Angeles that would extend north to San Francisco and Sacramento, and east to Yuma, Arizona and beyond. By 1873, Southern Pacific had started laying tracks from a parcel north of the pueblo and immediately adjacent to the LA River—the new "Los Angeles Junction"—northbound toward San Francisco (AECOM 2012). By 1875, the supporting rail facility itself was under construction, including a depot, a small freight house, and several shop buildings (AECOM 2012). Upon its opening later that year, Los Angeles Junction—later renamed "River Station"—was already a regionally significant transportation hub, and by 1876, Los Angeles was connected to the East Coast via the transcontinental railroad (California State Parks 2005).

By the mid-1880s, the River Station included a 26-stall roundhouse with turntable, coaling and wood house, full set of maintenance shops, a large icing facility, as well as a new passenger depot with a hotel and restaurant. For the next decade, River Station served as the main headquarters for Southern Pacific's operations for both passenger and freight service (California State Parks 2005). In 1886, the Santa Fe Railway constructed its first route to Los Angeles through the Cajon Pass and the Southern

Pacific made an agreement to allow the Santa Fe Railway to use River Station for its passenger service, noted on timetables as "Union Depot" (California State Parks 2005).

Expansion of Passenger Service and the Creation of Union Station. In 1888, Southern Pacific relocated its passenger service from River Station to the new Arcade Depot—a large, wooden Romanesque-style train shed with extensive garden—erected at Alameda and Fourth streets. In 1893, the Santa Fe Railway purchased land on the west bank of the LA River, along Santa Fe Avenue just south of First Street, where they erected La Grande Depot, a lavish and exotic brick passenger station. Union Pacific purchased a 50% interest in the San Pedro Los Angeles and Salt Lake Railroad Company and constructed a Victorian-style passenger terminal in 1891 on the east bank of the LA River, just south of the First Street Bridge. As early as the 1890s, there was discussion around the need for a "Union Station" in Downtown Los Angeles to eliminate the need for multiple passenger depots.

The Union Station Passenger Terminal (LA-HCM 101, listed in the NRHP), designed in the Spanish Colonial Revival-style with Moderne detailing, opened to the public in May 1939. The new facility not only consolidated the passenger rail operations of the Southern Pacific, Santa Fe, and Union Pacific, as well as those of local lines such as the Pacific Electric Railway and Los Angeles Railway. It also prompted the larger reconfiguration of rail infrastructure in the vicinity, including creating new grade separations, and upgrading junctions and switching stations. Despite Union Station's purpose of serving the growing rail network, the depot's circular pick-up and drop-off driveway indicates Los Angeles' simultaneous transformation into an auto-oriented city. The chosen location for Union Station was densely developed with the City's original Chinatown, as well as some of its earliest industrial areas.

Expansion of Freight Service and the Industrialization of the LA River. Early industrial activity in the City was clustered along the banks of the LA River, including agricultural facilities such as the Capitol Milling Company (eligible for the NRHP, listed in the CRHR, LA-HCM 82), fruit packing houses, and several local wineries. By the 1890s, Los Angeles was developing into a significant freight hub. However, from 1870 through the turn of the 20th century, the city's industrial growth lagged far behind population growth. The city established its first industrial district in 1906 on a strip of land that paralleled the Salt Lake, Southern Pacific, and Santa Fe railroads east of downtown ("New District" 1906). By 1923, Los Angeles was home to more than 5,100 industrial plants, becoming a national hub for a wide range of heavy industries—including agriculture, food processing, oil and rubber, steel, garments and textiles, and automobile production (OHR 2018).

Around 1904, Southern Pacific cleared, dismantled, and relocated all of its shop activities from River Station to the newly completed "Los Angeles General Shops Yard" across the river in what is now Lincoln Heights (AECOM 2012; California State Parks 2005). In 1925, Southern Pacific transferred its freight-handling operations from the River Station to its much larger facility at Taylor Yard to the north. After decades of decreasing activity, Southern Pacific ceased all rail activities at River Station in 1992. The site was ultimately scrapped and in 2017 re-opened as Los Angeles State Historic Park (LA-HCM 82).

During the early 20th century, the railroads began migrating their facilities southward, away from the increasingly dense parts of the city, but remaining along the banks of the LA River. It was also at this time that Alameda Street began its evolution into a major transportation corridor, linking Downtown Los Angeles' rail infrastructure with the Port of Los Angeles in San Pedro. By the 1920s, the Port of Los Angeles surpassed San Francisco as the busiest seaport on the West Coast and as a result, much of Los Angeles' rail-dependent industrial development started to appear south of Union Station, between Alameda Street and the LA River, in the area now known as the Arts District. During the 1910s and 1920s, this area boomed with all manner of railroad-reliant manufacturing and processing plants.

During this period, the majority of goods shipped out of Los Angeles by rail were handled by the Santa Fe Freight Depot (LA-HCM 795, listed in the NRHP), constructed in 1906. This nearly quarter-mile-long building occupies the west side of Santa Fe Avenue between Third and Fourth Streets. Santa Fe constructed another freight house immediately adjacent to the 1906 structure 9 years later to handle all outbound freight, while the older structure was converted to inbound traffic only. Due to the dense railroad development along the LA River, this area is also home to multiple junctions, including Glendale Junction, Mission Junction, Taylor Junction, Naud Junction, Butte Street Junction, Soto Street Junction, and Redondo Junction in Los Angeles; and Clement Junction and Hobart Junction in the City of Vernon.

Within the Mission Junction is Mission Tower (eligible for the NRHP, listed in the CRHR), a 3-story interlocking tower located on the west bank of the LA River originally constructed by the Santa Fe Railway in 1916. In the late 1930s, Mission Junction underwent an expansion and reconfiguration of tracks to accommodate the new Union Station under construction to the immediate southwest. In 1938, the existing interlocking tower was enlarged to house a new centralized group of signals with an operator to coordinate movements at this busy intersection of Santa Fe and Union Pacific rail lines.

Redondo Junction was originally known as Ballona Junction in the 1880s. The Redondo Junction Tower was built in 1906 to ensure the safe passage of trains where Santa Fe and Los Angeles & Salt Lake Railroad lines overlapped (Alameda Corridor Transportation Authority [ACTA] 2021). In the early 1910s, Santa Fe began moving some of its rail yard operations to a 65-acre site on the west bank of the LA River near Washington Boulevard, now known as the Redondo Junction Butte Street Yard (eligible for the NRHP, listed in the CRHR). The Butte Street Yard has served as the primary locomotive service area for the AT&SF and Amtrak in the Los Angeles area since 1920.

During the 1920s, Union Pacific was occupying freight yards east of the river between the First and Sixth Streets, with the Union Pacific Freight House just north of First Street. However, needing expanded facilities, Union Pacific eventually relocated its coach yard further south to Hobart Junction, on the east side of the river near Downey Road, in the City of Vernon. Known as the UP East Yard, in 1959 this site was converted to a modern freight warehousing facility ("New $3,000,000 Union Pacific Freight Terminal" 1959). Today this facility serves as the BNSF Railway Yard.

Decline of Passenger Service and the Creation of Amtrak. In the postwar period, the federal government funded the construction of a National Highway System and multiple commercial airports around the country as direct competition to the privately-owned railroad companies, leading to a steep decline in passenger trains. The Santa Fe Railway discontinued all but six of its remaining passenger trains in 1967. In response, Congress passed the Rail Passenger Service Act of 1970 establishing the quasi-public National Railroad Passenger Corporation, later rebranded as Amtrak, to take over all intercity passenger rail routes (Amtrak 2021). Amtrak began operations on May 1, 1971, operating all but six of the existing passenger lines. Today, Amtrak operates six passenger routes in and out of Los Angeles' Union Station and is the country's sixth busiest Amtrak station. It also maintains the Amtrak Eighth Street Yard, located on the west side of the LA River just south of the I-10 Freeway, which operates as a service yard for Amtrak passenger trains.

The Central Manufacturing District and Los Angeles Junction Railway. The Central Manufacturing District, established in the early 1920s, was the first planned industrial district in the nation. The district was founded on 300 acres of cauliflower fields along the west bank of the LA River in the City of Vernon. The roughly triangular site was bounded by present-day Downey Road on the west and Fruitland Avenue on the south. A third of the area was dedicated to the Union Stockyards Company, with the rest subdivided into 125 large industrial parcels provided with railroad spurs to the Los Angeles Junction Railway.

The Union Stockyards, a key part of the Central Manufacturing District plan, opened in 1922 east of Downey Road near Packers Avenue. The Central Manufacturing District also included the Central Manufacturing District Terminal building. Constructed in 1923, this elegant 6-story warehouse included space for 150 manufacturers, a rooftop restaurant for entertaining business clients, and an elaborate Mission Revival-style tower that concealed a water tank.

The Central Manufacturing District began adding acreage to the original triangle as early as 1930, often acquiring areas occupied by raw materials processing (such as sand, gravel, lumber, and concrete) rather than traditional manufacturing and processing. The Central Manufacturing District attracted a wide range of industries, including iron, steel, coal, glass, chemicals, wool, paper, furniture, metal products, electrical products, warehousing, food processing, and others. Companies located in the Central Manufacturing District included William Wrigley, Jr. Co., Spiegel, Rexall Drug Co., Westinghouse Electric & Manufacturing, and Havoline Oil Co. By 1952, the Central Manufacturing District had expanded to over 2,800 acres, with significant frontage along both sides of the LA River, and now extends well beyond the City of Vernon into the adjacent Cities of Maywood, Bell, and Commerce.

Integral to the Central Manufacturing District's early success was the Los Angeles Junction Railway, which functioned as a neutral railway for all of the major railroad lines. The only privately-owned terminal line west of Chicago, the Los Angeles Junction Railway started expanding almost immediately, and by 1955 it had 57 miles of track and a roundhouse for its seven blue diesel engines ("Junction Rail" 1925). The Los Angeles Junction Railway became a subsidiary of the Santa Fe Railway in 1972 and now operates under the BNSF and continues to serve the entire Central Manufacturing District. The Los Angeles Junction Railway rail yard sits on the west bank of the LA River between Downey Road and District Boulevard in the City of Vernon.

Conclusion. During most of the 19th and 20th centuries, industrial development in Los Angeles was dependent upon the LA River directly, or the rail lines that lined its banks. However, as truck transport supplanted freight rail operations and industry became less reliant upon the railroad for distribution, the region's industrial landscape became more decentralized. As a result, the Los Angeles riverfront as it exists today is largely a holdover from an earlier period when the river was inextricably linked with the railroad, and thus with the industries that helped to redefine the modern American city.

3.5.4.3 Identified Archaeological Resources

A records search was completed for previously recorded archaeological resources through the CHRIS at the SCCIC, OHP Records, information provided by Metro, California Historic Property Data File for Los Angeles County, and the Los Angeles Office of Historic Resources records.

The records search identified 14 archaeological resources within the ADI, including the following three that meet the definition of a historical resource for the purposes of CEQA:

- P-19-001575 has been previously evaluated as eligible for listing in the NRHP under Criterion D. It consists of features associated with Los Angeles' Chinatown, occupation dating to the Spanish-Mexican period (ca. 1781–1848), and internments likely associated with the Gabrielino village of Yaanga.
- P-19-003120 has been previously evaluated as eligible for listing in the NRHP under Criterion A and is listed as LA-HCM 82 and consists of features scatter associated with a former railroad maintenance facility and depot.

- P-19-187085 is listed as California Historical Landmark 963 and therefore is listed in the CRHR and included a segment of the former Mojave Road (AECOM 2014).

The remaining 11 archaeological resources (P-19-002770, P-19-002837, P-19-003101, P-19-003683, P-19-003685, P-19-004193, P-19-004660, P-19-004661, P-19-004832, P-19-100881, and P-19-186804) in the ADI identified during the records search were not previously evaluated for the CRHR. These resources are discussed in Appendix G, *Archaeological Resources*.

An intensive archaeological pedestrian survey of the ADI was conducted on July 23, 2021. The pedestrian survey confirmed the presence of one previously recorded cultural resource in the ADI (P-19-003685, a refuse scatter) and identified one previously unrecorded cultural resource within the ADI (LARIV-SITE-01, a granite cobble swale). These resources were evaluated as not eligible for listing in the CRHR or as historical resources for purposes of CEQA. For more information regarding the pedestrian survey results, refer to Appendix G, *Archaeological Resources*.

Archaeological sites P-19-002770, P-19-002837, P-19-003101, P-19-003683, P-19-004193, P-19-004660, P-19-004661, P-19-004832, P-19-100881, and P-19-186804 could not be evaluated for uniqueness or eligibility for listing in the CRHR, since they could not be relocated or were not visible during the pedestrian archaeological survey. This is due to the fact that these sites are contained within areas that are paved and otherwise developed and therefore were covered in hardscape. It was therefore not feasible to define the boundaries of the archaeological sites or to evaluate them for uniqueness or eligibility for listing in the CRHR. However, subsurface manifestations of these sites may exist; therefore, for purposes of the Proposed Project, these sites are being treated as eligible for listing in the CRHR and considered historical resources for purposes of CEQA. Table 3.5-2 summarizes resources in the ADI.

Table 3.5-2. Identified Archaeological Resources Within the ADI

Identifier	Resource Description	Project or Option that Intersects with Resource	Relocated During Survey?	Eligibility
P-19-001575	Multicomponent site including prehistoric/post-contact Native American human remains, and features and deposits representing the Spanish-Mexican period, 1860s to 1930s Chinatown and the Los Angeles red light district	Within ADI; no option is expected to intersect with this resource	No	Previously determined eligible for NRHP under Criterion D.
P-19-002770	Buried deposit of historical refuse beneath concrete slab, ranges 1.5 to 5 feet in depth; late 1800s to 1920s	Proposed Project, Option 1, Option 2	No	Formerly unevaluated; but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-002837	2-foot, 9-inch length of grooved rail with an attached railroad tie	Proposed Project, Option 1, Option 2	No	Formerly unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.

Table 3.5-2. Identified Archaeological Resources Within the ADI

Identifier	Resource Description	Project or Option that Intersects with Resource	Relocated During Survey?	Eligibility
P-19-003101	Historic debris scatter	Option 1	No	Formerly unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-003120	River Station (Cornfield)	Option 1	No	Previously determined eligible for NRHP under Criterion A. Listed as LA-HCM 82.
P-19-003683	Historic debris scatter	Option 1	No	Formerly unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-003685	Historic debris scatter	Options 1 and 2	Yes	Not eligible for listing in a historic register.
P-19-004193	Original street exposed near foundation of Sixth Street bridge; 1914 to 1945	Proposed Project, Option 1, Option 2	No	Formerly unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-004660	Paving stones and two sets of railroad/streetcar tracks located beneath historic Macy Street	Proposed Project, Option 1, Option 2	No	Formerly unevaluated; but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-004661	Segment of a brick wall associated with the former Cudahy Packing Company facility	Proposed Project, Option 1, Option 2	No	Formerly unevaluated; but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-004832	Historic debris scatter	Proposed Project, Option 1, Option 2	No	Formerly unevaluated; but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-100881	Isolated find: one metal fastener and two historic building materials	Option 1	No	Formerly unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.
P-19-186804	14.7-mile segment of the BNSF Railway	N/A	No	Segment outside ADI previously determined not eligible; segment within ADI unevaluated but treated as eligible for the purposes of the Proposed Project. Currently located under hardscape and not observable.

Table 3.5-2. Identified Archaeological Resources Within the ADI

Identifier	Resource Description	Project or Option that Intersects with Resource	Relocated During Survey?	Eligibility
P-19-187085	Mojave Road	Proposed Project, Option 1, Option 2	No	Listed in the CRHR.
LARIV-SITE-01	Granite cobble swale	N/A	Newly Identified	Evaluated as not eligible for listing in a historic register.

3.5.4.4 Identified Built-Environment Historical Resources

Table 3.5-3 lists 49 identified built-environment historical resources within the API, including 38 resources previously identified built-environment resources that qualify as historical resources under CEQA within the API, 11 newly identified built-environment historical resources within the API, and three resources that contribute to historic districts. Table 3.5-3 lists the historic resources in a north to south order. Figures 3.5-7 through 3.5-10 show the footprint maps, including a key map and three segment maps, with all identified historical resources within the API.

The 38 previously identified and 11 newly identified built-environment historical resources include properties listed in or determined eligible for the NRHP and/or CRHR, designated LA-HCMs, as well as properties identified as built-environment historical resources through previous or new historic resource surveys. Demolished resources are not included as potential historical resources. Among these previously and newly identified historical resources are: two flood control channels, 11 LA River bridges, remnants of another LA River bridge, two public parks, a freeway, a tunnel, a city jail, a public housing complex, a rail yard, a utility yard, a winery, and multiple industrial manufacturing and warehouse properties. The API also includes small portions of two historic districts: the LA River channel Historic District and the Arroyo Seco Parkway Historic District. The API includes contributing elements of both historic districts, which are listed separately in Table 3.5-3. Among these are the LA River channel itself, an LA River bridge; a bridge over the Arroyo Seco; two meat processing plants; a collection of ornamental street lights; and several industrial factory and warehouse properties.

Properties listed in Table 3.5-3 are grouped into identified historic bridges and other historical resources. Within each grouping, properties are listed north to south, beginning with previously identified resources and the LA River channel itself. Each resource has been assigned a historical resource (HR) number for reference throughout the rest of this section. All of the properties that are individually listed, or eligible for listing, in the NRHP, the CRHR, or a local register are treated as historical resources for purposes of CEQA. Contributing elements to a historic district that are located within the API were assigned an HR identifier, but it should be noted that where a property is a contributing resource to a historic district, the analysis focuses on impacts of the Proposed Project on the historic district.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
Identified LA River Bridges (north to south)		
SR-110 Bridge N (HR-5)	Bridge ID 4a	The SR-110 Bridge N (Caltrans Bridge 53-0042L) is an 850-foot, steel and concrete girder/T-beam bridge constructed in 1944. This bridge carries the southbound lanes of the Arroyo Seco Parkway/SR-110 over the LA River channel, as well as the railroad tracks on both sides of the channel, N Avenue 19, and N San Fernando Road. The bridge was designed to duplicate the features of the adjacent Figueroa Street Viaduct (now SR-110 Bridge S) built a few years prior. This bridge was constructed as part of the Arroyo Seco Parkway's Southerly Extension through Elysian Park, serving as a new southbound roadway to supplement the Figueroa Street Viaduct and Tunnels, which were converted from two-way traffic to a one-way northbound roadway. The SR-110 Bridge N is a contributing element of the Arroyo Seco Parkway Historic District, which was listed in the NRHP in 2011 and is a historical resource under CEQA.
SR-110 Bridge S (HR-6)	Bridge ID 4b	The SR-110 Bridge S (Caltrans Bridge 53-0042R) is an 803-foot, steel and concrete girder/T-beam bridge constructed in 1936. This bridge carries the northbound lanes of the Arroyo Seco Parkway/SR-110 over the LA River channel, as well as the railroad tracks on both sides of the channel, N Avenue 19, and N San Fernando Road. This bridge was originally built as the Figueroa Street Viaduct, carrying two-way traffic on a direct line with the Figueroa Street Tunnels, and was later upgraded to freeway standards and converted to the northbound lanes of the Arroyo Seco Parkway. The SR-110 Bridge S was determined eligible for the NRHP in 1986, and thus is a historical resource under CEQA (Caltrans 1986). It is also a contributing element of the Arroyo Seco Parkway Historic District, which was listed in the NRHP in 2011.
San Fernando Road/Arroyo Seco Channel Bridge (HR-9)	--	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). The San Fernando Road/Arroyo Seco Channel Bridge (Caltrans Bridge 53C1309) is an at-grade, closed-spandrel concrete-arch bridge that carries San Fernando Road over the Arroyo Seco Channel just east of the LA River confluence. This 81-foot roadway bridge now spans the Arroyo Seco Channel. However, the bridge was originally constructed in 1913, predating the channelization of the Arroyo Seco by some 25 years, making it one of the oldest extant bridges over the Arroyo Seco. The San Fernando Road/Arroyo Seco Channel Bridge appears significant at the local level under criterion A/1 as a rare and intact early-20th century bridge over the Arroyo Seco, and under criterion C/3 as an excellent example of early concrete-arch bridge construction in Los Angeles. Features include its concrete construction, single-arch span with closed spandrels, and curved brackets under the deck. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. The metal guardrails appear to be replacements. The San Fernando Road/Arroyo Seco Channel Bridge appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA. This bridge was previously evaluated as ineligible for the NRHP.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
North Broadway Viaduct (HR-12)	Bridge ID 6	The North Broadway Viaduct (Caltrans Bridge 53C0545) is a 968-foot, open-spandrel concrete-arch bridge spanning the LA River and railroad tracks along both sides of the river channel. Originally known as the Buena Vista Street Viaduct, it was designed by Homer Hamlin, City Engineer for the Los Angeles BOE, along with noted architect A.F. Rosenheim. Completed in 1911, it was one of the first monumental bridges designed by the City of Los Angeles to carry automobiles over the LA River. At the time of its construction, it was the longest and widest concrete bridge in California, as well as the first open-spandrel arch bridge in the state. Designed in the Beaux Arts style, features include its seven arched spans, in-river piers, monumental Classical pylons and portico, 12 viewing balconies, ornamental concrete balustrades, and ornamental light standards. The North Broadway Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986 (Caltrans 1986). In 2008, it was designated as LA-HCM 907 as part of a grouping of 11 LA River bridges. Thus, the North Broadway Viaduct is a historical resource under CEQA.
North Spring Street Viaduct (HR-14)	Bridge ID 7	The North Spring Street Viaduct (Caltrans Bridge 53C0859) is a 700-foot, open-spandrel concrete-arch and T-beam bridge spanning the LA River and railroad tracks along both sides of the river channel. Originally known as the North Spring Street Bridge, it was designed by Merrill Butler, Engineer of Bridges for the Los Angeles BOE, along with City Engineer John C. Shaw. Constructed in 1928, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Beaux Arts style, features include its two arched river spans, ornamental concrete parapet walls, curved brackets under the deck, and ornamental light standards. The North Spring Street Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 900 as part of a grouping of 11 LA River bridges. Thus, the North Spring Street Viaduct is a historical resource under CEQA.
North Main Street Bridge (HR-21)	Bridge ID 8	The North Main Street Bridge (Caltrans Bridge 53C1010) is a 311-foot, open-spandrel concrete-arch bridge spanning the LA River. Constructed in 1910, this bridge was designed by Homer Hamlin, City Engineer for the Los Angeles BOE, along with H.G. Parker and Hugo Eckardt. It was one of the first monumental bridges designed by the City of Los Angeles to carry automobiles over the LA River. At the time of its construction, it was the only three-hinged concrete-arch bridge in the Western United States. Designed in the Beaux Arts style, features include its three arched spans, in-river piers, ornamental concrete parapet walls, and ornamental light standards. The North Main Street Bridge contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States, and is the only at-grade LA River bridge remaining in Downtown LA. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 901 as part of a grouping of 11 LA River bridges. Thus, the North Main Street Bridge is a historical resource under CEQA.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
Cesar E Chavez Avenue Viaduct (HR-29)	Bridge ID 11	The Cesar E Chavez Avenue Viaduct (Caltrans Bridge 53C0130) is a 1,270-foot, open-spandrel concrete-arch and T-beam bridge spanning the LA River and railroad tracks along both sides of the river channel. Originally known as the Macy Street Viaduct, it was designed by Merrill Butler, Engineer of Bridges for the Los Angeles BOE, along with City Engineer John C. Shaw. Constructed in 1926, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Spanish Baroque style, features include its single arched river span, curved brackets under the deck, four monumental arched porticos, ornamental concrete balustrades, and ornamental light standards/streetcar wire support poles. The Cesar E Chavez Avenue Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. In 1979, it was designated as LA-HCM 224. It was determined eligible for the NRHP in 1986. Thus, the Cesar E Chavez Avenue Viaduct is a historical resource under CEQA.
First Street Viaduct (HR-35)	Bridge ID 14	The First Street Viaduct (Caltrans Bridge 53C1166) is a 1,300-foot, open-spandrel concrete-arch and T-beam bridge spanning the LA River, as well as the railroad tracks along both sides of the river channel, Santa Fe Avenue, and Myers Street. It was designed by Merrill Butler, Engineer of Bridges for the Los Angeles BOE, along with City Engineer H.G. Parker. Constructed in 1929, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Beaux Arts style, features include its two arched river spans, 10 monumental arched porticos with viewing balconies, curved brackets under the deck, ornamental concrete parapet walls, and ornamental light standards/streetcar wire support poles. The First Street Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 909 as part of a grouping of 11 LA River bridges. Thus, the First Street Viaduct is a historical resource under CEQA.
Fourth Street Viaduct (HR-36)	Bridge ID 15	The Fourth Street Viaduct (Caltrans Bridge 53C0044) is a 1,890-foot, open-spandrel concrete-arch and girder bridge spanning the LA River, as well as the rail yards and railroad tracks along both sides of the river channel, and Santa Fe Avenue. It was designed by Merrill Butler, Engineer of Bridges for the Los Angeles BOE, along with architect Louis L. Hunt. Constructed in 1931, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Gothic Revival style, features include its single arched river span, four monumental lancet-arched porticos with viewing balconies, ornamental concrete parapet walls, ornamental light standards/streetcar wire support poles, split roadway on its west end, and concrete stairways to street level. The Fourth Street Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 906 as part of a grouping of 11 LA River bridges. Thus, the Fourth Street Viaduct is a historical resource under CEQA.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
Seventh Street Viaduct (HR-39)	Bridge ID 17	The Seventh Street Viaduct (Caltrans Bridge 53C1321) is a 1,530-foot, closed-spandrel concrete-arch and T-beam bridge spanning the LA River and railroad tracks along both sides of the river channel. This bridge was constructed in two phases. The at-grade lower level was designed by H.G. Parker and built in 1910 to allow trolleys to cross the river. In 1927, a second deck was built on top of the existing bridge to save money while providing a greatly needed elevated viaduct over the railroad tracks running along the river. The resulting structure is not a true double-decked bridge, as it has only one navigable roadbed; the lower deck is not connected to either bank. The bridge addition was designed by Engineer of Bridges for the Los Angeles BOE, Merrill Butler, as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Beaux Arts style, features include its three arched river spans, in-river piers, four monumental pylons, ornamental concrete balustrades, ornamental light standards/streetcar wire support poles, and a concrete stairway to street level. The Seventh Street Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 904 as part of a grouping of 11 LA River bridges. Thus, the Seventh Street Viaduct is a historical resource under CEQA.
Olympic Boulevard Viaduct (HR-42)	Bridge ID 19	The Olympic Boulevard Viaduct (Caltrans Bridge 53C0163) is a 1,420-foot, open-spandrel concrete-arch and T-beam bridge spanning the LA River and railroad tracks along both sides of the river channel. It was designed by Merrill Butler, Engineer of Bridges for the Los Angeles BOE, along with City Engineers John A. Griffin and R.W. Stuart. Constructed in 1925 as the Ninth Street Viaduct, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Beaux Arts style, features include its three arched river spans, in-river piers, curved brackets under the deck, monumental pylons, ornamental concrete parapet walls, and ornamental light standards/streetcar wire support poles. The Olympic Boulevard Viaduct contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 902 as part of a grouping of 11 LA River bridges. Thus, the Olympic Boulevard Viaduct is a historical resource under CEQA.
Washington Boulevard Bridge (HR-46)	Bridge ID 21	The Washington Boulevard Bridge (Caltrans Bridge 53C1375) is a 312-foot, at-grade concrete girder/T-beam bridge spanning the LA River. It was designed by Engineer of Bridges for the Los Angeles BOE, Merrill Butler. Constructed in 1931, it was built as part of the city's monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Designed in the Beaux Arts style, features include its five river spans, four in-river piers, four monumental pylons with terra cotta frieze panels depicting the art of bridge building, ornamental concrete parapet walls, and ornamental lanterns. The Washington Boulevard Bridge contributes to one of the largest and most architecturally significant groupings of historic bridges in the United States. It was determined eligible for the NRHP in 1986. In 2008, it was designated as LA-HCM 903 as part of a grouping of 11 LA River bridges.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		Thus, the Washington Boulevard Bridge is a historical resource under CEQA.
Atlantic Boulevard Bridge (HR-52)	Bridge ID 30	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). The Atlantic Boulevard Bridge (Caltrans Bridge 53C0252) is an at-grade, closed-spandrel concrete-arch bridge that carries Atlantic Boulevard over the LA River channel in the City of Vernon. Constructed in 1931 as the Pasadena Avenue Bridge, this 464-foot roadway bridge is contemporaneous with the City of Los Angeles' monumental bridge building program, which oversaw the construction of a series of bridges across the LA River in the late 1920s and early 1930s. Although not part of this bridge program, this bridge clearly embraced many of the design concepts that characterize these other LA River bridges, including its concrete-arch technology and Neoclassical aesthetic. The Atlantic Boulevard Bridge appears significant at the local level under criterion A/1 as part of a larger collection of concrete LA River bridges constructed in the 1920s and 1930s, and as a rare and intact 1930s LA River bridge in the City of Vernon; and under criterion C/3 as an excellent example of a Beaux Arts-style concrete-arch bridge in the City of Vernon. Features include its concrete construction, seven concrete-arch river spans with closed spandrels, in-river piers, curved brackets under the deck, and ornamental concrete parapet walls. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. The light standards appear to be replacements. The Atlantic Boulevard Bridge appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA. This bridge was previously evaluated as ineligible for the NRHP.
Other Historical Resources Identified (north to south)		
LA River Channel District (HR-1)	--	The LA River channel is a 51-mile, concrete-lined engineered waterway stretching from Canoga Park in the San Fernando Valley to its mouth in the City of Long Beach where it empties into the Pacific Ocean. The channelization of the LA River was conducted by the USACE between 1939 and 1959. The LA River channel was determined eligible for the NRHP as a district in September 2019, and thus is a historical resource under CEQA.[a]
Elysian Park (HR-2)	929 Academy Rd, Los Angeles	Elysian Park is a 575-acre public park, a portion of which (eastern edge) runs along the LA River. Reserved as public land in 1886, it is the City of Los Angeles' oldest and second largest park. Elysian Park was identified as appearing eligible for the NRHP by SurveyLA in 2014, and thus is a historical resource under CEQA.[b]
Riverside-Figueroa Bridge Remnants ("Riverside Ruins") (HR-3)	--	This property consists of the remaining portions of the Riverside-Figueroa Bridge (Caltrans Bridge No. 53C0160), constructed in 1928-29. This bridge originated as the Riverside-Dayton Bridge—including a concrete loggia-type west approach, concrete-arch span over the river, and a concrete T-beam east approach, built in 1928. In 1929, a concrete "sidehill viaduct" was added to the west approach. In 1938, the river span was washed out by severe flood waters and the following year was replaced by a new steel-truss span as part of the USACE's channelization of the river. The renamed Riverside-Figueroa Bridge was designated as LA-HCM 908 in 2008. In 2014, the river span and east approach were demolished; however, the west approach (1928) and sidehill viaduct (1929) are extant. As these remnants are portions of a designated LA-HCM, they are treated here as a historical resource for purposes of CEQA.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
Arroyo Seco Parkway Historic District	--	The Arroyo Seco Parkway Historic District comprises the various elements associated with the development and construction of the Arroyo Seco Parkway, the nation's first freeway. The district encompasses the 6-lane, 8.21-mile, limited-access roadway (SR-110) between Pasadena and Downtown Los Angeles. Additional district components include grade separations, tunnels, bridges, overcrossings, pedestrian overpasses, pedestrian and equestrian under-crossings, the roadway itself, the Four-Level Interchange, the Arroyo Seco Channel, and the Arroyo Seco Maintenance Station. This historic district was listed in the NRHP in 2011, and thus is a historical resource under CEQA. There are five contributing elements of the district that are within the Proposed Project API—the Arroyo Seco Parkway itself; the northbound freeway bridge over the LA River (SR-110 Bridge S); the southbound freeway bridge over the LA River (SR-110 Bridge N); the Arroyo Seco Channel; and Figueroa Street Tunnel No. 3 (refer to separate entries).
Arroyo Seco Parkway (Pasadena Freeway) (HR-4)	--	The Arroyo Seco Parkway is a high-speed limited-access road from Pasadena to Downtown Los Angeles. Constructed in 1940, it is considered the country's first freeway. The portion of the Arroyo Seco Parkway located within the Proposed Project API is the 1.7-mile Southerly Extension to Downtown Los Angeles, completed in 1942. The Arroyo Seco Parkway is a contributing element of the Arroyo Seco Parkway Historic District.
Arroyo Seco Channel (HR-7)	--	The Arroyo Seco Channel is a concrete-lined river channel stretching from Devil's Gate Dam to the Arroyo Seco's confluence with the LA River. The channelization of the Arroyo Seco was conducted by the WPA in Los Angeles as part of construction of the Arroyo Seco Parkway 1935 and 1940. The portion of the channel within the Proposed Project API was constructed in 1938. The Arroyo Seco Channel is a contributing element of the Arroyo Seco Parkway Historic District.
Figueroa Street Tunnel No. 3 (HR-8)	--	Figueroa Street Tunnel No. 3 (Caltrans Bridge 53-0202R) is one of four tunnels carrying the northbound lanes of the SR-110/Arroyo Seco Parkway under Elysian Park. These tunnels were originally constructed in the 1930s to carry the 40-foot roadway of Figueroa Street (two lanes in each direction). Figueroa Street Tunnel No. 3, constructed in 1931, is the northernmost of the four tunnels and the only one within the Proposed Project API. The Figueroa Street Tunnel No. 3is a contributing element of the Arroyo Seco Parkway Historic District.
Lincoln Heights Jail (HR-10)	401–449 N Avenue 19, Los Angeles	The former Lincoln Heights Jail building is a 5-story Art Deco-style building situated on the east bank of the LA River. Originally constructed in 1927 as the Los Angeles City Jail, this facility was expanded in 1951, and was decommissioned in 1965. It was occupied by the Bilingual Foundation for the Arts from 1979 to 2014. The former Lincoln Heights Jail building was designated as LA-HCM 587 in 1993, and thus is a historical resource under CEQA.
Quonset Hut (HR-11)	147 N Avenue 18, Los Angeles	This Quonset hut was erected on this site in 1946. It was identified as appearing eligible for the NRHP by the Cornfield Arroyo Seco Specific Plan Area CRA Historic Resources Survey in 2011, and thus is a historical resource under CEQA.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
River Station Area (now Los Angeles State Historic Park) (HR-13)	1231–1251 N Spring St, Los Angeles	This property is the former site of River Station, Los Angeles' original train station and rail yard, established in 1875. The River Station site was designated as LA-HCM 82 in 1971and is thus a historical resource for purposes of CEQA.[c]
Standard Oil Co. Sales Department Building; Woman's Building (HR-15)	1727 N Spring St, Los Angeles	This property is a 3-story brick building constructed in 1914 as the sales department and office for Standard Oil Company of California, forerunner of Chevron Corporation. It was designed in the Beaux Arts by prominent architect Myron Hunt. From 1973 to 1991, it was occupied by the Feminist Studio Workshop, the first independent art school for women, and became known as the Woman's Building. During this period, the building was also home to the National Organization for Women, the Associated Feminist Press, and the first Sisterhood Bookstore. The Woman's Building was identified as appearing eligible for the NRHP by the CASP Area CRA Historic Resources Survey in 2011, and designated as LA-HCM 1160 in 2018, and thus is a historical resource under CEQA.
Raphael Junction Block Building (HR-16)	1635–1637 N Spring St, Los Angeles	This 2-story industrial building was originally constructed in 1889 as a warehouse for the Raphael Glass Company, making it one of the city's oldest extant industrial warehouses. This property was designated as LA-HCM 872 in 2007, and thus is a historical resource under CEQA.
Standard Oil Co. Office, Auto Repair and Machine Shop (HR-17)	1716–1756 N Spring St/1715-1749 N Naud St, Los Angeles	This 1-story industrial building was originally constructed in 1934 as an office and auto repair/machine shop for Standard Oil Company of California, forerunner of Chevron Corporation. The Standard Oil Co. building was identified as appearing eligible for the NRHP by the CASP Area CRA Historic Resources Survey in 2011, and thus is a historical resource under CEQA.
Paper Products Manufacturing Co. (HR-18)	1640–1646 N Spring St, Los Angeles	This 1-story brick industrial building was constructed in 1925 as a daylight factory. This property was identified as appearing eligible for the NRHP by the CASP Area CRA Historic Resources Survey in 2011, and thus is a historical resource under CEQA.
California Steel and Cornice Co. (HR-19)	1600–1620 N Spring St/1611 Naud St, Los Angeles	This industrial site, which includes a daylight factory building, was originally constructed in 1945. This property was identified as appearing eligible for the NRHP by the CASP Area CRA Historic Resources Survey in 2011, and thus is a historical resource under CEQA.
Richard Duardo Printmaking Studio (HR-20)	1714–1736 N Albion St/325–339 Avenue 16/1735–1755 N Main St, Los Angeles	This industrial building, originally constructed in 1930, served as the last printing studio of noted Chicano artist and master printmaker Richard Duardo from 1980 until his death in 2015. This property was listed in the SurveyLA Latino Los Angeles Citywide HCS prepared for the City of Los Angeles' OHR in 2015. It was noted as potentially significant for its association with the cultural development of the Chicano art movement in Los Angeles. Based on this information, and out of an abundance of caution, it is treated here as a historical resource for purposes of CEQA.
Los Angeles Department of Water and Power (LADWP), Main Street Yard (HR-22)	1630 N Main St, Los Angeles	This property was originally developed as a utility yard for the Los Angeles Bureau of Power and Light. The site contains multiple buildings dating from 1923 to 1963, including St. John Substation (Station A), hoist house, shops, test labs, warehouses, repair facilities, garages, crane aisles, and offices. The LADWP Main Street Yard was determined eligible for the NRHP as a district in 1995, and thus is a historical resource under CEQA.[d]

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
-- (HR-23)	1734 N Main St, Los Angeles	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). This 3-story industrial building dates to about 1930. Research indicates this building originated as a 1-story private garage for R.S. Chiffermann Co., constructed in 1923. However, by 1930 it had been expanded into a 3-story factory building with a rooftop sign, with an addition constructed in 1935. This building appears significant at the local level under criterion A/1 for its association with 1930s industrial development in one of Los Angeles' oldest industrial areas; and under criterion C/3 as an excellent example of a 1930s factory building in Los Angeles. Features include its concrete construction; flat roof with decorative parapets; plaster exterior siding; decorative stringcourse; wood double-hung windows on the ground story and steel divided-light fixed and pivot windows in the upper stories; symmetrical primary façade; cast-iron entrance canopy with chain ties; and metal fire escape on the east façade. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. Exterior stairs were added to the primary façade between 2012 and 2014. The industrial building at 1734 N. Main Street appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA.
San Antonio Winery (HR-24)	725–749 S Lamar St/700–744 S Gibbons St, Los Angeles	Founded by Italian immigrant Santo Cambianica in 1917, San Antonio Winery is the last remaining winery in the City of Los Angeles. As such, it is a symbol of the city's historic viticulture industry, which was one of the chief industries in Spanish and Mexican California. This property was designated as LA-HCM 42 in 1966, and thus is a historical resource under CEQA.
William Mead Homes (portion of)[e] (HR-25)	1300 N Cardinal St, Los Angeles	William Mead Homes is a 15-acre public housing development project built by the Housing Authority of the City of Los Angeles. Completed in 1942, it was designed as a modern garden apartment complex, with 2- and 3-story buildings and numerous semi-private courtyard spaces dispersed across a 15-acre site. William Mead Homes was determined eligible for the NRHP in 2002, and thus is a historical resource under CEQA.
Mission Tower (HR-26)	1436 Alhambra Ave/337 E Cesar E Chavez Ave, Los Angeles	Mission Tower (also known as Terminal Tower) is a 2-story Mediterranean Revival-style railroad interlocking tower. Originally constructed by the AT&SF railroad in 1916 to control Mission Junction, it was expanded in 1938 to house a centralized group of signals with an operator to coordinated movements near the newly completed Union Station. Mission Tower was determined eligible for the NRHP in 2004 and was identified as appearing eligible for the NRHP by SurveyLA in 2016, and thus is a historical resource under CEQA.
Macy Street School (HR-27)	900 N Avila St/505 E Clara St, Los Angeles	The Macy Street School is a 3-story brick building constructed in 1915. It was designed in the Beaux Arts style by prominent Los Angeles architect A.C. Martin. Macy Street School was identified as appearing eligible for the NRHP by SurveyLA in 2016, and was determined eligible for the NRHP in 2018, and thus is a historical resource under CEQA.
Cesar E Chavez Ave/Vignes St Street Lights (HR-28)	--	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). The Cesar E Chavez Ave/Vignes St Street Lights is a collection of ornamental street lights/trolly wire support poles situated along both sides of N. Vignes Street between Ramirez Street and E. Cesar E Chavez Avenue, and on the south side of E. Cesar E Chavez Avenue between Lyon Street and the Macy Street Grade Separation. These street lights/trolley poles are

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		identical to the integrated lights standards lining what is now the Cesar E Chavez Viaduct over the LA River (originally the Macy Street Viaduct), constructed in 1926, and were presumably constructed at the same time. The Cesar E Chavez Ave/Vignes St Street Lights appears significant at the local level under criterion A/1 as an excellent example of 1920s municipal street light infrastructure; and under criterion C/3 for its high artistic value representing lighting standards and design from the period in Los Angeles. Features include cast concrete construction; round tapered post with spiral fluting and classical capital; dual metal lanterns; and an extended pole to support electrical wires for the streetcars. They appear to be intact from their historic period and retain sufficient integrity to convey their significance. No information could be found to indicate that these street lights have been previously evaluated or designated, either on their own or as part of the local designation and NRHP Determination of Eligibility for the Macy Street Viaduct. For this reason, they have been evaluated here. The Cesar E Chavez Ave/Vignes St Street Lights appear eligible for listing in the CRHR and for local designation as an LA-HCM, and thus the comprise a historical resource under CEQA.
Denny's Restaurant (HR-30)	530 Ramirez St, Los Angeles	This Denny's restaurant was designed in the Googie style by L.A. Ray for the noted Los Angeles architectural firm Armet & Davis. Constructed in 1966, it reflects the corporate architecture created for Denny's by Armet & Davis in the 1960s. Denny's restaurant was identified as appearing eligible for the NRHP by SurveyLA in 2016, and was determined eligible for the NRHP in 2018, and thus is a historical resource under CEQA.
Kahn-Beck Co./Friedman Bag Co. Building (HR-31)	801 E Commercial St/600 Center St, Los Angeles	This industrial warehouse building was originally constructed in 1902, with multiple additions over time. In 2002, this property was determined ineligible for the NRHP; State Historic Preservation Office (SHPO) concurred with this finding in 2004. However, in 2017 SurveyLA identified the oldest (northwest) portion of the building as appearing eligible for the NRHP as a rare remaining industrial building from the period in Los Angeles' primary industrial district. Due to this survey finding, the Kahn-Beck Co./Friedman Bag Co. Building is treated here as a historical resource for purposes of CEQA.
Thomas R. Barabee Store and Warehouse (HR-32)	611–615 Ducommun St, Los Angeles	This 2-story brick industrial store and warehouse building was constructed in 1926. In 2002, this property was determined ineligible for the NRHP; SHPO concurred with this finding in 2004. However, according to the *Link Union Station Cultural Resources Impacts Assessment Report* (June 2019), "In an email on December 19, 2014, responding during the Section 106 process for SCRIP (the predecessor project to LinkUS), the City of Los Angeles OHR stated that it believed the Thomas R. Barabee Store and Warehouse is a historical resource for purposes of CEQA. In 2014, OHR believed that the property is a significant example of commercial architecture and provided information related to context, theme, and property type for citywide commercial architecture" (Metro 2019). This property was not identified by SurveyLA, and no California Historical Resource Status Codes were assigned. However, based on the information provided by the City of Los Angeles OHR in 2014, and out of an abundance of caution, it is treated here as a historical resource for purposes of CEQA.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
Walker Foods, Inc./El Pato Salsas (HR-33)	250 N Myers St/233–243 N Mission Rd, Los Angeles	This industrial site contains multiple buildings, the oldest of which was originally constructed in 1916 as a freight house for the Los Angeles and Salt Lake Railroad. This property is also the longtime home of Walker Foods, founded in 1914. This property was identified as appearing eligible for the NRHP by the Adelante Eastside Redevelopment Area CRA Historic Resources Survey in 2008, and thus is a historical resource under CEQA.
-- (HR-34)	161 N Mission Rd, Los Angeles	This 2-story brick industrial building was constructed in 1921. This property was identified as appearing eligible for the CRHR by the Adelante Eastside Redevelopment Area CRA Historic Resources Survey in 2008, and thus is a historical resource under CEQA.
Downtown Los Angeles Industrial Historic District	--	The Downtown Los Angeles Industrial Historic District refers to the industrial zone situated between the Alameda Street corridor and the LA River, in the area now known as the Arts District. This area served as the city's primary industrial district from the late-19th century through World War II, with extant original buildings constructed primarily from 1900 to 1940. This historic district was identified as appearing eligible for the NRHP by SurveyLA in 2017, and thus is a historical resource under CEQA. One property in the district boundary is within the Proposed Project API—a district contributor at 1345 E Willow Street, Los Angeles (refer to separate entry).
-- (HR-37)	1345 E Willow St, Los Angeles	This 3-story brick industrial building was constructed in phases, with the earliest portion dating to 1923. This property is a contributor to the Downtown Los Angeles Industrial Historic District, which was identified as appearing eligible for the NRHP in 2017.
Los Angeles Furniture Mart Building (HR-38)	2155 E Seventh St, Los Angeles	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). This 4-story warehouse building in its current configuration dates to 1934. Research indicates this building originated as a 45-foot by 45-foot building constructed in 1921 for the Peppers Fruit Co., which was expanded a month later. By 1923, the building was occupied by the Peck & Hills Furniture Co., as indicated by the "P&H" monogram over the main entrance. In 1934, an addition designed by noted architect John M. Cooper was constructed to link two adjacent buildings owned by Furniture Manufacturers Association, Inc. to create the nearly block-long Los Angeles Furniture Mart. The Los Angeles Furniture Mart Building appears significant at the local level under criterion A/1 for its association with 1930s industrial development in one of Los Angeles' oldest industrial areas; and under criterion C/3 as an excellent example of a 1930s industrial warehouse in Los Angeles. Features include its board-formed concrete construction; 4-story height and massive scale; flat roof with parapets; simple stringcourse; cast-stone ornamentation; steel divided-light windows; symmetrical primary façade; and metal fire escapes on the west façade. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. Alterations including the removal of decorative parapet caps on the primary façade, and the replacement of central operable sashes in the steel industrial windows throughout. The Los Angeles Furniture Mart Building appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA.
-- (HR-40)	2121 E Seventh Pl, Los Angeles	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). Located in what is now the Arts District, this property is developed with multiple industrial buildings, two of which were constructed in 1923. Most

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		notably, there is a 2-story brick building designed with elements of the Renaissance Revival style situated along the northern portion of the site. Features include its brick construction; flat roof with parapets; a clipped corner entrance; round-arch openings; paired steel divided-light casement windows with classical pilasters, some with bottle-glass transoms; and cast-stone ornamentation. While the original tenants of these buildings is not known, by 1950 the site was occupied by Metalcraft Products Co., a metal product manufacturer (historic address: 2119-2125 Atlantic). The two buildings in the southern portion of the property are now occupied by Bestia Restaurant, with the remainder of the site converted into residential lofts. This industrial property appears significant at the local level under criterion A/1 for its association with 1920s industrial development in one of Los Angeles' oldest industrial areas; and under criterion C/3 as an excellent and intact example of a 1920s Renaissance Revival-style industrial building in Los Angeles. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. Thus, this industrial site appears eligible for listing in the CRHR and for local designation as an LA-HCM. This property is only partially visible from the public ROW. However, out of an abundance of caution, it is treated here as a historical resource for purposes of CEQA.
-- (HR-41)	2140 E Seventh Pl, Los Angeles	This 3-story brick industrial building was constructed in 1910. This property was identified as appearing eligible for the NRHP by SurveyLA in 2016, and thus is a historical resource under CEQA.
WM (Waste Management) Downtown Diversion (HR-43)	2416–2424 E Olympic Bl, Los Angeles	This industrial yard was originally established by the Southern California Gas Company in 1915. The property has been developed over time—with extant buildings dating from the 1930s, 1940s and 1950s—as well as mechanical equipment and surface parking areas. According to the Built-Environment Resource Directory for Los Angeles County maintained by the California OHP, the property at 2416 E Olympic Bl was determined eligible for the NRHP in 1989, however it is unclear if this refers to a specific building on the site or to the whole site. In 2016, SurveyLA identified the entire site as potentially eligible for historic listing or designation; however, the evaluation could not be completed due to limited visibility from the public ROW. Due to these previous findings, and out of an abundance of caution, this property is treated here as a historical resource for purpose of CEQA.
AT&SF Railway Redondo Junction/Butte Street Yard (portion of)[f] (HR-44)	2514–2558 E Butte St/2435 E Washington Bl, Los Angeles	This property is composed of a large train yard developed with multiple railroad-related buildings and structures. Originally established in the early 20th century, the Butte Street Yard has served as the primary locomotive service area for Santa Fe and Amtrak in the Los Angeles area since 1920, and is a rare remaining example of railroad development from the steam locomotive era. This property was determined eligible for the NRHP as a district in 1994, including the roundhouse (1913), turntable (1914), master mechanic and locomotive supervisor's offices (c. 1920), and the 2-story Prairie-style watchman's tower (1924). Thus, the Butte Street Yard is a historical resource under CEQA. This property may also include the NRHP-listed AT&SF Railway Steam Locomotive No. 3751 (refer to separate entry).
AT&SF Railway Steam Locomotive No. 3751 (HR-45)	2514–2558 E Butte St/2435 E Washington Bl, Los Angeles	This property is identified as the location of the 1927 Steam Locomotive No. 3751, built by the Baldwin Locomotive Works as the first "Northern" type steam locomotive for the AT&SF Railway. It served passenger duties until its retirement in 1957, when it was moved to San Bernardino. It was restored to operating condition in 1991 and then put on display at the Redondo Junction Butte Street Yard. Steam Locomotive No. 3751 was

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		listed in the NRHP in 2000 (Caltrans 2000). Some sources indicate that the locomotive has been moved from this site. However, because it is listed in the NRHP under the Washington Boulevard address for the Butte Street Yard, and out of an abundance of caution, this property is treated here as a historical resource for purposes of CEQA.
Hoffy/Bill Bailey's (HR-47)	2731 S Soto St, Vernon	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). The Hoffy/Bill Bailey's meat processing plant occupies the large triangular industrial parcel bounded by Soto Street and the LA River in the City of Vernon. Research suggests Hoffy has been in operation on this site since its founding as Hoffman Bros. in the 1930s, making it one of the oldest remaining meat packing plants in the city. The earliest extant buildings on the site appear to date from the 1930s/early 1940s. The Hoffy meat processing plant appears significant at the local level under criterion A/1 for its association with the meat packing industry in Vernon, an important part of the city's early industrial history, and for its association with the nationally-recognized Hoffy food brand. It appears to retain sufficient integrity to convey its significance, and thus the Hoffy/Bill Bailey's meat processing plant appears eligible for listing in the CRHR and for local designation as an LA-HCM. This property is only partially visible from the public ROW. However, out of an abundance of caution, it is treated here as a historical resource for purposes of CEQA.
Farmer John (HR-48)	3049 E Vernon Ave, Vernon	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). The Farmer John meat processing and packaging plant occupies a large triangular industrial parcel immediately adjacent to the LA River, bounded by Bandini Boulevard, Soto Street, and Vernon Avenue in the City of Vernon. According to the company's website, Farmer John was founded in 1931 by Irish-American brothers Francis and Bernard Clougherty, operating under the name Clougherty Brothers Packing Co. During World War II, they supplied pork, beef, and mutton directly to area military bases and were a primary meat supplier for the Pacific theater. In the postwar years, the company opted to focus on the production on pork products and upgraded their facility to increase output. In 1949, they debuted their 8-ounce breakfast sausage links. In the 1950s, the company was renamed Farmer John (as it was easier to pronounce than the brothers' Irish surname), and began sponsoring television programs. Soon after the Brooklyn Dodgers moved to Los Angeles in 1958, Farmer John became the official maker of the Dodger Dog, and Dodger announcer Vin Scully became the company's official spokesperson. Farmer John remains a major meat supplier on the West Coast, and appears to be the oldest remaining meat packing plant in the City of Vernon. Research suggests this site may have been developed as a meat processing plant as early as 1918, with the earliest extant buildings appearing to date from the early 1930s. The plant is perhaps best known for its extensive murals of happy pigs on a farm, painted on street-facing walls, fences, and roofs. The murals were originally created by unemployed Warner Bros. set designer Les Grimes beginning in 1957, and later restored and added to by Arno Jordan. The Farmer John meat processing plant appears significant at the local level under criterion A/1 for its association with the meat packing industry in Vernon, an important part of the city's early industrial history, and for its association with the nationally-recognized Farmer John food brand. It appears to retain sufficient integrity to convey its significance, and thus the Farmer John meat processing and packaging plant appears eligible for listing in the CRHR and for local designation as an LA-HCM.

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		This property is only partially visible from the public ROW. However, out of an abundance of caution, it is treated here as a historical resource for purposes of CEQA.
-- (HR-49)	5015 District Bl, Vernon	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). This property consists of a large, 1-story brick industrial factory and warehouse building situated along the railroad tracks on the west bank of the LA River, originally constructed in 1936. This property appears significant at the local level under criterion A/1 for its association with early industrial development in the City of Vernon. Features include its brick construction; 1-story height and long narrow plan oriented to the adjacent railroad tracks; sawtooth roof with north-facing clerestory windows to allow daylight into the interior; large bay openings; steel divided-light industrial windows; and Art Deco detailing around the main entrance. Research indicates the building has been enlarged over time. However, it appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. The industrial building at 5015 District Bl in Vernon appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA.
-- (HR-50)	5000 District Bl, Vernon	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). This property consists of a large industrial factory and warehouse building constructed in 1946-1947. The building is composed of a 2-story primary volume with elements of the Streamline Moderne style, with a large 1-story warehouse wing extending to the rear. Features include its concrete construction; flat roof with stepped parapet; steel divided-light fixed and awning windows; curved primary façade; panels of glass block surrounding the main entrance; vertical scoring at the roofline; and large industrial bays, some of which appear to have been infilled. This building has been occupied by various businesses over time, including the Whelan Drug Co., Southwestern Engineering Co., and General Assembly Corp; the building's original occupants are not known. This property appears significant at the local level under criterion A/1 for its association with early industrial development in the City of Vernon. It appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. The industrial building at 5000 District Bl in Vernon appears eligible for listing in the CRHR and for local designation as an LA-HCM, and thus is a historical resource under CEQA.
-- (HR-51)	5100 District Bl, Vernon	This resource has been newly identified as part of Built-Environment Historical Resources technical analysis (refer to Appendix H). This property consists of an industrial complex with multiple buildings—including two 1-story concrete buildings with Art Deco details, a corrugated-metal factory building with large rooftop air vents, and a large daylight warehouse to the rear—constructed between 1929 and 1947. Features of the two earliest buildings along District Boulevard include their board-formed concrete construction; flat roofs with parapets; and simple concrete pilasters. This building has been occupied by various businesses over time, including the Joslyn Co. of California, and Joslyn Pacific Co.; the building's original occupants are not known. This property appears significant at the local level under criterion A/1 for its association with early industrial development in the City of Vernon. The property has been expanded over time, primarily in the 1950s and 1960s. However, it appears to be largely intact from its historic period and retains sufficient integrity to convey its significance. The industrial building at 5100 District Bl in Vernon appears eligible for listing in the CRHR and for local

Table 3.5-3. Identified Historical Resources

Resource Name (HR)	Address/ Bridge IDs	Description/Historic Status
		designation as an LA-HCM, and thus is a historical resource under CEQA.[g]

[a] In September 2019, USACE requested SHPO concurrence with their determination of NRHP eligibility for the LA River channel under Criteria A and C at local level of significance. SHPO concurred with this determination, and thus the LA River channel is considered a historical resource under CEQA. USACE's letter indicates that a cultural resource report was prepared as part of this determination. This report was requested from the SCCIC in June 2021; however, this documentation was not located. In the absence of underlying documentation that may define the boundaries of the resource, for the purpose of this report the historical resource within the Proposed Project API is defined as the LA River channel itself, from top-of-bank to top-of-bank. USACE's letter dated September 6, 2019 requesting SHPO concurrence with their Determination of Eligibility, and SHPO's letter of concurrence dated September 20, 2019, are attached to this report (refer to Appendix G, Attachment 1).

[b] Elysian Park contains multiple locally designated HCMs—including the Chavez Ravine Arboretum (LA-HCM 48); the Los Angeles Police Academy Rock Garden (LA-HCM 110); and Barlow Hospital (LA-HCM 504). However, these HCMs are all located outside the Proposed Project API. Elysian Park also includes Portola Trail Campsite No. 1, California Historical Landmark No. 655, which is within the API. However, this is a commemorative site only with no physical elements, and thus is not considered a historical resource for purposes of CEQA.

[c] This property also contains an exposed segment of the Zanja Madre; however, it is located outside the Proposed Project API.

[d] This site also contains a 1983 mural entitled "La Raza's Struggle for Freedom," which was noted as potentially significant in the SurveyLA Latino Los Angeles Citywide HCS, prepared for the City of Los Angeles' OHR in 2015.

[e] This historical resource includes additional parcels that are situated outside the Proposed Project API.

[f] This historical resource includes additional parcels that are situated outside the Proposed Project API.

[g] The City of Vernon does not have a historic preservation program, previous historic resources survey, or citywide HCS. For this reason, the ability to conduct broad comparisons of extant early 20th-century industrial properties in this city was limited. However, out of an abundance of caution, the properties at 5015, 5000, and 5100 District Boulevard are treated here as a historical resource for purposes of CEQA.

CASP = Cornfield Arroyo Seco Specific Plan; CRA = Community Redevelopment Area; OHR = Office of Historic Resources

Figure 3.5-7. Identified Historical Resources, Key Map

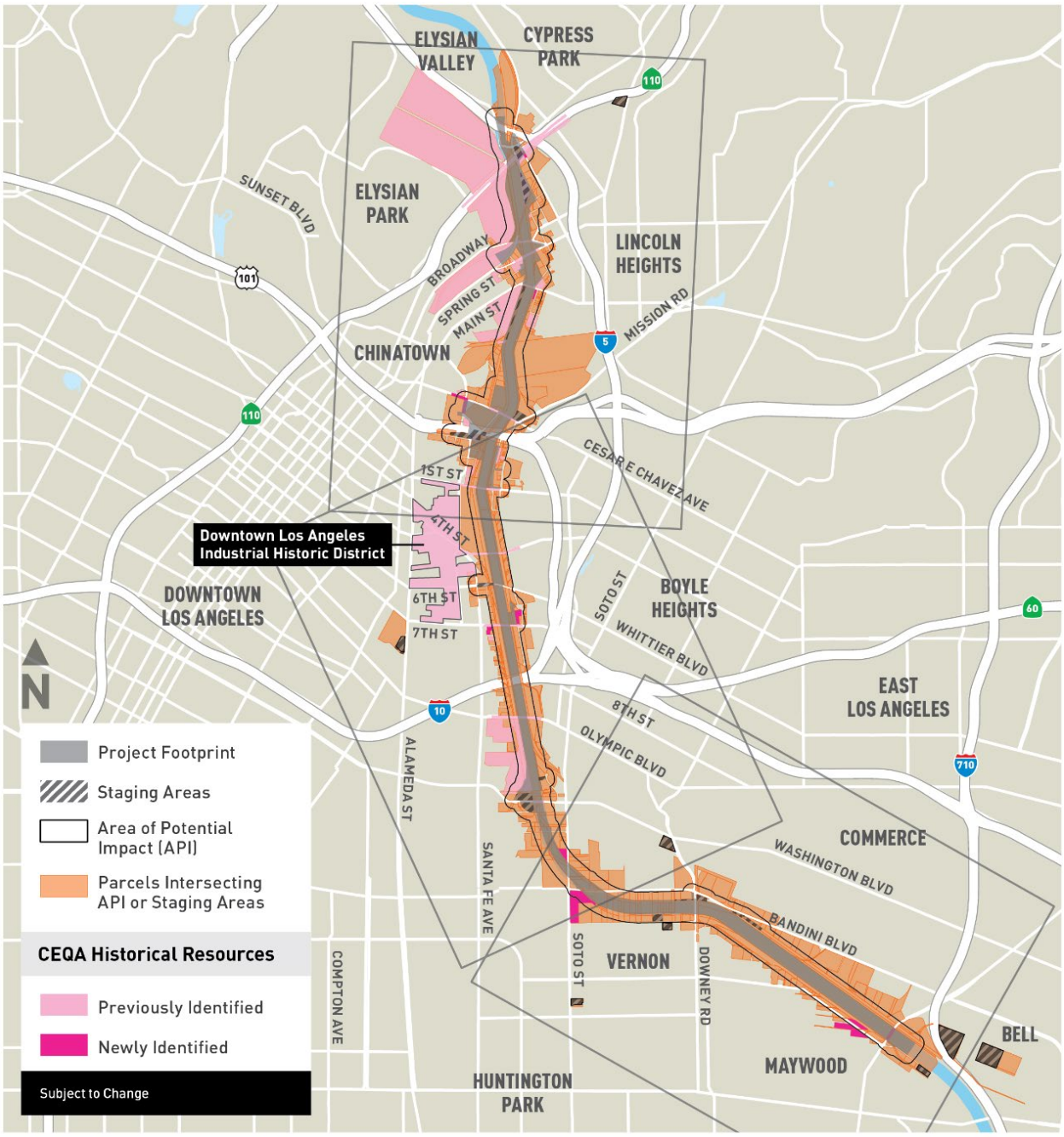


Figure 3.5-8. Identified Historical Resources, Segment 1 of 3

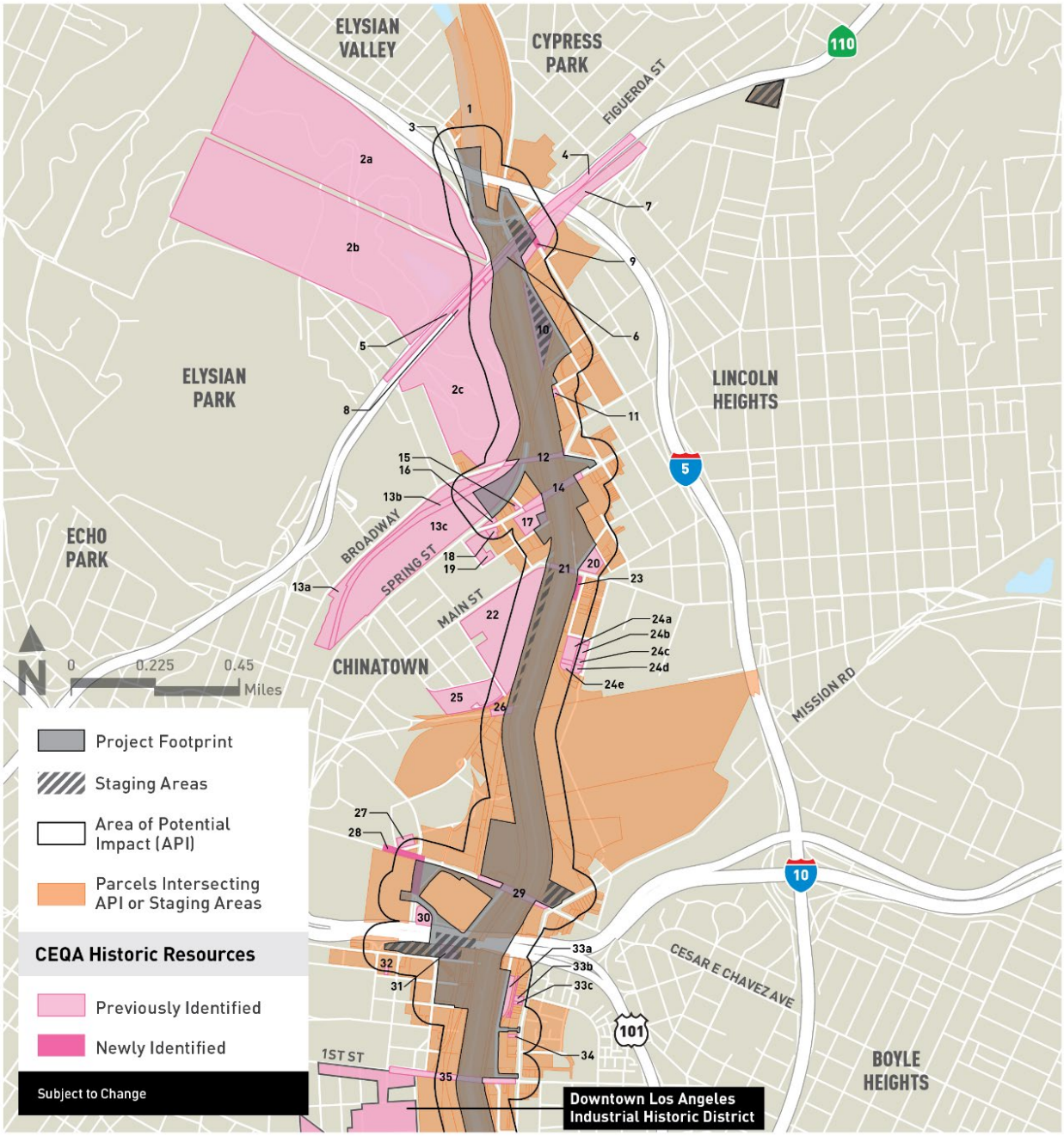


Figure 3.5-9. Identified Historical Resources, Segment 2 of 3

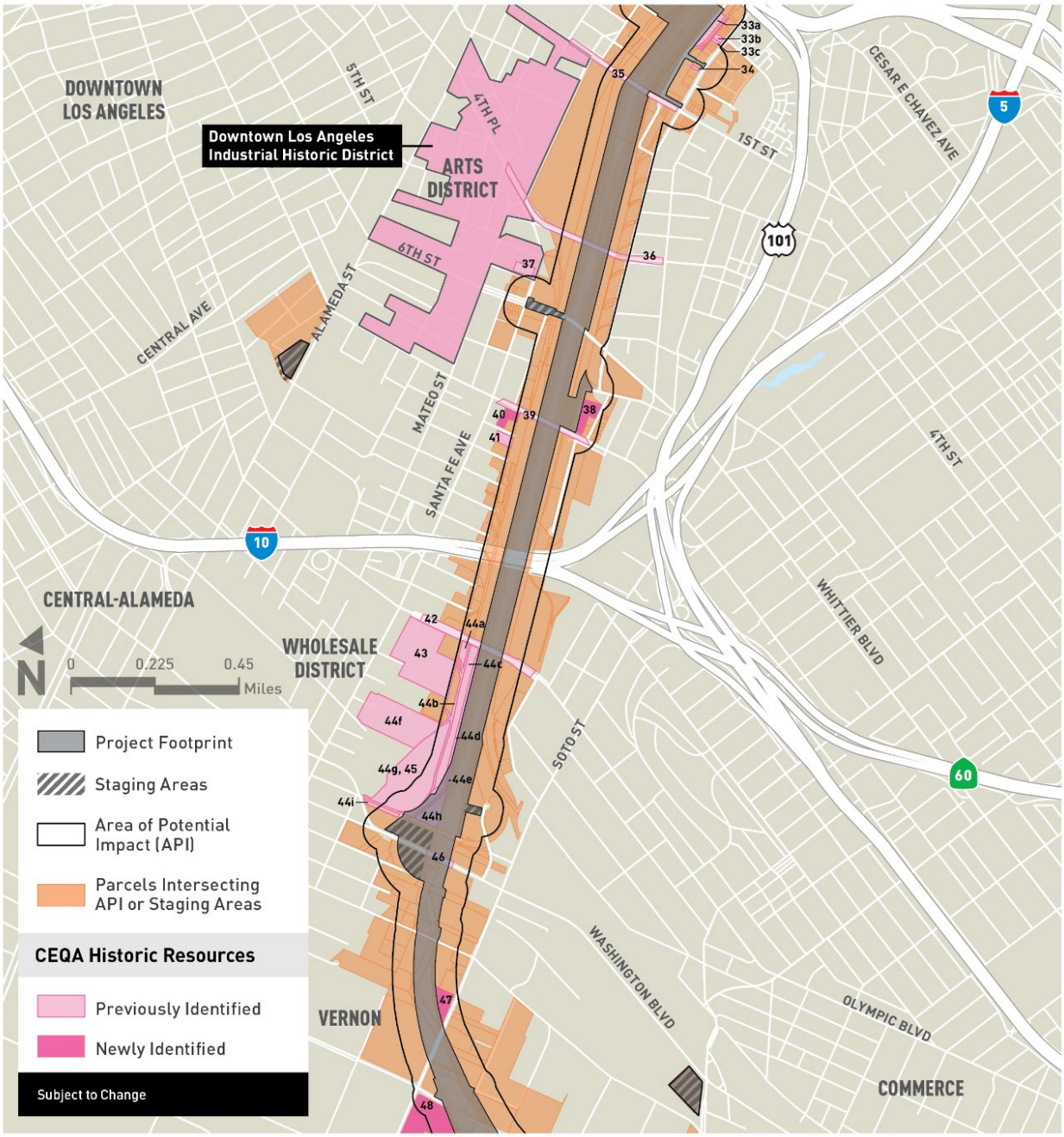


Figure 3.5-10. Identified Historical Resources, Segment 3 of 3



3.5.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*) and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). However, the potential for an impact to cultural resources is dependent on the specific locations of impacts, which vary in some locations among the Proposed Project, Option 1, and Option 2. Therefore, a separate discussion of environmental impacts is included in the following sections for the Proposed Project, Option 1, and Option 2.

3.5.5.1 Impact CUL-1: Historical Resources

Impact CUL-1: Cause a substantial adverse change in the significance of a built-environment historical resource as defined in Section 15064.5?

A detailed analysis was conducted to identify the potential for impacts to historical resources during construction and operation of the Proposed Project and its options. Refer to Appendix H, *Built-Environment Historical Resources* for a detailed discussion of the potential impacts to identified historic resources. With regard to construction and operations and maintenance (O&M) discussion, impacts to built-environment historical resources are all presumed to be permanent, although the impacts would occur during the construction period. For this reason, impacts associated with both construction activities are discussed under the Construction section of Impact CUL-1.

The Proposed Project and its options have the potential to alter identified built-environment historical resources in the API in various ways. Some historical resources would be physically altered, including several LA River bridges and the LA River Channel District. In some instances, the Proposed Project and its options would physically encroach on historical resource properties adjacent to the channel. In other cases, the historical resource would not be touched but its immediate surroundings would be altered, typically due to new construction adjacent to or within the historical resource's property boundary or historic setting of the historical resource. However, for these alterations to be considered a substantial adverse change, it must be shown that the significance of the historical resource would be materially impaired by the proposed alteration.

3.5.5.1.1 Proposed Project, Option 1, and Option 2

3.5.5.1.1.1 Construction

Less than significant with mitigation incorporated. The following discussion describes the potential direct and indirect impacts on each built-environment historical resource where such impacts have been identified. The components of the Proposed Project and its options details are separated into various types: core path, connector to access point, design variation, staging area, and construction activities. For each historical resource, the impact analysis always includes the core path. Connectors to access points and design variations are analyzed only when they occur in proximity of an identified historical resource. Where there is more than one design variation in proximity to a historical resource, these design variations are numbered sequentially; this numbering convention has been developed for purposes of this section only. Additionally, potential vibration-related damage to historical resources is discussed in this section where applicable. Refer to Section 3.12, *Noise and Vibration* for further detail on potential vibration impacts to historical resources.

3.5.5.1.1.1.1 Built-Environment Historical Resources with No Impacts

The Proposed Project and its options, as well as any design variations associated with them, would have no impacts to the historical resources identified in Table 3.5-4. Table 3.5-4 lists historical resources in a north to south order. Generally, no impacts were identified because (1) no direct impacts to any of these resources would occur, and (2) no indirect impacts to these resources would occur because the proximity of the Proposed Project components to the historical resources is distant enough (for example, on the opposite river bank or separated by development) that there would be no potential to change materially alter the historical setting of these resources. For more information, refer to Appendix H, *Built-Environment Historical Resources*.

Table 3.5-4. Historical Resources with No Impacts from the Proposed Project, Option 1, and Option 2

Listed North to South

HR	Resource	Project Details	Potential Impacts[a]
HR-2	Elysian Park, 929 Academy Rd, Los Angeles	*Core Path:* Path is incised in-channel on the west bank. Passes by the historical resource to the east. Separated from the historical resource by two freeway ramps.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Design Variation 1: Path is in-channel on west bank along northern portion of historical resource property. Path passes by the historical resource to the east.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Design Variation 2: Path is on the west bank with 24 feet of vertical clearance. Passes by the historical resource to the east. Separated from the historical resource by two freeway ramps.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-8	Figueroa Street Tunnel No. 3	*Core Path:* Path is elevated in the middle of the channel. Passes by the historical resource far to the east.	Path not in close proximity to the property. No change to setting. This property is a contributor to the Arroyo Seco Parkway Historic District. For discussion of impacts to the district, refer to the *Built-Environment Historic Resources with Potential Impacts* section.
		Design Variation: Path is elevated top-of-bank on the west bank outside the channel. Passes by the historical resource to the west.	Path not in close proximity to the historical resource. No change to setting. This property is a contributor to the Arroyo Seco Parkway Historic District. For discussion of impacts to the district, refer to the *Built-Environment Historic Resources with Potential Impacts* section.
HR-18	Paper Products Manufacturing Co., 1640–1646 N Spring St, Los Angeles	*Core Path:* Path is incised in-channel on the west bank. Same side of channel as historical resource.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-19	California Steel and Cornice Co., 1600–1620 N Spring St/1611 Naud St, Los Angeles	*Core Path:* Path is incised in-channel on the west bank. Same side of channel as historical resource.	Path not in close proximity to the historical resource. No change to setting. No impact.

Table 3.5-4. Historical Resources with No Impacts from the Proposed Project, Option 1, and Option 2

Listed North to South

HR	Resource	Project Details	Potential Impacts[a]
HR-24	San Antonio Winery, 725–749 S Lamar St/700–744 S Gibbons St, Los Angeles	*Core Path:* Path is on west side of channel. Opposite side of channel from the historical resource.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-25	William Mead Homes (portion of), 1300 N Cardinal St, Los Angeles	*Core Path:* Path is on west side top-of-bank. Separated from the historical resource by street and railroad tracks.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-27	Macy Street School, 900 N Avila St/505 E Clara St, Los Angeles	*Core Path:* Path is top-of-bank in-channel on the west bank. Passes by the historical resource far to the east.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Connector to Cesar E Chavez/Mission Access: Path is in-channel on the east bank. Opposite side of channel from the historical resource. Passes by the historical resource far to the east.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-31	Kahn-Beck Co./Friedman Bag Co. Building, 801 E Commercial St/600 Center St, Los Angeles	*Core Path:* Path is incised in-channel on the east bank. Opposite side of channel from the historical resource. Passes by the historical resource far to the east.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Connector to Union Station Access: Path crosses the channel (river crossing) south of US-101 from east bank to west bank. Then runs north as an elevated top-of-bank path west of the channel, turns west as an elevated path over the railroad tracks, and curves through this property (801 E Commercial Street).	This property was previously identified as appearing eligible for the NRHP, CRHR, and for local designation. However, this building is proposed for demolition by the LinkUS project.[b] This aspect of the Proposed Project and its options *(Connector to Union Station Access)* is predicated upon the removal of this building by the LinkUS project prior to the construction of the Proposed Project and its options. Presumably, when the Proposed Project and its options reach construction, this historical resource would no longer be extant; thus, there would be no impact. However, if, at the time of the Proposed Project and its options the historical resource is extant, this aspect of the Proposed Project would not be constructed; thus, there would be no impact.
		Construction Staging Area: The historical resource property is part of a larger staging area (including parcels to the north and west).	This property was previously identified as appearing eligible for the NRHP, CRHR, and for local designation. However, this building is proposed for demolition by the LinkUS project. This aspect of the Proposed Project and its options (*Staging Area*) is predicated upon the removal of this building by the LinkUS project prior to the construction of the Proposed Project and its options.

Table 3.5-4. Historical Resources with No Impacts from the Proposed Project, Option 1, and Option 2

Listed North to South

HR	Resource	Project Details	Potential Impacts[a]
			Presumably, when the Proposed Project and its options reach construction, this historical resource would no longer be extant; thus, there would be no impact. However, if, at the time of the Proposed Project and its options, the historical resource is extant, this aspect would not occur; thus, there would be no impact.
HR-32	Thomas R. Barabee Store and Warehouse, 611–615 Ducommun St, Los Angeles	*Core Path:* Path is incised in-channel on the east bank.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Connector to Union Station Access: Path crosses the channel (river crossing) south of US-101 from east bank to west bank. Then runs north as an elevated top-of-bank path west of the channel, turns west as an elevated path over the railroad tracks, and curves through the property at 801 E Commercial Street (northeast at Center Street).	Path not in close proximity to the historical resource. No change to setting. No impact.
		Connector to First Street Access: Path turns east off of the core path, then runs south as an elevated top-of-bank path on the east bank to the First Street Viaduct, where it turns east to land at First Street and Mission Road.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-37	Property at 1345 E Willow St, Los Angeles	*Core Path:* Path is incised in-channel on the east bank. Then crosses the channel (river crossing) from east bank to west bank, and continues elevated in-channel on west bank.	Path not in close proximity to the property. No change to setting. This property is a contributor to the Los Angeles Industrial Historic District. For impacts to the district, refer to the separate entry at the end of this table.
HR-40	Property at 2121 E Seventh Pl, Los Angeles	*Core Path:* Path is elevated in-channel on the west bank.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-41	Property at 2140 E Seventh Pl, Los Angeles	*Core Path:* Path is elevated in-channel on the west bank.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-43	WM (Waste Management) Downtown Diversion, 2416–2424 E Olympic Bl, Los Angeles	*Core Path:* Path is elevated in-channel on the west bank.	Path not in close proximity to the historical resource. No impact.
HR-45	AT&SF Railway Steam Locomotive No. 3751, 2514–2558 E Butte St/2435 E Washington Bl, Los Angeles	*Core Path:* Along northern portion of the property, path is elevated in-channel on the west bank, running adjacent to the property. Along southern portion of the property, path becomes elevated top-of-bank and veers onto the property, continuing south on the eastern edge of the property.	This historical resource is a mobile object which is sometimes housed on this property. The path would not touch the historical resource (if present). Path may be within the historical resource's property boundary or historic setting. No impact.

Table 3.5-4. Historical Resources with No Impacts from the Proposed Project, Option 1, and Option 2

Listed North to South

HR	Resource	Project Details	Potential Impacts[a]
HR-49	Property at 5015 District Bl, Vernon	*Core Path West:* Southern terminus at the Atlantic Boulevard West End Point. Path is top-of-bank on the east bank. Then along the southern portion of the historical resource, the path crosses the channel (river crossing) from east bank to west bank. Then becomes incised in-channel path on the west bank. Separated from the historical resource by the railroad tracks.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Core Path East: Southern terminus at the Atlantic Boulevard East End Point. Path is top-of-bank on the east bank. Then becomes elevated top-of-bank path on east bank to connect to the Atlantic Boulevard Bridge. Opposite side of the channel from the historical resource.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-50	Property at 5000 District Bl, Vernon	*Core Path West:* Southern terminus at the Atlantic Boulevard West End Point. Path is top-of-bank on the east bank. Then path crosses the channel (river crossing) from east bank to west bank. Then becomes incised in-channel path on the west bank.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Core Path East: Southern terminus at the Atlantic Boulevard East End Point. Path is top-of-bank on the east bank. Then becomes elevated top-of-bank path on east bank to connect to the Atlantic Boulevard Bridge.	Path not in close proximity to the historical resource. No change to setting. No impact.
HR-51	Property at 5100 District Bl, Vernon	*Core Path West:* Southern terminus at the Atlantic Boulevard West End Point. Path is top-of-bank on the east bank. Then path crosses the channel (river crossing) from east bank to west bank. Then becomes incised in-channel path on the west bank.	Path not in close proximity to the historical resource. No change to setting. No impact.
		Core Path East: Southern terminus at the Atlantic Boulevard East End Point. Path is top-of-bank on the east bank. Then becomes elevated top-of-bank path on east bank to connect to the Atlantic Boulevard Bridge.	Path not in close proximity to the historical resource. No change to setting. No impact.
N/A	Downtown Los Angeles Industrial Historic District	*Core Path:* Path is incised in-channel on the east bank. Then crosses the channel (river crossing) from east bank to west bank, and continues elevated in-channel on west bank.	Path not in close proximity to the historic district. No impact to the property at 1345 Willow St, which is the only contributor to the historic district that is within the API. No change to setting of the historic district. No impact.

[a] The impact analyses in this table use the phrase "close proximity" to describe the physical relationship between the activities of the Proposed Project and historical resources in the vicinity. This term is used on a case-by-case basis to describe the existing conditions of the built environment in relation to a particular historical resource, and takes into

Table 3.5-4. Historical Resources with No Impacts from the Proposed Project, Option 1, and Option 2

Listed North to South

HR	Resource	Project Details	Potential Impacts[a]

consideration multiple variables, including physical and associative qualities of the historical resource and the visual and spatial relationships between the historical resource and its surroundings.

[b] The *Link Union Station Cultural Resources Impact Assessment Report* (June 2019) identified the demolition of this building as significant impact which, despite mitigation, "would remain significant and unavoidable" (Metro 2019).

Note:

N/A = not applicable

3.5.5.1.1.1.2 Built-Environment Historic Resources with Potential Impacts

Table 3.5-5 summarizes potential impacts to historical resources, listed from north to south. Without the incorporation of appropriate mitigation measures, there is the potential for significant impacts to one or more historical resources as defined by CEQA during construction of the Proposed Project and its options. Potentially significant impacts to historical resources include the path passing over a historical bridge, ramp(s) connecting to a historical bridge, ramp(s) running parallel to a portion of a historical bridge, and construction activities.

Following Table 3.5-5 is a detailed analysis for each potentially impacted historical resource. With the incorporation of the proposed mitigation measures, potential impacts to historical resources during construction of the Proposed Project would be reduced to a less than significant level. Section 3.5.6 details proposed mitigation measures and provides discussion of the efficacy of proposed mitigation measures.

Table 3.5-5. Summary of Potentially Significant Impacts to Historic Resources

Listed North to South

HR	Resource	Proposed Project, Options, Variations	Potential Impacts	Mitigation Measure	Level of Significance After Mitigation
HR-1	LA River Channel District	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-3	Riverside-Figueroa Bridge Remnants ("Riverside Ruins")	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
N/A	Arroyo Seco Parkway Historic District	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact. Refer to HR-4 through H-9 for district contributing elements.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-4	Arroyo Seco Parkway (Pasadena Freeway) (This property is a contributor to the Arroyo Seco Parkway Historic District)	Proposed Project	No impact.	N/A	No impact.
		Option 1 and Option 2	Vibration impacts due to construction activities: Less than significant impact to the district.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-5	SR-110 Bridge N (Bridge ID 4a) (This property is a contributor to the Arroyo Seco Parkway Historic District)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Less than significant impact to the district.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-6	SR-110 Bridge S (Bridge ID 4b) (This property is a contributor to the Arroyo Seco Parkway Historic District)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-7	Arroyo Seco Channel (This property is a contributor to the Arroyo Seco Parkway Historic District)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Less than significant impact to the district.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-9	San Fernando Road/Arroyo Seco Channel Bridge	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.

Table 3.5-5. Summary of Potentially Significant Impacts to Historic Resources

Listed North to South

HR	Resource	Proposed Project, Options, Variations	Potential Impacts	Mitigation Measure	Level of Significance After Mitigation
HR-10	Lincoln Heights Jail, 401 N Avenue 19, Los Angeles	Proposed Project, Option 1 (with design variation), and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-11	Quonset Hut	Proposed Project	No impact.	N/A	No impact.
		Option 1, Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-12	North Broadway Viaduct (Bridge ID 6)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-13	River Station Area (now Los Angeles State Historic Park)	Proposed Project, Option 1, and Option 2	Less significant impact.	N/A	Less than significant.
HR-14	North Spring Street Viaduct (Bridge ID 7)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-15	Standard Oil Co. Sales Department Building; Woman's Building	Proposed Project, Option 2	No impact.	N/A	No impact.
		Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-16	Raphael Junction Block Building	Proposed Project, Option 2	No impact.	N/A	No impact.
		Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-17	Standard Oil Co. Office, Auto Repair and Machine Shop	Proposed Project	No impact.	N/A	No impact.
		Option 1, Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-20	Richard Duardo Printmaking Studio	Proposed Project, Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Option 2	No impact.	N/A	No impact.

Table 3.5-5. Summary of Potentially Significant Impacts to Historic Resources

Listed North to South

HR	Resource	Proposed Project, Options, Variations	Potential Impacts	Mitigation Measure	Level of Significance After Mitigation
HR-21	North Main Street Bridge (Bridge ID 8)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Proposed Project	Connector to Main Street Access North and South: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.
		Options 1 and 2	Core Path—Path passing over the bridge: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Option 2, Design Variation 2	Path passing over the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.
HR-22	LADWP, Main Street Yard	Proposed Project, Option 2	Less than significant.	N/A	Less than significant.
		Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-23	1734 N Main St, Los Angeles	Proposed Project, Option 2	No impact.	N/A	No impact.
		Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-26	Mission Tower, 1436 Alhambra Ave/ 337 E Cesar E Chavez Ave, Los Angeles	Proposed Project	No impact.	N/A	No impact.
		Option 1, Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-28	Cesar E Chavez Ave/Vignes St Street Lights	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-29	Cesar E Chavez Avenue Viaduct (Bridge ID 11)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	Construction Activities: MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Connector to Cesar E Chavez/Mission Access	Path running parallel to a portion of the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.

Table 3.5-5. Summary of Potentially Significant Impacts to Historic Resources

Listed North to South

HR	Resource	Proposed Project, Options, Variations	Potential Impacts	Mitigation Measure	Level of Significance After Mitigation
		Design Variation	Path running parallel to a portion of the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.
HR-30	Denny's Restaurant	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-33	Walker Foods, Inc./El Pato Salsas	Proposed Project, Option 2 (with design variation)	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Option 1	No impact.	No impact.	No impact.
HR-35	First Street Viaduct (Bridge ID 14)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	Construction Activities: MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Connector to First Street Access	Path running parallel to a portion of the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.
HR-36	Fourth Street Viaduct (Bridge ID 15)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-38	Los Angeles Furniture Mart Building	Proposed Project, Option 2	No impact.	N/A	No impact.
		Option 1	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-39	Seventh Street Viaduct (Bridge ID 17)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-42	Olympic Boulevard Viaduct (Bridge ID 19)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-44	AT&SF Railway Redondo Junction/Butte Street Yard	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.

Table 3.5-5. Summary of Potentially Significant Impacts to Historic Resources

Listed North to South

HR	Resource	Proposed Project, Options, Variations	Potential Impacts	Mitigation Measure	Level of Significance After Mitigation
HR-46	Washington Boulevard Bridge (Bridge ID 21)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	Construction Activities: MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Core Path East	Path connecting directly to the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.
HR-47	Hoffy/Bill Bailey's 2731 S Soto St, Vernon	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-48	Farmer John	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
HR-52	Atlantic Boulevard Bridge (Bridge ID 30)	Proposed Project, Option 1, and Option 2	Vibration impacts due to construction activities: Potentially significant impact.	MM-NOI-02, MM-VIB-01 and MM-VIB-02.	Less than significant.
		Proposed Project, Option 1 Core Path East	Path connecting directly to the bridge: Potentially significant impact.	MM-CUL-01 and MM-CUL-02.	Less than significant.

MM-CUL-01 = *Conformance with the Secretary of the Interior's Standards for Rehabilitation*; MM-CUL-02 = *Recordation of Existing Conditions*; MM-VIB-01 = *Vibration Control Plan; and* MM-VIB-02 = *Vibration Monitoring Plan*

3.5.5.1.1.1.2.1 LA River Channel Historic District (HR-1)

3.5.5.1.1.1.2.1.1 Proposed Project, Option 1, Option 2

HR-1, comprising the entire LA River channel, is NRHP-eligible and CRHR-listed historic district and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options comprise multiple path components including incised, top-of-bank, and cantilevered alignments; connectors; access points; river crossings; and ancillary path elements, such as safety railings and lighting (refer to Chapter 2, *Project Description*, for additional details). Physical interactions with the channel include both permanent actions, such as the construction of new elevated path structure with support columns in the channel, as well as temporary actions, such as removing an area of channel floor to make subsurface modifications to a bridge abutment. Permanent interactions would occur throughout the length of the Proposed Project and its options, but would be limited to those specific areas where a component would be installed, such as a support column and or a segment of incised path structure. In the case of elevated structures, support columns would be pile driven into shafts in the channel floor or wall.

Given that the Proposed Project and its options represent less than 16% of the 51-mile total length of the flood control channel, the majority of HR-1 would be unaffected by the Proposed Project and its options. Similarly, the approximately 8-mile segment of the LA River channel that comprise the Proposed Project and its options would remain intact and in its original location and would retain the overwhelming majority of its character-defining features. The channel's concrete-lined walls and floor, though directly impacted by construction activities in discrete and isolated places throughout the Proposed Project area, would remain largely unchanged. The channel would experience no change to its overall scale, alignment, dimensions, form, or configuration. Therefore, while construction of path components would result in the removal of concrete material from the channel, impacts associated with these components would be less than significant.

Wherever components of the Proposed Project and its options would be constructed alongside or within proximity of the LA River channel, there is the potential for indirect impacts. Such components include top-of-bank path (at-grade or elevated); connector ramps that leave the channel to connect to adjacent access points; long-span river crossings which clear-span the channel without in-channel supports; and new channel access routes.

The Proposed Project and its options (and design variations) are almost exclusively additive, introducing new elements in and around the channel and thereby altering its immediate setting. However, this change to the setting would not remove any aspect of the channel's setting that is critical to understanding the significance of the resource. As previously noted, the LA River channel's immediate surroundings have been continuously altered since the LA River was first channelized in the 1930s. These changes over time have often been substantial, and thus have rendered much of the channel's larger setting irrelevant to its overall historic significance. Moreover, as a linear transportation route, the Proposed Project and its options are in keeping in both form and function with the many interventions that have occurred along the LA River channel—including rail lines, roadway bridges, freeway overpasses, and high-speed rail—throughout its history. The components of the Proposed Project and its options that would be constructed alongside or within proximity of the LA River channel would not alter the essential character of the LA River Channel District or interfere with its ability to convey its historic significance. After completion of the Proposed Project and its options, the LA River channel would continue to function as a concrete-lined flood control channel and this function would remain easily understood and readily discernible. Impacts to the LA River channel Historic District would be less than significant.

Construction activities have the potential to cause damage to historic resources due to vibration and would be considered a significant impact to HR-1 if damaged channel material were not replaced or repaired. Implementation of MM-VIB-01, *Vibration Control Plan* would reduce vibration levels associated with all construction activities while MM-VIB-02, *Vibration Monitoring Plan* would require vibration monitoring at historic structures when construction activity would occur within 200 feet of the structure. Impacts to historic resources associated with construction vibration would be less than significant with mitigation incorporated. Refer to Section 3.12, *Noise and Vibration* for further detail on potential vibration impacts to historical resources.

3.5.5.1.1.1.2.2 Riverside-Figueroa Bridge Remnants (HR-3)

3.5.5.1.1.1.2.2.1 Proposed Project, Option 1, Option 2

HR-3 is not NRHP- or CRHR-listed; however, HR-3 comprises of remnants from a designated LA-HCM and therefore, is considered a historical resource for purposes of CEQA. The Proposed Project and its options (including design variation) would travel near HR-3 in an elevated top-of-bank path alignment. A construction staging area and access road would be located in the open area adjacent to HR-3. The proposed staging area would have no potential to demolish, destroy, relocate, or alter HR-3, but the presence of the staging area would alter the immediate surroundings of the historical resource. However, the use of the staging area would be temporary and would not persist beyond the construction of the Proposed Project and its options. There would be no permanent Project-related facilities or other infrastructure at the staging area. The only structures proposed at the staging area would be construction trailers which would be temporary pre-fabricated structures. Upon completion of the Proposed Project and its options, all equipment, materials, and structures would be removed from the staging area and the site would be returned to its previous condition. As such, the significance of HR-3 would not be materially impaired, and the impact would be less than significant.

Construction activities have the potential to cause damage to HR-3 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to less than significant levels.

3.5.5.1.1.1.2.3 Arroyo Seco Parkway Historic District Contributors—Arroyo Seco Parkway (HR-4), SR-110 Bridge N Bridge ID 4a (HR-5), SR-110 Bridge S Bridge ID 4b (HR-6), Arroyo Seco Channel (HR-7)

3.5.5.1.1.1.2.3.1 Proposed Project, Option 1, and Option 2

The Proposed Project and its options would pass through the boundaries of the historic district on an elevated alignment in the middle of the channel and would pass under the SR-110 bridges (HR-5 and HR-6) which are contributing elements to the district. None of the other contributing elements to the district within the Proposed Project API (HR-4, HR-7, and HR-8) are located in close proximity to the Proposed Project and its options and no impacts to these contributors would occur. The Arroyo Seco Parkway Historic District is an NRHP-listed historic district and a CRHR-listed historic district. Additionally, the SR-110 Bridge S, Bridge ID 4b (HR-6) is individually listed in both the NRHP and CRHR. Potential impacts to HR-5 and HR-6 and associated potential impacts to the historic district are described below.

The Proposed Project and its options would transition from a top-of-bank configuration and traverse over the Metrolink LA River–Downey Bridge and under HR-5 and HR-6 in an elevated configuration to then cross over the river from the west bank to the east bank. Where the path structure passes under HR-5 and HR-6, it would not physically touch or attach to the bridges in any way. Construction of the

path would not require any physical alteration of the bridges and the bridges would remain intact and in their original location and all of their existing character-defining features would remain unchanged.

The Proposed Project and its options would require new structural elements in close proximity to HR-5 and HR-6, thereby altering their immediate setting. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resources. The most important aspect of the bridges' setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the bridges would remain largely unencumbered.

Construction of the path structure passing under the bridges would not impair or obscure the bridges' ability to convey their historic significance. Most of the important character-defining features for these historic bridges appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridges, those characteristics that define the bridges' architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features of these historic bridges, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the historic bridges, existing arched spans, curved brackets under the bridge deck would remain visible and unobstructed. Additionally, the path would generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. Accordingly, the path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to their immediate setting, the historic bridges would continue to convey the historic significance of the district.

For these reasons, where the path passes under HR-5 and HR-6, the Proposed Project and its options would result in an indirect impact to the Arroyo Seco Parkway Historic District, but this impact would be less than significant.

Construction activities have the potential to cause damage to historic resources due to vibration and would be considered a significant impact. Since HR-6 is considered an historical resource individually, damage to the bridge that degrades its historic character would be considered a significant impact. Though highly unlikely, damage to HR-4 (only under Option 1 and Option 2), HR-5, HR-6, or HR-7 resulting in their removal or relocation would be considered a significant impact to the Arroyo Seco Parkway Historic District because the spatial relationship of these contributing elements to the district would be permanently altered. Incidental damage to either contributing element (that is, to HR-4, HR-5, HR-6, or HR-7) caused by construction-related vibration that does not alter their spatial relationship within the district would be considered a less than significant impact to the district. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to HR-4, HR-5, HR-6, HR-7 and the Arroyo Seco Parkway Historic District to less than significant levels.

3.5.5.1.1.1.2.4 San Fernando Road/Arroyo Seco Channel Bridge (HR-9)

3.5.5.1.1.1.2.4.1 Proposed Project, Option 1, and Option 2

HR-9 appears eligible for local listing and CRHR listing and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options include a staging area immediately adjacent to this bridge. The proposed staging area would not demolish, destroy, relocate, or alter HR-9. The presence of the staging area near the historical resource would not alter the immediate surroundings

or otherwise result in any permanent change to the setting of the resource. As such, the significance of HR-9 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-9 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.5 Lincoln Heights Jail (HR-10)

3.5.5.1.1.1.2.5.1 Proposed Project

HR-10 is a designated LA-HCM and is considered a historical resource for the purpose of CEQA. The Proposed Project would place the alignment along the west bank which is on the opposite side of the LA River channel from HR-10 which is situated along the east side of the LA River. However, the Proposed Project may utilize a portion of the Lincoln Heights Jail property for construction staging resulting in a temporary direct impact to the resource. Accordingly, the presence of the staging area would not alter the immediate surroundings of the historical resource. The use of the staging area would be temporary and would not persist beyond the construction of the Proposed Project. There would be no permanent facilities or other infrastructure at the staging area. The only structures proposed at the staging area would be construction trailers which would be temporary pre-fabricated structures. Upon completion of the Proposed Project, all equipment, materials, and structures would be removed from the staging area and the site would be returned to its previous condition. Accordingly, impacts would be less than significant.

Construction activities have the potential to cause damage to HR-10 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.5.2 Option 1

The Option 1 path alignment would be located within the LA River, along its eastern riverbank in closer proximity to HR-10 than the Proposed Project. In addition, a design variation associated with Option 1 would place the path alignment along Avenue 19, within the street ROW and along the front of the Lincoln Heights Jail. As with the Proposed Project, no direct impact to HR-10 would result from the Option 1 path alignment. Similar to the Proposed Project, construction would require the open space within HR-10 to be used as a staging area. Similar to the Proposed Project, Option 1 would result in less than significant impacts associated with the use of the property for construction staging. Option 1 would erect a substantial new physical structure adjacent to historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and Option 1 would not remove any aspect of the resource's setting which is critical to understanding its significance. The path would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the jail such that it would remain largely unobstructed and readily discernible from multiple vantage points. As such, the presence of the Option 1 alignment along the front of HR-10 would result in a less than significant impact.

A separate design variation would place the path alignment east of the railroad tracks (back of rail), along the western portion of the historical resource property, connecting to the Ed P. Reyes River Greenway south of the historical resource property. The path would be at-grade for the full length of the historical resource property, consisting of paving, striping, and possibly lighting and fencing. Option 1 path would travel within the boundary of the historical resource along the western (rear)

edge of the historical resource property. However, the path structure would occupy an undeveloped portion of the site at the rear of the property along the LA River channel and would not demolish or alter any existing buildings, structures, or other physical feature that contribute to the property's historic significance. This area is devoid of any features which contribute to the significance of the historical resource. For these reasons, where the path would physically encroach upon the property and the Proposed Project and its options would result in a direct impact to the historical resource, but this impact would be less than significant. The design variation would erect a substantial new physical structure directly on the historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the design variation would not remove any aspect of the resource's setting which is critical to understanding its significance. After construction of the path, HR- 10 would remain intact and in its original location and its exiting character-defining features would remain unchanged and indirect impacts associated with the presence of the Option 1 path within the historical resource's property boundary would be less than significant.

With regard to potential construction-related vibration impacts on HR-10, Option 1 would pose similar potential to result in vibration damage. Impacts to HR-10 from construction-related vibration would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.5.3 Option 2

Under Option 2, the path would cross the channel from west bank to east bank and would be elevated top-of-bank outside the channel and east of the railroad tracks, occupying the western portion of the Lincoln Heights Jail property. Here, the path structure would occupy an undeveloped portion of the site at the rear of the property along the LA River channel resulting in a direct impact to the historical resource. However, construction of the path would occur at the rear of the property on an undeveloped portion of the property and would not demolish or alter any existing buildings, structures, or other physical feature that contribute to the property's historic significance. This area is devoid of any features which contribute to the significance of the historical resource. For these reasons, the physical encroachment upon the property of Lincoln Heights Jail, would result in a direct impact to the historical resource, but this impact would be less than significant.

Option 2 would erect a substantial new physical structure directly on the historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and Option 2 would not remove any aspect of the resource's setting which is critical to understanding its significance. In each instance, the path would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding each historical resource such that it would remain largely unobstructed and readily discernible from multiple vantage points. In one instance, the path would be at-grade. After construction of the path, the Lincoln Heights Jail would remain intact and in its original location and all exiting character-defining features would remain unchanged. Impacts to the setting of the Lincoln Heights Jail would be less than significant.

With regard to potential construction-related vibration impacts on HR-10, Option 2 would pose similar potential to result in vibration damage. Impacts to HR-10 from construction-related vibration would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.6 Quonset Hut (HR-11)

3.5.5.1.1.1.2.6.1 Proposed Project

The Proposed Project is not in close proximity to HR-11. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-11. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite river bank or separated by development. The Proposed Project would result in no impact to HR-11.

3.5.5.1.1.1.2.6.2 Option 1 and Option 2

HR-11 was identified as appearing eligible for the NRHP and is considered a historical resource for the purpose of CEQA. The Option 1 and Option 2 path alignments would be elevated in-channel on the east bank. Additionally, the Connector to Ed P. Reyes Greenway Access would be routed along the east bank either west of the railroad tracks or east of the railroad track along the back of the HR-11 property. While Option 1 and Option 2 path alignments would be located on the same side of the LA River channel as HR-11, it would be separated from the historical resource by the railroad tracks and therefore poses no potential to demolish, destroy, relocate, or alter HR-11 or affect the historic setting of the historic building.

With regard to potential construction-related vibration impacts on HR-11, Option 1 and Option 2 would pose similar potential to result in vibration damage. Impacts to HR-11 from construction-related vibration would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.7 North Broadway Viaduct Bridge ID 6 (HR-12)

3.5.5.1.1.1.2.7.1 Proposed Project

HR-12 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project path alignment would be incised along the western riverbank and travel underneath HR-12. The path alignment would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged.

The Proposed Project would install new structural elements in close proximity to the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Construction of the path structure would not impair or obscure the bridge's ability to convey its historic significance. Most of the important character-defining features of the bridge appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridge, those characteristics that define the bridge's architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the bridge, existing arched spans, curved brackets under the bridge deck, and/or in-river piers would remain visible and unobstructed. Additionally, the path would

generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. The path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to its immediate setting, the historic bridge would continue to convey its historic significance and indirect impacts to the bridge's setting would be less than significant.

Construction activities have the potential to cause damage to HR-12 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.7.2 Option 1

Option 1 would have the same or similar impacts to HR-12 as those described for the Proposed Project. Specifically, Option 1 would construct an elevated in-channel path along the eastern riverbank and pass under the bridge via the easternmost of the bridge's three channel arches. Impacts associated with the path passing under the bridge are described above. In addition, Option 1 includes a Connector to Los Angeles State Historic Park which would also pass under the bridge via the arch west of the channel. Similar to the core path alignment, the proposed connector would have no physical connection or other potential alterations to the bridge. Impacts to the setting of the bridge posed by the connector would be the same as those described for the Proposed Project. Impacts to the North Broadway Viaduct Bridge would be less than significant.

With regard to potential construction-related vibration impacts on HR-12, Option 1 would pose similar potential to result in vibration damage. Impacts to HR-12 from construction-related vibration would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.7.3 Option 2

Option 2 would construct an at-grade top-of-bank path within the open space adjacent to HR-12. A design variation for Option 2 would construct a connector path and the Broadway/Spring Street access point. As with the Proposed Project, Option 2 would result in the path alignment passing under the North Broadway Viaduct Bridge via the easternmost bridge arch. As such, Option 2 would have the same impacts to HR-12 as the Proposed Project discussed above. In addition to impacts related to the path passing under the North Broadway Viaduct, the Connector to Broadway/Spring Access would place a new access point near the Broadway/Spring Street intersection in addition to a connection to the main path alignment which would place additional path infrastructure adjacent to the bridge. The proposed connector would have no physical connection or other potential alterations to the bridge. Impacts to the setting of the bridge posed by the connector would be the same as those described for the Proposed Project discussed above. Option 2 impacts to the North Broadway Viaduct Bridge would be less than significant.

With regard to potential construction-related vibration impacts on HR-12, Option 2 would pose similar potential to result in vibration damage. Impacts to HR-12 from construction-related vibration would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.8 River Station Area (Now Los Angeles State Historic Park) (HR-13)

3.5.5.1.1.1.2.8.1 Proposed Project, Option 1, and Option 2

The core path associated with the Proposed Project and its options would be situated along east bank of the LA River channel and would have no potential to result in impacts to HR-13. However, the

proposed Connector to Los Angeles State Historic Park would construct a connection to Los Angeles State Historic Park at the eastern edge of the historical resource property south of Aurora Street. The proposed connector access point would include a shade structure, signage, a seat wall, and a gate at the access point. At the Los Angeles State Historic Park, new construction would occur on an undeveloped portion of the property which is now used as parking. Additionally, this historical resource is effectively the "site of" the River Station, with no extant physical features from the resource's historic period. As such, the construction of the path on this site would not interfere with the ability of the resource to convey its historic significance. Accordingly, the Proposed Project and its options would result in a direct impact to the historical resource, but this impact would be less than significant.

The Proposed Project and its options would erect a substantial new physical structure directly on the historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the resource's setting which is critical to understanding its significance. The connector would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the historical resource such that it would remain largely unobstructed and readily discernible from multiple vantage points. After construction of the connector, the River Station Area would remain intact and in its original location and all of its exiting character-defining features would remain unchanged. Impacts to the setting would be less than significant.

3.5.5.1.1.1.2.9 North Spring Street Viaduct Bridge ID 7 (HR-14)

3.5.5.1.1.1.2.9.1 Proposed Project

HR-14 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project path alignment would pass under the North Spring Street Viaduct, along the western riverbank, in an incised configuration without physically altering the bridge. Where the path structure passes under the North Spring Street Viaduct, it would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged.

The Proposed Project would install new structural elements in close proximity to the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Construction of the path structure would not impair or obscure the bridge's ability to convey its historic significance. Most of the important character-defining features of the bridge appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridge, those characteristics that define the bridge's architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the bridge, existing arched spans, curved brackets under the bridge deck, and/or in-river piers would remain visible and unobstructed. Additionally, the path would

generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. The path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to its immediate setting, the historic bridge would continue to convey its historic significance and indirect impacts to the bridge's setting would be less than significant.

Construction activities have the potential to cause damage to HR-14 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.9.2 Option 1

Option 1 would have the same or similar impacts to HR-14 as those described for the Proposed Project. Specifically, Option 1 would construct an elevated in-channel path that would pass under the bridge via the easternmost of the bridge's two channel arches.

Impacts associated with the path passing under the bridge as well as potential vibration-related impacts to the bridge are described above. Impacts to the North Spring Street Viaduct would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.9.3 Option 2

Option 2 would have the same or similar impacts to HR-14 as those described for the Proposed Project. Specifically, The Option 2 path alignment would pass underneath HR-14 through a pier-and-girder section of the bridge along open space between the bridge and the existing railroad tracks. Impacts associated with the path passing under the bridge are described above. In addition to impacts related to the path passing under the North Spring Street Viaduct, similar to the North Broadway Viaduct, the Connector to Broadway/Spring Access would place a new access point near the Broadway/Spring Street intersection in addition to a connection to the main path alignment which would place additional path infrastructure in proximity to the North Spring Street Viaduct. The proposed connector would have no physical connection or other potential alterations to the bridge. Impacts to the setting of the bridge posed by the connector would be the same as those described for the Proposed Project above. Impacts to the North Spring Street Viaduct would be less than significant.

Impacts associated with the path passing under the bridge as well as potential vibration-related impacts to the bridge are described above. Impacts to the North Spring Street Viaduct would be less than significant with mitigation incorporated.

3.5.5.1.1.1.2.10 Standard Oil Co. Sales Department Building-Woman's Building (HR-15)

3.5.5.1.1.1.2.10.1 Proposed Project

The Proposed Project is not in close proximity to HR-15. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-15. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-15.

3.5.5.1.1.1.2.10.2 Option 1

HR-15 is a designated LA-HCM and is a historical resource under CEQA. The Option 1 path alignment would be elevated in-channel on the east bank on the opposite side of the LA River channel from the historical resource. Since the Option 1 path alignment would be on the opposite side of the LA River channel there is no potential for the path alignment to demolish, destroy, relocate, or alter the building nor would any path-related facilities be situated within the historic setting of the building. As such, the significance of HR-15 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-15 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.10.3 Option 2

Option 2 is not in close proximity to HR-15. There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-15. There is no potential for the Proposed Project to affect the historic setting of the historic building because Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-15.

3.5.5.1.1.1.2.11 Raphael Junction Block Building (HR-16)

3.5.5.1.1.1.2.11.1 Proposed Project

The Proposed Project is not in close proximity to HR-16. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-16. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-16.

3.5.5.1.1.1.2.11.2 Option 1

HR-16 is a designated LA-HCM and is a historical resource under CEQA. The Option 1 path alignment would be elevated in-channel on the east bank on the opposite side of the LA River channel from the historical resource. Since the Option 1 path alignment would be on the opposite side of the LA River channel there is no potential for the path alignment to demolish, destroy, relocate, or alter the building nor would any path-related facilities be situated within the historic setting of the building. As such, the significance of HR-16 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-16 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.11.3 Option 2

Option 2 is not in close proximity to HR-16. There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-16. There is no potential for Option 2 to affect the historic setting of the historic building because the Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-16.

3.5.5.1.1.1.2.12 Standard Oil Company Office, Auto Repair and Machine Shop, 1716-1756 N Spring Street/1715-1749 N Naud Street (HR-17)

3.5.5.1.1.1.2.12.1 Proposed Project

The Proposed Project is not in close proximity to HR-17. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-17. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-17.

3.5.5.1.1.1.2.12.2 Option 1 and Option 2

HR-17 was identified as appearing eligible for the NRHP by the CASP Area CRA Historic Resources Survey in 2011, and thus is a historical resource under CEQA. The path alignment would travel in an elevated in-channel configuration along the eastern riverbank on the opposite side of the LA River channel from HR-17. Given the distance of the path alignment from the resource there is no potential for impacts to HR-17 from the core path. However, there is a design variation associated with Option 1 and Option 2 that would construct a spiral ramp within the Naud Street public ROW. This design variation would locate the proposed ramp immediately adjacent to the historical resource. The ramp would be in front of the surface parking lot portion of the historical resource property rather than the front of the building.

Where the design variation is located within the historical resource's property boundary or historic setting of the Standard Oil Company Office, Option 1 and Option 2 would erect a substantial new physical structure, that may alter its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and Option 1 and Option 2 would not remove any aspect of the resource's setting which is critical to understanding its significance. The path would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the yard such that it would remain largely unobstructed and readily discernible from multiple vantage points. For these reasons, where the path would pass within the historical resource's property boundary or historic setting of the Standard Oil Company Office, Option 1 and Option 2 would result in an indirect impact to the historical resource, but this impact would be less than significant.

Construction activities have the potential to cause damage to HR-17 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.13 Richard Duardo Printmaking Studio, 1714–1736 N Albion St/325–339 Avenue 16/1735–1755 N Main St (HR-20)

3.5.5.1.1.1.2.13.1 Proposed Project and Option 1

HR-20 was identified by the SurveyLA Latino Los Angeles Citywide Historic Context Statement as "potentially significant" for its association with the Chicano art movement in Los Angeles but has not been formally designated or determined eligible for either the CRHR or NRHP. Due to its identification in SurveyLA, and out of an abundance of caution, HR-20 is considered a historical resource for the purpose of CEQA. The Proposed Project and Option 1 path alignment would be incised in-channel on the west bank and would be on the opposite side of the channel from HR-20. Since the path alignment would be on the opposite side of the LA River channel there is no potential for the path alignment to

demolish, destroy, relocate, or alter the building nor would any path-related facilities be situated within the historic setting of the building. As such, the significance of HR-20 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-20 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.13.2 Option 2

Option 2 is not in close proximity to HR-20. There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-20. There is no potential for Option 2 to affect the historic setting of the historic building because the Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-20.

3.5.5.1.1.1.2.14 North Main Street Bridge, Bridge ID 8 (HR-21)

3.5.5.1.1.1.2.14.1 Proposed Project

HR-21 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project path alignment would travel in an incised configuration under HR-21 along the western riverbank. The path structure would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged.

The Proposed Project would install new structural elements within the historical resource's property boundary or historic setting of the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Construction of the path structure would not impair or obscure the bridge's ability to convey its historic significance. Most of the important character-defining features of the bridge appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridge, those characteristics that define the bridge's architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the bridge, existing arched spans, curved brackets under the bridge deck, and/or in-river piers would remain visible and unobstructed. Additionally, the path would generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. The path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to its immediate setting, the historic bridge would continue to convey its historic significance and indirect impacts to the bridge's setting would be less than significant.

Construction activities have the potential to cause damage to HR-21 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.14.2 Option 1

The Option 1 path alignment would travel in an elevated top-of-bank configuration along the east side of the LA River channel. Since the North Main Street Bridge is situated at-grade, the path alignment would be routed over the North Main Street Bridge. The proposed elevated path would be a stand-alone, self-supporting structure that would not physically touch or attach to the historic bridge. The bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged and no direct impact to the bridge would occur.

Where the path passes over the North Main Street Bridge, Option 1 would erect a substantial new physical structure within the historical resource's property boundary or historic setting of the bridge, altering its setting and potentially interfering with the visual and spatial relationships between the bridge and its immediate surroundings. This change to the setting would be additive, and Option 1 would not remove any aspect of the bridge's setting that is critical to understanding the significance of the resource. Setting features important to the bridge are limited to the wide expanse of concrete river channel; the alignment and approach of each bridge with the surrounding street system; and the relative isolation of each bridge, positioned at considerable distance from other river crossings.

New construction over the bridge has the potential to encroach upon and reduce the open space that defines the approach to the bridge from the riverbank. New construction also has the potential to limit the bridge's ability to convey its historic significance by partially obscuring one end of the bridge as it connects to the channel. Of particular concern would be the size, scale, and placement of the support columns, which have the greatest potential to obscure physical aspects of the bridge.

The elevated path would pass over only one end of the bridge, leaving the other end unchanged. Accordingly, the vast majority of the historic bridge span would remain unobstructed. That said, it is assumed that the construction of the path structure over the North Main Street Bridge has the potential to alter the setting of the historic bridge and potentially obscure character-defining features of the bridge from public view. MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* would require compliance with the SOI's Standards to ensure that the design of the path over the historic bridge would be compatible with the bridge and would minimize visual obstruction so that the historic bridge's original design can be understood. Specifically, MM-CUL-01 requires that Option 1 conform with SOI Standards 9 and 10, which address adjacent new construction. Standard 9 requires that adjacent new construction be compatible with the historic materials, features, size, scale and proportion, and massing of the historical resource, while also being differentiated from the historical resource to avoid creating a false sense of history. Additionally, Standard 9 requires that new construction does not destroy historic materials, features, or spatial relationships that characterize the historical resource. Standard 10 requires that adjacent new construction is reversible such that, if removed in the future, the essential form and integrity of the historical resource would be unimpaired. To conform with SOI Standards 9 and 10, the design of the path over the historic bridge will be compatible with yet differentiated from the bridge over which it passes. Placement of the support columns will minimize visual obstruction so that the historic bridge's original design can be understood. The new path structure will not physically touch or attach to the historic bridge, such that the new construction could be removed without altering the bridge. Thus, by meeting the SOI's Standards, potential indirect impacts to a historic LA River bridge where the path would pass over the bridge will be mitigated to a less than significant level.

Additionally, MM-CUL-02, *Recordation of Existing Conditions* would require photographic and narrative documentation of the existing condition of the historic bridge, consistent with SOI's Standards. This would document and record the bridge's setting prior to alterations posed by Option 1.

In addition, a design variation under Option 1 would instead route the path along the western edge of Albion Park and ramp down to grade as it approaches east end of the North Main Street Bridge. Under this design variation, the path would not cross over the bridge thus avoiding any potential significant impact to the setting of the bridge. Under this design variation impacts under Option 1 would be similar to the Proposed Project and would be less than significant.

Similar to the Proposed Project, construction activities have the potential to cause damage to HR-21 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.14.3 Option 2

The Option 2 path alignment would travel in an elevated top-of-bank configuration and over HR-21. Impacts associated with Option 2 would be the same as Option 1 except that the Option 2 path alignment would be elevated over the historical resource along the western side of the bridge rather than the eastern side as described for Option 1. Impacts associated with the path passing over the bridge are described above and would be potentially significant.

As with Option 1, the Option 2 elevated path would pass over only one end of the bridge, leaving the other end unchanged. Implementation of MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would reduce potential impacts to a less than significant level.

Similar to the Proposed Project and Option 1, Option 2 construction activities have the potential to cause damage to HR-21 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.15 LADWP, Main Street Yard, 1630 N. Main Street (HR-22)

3.5.5.1.1.1.2.15.1 Proposed Project

HR-22 was determined eligible for the NRHP as a district in 1995, and thus is a historical resource under CEQA. The Proposed Project alignment would be incised in-channel on the west bank and passes by the LADWP Main Street Yard to the east. The path alignment would be separated from the historical resource by the LADWP parking lot and rail tracks and thus would have no potential to result in any physical alteration of the resource.

Where the path passes the LADWP Main Street Yard, the Proposed Project would erect a substantial new physical structure within the historical resource's property boundary or historic setting of this resource, that may alter its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the resource's setting which is critical to understanding its significance. The path would intermittently obscure some public views of the Mission Tower, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the yard such that it would remain largely unobstructed and readily discernible from multiple vantage points. For these reasons, where the path would pass within

the historical resource's property boundary or historic setting of the LADWP Main Street Yard, the Proposed Project would result in an indirect impact to the historical resource, but this impact would be less than significant.

3.5.5.1.1.1.2.15.2 Option 1

Option 1 is not in close proximity to HR-22. There is no potential for Option 1 to demolish, destroy, relocate, or alter HR-22. There is no potential for Option 1 to affect the historic setting of the historic building because Option 1 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 1 would result in no impact to HR-22.

3.5.5.1.1.1.2.15.3 Option 2

The Option 2 path alignment would be elevated in-channel along the majority of the LADWP Main Street Yard and at southernmost portion of the historical resource, the path is elevated and veers west into the LADWP parking lot. Accordingly, Option 2 would have similar impacts to those described for the Proposed Project. As with the Proposed Project, where the path passes the LADWP Main Street Yard, the Proposed Project would erect a substantial new physical structure within close proximity of the historical resource, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings; however, the impact to the setting would be less than significant.

3.5.5.1.1.1.2.16 1734 N. Main Street (HR-23)

3.5.5.1.1.1.2.16.1 Proposed Project

The Proposed Project is not in close proximity to HR-23. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-23. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-23.

3.5.5.1.1.1.2.16.2 Option 1

HR-23 has been identified as appearing eligible for local listing as well as CRHR listing and is considered a historical resource for the purpose of CEQA. The Option 1 path alignment would be top-of-bank on east side of the LA River channel and separated from historical resource by the railroad tracks. Since the Option 1 path alignment would be separated from HR-23 by the existing railroad tracks there is no potential for the path alignment to demolish, destroy, relocate, or alter the building nor would any path-related facilities be situated within the historic setting of the building. As such, the significance of HR-23 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-23 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.16.3 Option 2

Option 2 is not in close proximity to HR-23. There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-23. There is no potential for Option 2 to affect the historic setting of the historic building because the Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-23.

3.5.5.1.1.1.2.17 Mission Tower (HR-26)

3.5.5.1.1.1.2.17.1 Proposed Project

The Proposed Project is not in close proximity to HR-26. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-26. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-26.

3.5.5.1.1.1.2.17.2 Option 1

HR-26 is CRHR-listed and NRHP-eligible and is considered a historical resource for the purpose of CEQA. The Option 1 path alignment would be elevated top-of-bank on east bank on the opposite side of the LA River channel from HR-26. In addition, a construction staging area would be located adjacent to HR-26.

Construction activities have the potential to cause damage to HR-26 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.17.3 Option 2

The Option 2 alignment would be incised in-channel on the west bank and passes the Mission Tower along the western riverbank. The path would not touch the historical resource or encroach upon the historical resource property. Construction of the path structure would not require any physical alteration of the Mission Tower. After construction of the path, the Mission Tower would remain intact and in its original location and all of its exiting character-defining features would remain unchanged. For these reasons, where the path would pass in close proximity to the Mission Tower, the Proposed Project would not result in a direct impact to the historical resource.

Where the path passes the Mission Tower, Option 2 would erect a substantial new physical structure within close proximity of the historical resource, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the resource's setting which is critical to understanding its significance. The path would intermittently obscure some public views of the Mission Tower, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the control tower such that it would remain largely unobstructed and readily discernible from multiple vantage points. For these reasons, where the path would pass in close proximity to the Mission Tower, Option 2 would result in an indirect impact to the historical resource, but this impact would be less than significant.

Similar to Option 1, construction activities have the potential to cause damage to HR-26 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.18 Cesar E Chavez Ave/Vignes St Street Lights (HR-28)

3.5.5.1.1.1.2.18.1 Proposed Project, Option 1, and Option 2

HR-28 appears eligible for LA-HCM and CRHR listing and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options path alignment would be top-of bank in-channel on the west bank of the LA River channel and would pass by the historical resource far to the east with no potential for either direct or indirect impacts. However, a design variation would construct either a Class I or Class IV path, as well as wayfinding signage, on the streets or sidewalks along Cesar E Chavez Avenue, Vignes Street, and Lyon Street. The path would not touch or physically alter the historic street lights. After construction of the path, the Cesar E Chavez Ave/Vignes St Street Lights would remain intact and in their original locations and all of their exiting character-defining features would remain unchanged. For these reasons, where the path would pass within the historical resource's property boundary or historic setting of the Cesar E Chavez Ave/Vignes St Street Lights, the Proposed Project and its options would not result in a direct impact to HR-28.

The Proposed Project and its options would erect a substantial new physical structure within the historical resource's property boundary or historic setting of the historic street lights, which may alter the resource's setting and potentially interfering with the visual and spatial relationships between the street lights and their immediate surroundings. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the street lights' setting which is critical to understanding their significance. In each instance, the path would intermittently obscure some public views of the street lights, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the street lights such that it would remain largely unobstructed and readily discernible from multiple vantage points. For these reasons, where the path would pass within the historical resource's property boundary or historic setting to the Cesar E Chavez Ave/Vignes St Street Lights, the Proposed Project and its options would result in an indirect impact to the historical resource, but this impact would be less than significant.

Construction activities have the potential to cause damage to HR-28 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.19 Cesar E Chavez Avenue Viaduct Bridge ID 11 (HR-29)

3.5.5.1.1.1.2.19.1 Proposed Project

HR-29 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project would travel in an incised configuration on the eastern riverbank traveling under HR-29. At this location, the path would pass under the bridge via the main channel arch. The Proposed Project would also construct an elevated connector path along the eastern bank and over Metro rail ROW to the Mission Road at Cesar E Chavez access point. The connector path would then travel parallel to HR-29. Additionally, two design variations are proposed which would similarly pass under the bridge either via a pier-and-girder section outside the LA River channel or as a split path passing under the bridge via two open spandrels on the east side of the main channel arch. For all intents and purposes, potential impacts of the Proposed Project and design variations would be the same, namely a new path alignment passing under the bridge.

Where the path structure passes through the bridge spandrels, it would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge. The open spandrels through which the path would pass would remain intact and visible,

with no change to spandrel dimensions or configuration. Spandrels would not be widened or infilled, and columns between spandrels would not be removed. The bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged. For these reasons, where the path passes through the bridge, the Proposed Project would not result in a direct impact to the historical resource. Similarly, separate from the core path, the Proposed Project would include a connector ramp alongside a portion of the historic bridge. The path would run parallel to the bridge along the north side at the east end, ramping down to connect to street level. Under a design variation, the path would run along the west end of the Cesar E Chavez Avenue Viaduct on the south side to connect to Union Station. The connector ramp would be a stand-alone, self-supporting structure that would not physically touch or attach to the historic bridge. However, the physical separation between the historic bridge and the connector ramp would be minimal. The proposed connector ramp would be a separate and distinct structure that would not physically attach to the historic bridge in any way. Construction of the connector ramps would not require any physical alteration of the Cesar E Chavez Avenue Viaduct. For these reasons, where the connector ramp parallels the historic bridge, the Proposed Project would not result in a direct impact to the historical resource.

Where the path passes through an open spandrel of the Cesar E Chavez Avenue Viaduct, this would require new structural elements within the historical resource's property boundary or historic setting of the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting that is critical to understanding the significance of the resource. Therefore, the impacts to the setting of the bridge posed by the path passing through the bridges open spandrels would be less than significant. New construction immediately adjacent to the bridges has the potential to encroach upon and reduce the open space that defines the approach to each bridge from the riverbank. New construction also has the potential to limit each bridge's ability to convey its historic significance by obscuring portions of the bridge structure from public view. Of particular concern would be the size, scale, and placement of the new construction, including the ramp structure itself as well as its support columns, all of which have the potential to obscure physical aspects of the bridge.

Regarding the connector ramp's potential impacts on the bridge's setting, the connector ramp would run alongside only one end of the bridge on just one side, leaving the remainder of the bridge unchanged. The construction of a connector ramp immediately adjacent to and parallel with the Cesar E Chavez Avenue Viaduct has the potential to alter the setting of the historic bridge and potentially obscure character-defining features of the bridge from public view, a potentially significant impact. MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* would require compliance with the SOI Standards to ensure that the design of the connector ramp would be compatible with the bridge and would minimize visual obstruction so that the historic bridge's original design can be understood. Thus, by meeting the SOI's Standards, potential indirect impacts to the Cesar E Chavez Avenue Viaduct where a new connector ramp would be constructed immediately adjacent to and parallel with the bridge would be mitigated to a less than significant level. MM-CUL-02, *Recordation of Existing Conditions* would document and record the bridge's setting prior to alterations posed by the Proposed Project. Without such mitigation, construction of a connector ramp adjacent to and parallel with the historic bridge could interfere with the bridge's ability to convey its historic significance.

Construction activities have the potential to cause damage to HR-29 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.19.2 Option 1

Option 1 would have the same or similar impacts to HR-29 as those described for the Proposed Project. Specifically, the Option 1 path alignment would travel under HR-29 in an elevated configuration on a diagonal as the path crosses the LA River channel from the east bank to the west bank. Similar to the Proposed Project, Option 1 would also construct a connector path to the Cesar E Chavez/Mission access point parallel to HR-29 and includes the same design variations as those described for the Proposed Project. As such, impacts associated with Option 1 would be the same as those described for the Proposed Project design variation as discussed above. Impacts to the Cesar E Chavez Avenue Viaduct Bridge would be less than significant.

Similar to the Proposed Project, construction activities have the potential to cause damage to HR-29 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.19.3 Option 2

Option 2 would have the same or similar impacts to HR-29 as those described for the Proposed Project. Specifically, the Option 2 path alignment would travel under HR-29 in an elevated, in-channel configuration. Similar to the Proposed Project, Option 2 would construct a connector to the Cesar E Chavez/Mission access point parallel to HR-29. A design variation for Option 2 would construct a connector path within the LA River and Metro rail ROW, traveling under HR-29 and southerly toward the Union Station via Keller Street access point. As such, impacts associated with Option 2 would be the same as those described for the Proposed Project design variation as discussed above. Impacts to the Cesar E Chavez Avenue Viaduct Bridge would be less than significant.

Similar to the Proposed Project, construction activities have the potential to cause damage to HR-29 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.20 Denny's Restaurant, 530 Ramirez St. (HR-30)

3.5.5.1.1.1.2.20.1 **Proposed Project, Option 1, and Option 2**

HR-30 is listed in the CRHR and appears eligible for listing in the NRHP and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options alignment would be constructed approximately 900 feet southeast of the historical resource; however, the proposed Union Station access point would be constructed along Commercial Street and Center Street within 500 feet of the historical resource. Neither the proposed path alignment nor the Union Station access point would demolish, destroy, relocate, or alter HR-30 and the presence of these facilities pose no potential to affect the historic setting of the historic restaurant building due to the distance and intervening US-101 freeway which separates the historical resource from the Proposed Project and its options. As such, the significance of HR-30 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-30 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.21 Walker Foods, Inc./El Pato Salsas, 250 N Myers St/233–243 N Mission Rd, Los Angeles (HR-33)

3.5.5.1.1.1.2.21.1 **Proposed Project**

HR-33 was identified as appearing eligible for the NRHP and is considered a historical resource for the purpose of CEQA. Near HR-33, the Proposed Project path alignment is incised in-channel on the east bank and includes the Union Station access point as well as the First Street access point. HR-33 is separated from the channel and Proposed Project construction footprint by railroad tracks and Myers Street. Therefore, the proposed path alignment and associated access points have no potential to demolish, destroy, relocate, or alter HR-33 and the presence of these facilities pose no potential to affect the historic setting of the historic building due to the distance and intervening development which separates the historical resource from Proposed Project infrastructure. As such, the significance of HR-33 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-33 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.21.2 Option 1

There is no potential for Option 1 to demolish, destroy, relocate, or alter HR-33. There is no potential for Option 1 to affect the historic setting of the historic building because the Option 1 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 1 would result in no impact to HR-33.

3.5.5.1.1.1.2.21.3 Option 2

There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-33. There is no potential for Option 2 to affect the historic setting of the historic building because the Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-33. However, a design variation would result in construction activities being closer to HR-33, resulting in potential to cause damage to HR-33 due to vibration. Similar to the Proposed Project, this would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.22 161 N. Mission Road (HR-34)

3.5.5.1.1.1.2.22.1 Proposed Project, Option 1, and Option 2

HR-34-was identified as appearing eligible for the CRHR and is considered a historical resource for the purpose of CEQA. Near HR-34, the Proposed Project path alignment is incised in-channel on the east bank and includes the Union Station access point as well as the First Street access point. HR-34 is separated from the channel and Proposed Project construction footprint by railroad tracks and Myers Street. Therefore, the proposed path alignment and associated access points have no potential to demolish, destroy, relocate, or alter HR-34 and the presence of these facilities pose no potential to affect the historic setting of the historic building due to the distance and intervening development which separates the historical resource from Proposed Project infrastructure. As such, the significance of HR-34 would not be impaired or altered in any way and there would be no impact.

Design variations under the Proposed Project and Option 2 would require construction activities along Myers Street. As such, construction activities have the potential to cause damage to HR-34 due to

vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.23 First Street Viaduct Bridge ID 14 (HR-35)

3.5.5.1.1.1.2.23.1 **Proposed Project**

HR-35 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project would travel underneath HR-35 in an incised path along the eastern riverbank. The Proposed Project path connector to the First Street access point would travel in an elevated configuration parallel to HR-35 along the northeast side of the bridge, ramping down to the First Street access point at Mission Road. The path would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged. For these reasons, where the path passes under the bridge, the Proposed Project would not result in a direct impact to the historical resource. Similarly, separate from the core path, the Proposed Project would include a connector ramp alongside a portion of the historic bridge. The path would run parallel to the bridge along the northeast side, ramping down to connect to street level. The connector ramp would be a stand-alone, self-supporting structure that would not physically touch or attach to the historic bridge. However, the physical separation between the historic bridge and the connector ramp would be minimal. The proposed connector ramp would be a separate and distinct structure that would not physically attach to the historic bridge in any way. Construction of the connector ramps would not require any physical alteration of the First Street Viaduct. For these reasons, where the connector ramp parallels the historic bridge, the Proposed Project would not result in a direct impact to the historical resource.

The Proposed Project would install new structural elements within the historical resource's property boundary or historic setting of the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Regarding the connector ramp's potential impacts on the bridge's setting, similar to HR-29, the connector ramp would run alongside only one end of the bridge on just one side, leaving the remainder of the bridge unchanged. The construction of a connector ramp immediately adjacent to and parallel with the First Street Viaduct has the potential to alter the setting of the historic bridge and potentially obscure character-defining features of the bridge from public view, a potentially significant impact. Implementation of MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would ensure potential indirect impacts to the Cesar E Chavez Avenue Viaduct where a new connector ramp would be constructed immediately adjacent to and parallel with the bridge the impact would be less than significant with mitigation incorporated.

Construction activities have the potential to cause damage to HR-35 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.23.2 Option 1

Option 1 would have the same or similar impacts to HR-35 as those described for the Proposed Project. The Option 1 path alignment would travel under HR-35 in an elevated in-channel configuration along the western riverbank and would not physically alter the bridge. In addition, Option 1 would alter HR-35 by constructing two access points that would physically connect to HR-37. These two access points, First Street North and First Street South, comprise dual elevated ramps that connect to the north and south sides of HR-35. As with the Proposed Project, the core path alignment would result in less than significant impacts to the First Street Viaduct. Impacts associated with the path passing under the bridge are described above.

Where the path structure connects to the First Street Viaduct, it would physically attach to the historic bridge and require the removal of some existing historic fabric. The path of travel for connectors would generally be 14 feet wide, but in some instances may increase up to 20 feet wide at the connection point. To accommodate the connection of the path to the bridge, it is anticipated that a wider segment of railing would be removed to establish a point of clean cut (such as a pier). After construction of the connection, the railing would then be reconstructed in-kind to the point of connection. Because the existing railings on the viaduct are considered character-defining features, removal of a segment of railing has the potential to result in a significant direct impact to the historical resource. The First Street Viaduct measures approximately 1,300 feet in length, with railings extending the full length on both sides. The existing railing on the south side of the First Street Bridge is original; the railing on the north side is a historic reproduction. Under Option 1, the path would connect to the bridge on both the north and south sides, requiring the removal of up to 30 linear feet of original railing on the south side and up to 30 linear feet of reproduction railing on the north side. Up to 10 feet of railing on each side will be reconstructed in-kind. This would result in less than 2% of the total amount of existing historic bridge railing being removed and not replaced.

Because Option 1 would construct a path structure that would physically attach to the bridge and require the removal of some historic fabric, Option 1 has the potential to result in a significant direct impact to the First Street Viaduct. Additionally, the construction of a connector ramp could alter the general form and profile of the historic bridge by adding a new element to the bridge. However, any alterations to the form and profile of the bridge resulting from the attached new construction would be limited to one end of the bridge.

At this conceptual phase of design, it is assumed for the purposes of analysis that the construction of a ramp connecting to the First Street Viaduct and the Atlantic Boulevard Bridge could result in a significant direct impact to the bridges. Appropriate mitigation would be required to ensure that any new connector ramp is compatible with, yet distinguishable from, the bridge to which it is connecting; and that the removal of historic bridge railing is minimal and reconstructed railing is a historically accurate reproduction. Without such mitigation, construction of a ramp connecting to a historic bridge could interfere with the bridge's ability to convey its historic significance.

To address both direct and indirect impacts to the Atlantic Boulevard Bridge, MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would be implemented to potential direct and indirect impacts to the Atlantic Boulevard Bridge where a ramp would connect to the bridge would be mitigated to a less than significant level.

Construction activities have the potential to cause damage to HR-35 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.23.3 Option 2

Option 2 would have the same or similar impacts to HR-35 as those described for the Proposed Project. Specifically, the Option 2 path alignment would travel under HR-35 in an elevated in-channel and would not physically alter the bridge. Similar to the Proposed Project, the Option 2 path connector to the First Street access point would travel in an elevated top-of-bank configuration parallel to HR-35 along the northeast side of the bridge, ramping down to the First Street access point at Mission Road. As such, impacts associated with Option 1 would be the same as those described for the Proposed Project design variation as discussed above. Impacts to the First Street Viaduct would be less than significant.

Like the Proposed Project, construction activities have the potential to cause damage to HR-12 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.24 Fourth Street Viaduct Bridge ID 15 (HR-36)

3.5.5.1.1.1.2.24.1 Proposed Project

HR-36 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project path alignment would travel underneath HR-36 in an incised path on the east bank. Just south of HR-36, the Proposed Project would then transition to an elevated river crossing from the east bank to the west bank between the Fourth Street Viaduct and the Sixth Street Viaduct. Where the path structure passes under the bridge, it would not physically touch or attach to the historic bridge in any way. However, in this location the path would be widened with the existing abutment serving as a retaining wall adjacent to the path. It is expected that there may be some surface cleaning of the existing visible portion of the abutment during construction, including sand blasting and possible painting. No existing fabric will be removed or modified for any exposed or finished portion of the abutment. Any physical modification to bridge abutments would be below grade and under the LA River channel lining. Where the path would pass under a historic LA River bridge and the existing bridge abutment would serve as a retaining wall for the path structure, some modification of the bridge abutment may be required, resulting in a direct impact to the historic bridge. However, beyond cleaning and possible painting, any physical alteration would not be visible as all work would be below grade and under the channel's concrete lining. The Fourth Street Viaduct would remain intact and in its original location and all of its existing character-defining features would remain unchanged. As such, where bridge abutment modification may occur the Proposed Project would result in a direct impact to the historical resource, but this impact would be less than significant.

Where the path would require bridge abutment modification to a historic LA River bridge, this may result in a new structural element within the historic setting or attached to the historic bridge. While this work would occur in the bridge's immediate setting, it would be below grade under the channel's concrete lining and thus not visible. This modification in the setting will not remove or alter any aspect of the bridge's setting that is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel. Only a small portion of the channel would be encroached upon and reconstructed in-kind, and its wide expanse spanned by the historic bridge would remain unencumbered. For these reasons, where the path would require bridge abutment modification to a historic LA River bridge, the Proposed Project would not result in an indirect impact to the historical resource.

Construction activities have the potential to cause damage to HR-36 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.24.2 Option 1 and Option 2

Option 1 and Option 2 would have the same or similar impacts to HR-36 as those described for the Proposed Project. Specifically, Option 1 and Option 2 path alignment would travel under HR-36 in an incised path along the west bank. A design variation for Option 1 and Option 2 would have the incised path higher up the west bank and closer to the bridge abutment. As with the Proposed Project, Option 1 and Option 2 may require modifications to the bridge abutments. Impacts associated with the path passing under the bridge and abutment modifications are described above. Impacts to the Fourth Street Viaduct would be less than significant.

Like the Proposed Project, Option 1 and Option 2 construction activities have the potential to cause damage to HR-12 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.25 Los Angeles Furniture Mart Building (HR-38)

3.5.5.1.1.1.2.25.1 Proposed Project

The Proposed Project is not located near HR-38. There is no potential for the Proposed Project to demolish, destroy, relocate, or alter HR-38. There is no potential for the Proposed Project to affect the historic setting of the historic building because the Proposed Project is too distant from the resource and is either on the opposite riverbank or separated by development. The Proposed Project would result in no impact to HR-38.

3.5.5.1.1.1.2.25.2 Option 1

HR-38 appears eligible for LA-HCM and CRHR listing and is considered a historical resource for the purpose of CEQA. The East Seventh Street/Jesse Street design variation for Option 1 would consist of a river crossing from the Option 1 path in the west bank to the east bank, before traveling south in an incised high path on the east bank toward the Seventh Street Viaduct. This design variation would then travel east in an elevated connector path over railroad tracks before turning north and east side of railroad tracks toward the optional East Seventh Street/Jesse Street access point. The Option 1 design variation would be separated from HR-38 by a surface parking area. No physical impacts to the Furniture Mart building would occur.

Where the design variation is located within the historical resource's property boundary or historic setting of HR-38, Option 1 would erect a substantial new physical structure within close proximity of the historical resource, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the resource’s setting which is critical to understanding its significance. The path would intermittently obscure some public views of the Mission Tower, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding the yard such that it would remain largely unobstructed and readily discernible from multiple vantage points. For these reasons, where the path would pass within the historical resource's property boundary or historic setting or HR-38, Option 1 would result in an indirect impact to the historical resource, but this impact would be less than significant.

Construction activities have the potential to cause damage to HR-38 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.25.3 Option 2

Option 2 is not located near HR-38. There is no potential for Option 2 to demolish, destroy, relocate, or alter HR-38. There is no potential for Option 2 to affect the historic setting of the historic building because Option 2 is too distant from the resource and is either on the opposite riverbank or separated by development. Option 2 would result in no impact to HR-38.

3.5.5.1.1.1.2.26 Seventh Street Viaduct Bridge ID 17 (HR-39)

3.5.5.1.1.1.2.26.1 Proposed Project

HR-39 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project path would travel underneath HR-39 in an incised configuration along west bank. Where the path structure passes under the North Broadway Viaduct, it would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged.

The Proposed Project would install new structural elements within the historical resource's property boundary or historic setting of the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Construction of the path structure would not impair or obscure the bridge's ability to convey its historic significance. Most of the important character-defining features of the bridge appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridge, those characteristics that define the bridge's architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the bridge, existing arched spans, curved brackets under the bridge deck, and/or in-river piers would remain visible and unobstructed. Additionally, the path would generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. The path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to its immediate setting, the historic bridge would continue to convey its historic significance and indirect impacts to the bridge's setting would be less than significant.

Construction activities have the potential to cause damage to HR-39 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.26.2 Option 1 and Option 2

Option 1 and Option 2 would have the same or similar impacts to HR-39 as those described for the Proposed Project. Option 1 and Option 2 paths would travel underneath HR-39 in an incised configuration along west bank. The path would not physically alter the bridge. In addition, the East Seventh Street/Jesse Street design variation would route an access connection east off of the core path to cross the channel (river crossing) from west bank to east bank, then runs south at top-of-bank on east bank toward the bridge before landing at Jesse Street. Impacts associated with the path passing under the bridge are described above. In addition, the proposed design variation would have no physical connection or other potential alterations to the bridge. Impacts to the setting of the bridge posed by the connector would be the same as those described for the Proposed Project. Impacts to the Seventh Street Viaduct Bridge would be less than significant.

Like the Proposed Project, Option 1 and Option 2 construction activities have the potential to cause damage to HR-39 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.27 Olympic Boulevard Viaduct Bridge ID 19 (HR-42)

3.5.5.1.1.1.2.27.1 Proposed Project, Option 1, Option 2

HR-42 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options would travel underneath HR-42 in an incised configuration along the west bank. Where the path structure passes under the Olympic Boulevard Viaduct, it would not physically touch or attach to the historic bridge in any way. Construction of the path would not require any physical alteration of the bridge and the bridge would remain intact and in its original location and its existing character-defining features would remain unchanged.

The Proposed Project and its options would install new structural elements within the historical resource's property boundary or historic setting of the historic bridge, thereby altering its immediate setting. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. The most important aspect of the bridge's setting is the LA River channel itself. Only a small portion of the channel would be encroached upon, and its wide expanse spanned by the historic bridge would remain largely unencumbered.

Construction of the path structure would not impair or obscure the bridge's ability to convey its historic significance. Most of the important character-defining features of the bridge appear at the deck level and above, including monumental pylons and porticos, ornamental concrete balustrades and parapet walls, ornamental light standards, and viewing balconies. By locating the path structure under the bridge, those characteristics that define the bridge's architectural style and design would remain unobstructed. The support structures below the bridge deck are also important character-defining features, as they convey the bridge's engineering and technology. However, even with the addition of the path passing under the bridge, existing arched spans, curved brackets under the bridge deck, and/or in-river piers would remain visible and unobstructed. Additionally, the path would generally follow the alignment of the channel, passing under the bridge perpendicular to the bridge alignment. The path conforms with and reinforces the physical and visual relationship between the bridge itself and the various linear infrastructure elements (such as the channel and the railroad tracks) it spans. Thus, despite some alteration to its immediate setting, the historic bridge would

continue to convey its historic significance and indirect impacts to the bridge's setting would be less than significant.

Construction activities have the potential to cause damage to HR-42 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.28 AT&SF Railway Redondo Junction/Butte Street Yard (HR-44)

3.5.5.1.1.1.2.28.1 Proposed Project, Option 1, Option 2

HR-44 is CRHR-listed and NRHP-eligible and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options would travel adjacent to HR-46 in an elevated path along the west bank and then transition into area of the LA County Flood Control District detention ponds, which are within the limits of HR-44. Where the path would physically encroach upon the AT&SF Railway Redondo Junction/Butte Street Yard property, there would be a direct impact to the historical resource. The path would be constructed on an undeveloped portion of the property and would not touch any contributing features of the historical resource. As such, the construction of the path on this site would not interfere with the ability of the resource to convey its historic significance and the direct impact to the resource would be less than significant.

The Proposed Project and its options would also erect a substantial new physical structure directly on the historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the resource's setting which is critical to understanding its significance. The path would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding each historical resource such that it would remain largely unobstructed and readily discernible from multiple vantage points. After construction of the path, HR-44 would remain intact and in its original location and all of its exiting character-defining features would remain unchanged and indirect impacts on the resource's setting would be less than significant.

3.5.5.1.1.1.2.29 Washington Boulevard Bridge, Bridge ID 21 (HR-46)

3.5.5.1.1.1.2.29.1 Proposed Project, Option 1, and Option 2

HR-46 is a designated LA-HCM, CRHR-listed, and NRHP-eligible, and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options are elevated in-channel on west bank, then veers into the channel as an elevated in-channel path. Then path passes over the Washington Boulevard Bridge to the east of the western monumental pylons and veers west onto the property west of the channel (south of Washington Boulevard) to pass under the Redondo Junction Grade Separation (flyover rail bridge) as an elevated top-of-bank path. Where the path structure passes over the Washington Boulevard Bridge, it would be a separate and distinct structure that would not physically attach to the bridge in any way. Construction of the path would not require any physical alteration of the Washington Boulevard Bridge. The bridge would remain intact and in its original location and all of its existing character-defining features would remain unchanged and no direct impact to the bridge would occur.

Where the path passes over the Washington Boulevard Bridge, the Proposed Project and its options would erect a substantial new physical structure within close proximity of the bridge, altering its setting and potentially interfering with the visual and spatial relationships between the bridge and its

immediate surroundings. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting that is critical to understanding the significance of the resource. Setting features important to the bridge are limited to the wide expanse of concrete river channel; the alignment and approach of each bridge with the surrounding street system; and the relative isolation of each bridge, positioned at considerable distance from other river crossings.

New construction over the bridge has the potential to encroach upon and reduce the open space that defines the approach to the bridge from the riverbank. New construction also has the potential to limit the bridge's ability to convey its historic significance by partially obscuring one end of the bridge as it connects to the channel. Of particular concern would be the size, scale, and placement of the support columns, which have the greatest potential to obscure physical aspects of each bridge.

The elevated path would pass over only one end of the bridge, leaving the other end unchanged. Accordingly, the vast majority of the historic bridge span would remain unobstructed. That said, it is assumed that the construction of the path structure over the Washington Boulevard Bridge has the potential to alter the setting of the historic bridges and potentially obscure character-defining features of the bridge from public view. Implementation of MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would ensure potential direct and indirect impacts to the Washington Boulevard Bridge would be mitigated to a less than significant level.

Construction activities have the potential to cause damage to HR-46 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.30 Hoffy/Bill Bailey's (HR-47)

3.5.5.1.1.1.2.30.1 Proposed Project, Option 1, and Option 2

HR-47 appears eligible for LA-HCM and CRHR listing and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options would travel within the boundary of the historical resource along the western (rear) edge of the historical resource property in an elevated top-of-bank configuration constituting a direct impact. However, the path structure would occupy an undeveloped portion of the site at the rear of the property along the LA River channel and would not demolish or alter any existing buildings, structures, or other physical feature that contribute to the property's historic significance. This area is devoid of any features which contribute to the significance of the historical resource. For these reasons, where the path would physically encroach upon the property and the Proposed Project and its options would result in a direct impact to the historical resource, but this impact would be less than significant.

The Proposed Project and its options would erect a substantial new physical structure directly on the historical resource property, altering its setting and potentially interfering with the visual and spatial relationships between the resource and its immediate surroundings. This change to the setting would be additive, and the Proposed Project and its options would not remove any aspect of the resource's setting which is critical to understanding its significance. In each instance, the path would intermittently obscure some public views of the resource, although the majority of views would remain unobstructed. Additionally, there would remain ample open space surrounding each historical resource such that it would remain largely unobstructed and readily discernible from multiple vantage points. In one instance, the path would be at-grade. After construction of the path, HR-47 would remain intact and in its original location and its exiting character-defining features would remain unchanged and indirect impacts associated with the presence of the Proposed Project and its options

located within the historical resource's property boundary or historic setting of the resource would be less than significant.

Construction activities have the potential to cause damage to HR-47 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.31 Farmer John (HR-48)

3.5.5.1.1.1.2.31.1 Proposed Project, Option 1, Option 2

HR-48 was identified as appearing eligible for listing in the CRHR and the NRHP and is considered a historical resource for the purpose of CEQA. The Proposed Project and its options would be elevated top-of-bank on the east bank, then would travel incised in-channel on the east bank. The Proposed Project and its options would be situated on the opposite side of the LA River channel from HR-48 which is located on the west side of the LA River channel. Since the path alignment would be on the opposite side of the LA River channel there is no potential for the path alignment to demolish, destroy, relocate, or alter the building nor would any path-related facilities be situated within the historic setting of the building. As such, the significance of HR-48 would not be impaired or altered in any way and there would be no impact.

Construction activities have the potential to cause damage to HR-48 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.32 Atlantic Boulevard Bridge, Bridge ID 30 (HR-52)

3.5.5.1.1.1.2.32.1 Proposed Project

HR-52 appears eligible for LA-HCM and CRHR listing and is considered a historical resource for the purpose of CEQA. The Proposed Project would result in potentially significant impacts to the Atlantic Boulevard Bridge, Bridge ID 30 (HR-54) due to construction on or near the historical resource property and physical alternation of HR-52. Along the north bank, the Proposed Project would travel in a top-of-bank configuration leading to a new access point at Atlantic Boulevard. This new access point, at the northwest end of HR-52, would require removal of a segment of the HR-52 bridge railing to create a safe connection to the sidewalk, away from the nearby railroad tracks. Where the path structure connects to Atlantic Boulevard, it would physically attach to the historic bridge and require the removal of some existing historic fabric. The path of travel for connectors would generally be 14 feet wide, but in some instances may flare up to 20 feet wide at the connection point. To accommodate the connection of the path to a bridge, it is anticipated that a wider segment of railing would be removed to establish a point of clean cut (such as a pier). After construction of the connection, the railing would then be reconstructed in-kind to the point of connection. The removal of any segment of historic bridge railing to allow for connection to the path will not exceed 30 linear feet.

Because the existing railings are considered character-defining features, removal of a segment of railing has the potential to result in a significant direct impact to the historical resource. For purposes of analysis, it is important to understand the scope and scale of the direct physical impact of connecting to the historic bridge in relation to the bridge overall. The new connector ramps would be constructed at only one end of the historic bridge; the other end of the bridge would remain unchanged. Additionally, where historic bridge railing would be removed, it amounts to only a small portion of the total existing bridge railing.

The Atlantic Boulevard Bridge measures approximately 464 feet in length, with railings extending the full length on both sides. No documentation has been uncovered to confirm the provenance of the existing railings, but they appear to be replacements. The path would connect only to the north side of the bridge, requiring the removal of up to 30 linear feet of existing railing, of which approximately 10 feet will be reconstructed in-kind. This would result in approximately 2% of the total amount of existing bridge railing being removed and not replaced.

Because the Proposed Project would construct path structure that would physically attach to a historic bridge and require the removal of some historic fabric, the Proposed Project has the potential to result in a significant direct impact to the Atlantic Boulevard Bridge. Additionally, the construction of a connector ramp could alter the general form and profile of the historic bridge by adding a new element to the bridge. However, any alterations to the form and profile for each bridge resulting from the attached new construction would be limited to one end of the bridge, with the other end of the bridge remaining unchanged. In this way, it is reasonable to assume that physical alterations to each historic bridge will be limited. Likewise, it is assumed that only a small percentage of the total amount of existing bridge railing at each bridge would be removed and not replaced. For these reasons, the Proposed Project has the potential to result in a significant direct impact to the historical resource.

Where the path structure connects to a historic LA River bridge, the Proposed Project would erect a substantial new physical structure within close proximity of the bridge, altering its setting and potentially interfering with the visual and spatial relationships between the bridge and its immediate surroundings. This change to the setting would be additive, and the Proposed Project would not remove any aspect of the bridge's setting which is critical to understanding the significance of the resource. Setting features important to each of these bridges are limited to the wide expanse of concrete river channel; the alignment and approach of each bridge with the surrounding street system; and the relative isolation of each bridge, positioned at considerable distance from other river crossings.

New construction connecting to the bridges has the potential to encroach upon and reduce the open space that defines the approach to each bridge from the riverbank. New construction also has the potential to limit the bridge's ability to convey its historic significance by partially obscuring one end of the bridge as it connects to the channel. Of particular concern would be the size, scale, and placement of support columns, which have the greatest potential to obscure physical aspects of each bridge.

The elevated connector ramp would occur at only one end of the bridge, leaving the other end unchanged. In each instance, the vast majority of the historic bridge span would remain unobstructed. said, the Proposed Project is in the conceptual design phase and advanced conceptual design and engineering current Project description is conceptual and actual design will be conducted in a later phase. At this conceptual phase of design, it is assumed for the purposes of analysis that the construction of connector ramps attaching to the Atlantic Boulevard Bridge has the potential to alter the setting of the historic bridge and potentially obscure character-defining features of the bridge from public view. Without such mitigation, construction of connector ramps attaching to the historic bridge could interfere with the bridge's ability to convey its historic significance and the Proposed Project has the potential to result in a significant indirect impact to the historical resource.

To address both direct and indirect impacts to the Atlantic Boulevard Bridge, MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would be implemented to reduce potential direct and indirect impacts to the Atlantic Boulevard Bridge where a ramp would connect to the bridge and impacts would be mitigated to a less than significant level.

Construction activities have the potential to cause damage to HR-52 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.32.2 Option 1

Option 1 would have the same impacts to HR52 as the Proposed Project discussed above. As with the Proposed Project, Option 1 would implement MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* to minimize potentially significant impacts to the Atlantic Boulevard Bridge to a less than significant level. Like the Proposed Project, construction activities have the potential to cause damage to HR-52 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.1.2.32.3 Option 2

Option 2 would have the same or similar impacts to HR-52 as those described for the Proposed Project except no connector ramp is proposed. Specifically, the Option 2 path alignment would travel along the south bank, under HR-52 in an incised configuration connecting to the existing Atlantic Boulevard access point south of the historic bridge. As with the Proposed Project, Option 2 may require modification to the bridge abutment. Similar to the Proposed Project, the design variation for Option 2 would continue the path alignment in an incised configuration from the north bank Atlantic Boulevard access point and passing under HR-52. This design variation may require modification to bridge abutment. Since no connector ramp is proposed under Option 2, there is no potential for Option 2 to alter the setting of the historic bridge and potentially obscure character-defining features of the bridge from public view. As such, impacts to the Atlantic Boulevard Bridge posed by Option 2 would be less than significant.

Like the Proposed Project, construction activities have the potential to cause damage to HR-52 due to vibration and would be considered a significant impact. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-VIB-02, *Vibration Monitoring Plan* would reduce vibration impacts to a less than significant level.

3.5.5.1.1.2 Operation and Maintenance

No impact. No potential impacts to historical resources during O&M of the Proposed Project have been identified. As discussed, all potential impacts to built-environment historical resources would occur during the construction period and therefore all potential impacts are described under the Construction heading of Impact CUL-1.

3.5.5.2 Impact CUL-2: Archaeological Resources

Impact CUL-2: Cause a substantial adverse change in the significance of a unique or historical archaeological resource pursuant to Section 15064.5?

3.5.5.2.1 Proposed Project, Option 1, and Option 2

3.5.5.2.1.1 Construction

Less than significant with mitigation incorporated. Ground disturbance within the footprint for the Proposed Project varies depending upon the type of construction element that is planned for the various locations within the option. Only archaeological resources that intersect with the Proposed Project or its options have the potential to be impacted. Table 3.5-6 describes the potential for each historical or unique archaeological site that intersects the Proposed Project and its options to be impacted by the various construction elements.

Table 3.5-6. Potential Impacts to Historical or Unique Archaeological Resources that Intersect the Proposed Project, Option 1, and Option 2

Resource	Eligibility	Construction Elements in Proximity to Resource	Potential Impacts to Resource
P-19-002770	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project: Elevated path and connectors, river crossing ▪ Option 1: Elevated path and connectors, incised and cantilevered path, river crossing ▪ Option 2: Elevated path and connectors, river crossing	This site consists of buried historic refuse that reaches a depth of 1 to 1.5 feet. The entire horizontal and vertical extent of this resource may be impacted by excavations required for the Proposed Project and its options. Excavation for elevated paths and connectors would include drilling 50 to 80 feet below ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. Incised and cantilevered paths would include excavation would extend 6 to 12 feet deep. River crossings would involve excavation to a depth of approximately 10 to 15 feet. These excavations could directly impact P-19-002770, resulting in a potentially significant impact.
P-19-002837	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project: Elevated path and connectors, river crossing ▪ Option 1: Incised and cantilevered path ▪ Option 2: Elevated path and connectors	This site consists of a section of rail lines at the ground surface. The entire horizontal and vertical extent of this resource may be impacted by excavations required for the Proposed Project and its options. Excavation for elevated paths and connectors includes drilling 50 to 80 feet below ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. River crossings involve excavation to a depth of approximately 10 to 15 feet. Incised and cantilevered paths for Option 1 would include excavation that would extend 6 to 12 feet deep. These excavations could directly impact P-19-002837, resulting in a potentially significant impact.
P-19-003101	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Option 1: Access point, river crossing	This site is a historic-era debris scatter located on the ground surface. The entire horizontal and vertical extent of this resource may be impacted by excavations. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. River crossings would involve excavation to a depth of approximately 10 to 15 feet. These excavations could directly impact P-19-003101, resulting in a potentially significant impact.
P-19-003120	Eligible for listing in the NRHP. Listed as LA-HCM 82.	▪ Option 1: Access point, elevated crossing	This site consists of buried structural remains of the "Cornfield," a railroad maintenance facility, freight and passenger depot, and rail yard preserved in situ below the existing ground surface. The entire horizontal and vertical extent of this resource may be impacted by excavations. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. Excavation for elevated paths would include drilling 50 to 80 feet below ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. These excavations could directly impact P-19-003120, resulting in a potentially significant impact.

Table 3.5-6. Potential Impacts to Historical or Unique Archaeological Resources that Intersect the Proposed Project, Option 1, and Option 2

Resource	Eligibility	Construction Elements in Proximity to Resource	Potential Impacts to Resource
P-19-003683	Formerly unevaluated but treated as eligible for CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Option 1: Access point	This site consists of a surface scatter of domestic refuse. The entire horizontal and vertical extent of this resource may be impacted by excavations. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. These excavations could directly impact P-19-003683, resulting in a potentially significant impact.
P-19-004193	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project, Option 2: Incised and cantilevered ▪ Option 1: Access point	This site consists of portions of an original street, dating from 1914 to 1945, exposed near the foundation for the 6th Street bridge. The entire horizontal and vertical extent of this resource may be impacted by construction activities and excavations. Incised and cantilevered paths include excavation that would extend 6 to 12 feet deep. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. These excavations could directly impact P-19-004193, resulting in a potentially significant impact.
P-19-004660	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project: Incised and cantilevered path ▪ Option 1, Option 2: Access point	This site consists of paving stones and railroad/streetcar tracks located beneath historic Macy Street. The entire horizontal and vertical extent of this resource may be impacted by construction activities and excavation. Incised and cantilevered paths include excavation that would extend 6 to 12 feet deep for the retaining wall. River crossings involve excavation to a depth of approximately 10 to 15 feet. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. These excavations could directly impact P-19-004660, resulting in a potentially significant impact.
P-19-004661	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project: Incised and cantilevered path, elevated path and connectors, river crossing ▪ Option 1: Elevated path and connectors, access point, river crossing ▪ Option 2: Access point	This site consists of a segment of a brick wall located 44 or more inches below the ground surface. The entire horizontal and vertical extent of this resource may be impacted by construction activities and excavation. Excavation for elevated paths and connectors include drilling 50 to 80 feet below the ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. Incised and cantilevered paths include excavation that would extend 6 to 12 feet deep for the retaining wall. River crossings involve excavation to a depth of approximately 10 to 15 feet. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. These excavations could directly impact P-19-004661, resulting in a potentially significant impact.

Table 3.5-6. Potential Impacts to Historical or Unique Archaeological Resources that Intersect the Proposed Project, Option 1, and Option 2

Resource	Eligibility	Construction Elements in Proximity to Resource	Potential Impacts to Resource
P-19-004832	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Proposed Project: Incised and cantilevered path, elevated path and connectors ▪ Option 1: Access point ▪ Option 2: Incised and cantilevered	This resource consists of a diffuse historic refuse deposit, including various architectural debris, located up to 13.5 feet deep. The entire horizontal and vertical extent of this resource may be impacted by construction activities and excavation. Excavation for elevated paths and connectors includes drilling 50 to 80 feet below ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. Incised and cantilevered paths include excavation that would extend to between 6 and 12 feet deep. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. These excavations could directly impact P-19-004832, resulting in a potentially significant impact.
P-19-100881	Formerly unevaluated but treated as eligible for the CRHR for the purposes of the Proposed Project. Currently located under hardscape and not observable.	▪ Option 1: Access point, river crossing	This site is a historic debris scatter located on the ground surface. The entire horizontal and vertical extent of this resource may be impacted by excavations. Specifically, excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. River crossings would involve excavation to a depth of approximately 10 to 15 feet. These excavations could directly impact P-19-100881, resulting in a potentially significant impact.
P-19-187085	Listed in the CRHR. Listed as a California Historical Landmark.	▪ Proposed Project: Incised and cantilevered path, elevated path and connectors, river crossing ▪ Option 1: Elevated path and connectors, access point, river ▪ Option 2: Elevated path and connectors	This resource consists of a 0.15-mile-long segment of the Mojave Road. Excavation for elevated paths and connectors include drilling 50 to 80 feet below ground surface and lateral excavation that would reach 50 feet below grade for abutment locations. Incised and cantilevered paths include excavation would extend to between 6 and 12 feet deep for the retaining wall. River crossings involve excavation to a depth of approximately 10 to 15 feet. Excavation for access points would reach a depth of up to 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. Where the Proposed Project and its options cross the resource, it is highly disturbed and features pavement and railroad tracks. However, if a subsurface component of the resource exists, these construction activities and excavations could directly impact P-19-187085, resulting in a potentially significant impact.

Archaeological resources located in the vicinity of the Proposed Project and its options improvements (but outside the Proposed Project footprint) would not be directly or indirectly affected by the construction of the Proposed Project and its options.

3.5.5.2.1.1.1 Proposed Project

As shown in Table 3.5-6, excavations required for construction of the Proposed Project have potential to directly and significantly impact the seven archaeological resources that intersect the Proposed Project. To mitigate this impact, MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan*, would be implemented. Pursuant to those measures, a qualified archaeologist would oversee the preparation and implementation of a Cultural Resources Mitigation and Management Plan (CRMMP) that, among other things, would detail the treatment and management of known resources.

In addition to potential impacts to the seven known archaeological resources, the Proposed Project has the potential to disturb or destroy a significant unknown resource. Such impacts to unknown archaeological resources could occur where construction activities take place within previously undisturbed and culturally sensitive soils (largely between approximately 0 and 10 feet, but this depth can vary). Due to the heavily developed nature of the ADI, a fill horizon consisting of artificial fill is present locally and continuously within and along the study area. The depth and lateral extent of these fill deposits is dependent on the original topography as well as past and recent development activities in the ADI. Pockets of undisturbed soil may be present within these disturbed areas of artificial fill, and intact archaeological resources may be present within these undisturbed pockets. In addition, there are waterborne deposits from roughly 11,000 years ago that have high sensitivity for containing archaeological resources within the ADI. These waterborne deposits are likely present up to approximately 10 feet below ground surface, but depths can vary, as pockets of undisturbed soils within the disturbed fill. These waterborne deposits have the potential for intact archaeological resources to be present ranging from 0 to 10 feet in depth, but depths could vary.

3.5.5.2.1.1.2 Option 1

As shown in Table 3.5-6, excavations required for construction of Option 1 have potential to directly and significantly impact the 12 archaeological resources that intersect with Option 1. To mitigate this impact, MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan*, would be implemented. Pursuant to those measures, a qualified archaeologist would oversee the preparation and implementation of a CRMMP that, among other things, would detail the treatment and management of known resources.

In addition to potential impacts to the 12 known archaeological resources, Option 1 has the potential to disturb or destroy a significant unknown resource. Such impacts to unknown archaeological resources could occur where construction activities take place within previously undisturbed and culturally sensitive soils (largely between 0 and 10 feet). Due to the heavily developed nature of the ADI, a fill horizon consisting of artificial fill is present locally and continuously within and along the study area. The depth and lateral extent of these fill deposits are dependent on the original topography as well as past and recent development activities in the ADI. Pockets of undisturbed soil may be present within these disturbed areas of fill, and intact archaeological resources may be present within these undisturbed pockets. In addition, there are waterborne deposits from 11,000 years ago that have a high sensitivity for containing archaeological resources within the ADI. These waterborne deposits are likely present up to 10 feet below ground surface as pockets of undisturbed soils within the disturbed fill, and where these pockets exist there is potential for intact archaeological resources to be present ranging from 0 to 10 feet in depth.

3.5.5.2.1.1.3 Option 2

As shown in Table 3.5-6, excavations required for construction of Option 2 have potential to directly and significantly impact all eight archaeological resources that intersect with Option 2. To mitigate this impact, MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan*, would be implemented. Pursuant to those measures, a qualified archaeologist would oversee the preparation and implementation of a CRMMP that, among other things, would detail the treatment and management of known resources. In addition to potential impacts to the eight known archaeological resources, Option 2 has the potential to disturb or destroy a significant unknown resource. Such impacts to unknown archaeological resources could occur where construction activities take place within previously undisturbed and culturally sensitive soils (largely between 0 and 10 feet).

Due to the heavily developed nature of the ADI, a fill horizon consisting of artificial fill is present locally and continuously within and along the study area. The depth and lateral extent of these fill deposits is dependent on the original topography as well as past and recent development activities in the ADI. Pockets of undisturbed soil may be present within these disturbed areas of fill, and intact archaeological resources may be present within these undisturbed pockets. In addition, there are waterborne deposits from 11,000 years ago that have a high sensitivity for containing archaeological resources within the ADI. These waterborne deposits are likely present up to 10 feet below ground surface as pockets of undisturbed soils within the disturbed fill, and where these pockets exist there is potential for intact archaeological resources to be present ranging from 0 to 10 feet in depth (largely between approximately 0 and 10 feet, but this depth can vary).

Due to the heavily developed nature of the ADI, a fill horizon consisting of artificial fill is present locally and continuously within and along the study area. The depth and lateral extent of these fill deposits is dependent on the original topography as well as past and recent development activities in the ADI. Pockets of undisturbed soil may be present within these disturbed areas of fill, and intact archaeological resources may be present within these undisturbed pockets. In addition, there are waterborne deposits from roughly 11,000 years ago that have high sensitivity for containing archaeological resources within the ADI. These waterborne deposits are likely present up to approximately 10 feet below ground surface, but depths can vary, as pockets of undisturbed soils within the disturbed fill. These waterborne deposits have the potential for intact archaeological resources to be present ranging from 0 to 10 feet in depth, but depths could vary.

The relationship between various construction elements, the extent of ground-disturbing activities, and the likelihood of each element encountering previously undisturbed and culturally sensitive soils for the Proposed Project and its options is summarized in Table 3.5-7.

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
Proposed Project	Connectors	Excavation for this element would include drilling 50 to 80 feet below ground surface in an area 8 feet in diameter. Lateral excavation for abutments would include 10- to 15-foot cuts into the channel and would reach 50 feet below grade for abutment locations. Excavation for abutment would be around 2 to 3 feet in diameter. At intervals of approximately 100 feet there will be a temporary construction area of 35 feet by 35 feet to accommodate the drill rig.	**Proposed Project** ▪ Riverside Dr Viaduct to approximately 500 feet south of SR-110 Bridge ▪ From Metrolink Mission Junction Railroad Bridge South to the Cesar E Chavez Ave Viaduct ▪ From US-101 LA River Bridge to the First St Viaduct ▪ From Fourth St Viaduct to Seventh St Viaduct ▪ From the I-10 Santa Monica Viaduct to Bandini Blvd Bridge **Option 1 and Option 2** Not Applicable.	Yes. Pockets of undisturbed waterborne deposits from approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths may vary.
Option 1, Option 2	Elevated Path and Connectors	Excavation would include drilling 50 to 80 feet below ground surface in an area 8 feet in diameter. Lateral excavation for abutments would include 10- to 15-foot cuts into the channel and would reach 50 feet below grade for abutment locations. Excavation for abutment would be around 2 to 3 feet in diameter. At intervals of approximately 100 feet there would be a temporary construction area of 35 feet by 35 feet to accommodate the drill rig.	**Proposed Project** Not Applicable. **Option 1** ▪ From the LA River–Downey Bridge to the US-101 LA River Bridge ▪ Partially from the US-101 LA River Bridge to the First St Viaduct ▪ From the Fourth St Viaduct to the Sixth St Tunnel ▪ From Olympic Blvd Viaduct to the Soto St Bridge **Option 2** ▪ From the Metrolink LA River Bridge to the Metro A Line LA River Bridge	Yes. Pockets of undisturbed waterborne deposits from approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths may vary.

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
			▪ From the North Spring St Viaduct to the First St Viaduct ▪ From Olympic Blvd Viaduct to South of Bandini Blvd	
Proposed Project, Option 1, Option 2	Incised and Cantilevered	Excavation would be a 4-foot-wide bench removed from the existing channel lining and would extend to between 6 and 12 feet deep for the retaining wall. In addition, 20- to 40-foot-long and 6- to 8-inch-diameter holes would be drilled laterally.	**Proposed Project** ▪ From the SR-110 Bridge to the Metrolink Mission Junction Railroad Bridge ▪ From the Cesar E Chavez Ave Viaduct to the US-101 LA River Bridge ▪ From the transmission tower at the Union Station Connector to under the Fourth St Viaduct ▪ From the Sixth Street Viaduct to the Seventh St Viaduct ▪ From Bandini Boulevard Bridge to the existing LA River, through the Downey Road Bridge and two BNSF Railway Bridges, a combination of incised paths and top-of-bank paths are used ▪ From Atlantic Blvd to the existing LA River Bicycle Path **Option 1** ▪ Partially from the Metro A Line LA River Bridge to the North Spring St Viaduct ▪ Partially From the US-101 LA River Bridge to the First St Viaduct ▪ From the First St Viaduct to the Fourth St viaduct	Yes. Pockets of undisturbed waterborne deposits from approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths may vary.

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
			▪ From the Sixth St Tunnel to the Redondo Junction Grade Separation ▪ From the Soto Street Bridge to South of the Bandini Blvd Bridge ▪ From Downey Rd to the terminus at the LA River Bicycle Path **Option 2** ▪ From US-101 LA River Bridge to Olympic Blvd Viaduct ▪ From Bandini Blvd Bridge ▪ From Downey Rd Bridge to the LA River Bicycle Path **Proposed Project, Option 1 Option 2** ▪ Approximately 600-foot sections under I-5 and Riverside Dr	
Proposed Project, Option 1, Option 2	Top-of-Bank	Involves grading the existing ground around the planned path, installation of base materials, and placing the asphalt or concrete path surface.	**Proposed Project** ▪ From the terminus of the LA River Greenway Trail to the Riverside Dr Viaduct **Option 1** ▪ From the LA River Greenway Trail to the Metrolink LA River–Downey Bridge **Option 2** ▪ From the terminus of the LA River Greenway Trail to the Metrolink LA River Bridge ▪ From the Metro A Line LA River Bridge to the North Spring St Viaduct	No

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
			▪ From Bandini Blvd Bridge to Downey Rd Bridge	
Proposed Project, Option 1, Option 2	Access Points	Similar to site work described for elevated, top-of-bank, and incised, in addition to tree vaults and light poles. Excavation would not exceed a depth of 4 feet for the tree vaults and 10 to 15 feet for signal and light poles. The diameter of excavation would be 3 to 4 feet for the light poles.	**Proposed Project** ▪ Main St (incised ramps) ▪ Mission/Cesar E Chavez (elevated ramp) ▪ Union Station (elevated bridge) ▪ East First St (elevated ramp) ▪ Sixth St Tunnel (incised ramp) ▪ Washington Blvd (hook ramp) ▪ Bandini-Soto Triangle (elevated bridge) **Option 1** ▪ Ed P. Reyes River Greenway (elevated ramp) ▪ LASHP (elevated bridge) ▪ Albion Park (elevated ramp) ▪ Mission/Cesar E Chavez (elevated ramp) ▪ Union Station/Center St (elevated ramp) ▪ First St West (elevated ramps) ▪ Sixth St Tunnel (elevated ramp) ▪ Washington Blvd (single hook ramp) ▪ Bandini-Soto Triangle (elevated bridge) **Option 2** ▪ Main St West (elevated ramp)	Yes, at listed access points. Construction for elevated and incised access points would exceed the approximate 0-10 feet and pockets of undisturbed waterborne deposits from up to approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths vary.

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
			▪ Mission Road at Cesar E Chavez (elevated ramp) ▪ Union Station via Center St (elevated ramp) ▪ East First St (elevated ramp) ▪ Washington Blvd (hook ramp) ▪ Bandini-Soto Triangle (elevated bridge)	
Proposed Project, Option 1, Option 2	River Crossings	Similar to site work described for elevated construction elements with the following addition: ▪ Long-span crossings: Where piers cannot be placed in the river, long-span crossing systems may be used. Potential structural systems for the long-span crossings include trusses and arches. Either of these would require temporary supports to be placed in the river to facilitate construction and require the use of cranes to place material on the temporary supports. River crossings involve excavation to a depth of approximately 10-15 feet.	**Proposed Project** ▪ Between the Metrolink Mission Junction Railroad Bridge South and Cesar E Chavez Ave Viaduct ▪ Between the Fourth St Viaduct and the Sixth St Viaduct **Option 1** ▪ From SR-110 to just north of the Metro A Line LA River Bridge ▪ From Albion Riverside Park to LA State Historic Park ▪ At the Cesar E Chavez Avenue Viaduct **Option 2** ▪ At Lincoln Heights Jail ▪ At Naud Street **Proposed Project, Option 1, Option 2** ▪ Between the Redondo Junction Grade Separation and Soto Street ▪ South of the Atlantic Boulevard Bridge	Yes. Construction would reach a depth of approximately 10 to 15 feet and pockets of undisturbed waterborne deposits from approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths vary.

Table 3.5-7. Anticipated Ground Disturbance within the Area of Direct Impact for the Proposed Project, Option 1, and Option 2

Proposed Project and Options	Construction Element	Ground Disturbance	Affected Locations	Undisturbed Soils Possible
Proposed Project, Option 1, Option 2	Ancillary Elements	Ancillary elements vary in the depth of excavation planned. For landscaping elements excavation would not exceed 2 to 3 feet. For construction of restrooms and drinking fountains the excavation would not exceed 4 to 5 feet deep. For solar panels, shade structures, railings and bollards, the excavation would not exceed 10 feet deep. For other utilities the excavation would not exceed 3 to 3.5 feet deep.	**Proposed Project, Option 1, Option 2** Location of ancillary elements has not yet been determined	Yes. Pockets of undisturbed waterborne deposits from approximately 11,000 years ago could be located within the fill soils between 0 and 10 feet below surface, but depths may vary.

As discussed, and as shown in Table 3.5-7, the Proposed Project and its options has potential to disturb or destroy an unknown historical or unique archaeological resource, and therefore there would be a significant impact. Implementation of MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan* would establish procedures to stop work in the event of an archaeological discovery and to ensure that discovered resources are avoided or treated in accordance with a treatment plan.

With implementation of MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan*, impacts from the Proposed Project and its options would have a less than significant impact on known and unknown historical or unique archaeological resources.

3.5.5.2.2 Operations and Maintenance

No impact. O&M activities for the Proposed Project and its options would largely be limited to activities on the path constructed as part of the Proposed Project and its options and are not anticipated to entail ground disturbances to previously undisturbed soils. Impacts are expected to be limited to construction phases. Therefore, no impacts to archaeological resources during operations would occur.

3.5.5.3 Impact CUL-3: Disturbance of Human Remains

Impact CUL-3: Disturb any human remains, including those interred outside of formal cemeteries?

3.5.5.3.1 Proposed Project, Option 1, and Option 2

3.5.5.3.1.1 Construction

Less than significant with mitigation incorporated. No human remains or cemeteries are known to be present within the ADI. However, portions of the ADI are known to be within proximity to known human burials (P-19-001575) and therefore these areas of the ADI are sensitive for human remains. As a result, these areas of high sensitivity will be included in the monitoring and discovery plan described in MM-CUL-04, *Cultural Resources Mitigation Management Plan*.

If human remains are discovered, the Los Angeles County Medical Examiner-Coroner must be notified within 24 hours and there should be no further disturbance to the site where the remains were found until the process as described in PRC Section 5097.98 has been completed, as described in PF-AR-01, *Inadvertent Discovery of Human Remains*.

3.5.5.3.1.2 Operations and Maintenance

No impact. No human remains or cemeteries are known to be present within the ADI. Although no human remains are anticipated within the ADI, if human remains are discovered, the Los Angeles County Medical Examiner-Coroner must be notified within 24 hours and there should be no further disturbance to the site where the remains were found until the process as described in PRC Section 5097.98 has been completed. Therefore, **no impacts** would occur.

3.5.6 Mitigation Measures

As identified in Section 3.5.5, the Proposed Project and its options would result potentially significant impacts on cultural resources under Impact CUL-1, Impact CUL-2, and Impact CUL-3 during construction. Mitigation measures are required for construction. Impacts on cultural resources during operation would be less than significant. No mitigation measures are required for operation.

3.5.6.1 Construction Mitigation Measures

The following measures would be incorporated into the Project to mitigate construction and implementation impacts to a level that is less than significant.

3.5.6.1.1 Historic Resources

MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation*

The Project design team shall include a qualified architectural historian, historic architect, or historic preservation professional who satisfies the Secretary of the Interior's (SOI's) *Professional Qualifications Standards for History, Architectural History, or Architecture*, pursuant to 36 CFR Part 61. The Project design team shall work with the historic preservation professional to ensure that when designing solutions for a historic LA River bridge, the Project's design is compatible in size, scale, massing, and materials with the historic bridge; shall limit the removal of historic fabric and character-defining features of the historic bridge; and shall minimize those aspects of the structural design that obscure or interfere with the ability of the historic bridge to convey its historic significance. Design solutions for the Project shall incorporate the following design considerations to affected historical resources.

Where the path crosses over the North Main Street Bridge and the Washington Boulevard Bridge, final design shall ensure the following:

- The path over the historic bridge will be stand-alone, and compatible with yet differentiated from the bridge.
- The placement of the support columns shall minimize visual obstruction such that the historic bridge's original design can be readily understood.
- The path structure shall not attach physically touch or attach to the historic bridge such that the new construction could be removed without altering the bridge.

For Project ramps connecting to the First Street Viaduct and the Atlantic Boulevard Bridge, final design must ensure that:

- Any new connector ramp is compatible with, yet distinguishable from, the bridge to which it is connecting.
- The removal of historic bridge railing is minimal and reconstructed railing is a historically accurate reproduction.
- The design of the connector ramps and the placement of the support columns is compatible with each bridge and shall minimize visual obstruction so that the historic bridge's original design can be understood.
- The new connector ramp will not physically touch or attach to the historic bridge, such that the new construction could be removed without altering the bridge.

For Project ramps adjacent to the Cesar E Chavez Viaduct and First Street Viaduct, final design shall ensure that:

- The design of the connector ramps and the placement of the support columns is compatible with yet differentiated from each bridge.
- Placement of the support columns shall minimize visual obstruction so that the historic bridge's original design can be understood.
- The new connector ramp shall not physically touch or attach to the historic bridge, such that the new construction could be removed without altering the bridge.

The preservation consultant shall confirm that the final design solutions conform with the SOI's *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards).

The historic bridges that require conformance with the SOI's Standards are listed below:

- North Main Street Bridge, Bridge ID 8 (HR-21)
- Cesar E Chavez Avenue Viaduct Bridge ID 11 (HR-29)
- First Street Viaduct Bridge ID 14 (HR-35)
- Washington Boulevard Bridge, Bridge ID 21 (HR-46)
- Atlantic Boulevard Bridge, Bridge ID 30 (HR-52)

For historic LA River bridges that are designated Los Angeles Historic-Cultural Monuments, Los Angeles County Metropolitan Transportation Authority (Metro) shall provide design plans to the City of Los Angeles' OHR and Cultural Heritage Commission for their review for conformance with SOI Standards.

MM-CUL-02, *Recordation of Existing Conditions*

Prior to the commencement of any construction activities, Los Angeles County Metropolitan Transportation Authority (Metro) shall retain a historic preservation professional who satisfies the Secretary of the Interior's (SOI's) *Professional Qualifications Standards for History and/or Architectural History* pursuant to 36 CFR Part 61 to prepare a photographic and narrative documentation memorandum. The selected documenting photographer shall be familiar with the recordation of historical resources in accordance with Historic American Buildings Survey (HABS) guidelines. This memorandum shall document the existing condition of any portion of a historic bridge that may be materially altered by the Project prior to its alteration. Photographic documentation shall include details of the key character-defining features that will be removed or altered. Photographs shall be prepared in a format consistent with HABS standards for field photography. Archivally produced copies of the written report and photographs shall be submitted to the City of Los Angeles' Office of Historic Resources and the Los Angeles Public Library (in the Central Library).

The historic bridges that shall require this recordation of existing conditions are listed below:

- North Main Street Bridge, Bridge ID 8 (HR21)
- Cesar E Chavez Avenue Viaduct Bridge ID 11 (HR29)
- First Street Viaduct Bridge ID 14 (HR35)

- Washington Boulevard Bridge, Bridge ID 21 (HR46)
- Atlantic Boulevard Bridge, Bridge ID 30 (HR-52)

Refer to Section 3.12, *Noise and Vibration* for details on the following mitigation measures related to vibration impacts to historical resources:

- MM-VIB-01, Vibration Control Plan
- MM-VIB-02, Vibration Monitoring Plan

3.5.6.1.2 Archaeological Resources

MM-CUL-03, *Qualified Archaeologist*

Prior to the commencement of any ground-disturbing activity for the Project, Los Angeles County Metropolitan Transportation Authority (Metro) shall retain a qualified archaeologist meeting the Secretary of the Interior's (SOI) *Professional Qualifications Standards* for archaeology (36 *Code of Federal Regulations* Part 61) to prepare and oversee implementation of MM-CUL-04, *Cultural Resources Mitigation Management Plan*.

MM-CUL-04, *Cultural Resources Mitigation and Management Plan*

To protect archaeological resources and tribal cultural resources (TCRs) during construction activities, a Cultural Resources Mitigation Management Plan (CRMMP) shall be developed by the Los Angeles County Metropolitan Transportation Authority's (Metro's) qualified archaeologist as described in MM-CUL-03, *Qualified Archaeologist*.

The CRMMP shall detail the treatment and management for known resources and identify the procedures to follow in the event of an unanticipated discovery, including halting construction within 50 feet of the exposed resource until the professionally qualified archaeologist can evaluate the find (refer to 36 Code of Federal Regulations [CFR] 800.11.1 and 14 *California Code of Regulations* [CCR] Section 15064.5[f]).

The CRMMP shall contain a robust research design, a data recovery plan, a monitoring plan for sensitive areas, and a plan for the analysis and long-term curation of archaeological materials recovered during construction. The CRMMP shall detail the discovery protocol if human remains are encountered and shall include a plan for reburial in an appropriate location. The CRMMP shall be consistent with the Secretary of the Interior's (SOI) *Standards and Guidelines for Archaeological Documentation* and the California Office of Historical Preservation's (OHP's) Archaeological Resources Management.

The CRMMP shall be submitted to Metro for review and approval prior to the initiation of any ground-disturbing activities. Metro's review and approval shall ensure that the CRMMP complies with this mitigation measure (MM-CUL-04, *Cultural Resources Mitigation Management Plan*), including that avoidance of impacts and preservation-in-place are prioritized and that appropriate procedures to monitor construction and treat unanticipated discoveries are in place.

Consulting Tribes for the Project, as specified by Assembly Bill (AB) 52, shall have the opportunity to review and comment on the Draft CRMMP.

At a minimum, the CRMMP shall include the following:

- **Efforts to Preserve and Protect in Place:** The CRMMP, per CEQA Guidelines 15162.4(b)(3), shall include steps and procedures to avoid impacts and preserve-in-place any areas where significant components of unique archaeological sites are located within or near the ADI. Such efforts may include modifications to construction plans and layouts to avoid or minimize direct impacts on the unique archaeological resources and establishing exclusion zones around the unique archaeological sites to protect them from construction activities.
- **Development of a Pre-construction Site-Specific Sensitivity Model:** Final design feature locations and the respective level and depth of ground disturbance shall be the basis for identification of impacts to known archaeological resources: P-19-001575, P-19-002770, P-19-002837, P-19-003101, P-19-003120, P-19-003683, P-19-004193, P-19-004660, P-19-004661, P-19-004832, P-19-100881, P-19-186804, and P-19-187085.
  - Comparison with historical maps for the area shall identify specific site features buried within or near the ADI, if any.
  - Specific geotechnical boring results and past archaeological reports that identify depth of fill shall determine the level of sensitivity to encounter archaeological remains for each construction component.
  - A three-dimensional model or other relatable graphic depiction shall be created to assist Metro with the interpretation of potential archaeological impacts. This task will assist Metro in identifying the likelihood that previously recorded sites that were not relocated during survey will be intact below the current hardscape and will inform locations for feature testing.
- **Phasing of Feature Testing in Advance of Construction, Excavation, and Recovery:** The CRMMP shall contain a specific methodology for testing of known features identified through the development of the sensitivity model, to be carried out in the event that features cannot be preserved in place. Due to the extreme constraints posed by the Project area location (affecting public transportation through closure of roads, challenges working in the LA River, etc.), testing shall occur as part of the pre-construction activities. The CRMMP shall also contain specific methodologies for feature interpretation, consultation with Native American tribes and organizations, treatment of cultural remains and artifacts, curation, data recovery, and analysis for reporting. This task will help to identify whether intact archaeological features and deposits are located beneath the hardscape associated with urban development.
- **Archaeological Monitoring:** The CRMMP shall identify archaeological monitoring locations and protocols based on the final design and potential impacts. The monitoring locations shall also be demarcated in Project design and engineering drawings (in a manner that protects the confidentiality of the archaeological sites) prior to the start of construction.
  - Archaeological monitoring shall occur during all phases of work with the potential to impact archaeological sites P19001575, P19002770, P19002837, P19003101, P19003120, P19003683, P19004193, P19004660, P19004661, P19004832, P19100881, P19186804, and P19187085.
  - Archaeological monitoring shall also occur during all phases of work when work has the potential to impact previously undiscovered archaeological resources expected to be located where construction activities shall occur between approximately 0 to 10 feet within sensitive Holocene deposits (depths of deposits may vary) and within fill that may contain archaeological materials.
  - Areas where monitoring will occur shall be identified in the CRMMP to be incorporated into Project plans and specifications.

  - The CRMMP shall describe the roles and responsibilities of the archaeological monitor, Metro personnel (as applicable), and construction personnel.
  - The CRMMP shall describe specific field procedures to be followed for archaeological monitoring, including field protocol and methodology to be followed should there be an archaeological discovery.

- **Native American Monitoring:** The CRMMP shall identify Native American monitoring locations and protocols based on the final design. The monitoring locations shall also be demarcated in Project design and engineering drawings (in a manner that protects the confidentiality of the archaeological sites and TCRs) prior to the start of construction.

  Native American monitoring shall occur during all phases of work with the potential to impact multicomponent archaeological site P-19-001575 and when work has the potential to impact other previously undiscovered tribal cultural resources (TCRs) expected to be located where construction activities shall occur between approximately 0 to 10 feet within sensitive Holocene deposits (depths of deposits may vary) and within fill that may contain archaeological materials. Areas where monitoring will occur shall also be identified in the CRMMP to be incorporated into Project plans and specifications. The CRMMP shall describe specific field procedures to be followed for Native American monitoring, including field protocol and methodology to be followed should there be a discovery.

- **Worker Environmental Awareness Program (WEAP) Training:** An SOI-qualified archaeologist shall be retained by Metro to prepare a cultural resource-focused WEAP training that shall be given to all ground-disturbing construction personnel to minimize harm to cultural resources. Topics to be included for WEAP training shall be identified in the CRMMP. All site workers shall be required to complete WEAP training, with a focus on cultural resources, including education on the consequences of unauthorized collection of artifacts, and a review of discovery protocol.

  WEAP training shall also explain the requirements of MMs that must be implemented during ground-disturbing construction activities. In the event construction crews are phased or rotated, additional training shall be conducted for new construction personnel working on ground-disturbing activities. Construction personnel shall be informed of the types of prehistoric and historic archaeological resources and TCRs that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources, human remains, or TCRs.

  Documentation shall be retained by the qualified archaeologist demonstrating that the appropriate construction personnel attended the training.

- **Stop Work in Event of Unanticipated Discovery:** The CRMMP will describe the requirements, protocols, and procedures for actions to be taken in the event of an unanticipated archaeological discovery or discovery of human remains. In general, should any previously unknown/ undocumented cultural resources be discovered during construction of the Project, work within 50 feet of the discovery shall be halted and the onsite archaeological and Native American monitors shall evaluate the discovery. The monitors shall carefully inspect the ground surface around the discovery and proceed in accordance with procedures in the CRMMP. Work will be allowed to continue outside of the buffer area.

- **Archaeological Reporting:** Archaeological reports shall meet the requirements for reporting in the CRMMP and be submitted to Metro.

  - Evaluation and Data Recovery Reports: Where archaeological evaluation and data recovery are required, the results shall be documented in an evaluation and data recovery report. This document shall summarize the evaluation efforts and data recovery results. For each site or

feature that undergoes data recovery, the report shall be prepared in accordance with the guidelines established by the Secretary of the Interior's (SOI)'s *Standards for Archaeological Documentation and the Archaeological Resource Management Reports: Recommended Contents and Format*.

  - Cultural Resources Monitoring Report: Metro's qualified archaeologist shall prepare a yearly written report detailing archaeological and tribal monitoring activities. A final monitoring report shall be written by Metro's qualified archaeologist upon completion of grading and excavation activities within cultural-bearing soils. The yearly report shall include the results of the fieldwork for the time period and all appropriate laboratory and analytical studies that were performed in conjunction with excavations.

- **Curation of Archaeological Collections:** Archaeological collections are comprised of several components, including but not limited to artifacts, environmental and dating samples, field documentation, laboratory documentation, photographic records, related historical documents, and reports. All collected and analyzed artifacts, relevant notes, photographs, and other materials recovered during the monitoring program related to any historical resource encountered during construction shall be curated or reburied by Metro, following the specific guidelines presented in the CRMMP. Curation management procedures may include curation of recovered materials and records in accordance with the California Guidelines for the Curation of Archaeological Collections (OHP 1993).

3.5.6.2 Significance After Mitigation

Mitigation measures are required for the Proposed Project and its options. The impacts would be less than significant under Impact CUL-1, Impact CUL-2, and Impact CUL-3 after mitigation.

3.5.6.2.1 Built-Environment Historic Resources

Without the incorporation of appropriate mitigation measures, construction of the Proposed Project and its options has the potential for significant impacts to built-environment historical resources. As such, mitigation measures are proposed that would reduce potential impacts to a less than significant level.

Regarding the mitigation of potential impacts resulting from the Proposed Project, Option 1, and Option 2 design, implementation of MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* would ensure that the design of the path and the placement of support columns would be compatible with each historical resource for which potentially significant impacts have been identified. Conformance with the Secretary of the Interior's Standards would minimize visual obstruction and/or conflict so that the historical resources' original design can be understood. MM-CUL-02, *Recordation of Existing Conditions* would ensure that the existing conditions, inclusive of the historic setting, are documented accurately and can be used to inform the design of the Proposed Project as part of implementation of MM-CUL-01.

Regarding mitigation of potential impacts resulting from potential vibration damage caused by construction activities, implementation of MM-VIB-01, *Vibration Control Plan* and MM-NOI-02, *Drill Piles Where Feasible* would reduce the potential for permanent damage to buildings and structures to occur. Implementation of MM-VIB-01, *Vibration Control Plan* would reduce vibration levels. Vibration reduction methods include routing equipment away from sensitive receptors, locating stationary vibration-generating equipment away from sensitive receptors, utilizing alternative equipment or methods to reduce overall vibration, and phasing earth-moving and ground-impacting activities during

different time periods. Furthermore, during final design, the construction areas near sensitive receptors will be identified and designated as areas where impact pile driving will not be conducted for Proposed Project construction. MM-NOI-02 would reduce vibration through the use of drilled piles, which would result in a vibration level of 0.089 inches per second at 25 feet versus impact driven piles which would result in a maximum vibration level of 1.518 inches per second at 25 feet. MM-VIB-02, *Vibration Monitoring Plan* would require vibration monitoring at historic structures when construction activity would occur within 200 feet of the structure. Vibration levels would be monitored to identify if vibration levels are within 0.1 inches per second PPV of the specified vibration damage criteria for each historic resource and ensure the vibration damage criteria would not be exceeded. As part of MM-VIB-02, *Vibration Monitoring Plan*, a pre-construction and post-construction survey would be prepared, and any damage noted and restored per the requirements of SOI Standards.

With the incorporation of Mitigation Measures MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation*, MM-CUL-02, *Recordation of Existing Conditions*, MM-VIB-01, *Vibration Control Plan*, MM-VIB-02, *Vibration Monitoring Plan,* and MM-NOI-2 *Drill Piles Where Feasible,* potentially significant impacts to built-environment historical resources during construction of the Proposed Project would be reduced to less than significant.

3.5.6.2.2 Archaeological Resources

Without the incorporation of appropriate mitigation measures, construction of the Proposed Project and its options has the potential for significant impacts on archaeological resources. To address this, mitigation measures are proposed that would reduce potential impacts to a less than significant level. With the incorporation of MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan*, potentially significant impacts on archaeological resources during construction and implementation of the Proposed Project and it would be reduced to less than significant.

Implementation of MM-CUL-03, *Qualified Archaeologist* ensures that a specific qualified individual is assigned the task of implementing MM-CUL-04, *Cultural Resources Mitigation Management Plan*, which in turn ensures that a CRMMP is developed and executed. Implementation of MM-CUL-04, *Cultural Resources Mitigation Management Plan* ensures that avoidance of impacts and preservation-in-place are prioritized and that appropriate procedures to monitor construction and treat unanticipated discoveries are in place. By following the procedures laid out in the CRMMP, impacts to archaeological resources will be minimized.

3.5.7 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the cumulative analysis approach and lists the related projects identified within a 1-mile radius of the Proposed Project alignment that could produce related or cumulative impacts. This distance includes the RSA for cultural resources, and additional distance that is expected to include other projects that may be considered in conjunction with Proposed Project elements based on topography and the existing built environment. For the purposes of cumulative analysis, the general geographic area that could be affected by the Proposed Project and its options in combination with past, present, and future projects varies depending on the environmental resource.

The geographic scope for cumulative impacts to historic built-environment resources is defined as 0.25-mile-radius around the permanent and temporary Proposed Project footprints (including

construction staging areas) that encompass the alignments and access points for the Proposed Project and its options, and a 300-foot radius area of potential impact (API).

The geographic scope for cumulative impacts to archaeological resources is defined as 0.25-mile-radius around the ADI, which includes the maximum footprint associated with the construction and operation of the Proposed Project and its options, including all associated access points and design variations, plus the construction staging areas.

As discussed in Section 3.5.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.5.7.1 Historic Built-Environment Resources

3.5.7.1.1 Construction

Historical built-environment resources impacts are generally site-specific and localized. Construction activities, including ground-disturbing activities, have the potential for significant impacts to historical resources related to potential damage to historical resources resulting from construction-generated vibration. Related projects identified within 1 mile of the Proposed Project and its options have similar potential to result in construction-related vibration impacts on historical resources; however, none of the related projects include construction activities in proximity to any of the historical resources potentially affected by the Proposed Project and its options. MM-VIB-01, *Vibration Control Plan*, and MM-VIB-02, *Vibration Monitoring Plan*, would ensure that construction activities would not inadvertently damage nearby historical resources through the establishment of applicable vibration limits, and feasible site-specific noise and vibration control measures including the reconstruction of damaged historical building.

The Proposed Project and its options has the potential to result in significant impacts to the North Main Street Bridge, Bridge ID 8 (HR-21), Cesar E Chavez Avenue Viaduct Bridge ID 11 (HR-29), First Street Viaduct Bridge ID 14 (HR-35), Washington Boulevard Bridge, Bridge ID 21 (HR-46), and the Atlantic Boulevard Bridge, Bridge ID 30 (HR-52) due to various path alignment components situated on, near, or over these historical bridges. Implementation of MM-CUL-01, *Conformance with the Secretary of the Interior's Standards for Rehabilitation* and MM-CUL-02, *Recordation of Existing Conditions* would ensure that impacts on historic bridges would be less than significant. Past, present, and probable future projects located near any of these historic bridges would similarly have the potential to affect the historic setting of one of these bridges; however, none of the other projects have the potential to physically affect any of the bridges. While past, present, and probable future projects in the vicinity would have an effect on the historic setting of bridges affected by the Proposed Project and its options, it is anticipated that none of the past, present, and probable future projects have to the potential to alter any of the historic bridges' character-defining features or otherwise obscure or interfere with the ability of an historic bridge to convey its historic significance.

Other potential impacts associated with the Proposed Project and its options involve path components being situated near or under historical resources. Generally, all of these potential impacts would be less than significant as no physical alterations of any historical resources would occur, and the Proposed Project and its options are anticipated to be consistent with a majority of the historical resources' settings. Past, present, and probable future projects would similarly have potential to affect historical resources' settings if located in proximity. Since the Proposed Project and its options would generally be consistent with the setting of historical resources along the LA River, the Proposed Project

and its options have no potential to contribute to a significant cumulative effect on the setting of any historical resource in the API. Accordingly, the Proposed Project and its options in combination with past, present, and future projects would not result in a significant cumulative impact.

3.5.7.1.2 Operations and Maintenance

O&M activities would not impact historical resources and therefore they would continue to convey their significance and remain eligible for historic listing or designation that qualify them as historical resources. Past, present, and future projects would be required to comply with applicable federal, state, and local regulations to protect historical resources and implement mitigation measures, as necessary, to reduce potential impacts. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative impacts to historical built-environment resources during operation.

3.5.7.2 Archaeological Resources

3.5.7.2.1 Construction

Impacts to archaeological resources are generally site-specific and localized. Construction activities, including ground-disturbing activities, would directly intersect with identified and unknown archaeological resources that qualify as historical resources and may directly impact previously intact portions of the resource. Implementation of PF-AR-01, *Inadvertent Discovery of Human Remains*, MM-CUL-03, *Qualified Archaeologist*, and MM-CUL-04, *Cultural Resources Mitigation Management Plan* would avoid construction impacts on archaeological resources and impacts would be less than significant. Past, present, and future projects could also require ground-disturbing activities during construction and would be required to comply with all applicable regulations and implement mitigation measures to reduce potential impacts.

Therefore, the Proposed Project and its options in combination with past, present, and future projects would not result in significant cumulative impacts to archaeological resources during construction.

3.5.7.2.2 Operations and Maintenance

O&M activities would not result in ground disturbance in previously undisturbed soils that would impact archaeological resources that qualify as historical resources. Therefore, the Proposed Project, in combination with past, present, and future projects, would not result in significant cumulative impacts to archaeological resources during operation.

3.6 Energy

3.6.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to energy resources including energy consumption from construction and usage. This section also describes the existing setting and current applicable regulatory framework.

3.6.2 Regulatory Framework

3.6.2.1 Federal

3.6.2.1.1 Corporate Average Fuel Economy Standards

Established by the US Congress in 1975, the Corporate Average Fuel Economy (CAFE) Standards in 49 *Code of Federal Regulations* (CFR) Parts 531 and 533 reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and the US Environmental Protection Agency (EPA) jointly administer the CAFE standards. Congress has specified that CAFE standards must be set at the "maximum feasible level" with consideration given for (1) technological feasibility, (2) economic practicality, (3) effect of other standards on fuel economy, and (4) need for the nation to conserve energy. In 2012, the NHTSA established final passenger car and light truck CAFE standards for model years 2017 through 2021, which the agency projects will require in model year 2021, on average, a combined fleet-wide fuel economy of 40.3 to 41.0 miles per gallon(mpg). Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by EPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018. EPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25% reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type (EPA 2016).

3.6.2.1.2 Energy Policy and Conservation Act of 1975

The Energy Policy and Conservation Act of 1975 (EPCA) is a US Act of Congress that responded to the 1973 oil crisis by creating a comprehensive approach to federal energy policy. The primary goals of EPCA are to increase energy production and supply, reduce energy demand, provide energy efficiency, and give the executive branch additional powers to respond to disruptions in energy supply. Most notably, EPCA established the Strategic Petroleum Reserve, the Energy Conservation Program for Consumer Products, and CAFE regulations.

3.6.2.1.3 Energy Policy Act of 2005

The Energy Policy Act of 2005 establishes a comprehensive, long-term federal energy policy to be implemented by the US Department of Energy. The Energy Policy Act addresses energy production in the US, including oil, gas, coal, and alternative forms of energy and energy efficiency and tax incentives. Energy efficiency and tax incentive programs include credits for the construction of new

energy efficient homes, production or purchase of energy efficient appliances, and loan guarantees for entities that develop or use innovative technologies that avoid the production of greenhouse gases (GHGs).

3.6.2.1.4 Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (EISA) facilitates the reduction of national GHG emissions by requiring the following:

- Increasing the supply of alternative fuel sources by setting mandatory Renewable Fuel Standards that require fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Prescribing or revising standards affecting regional efficiency for heating and cooling products, procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.
- Requiring approximately 25% greater efficiency for light bulbs by phasing out incandescent light bulbs between 2012 and 2014.
- Requiring approximately 200% greater efficiency for light bulbs, or similar energy savings, by 2020.
- While superseded by EPA and NHTSA actions described below that (1) establishing miles per gallon (mpg) targets for cars and light trucks and (2) directing the NHTSA to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for trucks.

Additional provisions of EISA address energy savings in government and public institutions, promote research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green jobs" (that is, a level of service that produces goods or provide services that benefit the environment or conserve natural resources).

3.6.2.2 State

The following are applicable state policies pertaining to Project-related energy consumption and conservation.

3.6.2.2.1 Warren-Alquist Act

The California Legislature passed the Warren-Alquist Act in 1974. The Warren-Alquist Act created the California Energy Commission (CEC), which is the state's primary energy policy and planning agency. The legislation directed the CEC to formulate and adopt the nation's first energy conservation standards for buildings constructed and appliances sold in California; removed the responsibility of electricity demand forecasting from the utilities, which has a financial interest in high-demand projections, and transferred it to a more impartial CEC; and directed CEC to embark on an ambitious research and development program, with a particular focus on fostering what were characterized as non-conventional energy sources. Several regulatory entities administer energy policy throughout the state. The California Public Utilities Commission (CPUC) regulates privately owned utilities providing telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation services.

3.6.2.2.2 Senate Bill 1389 and California Integrated Energy Policy Report

Senate Bill (SB) 1389 (*Public Resources Code* [PRC] Sections 25300–2523) requires the CEC to develop an integrated energy report that contains an assessment of major energy trends and issues facing California's electricity, natural gas, and transportation fuel sectors. This report, known as the Integrated Energy Policy Report (IEPR), is adopted by the CEC every 2 years and is updated every other year. The IEPR provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety. The 2021 IEPR covers a broad range of topics, including decarbonizing California's gas system, quantifying the benefits of the Clean Transportation Program, and the California Energy Demand Forecast.

3.6.2.2.3 Renewable Portfolio Standard

First established in 2002 under SB 1078, California's Renewables Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33% by 2020 and 50% by 2030. SB 350, signed October 7, 2015, is the Clean Energy and Pollution Reduction Act of 2015. The objectives of SB 350 are (1) to increase the procurement of electricity from renewable sources from 33% to 50% and (2) to double the energy savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation. On September 10, 2018, Governor Jerry Brown signed SB 100, which further increased California's RPS and requires retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44% of retail sales by December 31, 2024; 52% by December 31, 2027; and 60% by December 31, 2030, and that the California Air Resources Board (CARB) should plan for 100% eligible renewable energy resources and zero-carbon resources by December 31, 2045.

The CPUC and the CEC jointly implement the RPS program. The CPUC's responsibilities include the following: (1) determining annual procurement targets and enforcing compliance, (2) reviewing and approving each investor-owned utility's renewable energy procurement plan, (3) reviewing contracts for RPS-eligible energy, and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

3.6.2.2.4 California Green Building Standards

The California Green Building Standards (CALGreen) are codified in 24 *California Code of Regulations* (CCR) Part 11. The 2022 CALGreen Code went into effect on January 1, 2023, and includes mandatory measures for non-residential development related to site development, energy efficiency, water efficiency and conservation, material conservation and resource efficiency, and environmental quality. The 2022 CALGreen Code improves upon the 2019 CALGreen Code by providing mandatory provisions for commercial, residential, and public-school buildings; regulations for energy efficiency; water efficiency; and conservation.

3.6.2.2.5 Senate Bill 375

SB 375, also known as the Sustainable Communities and Climate Protection Act of 2008, was signed into law to address energy resources associated with the transportation sector through regional transportation and sustainability plans. SB 375 required CARB to adopt regional GHG emissions reduction targets for the automobile and light truck sector for the milestone years 2020 and 2035, and tasked regional metropolitan planning organizations (MPOs) with the preparation of Sustainable Communities Strategies (SCS) within their regional transportation plans (RTPs).

The Southern California Association of Governments' (SCAG's) *Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) includes a commitment to reduce emissions from transportation resources to comply with SB 375 (SCAG 2020). Connect SoCal states that the region can meet the regional target of reducing GHG emissions by 8% per capita by 2020, and 19% by 2035 (compared to 2005 levels) (SCAG 2020). GHG emission reductions from automobile and light truck sectors would result from decreased transportation fuels consumption. The SCS outlined in Connect SoCal incorporates a variety of strategies that SCAG will implement to create a safer and more accessible urban environment, such as focusing on growth near destinations, mobility options, leveraging technology innovations, supporting the implementation of sustainability policies, and promoting a green region. The strategies for land use are integrated with transportation strategies to achieve regional goals. The Project is identified in Connect SoCal in the Financially Constrained RTP/SCS Projects list as the "LA River Waterway & System Bikepath."

3.6.2.3 Local

3.6.2.3.1 Southern California Association of Governments

3.6.2.3.1.1 Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

SCAG is the nation's largest MPO, representing six counties, 191 cities, and more than 19 million residents as of 2019. Growth in population is expected to result in greater demands on the region's transportation system. State and federal mandates require SCAG to prepare a RTP every 4 years (per 23 *United States Code* Section 134). SCAG approved and fully adopted Connect SoCal on September 3, 2020. Connect SoCal is based on the "Core Vision" rooted in the 2008 and 2012 RTP/SCS projects, which provides a path forward through the intersection of enhancing sustainable development, system preservation and resilience, demand and system management, transit backbone, complete streets, and goods movement.

The SCS outlined in Connect SoCal incorporates a variety of strategies that SCAG will implement to create a safer and more accessible urban environment, including the focus of growth near destinations and mobility options, leveraging technology innovations, supporting implementation of sustainability policies, and promoting a green region. The strategies for land use are integrated with transportation strategies to achieve regional goals. The Project is identified in the Connect SoCal document under the Financially Constrained RTP/SCS Projects list as the "LA River Waterway & System Bikepath."

3.6.2.3.2 Los Angeles County

3.6.2.3.2.1 OurCounty: Los Angeles Countywide Sustainability Plan

Los Angeles County's *OurCounty: Los Angeles Countywide Sustainability Plan* (OurCounty) (Los Angeles County 2019) is a regional sustainability plan for unincorporated areas of Los Angeles County. OurCounty includes various goals for improving countywide sustainability features and can serve as a template for cities within Los Angeles County to formulate their own municipality-level sustainability plans. OurCounty includes the following goals:

- Goal 1: Resilient and healthy community environments where residents thrive in place
- Goal 2: Buildings and infrastructure that support human health and resilience

- Goal 3: Equitable and sustainable land use and development without displacement
- Goal 4: A prosperous Los Angeles County that provides opportunities for all residents and businesses and supports the transition to a green economy
- Goal 6: Accessible parks, beaches, recreational waters, public lands, and public spaces that create opportunities for respite, recreation, ecological discovery, and cultural activities
- Goal 7: A fossil fuel-free Los Angeles County
- Goal 8: A convenient, safe, clean, and affordable transportation system that enhances mobility while reducing car dependency
- Goal 9: Sustainable production and consumption of resources
- Goal 12: A commitment to realize Los Angeles County's sustainable goals through creative, equitable, and coordinated funding partnerships

3.6.2.3.3 Los Angeles County Metropolitan Transportation Authority

3.6.2.3.3.1 Sustainability Strategic Plan 2020: Moving Beyond Sustainability

In 2020, the Los Angeles County Metropolitan Transportation Authority (Metro) published the *Sustainability Strategic Plan 2020: Moving Beyond Sustainability*, a 10-year strategic plan that is the most comprehensive to date and sets goals, targets, strategies, and actions that align with other key Metro guidance documents (Metro 2020). The plan is organized into topical strategic focus areas, including water quality and conservation, solid waste, materials, construction and operations, energy resource management, emissions and pollution control, resilience and climate adaptation, and economic and workforce development. The plan outlines a comprehensive sustainability strategy for the next decade to make Metro facilities greener, reduce air pollution and trash from construction and reduce smog and GHGs across Los Angeles County.

3.6.2.3.3.2 2019 Climate Action and Adaptation Plan

Metro's 2019 *Climate Action and Adaptation Plan* (2019 CAAP) commits Metro to reducing GHG emissions by 79% relative to 2017 levels by 2030 and 100% by 2050 (Metro 2019b). The 2019 CAAP identified a goal of reducing Metro's GHG emissions per boarding by 5% from 2010 to 2020. The 2019 CAAP updated the agency's commitment to reducing operational GHG emissions by 79% relative to 2017 levels by 2030 and 100% by 2050. While the intent of the 2019 CAAP is to reduce GHG emissions from Metro operations, the 2019 CAAP contains a number of energy efficiency measures such as use of light emitting diode lighting and water conservation measures to reduce GHG emissions associated with energy consumption.

3.6.2.3.3.3 Metro Green Construction Policy

Metro has adopted a Green Construction Policy, committing to reducing pollution from construction equipment and vehicles, and implementing best practices to reduce harmful diesel emissions on all Metro construction projects performed on Metro properties and within Metro rights of way (Metro 2011a). Best practices include Tier 4 emission standards for off-road diesel-powered construction equipment with greater than 50 horsepower and restricting idling to a maximum of 5 minutes.

3.6.2.3.3.4 Energy and Sustainability Policy

In 2007, Metro adopted the *Energy and Sustainability Policy* in an effort to control energy consumption and embrace energy efficiency, energy conservation, and sustainability (Metro 2007). The long-term objectives of the policy include reducing the use of fossil fuels through the use of ambient and renewable energy sources, buying fuels and electricity at the most economic cost, using fuel and electricity as efficiently as possible, and reducing the amount of GHG emissions caused by Metro's required consumption.

3.6.2.3.3.5 Energy Conservation and Management Plan

Metro's *Energy Conservation and Management Plan* (ECMP) was published in 2011 and complements Metro's 2007 Energy and Sustainability Policy by focusing on electricity for rail vehicle propulsion, electricity, and natural gas for rail and bus facility purposes, as well as the application of renewable energy (Metro 2011b). The ECMP serves as a strategic blueprint for proactively guiding energy use in a sustainable, cost-effective, and efficient manner. The ECMP addresses current and projected energy needs based on 2010 utility data and existing agency plans to increase ridership through system expansion and new facility construction incorporating Measure R initiatives. Metro's efforts to improve energy efficiency and expand renewable energy use directly correlate with systemwide GHG emissions reductions; the 2012 *Metro Climate Action and Adaptation Plan* relied upon the ECMP sustainability analyses to set a path forward for reducing Metro's GHG emissions (Metro 2012).

Following publication of the ECMP, Metro began preparing annual Energy and Resource Reports to provide evaluations on the effectiveness of ECMP strategies. The most recent iteration is the *2019 Energy and Resource Report*, which analyzes the sustainability and environmental performance of Metro operational activities during the 2018 calendar year (Metro 2019a). In 2018 alone, Metro reduced total energy consumption by 7.9% compared to 2017 as a result of reduced vehicle fuel consumption by buses and support vehicles. Metro is on pace to surpass its goal of 33% renewable energy consumption by 2020. In 2018, 31% of Metro's electricity came from renewable energy sources, including its own solar photovoltaic systems. These strategies actively reduce GHG emissions, 95% of which are derived from energy use.

3.6.2.3.4 City of Los Angeles

The City of Los Angeles has implemented numerous regulations, plans, programs, and policies aimed at reducing citywide energy demands and enhancing energy efficiency. The energy conservation efforts are interrelated with strategies to improve sustainability and regional air quality, as well as transportation and traffic congestion. All projects within the City of Los Angeles are subject to the requirements of the Los Angeles Green Building Code, and implementation of proposed projects is considered in the context of the *Sustainable City pLAn*, which serves as the city's guide for addressing the challenges presented by climate change (City of Los Angeles 2015). In addition to the Green Building Code and *Sustainable City pLAn*, the Los Angeles City Council has directed the Los Angeles Department of Water and Power (LADWP) to set building electrification targets for 2028 and 2038 to align with the city's GHG targets of 45% below 1990 levels by 2025 and 60% by 2035 (City of Los Angeles 2018). Collectively, the City of Los Angeles strives to reduce energy demand and enhance energy efficiency by promoting green buildings, encouraging transit-oriented development, and implementing projects that will reduce vehicle miles traveled (VMT) and provide alternative modes of transportation.

3.6.2.3.4.1 L.A.'s Green New Deal

In April 2019, Mayor Eric Garcetti announced *L.A.'s Green New Deal* to set goals for the City's sustainable future (City of Los Angeles 2019). *L.A.'s Green New Deal* commits to uphold the Paris Climate Agreement and deliver environmental justice through an inclusive green economy, plans to ensure every City resident can join the green economy, and sets a determination to lead by example within City government. *L.A.'s Green New Deal* also aims to reach a 50% reduction in GHG emissions by 2025 and reach net neutrality by 2050.

3.6.2.3.4.2 Mobility Plan 2035

Adopted by the City Council in September 2016, *Mobility Plan 2035* (City of Los Angeles Department of City Planning 2016) represents the transportation element of the Los Angeles General Plan dedicated to improving multimodal connectivity throughout the City. Table 3.6-1 summarizes applicable energy resource objectives and policies of *Mobility Plan 2035*.

Table 3.6-1. Mobility Plan 2035 – Relevant Energy Resources Objectives and Policies

Objective/Policy	Description
Clean Environments and Healthy Communities Objective	Reduce transportation-related energy use by 95% and reduce maintenance requirements of the City's vehicle fleet.
Policy 5.4 Clean Fuels and Vehicles	Continue to encourage the adoption of low and zero emission fuel sources, new mobility technologies, and supporting infrastructure.

Source: City of Los Angeles Department of City Planning 2016

3.6.2.3.4.3 Sustainable City pLAn

In April 2015, Mayor Eric Garcetti released the City of Los Angeles' *Sustainable City pLAn* as a roadmap to achieve short-term (2017) and long-term (by 2025 and 2035) targets across 14 categories that will advance the city's commitment to a cleaner environment, stronger economy, and equity (City of Los Angeles 2015). *L.A.'s Green New Deal*, released in 2019, provided an update to the *Sustainable City pLAn*.

3.6.2.3.5 City of Vernon

3.6.2.3.5.1 City of Vernon General Plan

The City of Vernon *General Plan* was adopted in 2007 and most recently amended in 2015. The Resources Element of the plan (City of Vernon 2015) acknowledges that the City of Vernon completed construction of the Malburg Generating Station, which supplies natural-gas-generated electricity to many businesses within the city, reducing the regional energy demand. Table 3.6-2 summarizes the applicable energy resource goals and policies of the City of Vernon *General Plan*.

Table 3.6-2. City of Vernon General Plan – Relevant Energy Resources Goals and Policies

Goal/Policy	Description
Goal R-1	Conserve and protect the region's water and energy resources.
Policy R-1.1	Encourage water conservation and the use of recycled water in new developments and by all industries.
Policy R-1.2	Support the use of energy-saving designs and equipment in all new development and reconstruction projects.

Source: "Resources Element" in City of Vernon *General Plan 2015*

3.6.2.3.5.2 City of Vernon Environmental Sustainability Action Plan

The City of Vernon's Health and Environmental Control Department prepared the *2023 Environmental Sustainability Action Plan*, adopted in December 2023 to strengthen the City's sustainability policies, promoting stronger collaborations across key sectors, and taking action to reduce GHGs throughout the community (City of Vernon 2023). The plan builds upon the City's existing programs and practices while providing a framework for guiding future progress in areas like GHGs, energy, transportation, water, food systems, materials and waste, and community health and resilience. The plan also notes the Proposed Project and the LA River bicycle path as the only existing bikeway in Vernon, providing diverse options for travel that help reduce GHG emissions from decreased VMT (City of Vernon 2023).

3.6.2.3.6 City of Maywood

3.6.2.3.6.1 General Plan

The City of Maywood's *General Plan* was adopted in 2007. The Conservation Element of the *General Plan* identifies resources in the city and establishes policies to assist in the management, preservation, and conservation of such resources (City of Maywood 2021). Table 3.6-3 summarizes the applicable energy resource goals and policies of the City of Maywood General Plan.

Table 3.6-3. City of Maywood General Plan – Relevant Energy Resources Goals and Policies

Goal/Policy	Description
Goal 3	Provide for the proper management of natural resources both in the city and region so that they may be protected for the benefit of present and future residents.
Policy 3.4	Encourage water conservation in residential, commercial, and industrial developments through the use of water saving irrigation systems.

Source: City of Maywood 2021

3.6.3 Methodology

Under CEQA, energy impacts analyses should evaluate direct and indirect effects of a project on the environment. Direct energy effects include the one-time expenditure of gasoline and diesel fuels used by off-road equipment and on-road vehicles during construction activities, operational gasoline and diesel fuels used by vehicles for maintenance, and operational electricity required for lighting and emergency telephone operation and maintenance. Indirect energy effects for the Proposed Project and its options, Option 1 and Option 2, include the induced change in regional transportation fuels

consumption resulting from the shifts associated with path trips replacing passenger vehicle trips, as well as the expenditure of natural resources at power plants to produce the electricity for path lighting and emergency telephone operation and maintenance. Direct and indirect energy resources effects are quantified separately for construction and operations.

3.6.3.1 Construction

Construction activities would result in the direct expenditure of gasoline and diesel fuels to power off-road equipment and on-road vehicles involved in construction activities. Preliminary planning by Metro determined that construction would last up to 3 years and would include four major activities: mobilization, site preparation, site work, and finishes. Landscaping and other ancillary path elements would also be installed. Site work varies depending on the path type and the Project component being constructed. Construction activities would employ off-road diesel-powered construction equipment and on-road material delivery and debris hauling trucks, as well as gasoline-fueled vehicles associated with construction crew trips. Consistent with Metro's Green Construction Policy, all off-road diesel-powered construction equipment greater than 50 horsepower would meet Tier 4 off-road emission standards (Metro 2011a). The construction energy impacts analysis estimated the one-time expenditure of diesel fuel and gasoline fuel associated with the Project.

Based on Los Angeles County assumptions for construction equipment and worker trips needed for two typical types of projects, it is possible to quantify the demand for transportation fuels used for construction activities for the Project. Fuel consumption from onsite heavy-duty construction equipment and offsite vehicles was calculated based on the GHG emissions predicted by the Project's GHG analysis using the California Emissions Estimator Model (CalEEMod) model. In particular, the CO_2 emissions predicted by CalEEMod were converted into gallons of fuel based on the amount of CO_2 emissions emitted per gallon of combusted gasoline and diesel fuel. The Climate Registry's 2020 default emission factors for diesel (that is, kilograms CO_2 per gallon) were used to convert the vehicle emissions into fuel consumption (The Climate Registry 2023).

CalEEMod is the preferred regulatory tool for estimating construction emissions of air pollutants, including GHG emissions, from proposed land use and transportation development projects. Estimates of GHG emissions that would be generated by construction were produced using CalEEMod, as discussed in Section 3.8, *Greenhouse Gas Emissions*. Carbon dioxide equivalent (CO_2e) emissions from construction equipment and vehicles were estimated using the methodologies and emissions factors from CalEEMod (CAPCOA 2022) with Project-specific phasing, equipment usage, and VMT. Estimated GHG emissions for Project construction are presented in Section 3.8.5 in Table 3.8-1.

3.6.3.2 Operations and Maintenance

Direct operational energy consumption would occur through the consumption of electricity for lighting and emergency telephone operations and maintenance (O&M), as well as the use of operational gasoline and diesel fuels by maintenance vehicles. Indirect operational energy consumption would occur through changes to transportation fuels consumption with a shift in regional modes of transportation (for example, bicycling) displacing on-road vehicle trips. In addition, natural and renewable resources are indirectly consumed to provide electricity for lighting and emergency telephone O&M. The anticipated power demand to support Project operation is approximately 58 megawatt-hours each year.

The Proposed Project and its options would have the same equipment and follow the same schedule for O&M activities. Therefore, direct O&M energy consumption would be the same for the Proposed Project and either of its options. GHG emissions from vehicles and equipment used for O&M activities were estimated using CalEEMod and EMFAC2021 emission factors, as discussed in Section 3.8, *Greenhouse Gas Emissions*.

Project GHG emission reductions related to people switching from driving to walking and bicycling were evaluated based on the potential changes of VMT in the Project area and passenger vehicle emission factors are from EMFAC2021. Indirect GHG emissions due to the Project's electricity use during operation were estimated using emission factors from the EPA Emissions & Generation Resource Integrated Database (eGRID) (EPA 2020). Additional GHG emission discussions are provided in Section 3.8, *Greenhouse Gas Emissions*. GHG emissions from vehicles were based on EMFAC2021 emission factors for 2028, which is the first year of operation. Refer to Section 3.16, *Transportation* for more information.

3.6.3.3 Resource Study Area

The resource study area (RSA) for the energy analysis refers to the geographic region served by energy resource suppliers for electricity and natural gas. For the Proposed Project and its options, the LADWP, Southern California Edison (SCE), and the California Independent System Operator (Cal ISO) service areas for electricity, and the Southern California Gas Company service areas for natural gas establish the RSA. Because energy effects are cumulative impacts that occur at a state level, energy impacts are discussed at the state, regional, and local levels.

3.6.3.4 Thresholds of Significance

Significance thresholds used in this Draft EIR to evaluate Project impacts associated with energy resources are based on Appendix G of the CEQA Guidelines. Specifically, a significant impact related to energy would occur if the Project would do any of the following:

- **Impact ENE-1:** Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?
- **Impact ENE-2:** Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

CEQA requires that EIRs include a discussion of the potential energy impacts of proposed projects, with emphasis on avoiding or reducing the inefficient, wasteful, and unnecessary consumption of energy; refer to PRC Section 21100(b)(3) and CEQA Guidelines Section 15126.2(b). The CEQA Guidelines recommend that the assessment of energy impacts assess energy use for all phases and components, including transportation-related energy, during construction and operation.

Appendix F of the CEQA Guidelines addresses energy conservation. The objective of conserving energy involves the wise and efficient use of energy, which is achieved through intersecting efforts to decrease overall per capita energy consumption; decrease reliance on fossil fuels such as coal, natural gas, and oil; and increase reliance on renewable energy sources. The CEQA Guidelines provide that environmental impacts analysis related to energy may consider:

- A project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the Project including construction, operation, maintenance and/or removal.

- The effects of a project on local and regional energy supplies and on requirements for additional capacity.
- The effects of a project on peak and base period demands for electricity and other forms of energy.
- The degree to which a project complies with existing energy standards.
- The effects of a project on energy resources.

These criteria are used to determine the potential significance of energy impacts associated with a project. Consumption of electricity, natural gas, and transportation fuels during construction and operations are evaluated quantitatively in the context of local and regional resources. Consistency with relevant renewable energy and energy efficiency planning is addressed qualitatively.

3.6.3.5 Project Features

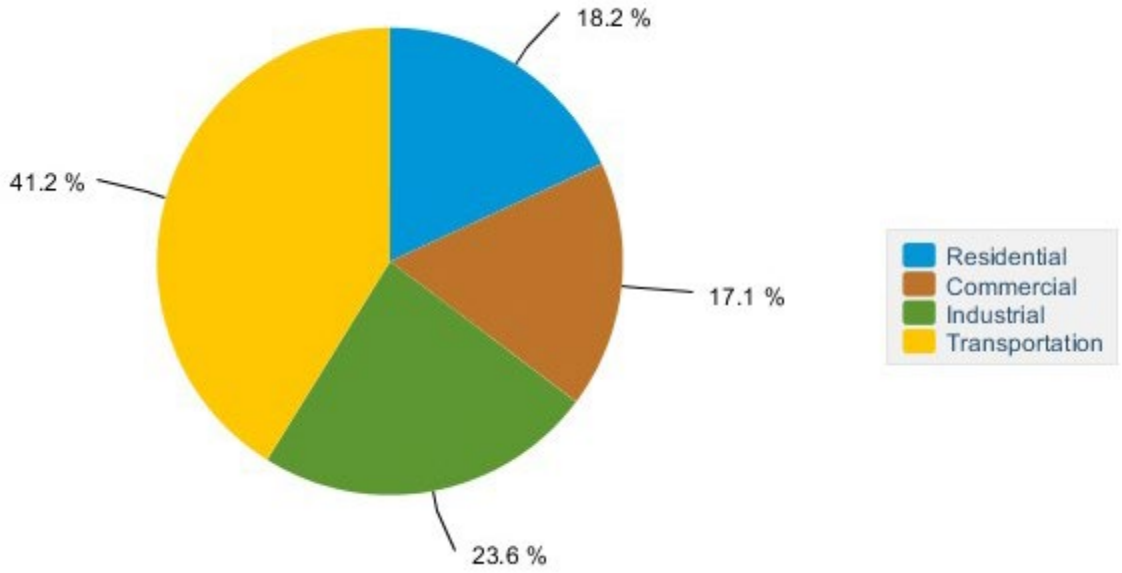
As described in Chapter 2, *Project Description*, a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. There are no specific project features for energy.

3.6.4 Existing Setting

3.6.4.1 State Energy Resources and Use

Electricity, natural gas, and renewable energy production, consumption, research, and conservation within the state are managed by the CEC in coordination with the CPUC and the California Department of Conservation. California's energy consumption is composed of 18.2% residential sector uses, 17.1% commercial sector uses, 23.6% industrial sector uses, and 41.2% transportation sector uses (Figure 3.6-1).

Figure 3.6-1. California Energy Consumption by End-Use Sector 2023



Source: Energy Information Administration 2023Source: EIA 2023

Energy resources used for transportation include petroleum, natural gas, electricity, liquefied petroleum gas, hydrogen, and biofuels such as ethanol. California's gasoline and diesel markets are characterized by increasing demand, tight supply, and volatile prices. California imports more than 50% of its crude oil and more than 15% of refined oil products, and the state's dependence on this increasingly expensive energy resource continues to grow. Moreover, fossil fuel-based transportation of products and people is a major contributor of CO_2, the principal catalyst of climate change. Changes in energy supply and demand are affected by factors such as energy prices, US economic growth, advances in technologies, changes in weather patterns, and public policy decisions.

Energy consumption in California continues to be dominated by growth in passenger vehicles, and nearly 40% of all energy consumed in the state is used for transportation, which accounts for approximately 41% of the state's GHG emissions, according to the CEC. California is the second largest consumer of transportation fuels in the world (behind the US as a whole); more than 16 billion gallons of gasoline and 4 billion gallons of diesel fuels are consumed each year, but California ranks 49th among the 50 states and the District of Columbia for energy consumption per person (SCAG 2020). California must address its petroleum infrastructure problems to secure transportation fuels and meet the needs of a growing population by adjusting the choices of transportation, land use policies, and alternative fuels.

Transportation energy consumption reflects types and number of vehicles, the extent of their VMT, and their fuel economy (mpg or equivalent). Implementing the Project is expected to change the dynamics of all vehicle classes through changes (reductions) in VMT in the RSA as drivers and motorized transit users incorporate non-motorized transit (refer to Appendix M, *Transportation*). Changes in VMT, in turn, would affect energy consumption. SCAG's Connect SoCal projections show a 5% decrease in VMT in 2045 with plan implementation, and a decrease in daily VMT from 22.2 miles in 2016 to 19.2 within Los Angeles County (SCAG 2020). VMT is directly related to energy use and is the main contributor to air quality pollutants in the SCAG region. A reduction in VMT through alternative modes of transportation (for example, pedestrian and bicycle trail use) would lower energy needs and reduce pollutant emissions.

3.6.4.2 Regional Energy Use

Southern California's energy consumption differs from the rest of the state; it consumes more energy for transportation because of its high-density of population that relies on freeways and local roads for mobility, its two major ports that serve as hubs for the movement of goods, and its three large airports. Transportation accounts for approximately 59% of all energy use in the South Coast Air Quality Management District (SCAQMD) followed by residential energy consumption at 17% (SCAQMD 2017).

Transportation energy use is related to the number of VMT within the region. According to Connect SoCal, daily per capita VMT in the SCAG region is projected to decrease from 21.8 miles traveled per day under 2045 baseline conditions to approximately 20.7 miles per day under the 2045 plan conditions (SCAG 2020). This would result in an overall decrease in transportation energy use within the SCAG region. A reduction in VMT due to the implementation of alternative modes of transportation would continue to reduce VMT and therefore energy use within the region.

Metro's contribution to regional energy consumption includes on-road vehicle fuel use (which is primarily compressed natural gas) and electricity for rail vehicle propulsion and maintenance and administrative facility operation. Metro system energy consumption was published in the *2019 Energy and Resource Report*, which examined Metro energy use for the 2019 calendar year and refined estimates prepared by previous analysis (Metro 2019a). Table 3.6-4 presents the Metro system's

energy use by type of consumption between 2015 and 2018, as well as the change in energy consumption over that time.

Table 3.6-4. Metro Energy Consumption

Annual Energy Consumption (Megajoules)				
End Use	2015	2016	2017	2018
Vehicle fuel (gasoline gallon equivalent)	5,796,786,075	5,644,897,527	5,787,683,879	5,317,489,842
Rail propulsion (kilowatt hour)	719,276,609	711,196,744	775,022,735	817,378,502
Facility energy use (kilowatt hour)	642,626,521	660,898,312	564,325,336	491,666,179
Total	**7,158,689,205**	**7,016,992,583**	**7,127,031,949**	**6,626,534,523**

Notes:

Totals may be off due to rounding.

Source: Metro 2019a

3.6.4.3 Local Energy Use

The RSA is served by LADWP, SCE, and Cal ISO. LADWP serves an area covering 465 square miles that includes more than 4 million residents and 1.5 million power customers (LADWP 2013). In 2013, LADWP primary energy sources included 40% coal-fired power plants, 22% gas-fired power plants, 11% nuclear, 10% hydroelectric, 8% wind, and approximately 5 to 8% from other various sources (CLUI 2013). LADWP also supplied around 26 million megawatt-hours of electricity and over 7,880 megawatts of thermal and renewable resources (CEC 2019). SCE serves an area covering 50,000 square miles and includes 15 million people, 185 incorporated cities, 13 federally recognized tribes, and 15 counties (SCE 2019). SCE delivered more than 87 billion kilowatt hours of electricity to its service area in 2015 (SCE 2021). In 2020, SCE energy sources included 8.2% nuclear, 5.9% geothermal, 16% solar, 11.5% wind, 16.1% natural gas, 9% hydroelectric, and 32.6% unspecified sources (SCE 2020). The Southern California Gas Company is the natural gas provider for the RSA.

3.6.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to energy are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.6.5.1 Impact ENE-1: Energy Consumption

Impact ENE-1: Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?

3.6.5.1.1 Proposed Project, Option 1, and Option 2

3.6.5.1.1.1 Construction

Less than significant impact. Construction activities would use energy in the form of petroleum-based fuels (such as diesel) associated with the use of off-road construction vehicles and equipment, construction worker travel, delivery truck travel, and haul truck travel. Construction of the Proposed Project would start in 2025 and take approximately 3 years. As shown in Table 3.8-1 in Section 3.8, *Greenhouse Gas Emissions*, GHG emissions resulting from construction would be approximately 1,683.2 to 3,176.3 MT CO_2e per year for the Proposed Project and its options, Option 1 and Option 2. The CO_2 emissions predicted by CalEEMod were converted into gallons of fuel based on the amount of CO_2 emissions emitted per gallon of combusted gasoline and diesel fuel. The estimated energy consumption is based on a conservative approach of accounting petroleum-based fuels consumption during construction activities at the maximum construction duration. Estimated total energy consumption and yearly energy consumption for the Proposed Project and its options are presented in Tables 3.6-5 and 3.6-6, respectively.

Based on the construction equipment assumptions used in the air quality analysis (refer to Section 3.3, *Air Quality*), it is estimated that construction of the Proposed Project and its options would require approximately 509,508 to 603,112 total gallons of diesel and from 118,503 to 169,157 total gallons of gasoline, as shown in Table 3.6-5.

As shown in Table 3.6-6, the maximum annual petroleum-based fuels consumption during construction activities would be approximately 147,080 to 247,574 gallons of diesel fuel and 20,663 to 73,849 gallons of gasoline. Los Angeles County retail sales of diesel fuel and gasoline for 2022 were approximately 1,846 million gallons and 11,495 million gallons (CEC 2022a), respectively. Relative to existing petroleum-based transportation fuels consumption in Los Angeles County, construction would temporarily increase annual diesel fuel and gasoline consumption within the County by approximately 0.01% and 0.0006%, respectively.

Table 3.6-5. Estimated Construction Period Energy Consumption

Option	Gallons of Diesel Fuel	Energy Consumption (MMBTU)	Gallons of Gasoline	Energy Consumption (MMBTU)	Total Energy Consumption (MMBTU)[a]
Proposed Project	531,184	73,675	133,013	18,449	92,124
Option 1	509,508	70,669	118,503	16,436	87,105
Option 2	603,112	83,652	169,157	23,462	107,114

Notes:

Refer to Appendix I, *Energy Consumption Calculations* for energy consumption calculations.

MMBTU = Metric millions British thermal unit. A British thermal unit (BTU) is a standard unit of energy measure that is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near the temperature at which water has its greatest density (39.2 degrees Fahrenheit). A therm is a unit of heat equivalent to 100,000 BTUs.

[a]Totals may be off due to rounding.

Table 3.6-6. Estimated Yearly Construction Energy Consumption

Year	Gallons of Diesel Fuel	Energy Consumption (MMBtu) (Diesel)	Gallons of Gasoline	Energy Consumption (MMBtu) (Gasoline)	Total Energy Consumption (MMBtu)[a]
Proposed Project					
2025	191,880	26,614	51,778	7,182	33,796
2026	150,224	20,836	35,533	4,929	25,765
2027	189,080	26,225	45,702	6,339	32,564
Option 1					
2025	184,994	25,659	54,172	7,514	33,173
2026	177,434	24,610	43,668	6,057	30,667
2027	147,080	20,400	20,663	2,866	23,266
Option 2					
2025	247,574	34,339	73,849	10,243	44,582
2026	192,830	26,746	54,163	7,512	34,258
2027	162,708	22,568	41,146	5,707	28,275

Notes:

Refer to Appendix I, *Energy Consumption Calculations* for energy consumption calculations.

MMBTU = Metric millions British thermal unit. A British thermal unit (BTU) is a standard unit of energy measure that is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near the temperature at which water has its greatest density (39.2 degrees Fahrenheit). A therm is a unit of heat equivalent to 100,000 BTUs.

[a]Totals may be off due to rounding.

Because construction emissions are considered to be relatively short-term emissions that would cease once construction of the Proposed Project is complete, they would represent a relatively short demand on local and regional fuel supplies that would be easily accommodated. Trucks and equipment used during proposed construction activities would also be required to comply with CARB's anti-idling regulations, as well as the in-use off-road diesel-fueled fleets regulation. Aside from reducing criteria pollutant emissions, compliance with the anti-idling and emissions regulations would also result in efficient use of construction-related energy and reduce fuel consumption. Anti-idling regulations would limit the amount of fuel wasted in equipment and trucks that are not in operation. Emissions regulations to control pollutant and toxic air contaminant emissions would also require that engines be more efficient, which results in reduced fuel consumption. In addition, on-road vehicles (that is, haul trucks, worker vehicles, or similar) would be subject to federal fuel efficiency requirements. All equipment and vehicles that would be used in construction activities would comply with applicable CARB regulations and the CAFE Standards.

Construction activities would also be conducted in accordance with the Metro Green Construction Policy (Section 3.6.2.3), which includes best management practices that would control and minimize the consumption of fuels by off-road equipment and on-road vehicles. Although not accounted for in the quantitative analysis of energy resources pursuant to the Metro Green Construction Policy, the following measures would be adhered to during construction to reduce fuel consumption to the maximum extent feasible:

- Maintain equipment according to manufacturer specifications.
- Restrict idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use, except as otherwise specified in the applicable CARB regulations regarding idling for off-road and on-road equipment.
- Prepare haul routes that conform to local requirements to minimize traversing through congested streets or near sensitive receptor areas.
- Use electric power in lieu of diesel power where available.

Therefore, construction of the Proposed Project and its options, Option 1 and Option 2 would result in a **less than significant impact** related to construction activity and energy conservation plans.

Additionally, given that fuel would be used to construct an energy-efficient active transportation path, the extensive network of fueling stations throughout the project vicinity, and the temporary nature of the construction activities, the Proposed Project and its options would not require new or expanded sources of energy or infrastructure to meet energy demands and will not result in the wasteful or inefficient use of energy. Construction would not place an undue burden on available petroleum-based fuel resources. Further, the Proposed Project and its options have been identified by state and regional agencies as an efficient method of reducing permanent energy use. Therefore, the Proposed Project and its options, Option 1 and Option 2 would result in a **less than significant impact** related to construction activities.

3.6.5.1.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options, Option 1 and Option 2, would require energy for lighting and O&M activities. Indirect energy consumption would result from power generation for the electricity requirements of the Proposed Project, such as lighting. The anticipated power demand to support Proposed Project operation is approximately 58 megawatt-hours each year. In 2020, Los Angeles County consumed approximately 65,650 million kilowatt hours (kWh) of energy (CEC 2022b). Relative to existing electricity consumption in Los Angeles County, operations would increase annual electricity consumption within the County by approximately 0.00009%. For information on impacts to utility relocation resulting from the Proposed Project and its options, refer to Section 3.18, *Utilities and Service Systems*.

As noted in Section 2.8, *Operations and Maintenance* the Proposed Project and its options would operate to be consistent with current O&M activities of the LA River Greenway to the north of the Proposed Project and the LA River Bicycle Path to the south of the Proposed Project. The Proposed Project and its options would have substantially similar equipment and follow a similar schedule for the O&M activities, resulting in similar energy use. O&M activities would use energy in the form of petroleum-based fuels associated with the use of off-road vehicles, worker travel, and light-duty trucks. However, the Proposed Project and its options are expected to reduce passenger vehicle trips when people switch from driving to walking or bicycling to access the nearby destinations. As noted in Section 3.16.8, the Proposed Project and its options would result in an overall reduction of vehicle travel with a direct reduction in VMT of approximately 0.2 to greater than 2%. For a conservative analysis, the lower end values of the trip reduction estimates were used in the GHG emission analysis for the Proposed Project and its options. Estimated energy consumption for O&M are presented in Table 3.6-7. The estimated trip reduction would result in a 575 MMBTU reduction in energy consumption.

Table 3.6-7. Estimated Operation Energy Consumption

	Diesel Fuel (gallons)	Energy Consumption (MMBTU)	Gasoline (gallons)	Energy Consumption (MMBTU)	Total Energy Consumption (MMBTU)[a]
O&M	1,057	147	969	134	281
Reduced Emissions due to Vehicle Trip Reduction	N/A	N/A	4,145	575	N/A
Total Operation Energy Consumption (Vehicles)	1,057	147	(3,176)	(441)	(281)

Notes:

Refer to Appendix I, *Energy Consumption Calculations* for energy consumption calculations.

MMBTU = Metric millions British thermal unit. A British thermal unit (BTU) is a standard unit of energy measure that is the quantity of heat required to raise the temperature of 1 pound of water 1 degree Fahrenheit at or near the temperature at which water has its greatest density (39.2 degrees Fahrenheit). A therm is a unit of heat equivalent to 100,000 BTUs.

[a]Totals may be off due to rounding.

(_) represents a negative number

N/A = not applicable

As discussed, the Proposed Project and its options would contribute to statewide and regional efforts to conserve transportation fuels and reduce on-road VMT, which are key elements of enhancing transportation efficiency and sustainability. Therefore, the Proposed Project and its options, Option 1 and Option 2 would not constitute a wasteful, inefficient, or unnecessary consumption of energy during operations and its impact would be **less than significant** related to operational activities.

3.6.5.2 Impact ENE-2: Energy Plans

Impact ENE-2: Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

3.6.5.2.1 Proposed Project, Option 1, and Option 2

3.6.5.2.1.1 Construction

Less than significant impact. SoCal Connect states that the region will meet the SB 375 per capita targets, lowering regional per capita GHG emissions by 8% by 2020 and 19% by 2035 (compared to 2005 levels) (SCAG 2020).[1] GHG emission reductions from the automobile and light truck sectors would result in decreased transportation fuel consumption. The Proposed Project and its options are consistent with federal, state, and local policies. The Proposed Project is identified in Connect SoCal in the Financially Constrained RTP/SCS Projects list as the "LA River Waterway & System Bikepath." The Proposed Project and its options would provide reliable infrastructure consistent with:

- Los Angeles County *General Plan 2035*
- City of Los Angeles *Mobility Plan 2035*

[1] The conclusion in SoCal Connect that the regional will achieve the 2020 target is based on modeled results, as observed data is not yet available to confirm achievement (SCAG 2020).

- City of Vernon *General Plan*
- City of Maywood *General Plan*
- Metro's goals to improve energy efficiency, reduce GHG emissions and related energy consumption, and to provide a healthier and more accessible network of transportation and transit infrastructure

Therefore, the Proposed Project and its options, Option 1 and Option 2 are consistent with state and local plans for renewable energy and energy efficiency.

Implementation of Metro's Green Construction Policy and the CALGreen Code would ensure that construction would be consistent with state and local energy plans and policies to reduce energy consumption. The Green Construction Policy commits Metro contractors to using less-polluting construction equipment and vehicles and implementing best practices to reduce harmful diesel emissions. Best practices include Tier 4 emission standards for off-road diesel-powered construction equipment with greater than 50-horsepower and restricting idling to a maximum of 5 minutes. The CALGreen Code requires the reduction, disposal, and recycling of at least 50% of non-hazardous construction materials and requires demolition debris to be recycled and/or salvaged. Therefore, during construction activities, the Proposed Project and its options, Option 1 and Option 2 would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and impacts would be **less than significant**.

3.6.5.2.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project is an active transportation path that will provide energy efficient, non-motorized transit to communities in need of enhanced connectivity and recreational options. The Proposed Project would reduce auto passenger vehicle trips and reduce reliance on petroleum-based transportation fuels. The benefits of the Proposed Project are consistent with the goals, objectives, and policies of SCAG; Los Angeles County; the Cities of Los Angeles, Vernon, and Maywood; and other agencies outlined in the local regulatory framework mentioned previously. The Proposed Project would not conflict with any adopted plan or regulation for enhancing energy efficiency or reducing transportation fuels consumption and would support the initiatives of the Metro 2019 CAAP. In addition, the Proposed Project would not interfere with LADWP renewable portfolio targets and would not result in a wasteful or inefficient expenditure of LADWP resources. The Proposed Project would positively contribute to statewide, regional, and local efforts to create a more efficient and sustainable transportation infrastructure network. Therefore, Proposed Project operation and O&M activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be **less than significant**.

3.6.6 Mitigation Measures

As identified in Section 3.6.7, the Proposed Project and its options, Option 1 and Option 2, would have less than significant impacts on energy under Impact ENE-1 (Energy Consumption) and Impact ENE-2 (Energy Plans). No mitigation measures would be required for operation or construction.

3.6.7 Significance After Mitigation

Project construction and O&M would not result in significant impacts on energy. Therefore, mitigation measures are not required.

3.6.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the cumulative analysis approach and lists the related projects identified within a 1-mile radius of the Proposed Project alignment that could produce related or cumulative impacts. This distance includes the RSA for energy, and additional distance that is expected to include other projects that may be considered in conjunction with Proposed Project elements based on topography and the existing built environment. For the purposes of cumulative analysis, the general geographic area that could be affected by the Proposed Project and its options in combination with past, present, and future projects varies depending on the environmental resource. The geographic scope for cumulative impacts to energy is the geographic region served by energy resource suppliers for electricity and natural gas.

As discussed in Section 3.6.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.6.5, the Proposed Project and its options would result in substantially similar impacts related to energy. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.6.8.1 Proposed Project, Option 1, and Option 2

3.6.8.1.1 Construction

State, regional, and local agencies and jurisdictions have published a wide range of documents intended to reduce energy consumption and increase the use of renewable energy. The intent is typically to reduce the use of nonrenewable energy to reduce pollution that contributes to global warming. As shown in Table 3.6-5, a one-time expenditure of approximately 509,508 to 603,112 gallons of diesel fuel and 118,503 to 169,157 gallons of gasoline would be needed to construct the Proposed Project and its options over a 3-year duration. Los Angeles County retail sales of diesel fuel and gasoline in 2020 were approximately 1.626 million gallons and 11.173 million gallons, respectively. For context, relative to existing petroleum-based transportation fuels consumption in Los Angeles County, construction of the Proposed Project would result in a nominal temporary increase to the annual diesel fuel consumption (0.01%) and annual gasoline fuel consumption (0.0006%) in the County. All equipment and vehicles that would be used in construction activities would comply with applicable CARB regulations and the CAFE Standards. In addition, construction activities would comply with the *Metro Green Construction Policy* and construction equipment and vehicles would be maintained in accordance with manufacturers' specifications. The one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to construct a pedestrian and bicycle path, which has been identified by state and regional agencies as an efficient method of reducing permanent energy use. Proposed Project construction activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency or energy conservation plans and impacts would be less than significant during construction.

Similarly, past, present, and probable future projects would include temporary construction activities and are not expected to place an undue burden on the availability of existing or future energy resources. Past, present, and probable future project construction activities would also be required to comply with applicable CARB regulations and the CAFE Standards to reduce energy consumption and increase the use of renewable energy. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects would not result in cumulatively significant energy impacts during construction.

3.6.8.1.2 Operations and Maintenance

There is no present regional shortage of energy resources for land use and transportation development planning and implementation, and no foreseeable strains on existing resources have been identified. The Proposed Project would indirectly change regional energy consumption through changes in regional VMT. As shown in Table 3.6-7, the Proposed Project would reduce annual regional energy consumption by 575 million BTU due to vehicle trip reductions (0.2% to 2.0% net reduction of VMT). The Proposed Project provides an alternative mode of transportation that would reduce regional petroleum-based energy consumption and would improve regional transportation energy efficiency. The Proposed Project would be consistent with sustainability plans to reduce VMT by constructing alternative transportation modes. There is no potential for Proposed Project operation to conflict with energy conversion goals or interfere with the energy supply and distribution. Proposed Project operation and O&M activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency and impacts would be less than significant.

Similarly, past, present, and probable future projects would be required to comply with applicable regulations and plans to reduce energy consumption and increase the use of renewable energy during operation. In addition, as previously discussed, there is no shortage of energy resources or foreseeable strains on existing resources. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects would not result in cumulatively significant energy impacts during operation.

3.7 Geology, Soils, and Paleontological Resources

3.7.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to geology, soils, and paleontological resources. This section also describes the existing setting and current applicable regulatory framework.

3.7.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to geology, soils, and paleontological resources. Although the California Environmental Quality Act (CEQA) does not require a lead agency to consider the impacts of the existing environment on the future users of a project (*California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 [2015]), this section nonetheless discusses the regulatory and design standards relevant to the development of the Project. Components of the Project that could be impacted by adverse geological and soil conditions include structures such as bridges and elevated paths supported by deep foundations, at-grade top-of-bank path, incised path built into the LA River channel lining (supported by retaining walls), and restroom buildings.

3.7.2.1 Federal

3.7.2.1.1 American Association of State Highway and Transportation Officials

The American Association of State Highway and Transportation Officials' (AASHTO's) *Load and Resistance Factor Design (LRFD) Bridge Design Specifications* (AASHTO 2017) and the California Department of Transportation's (Caltrans') *California Amendments to the AASHTO LRFD Bridge Design Specifications (Eighth Edition)* (Caltrans 2023) establish design standards and specifications for structural design. Structures built in accordance with the AASHTO design specifications require that an associated geotechnical investigation be performed. The investigations characterize the engineering properties of the structure-specific subsurface conditions. These engineering properties are then considered during design of the structure.

3.7.2.1.2 US Army Corps of Engineers

US Army Corps of Engineers (USACE) Engineer Manual (EM) 1110-2-2502, *Engineering and Design, Retaining and Flood Walls* (USACE 2022), provides guidance for construction of retaining walls and flood walls. USACE EM 1110-2-2502 requires a geotechnical investigation that characterizes the site-specific subsurface engineering properties for a proposed retaining wall or flood wall.

These subsurface engineering properties are then used in a project's design as governed by USACE design requirements. USACE design specifications also require that design of retaining walls and flood walls consider local geologic hazards, including seismic shaking and ground rupture, liquefaction/seismically induced settlement and inundation, expansive soils, ground settlement, collapsible soils, and naturally occurring oil and gas.

3.7.2.2 State

3.7.2.2.1 Alquist-Priolo Earthquake Fault Zoning Act

The California legislation protecting the population of California from the effects of fault line ground surface rupture is the Alquist-Priolo Earthquake Fault Zoning Act (*Public Resources Code* [PRC] Section 2621 et seq.). The Alquist-Priolo Earthquake Fault Zoning Act is the state's principal guidance to prevent the construction of habitable structures on the surface trace of active earthquake faults (California Geological Survey [CGS] 2018). The Alquist-Priolo Earthquake Fault Zoning Act was enacted in 1972 and mandated that the State Geologist establish regulatory zones, called "earthquake fault zones," around the surface traces of active faults and published maps showing these zones. Buildings for human occupancy are not permitted to be constructed across the surface trace of active faults.

3.7.2.2.2 Seismic Hazards Mapping Act

California's Seismic Hazards Mapping Act (PRC Sections 2690–2699.6) became effective in 1991 to identify and map seismic hazard zones to assist cities and counties in the preparation of the safety elements of their general plans and to encourage land use management policies and regulations that reduce seismic hazards. The recognized hazards include ground shaking, liquefaction, landslides, and other ground failure. The California Seismic Hazards Mapping Act resulted in the preparation of maps delineating liquefaction and earthquake-induced landslide regulatory areas (Zones of Required Investigation). In addition, CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California*, provides guidance for the evaluation of earthquake-related hazards for projects in designated Zones of Required Investigation, and for recommending mitigation measures as required by PRC Section 2695(a) (CGS 2008).

3.7.2.2.3 California Department of Transportation

Earthquakes are prime considerations in the design and retrofit of structures. Caltrans' Office of Earthquake Engineering is responsible for assessing the seismic hazard for Caltrans projects. Structures are designed using the *Seismic Design Criteria* (SDC) (Caltrans 2019a) to provide the minimum seismic requirements for bridges designed in California. A bridge's category and classification (categorized as either Important or Ordinary and classified as Standard or Non-Standard) determines its seismic performance level and which methods to use to estimate the seismic demands and structural capabilities. Much of the SDC is based on the AASHTO design criteria, discussed above. Project design of river crossings (such as bridge and elevated path structures) would be in accordance with the SDC, as well as Caltrans' *Highway Design Manual* (HDM) (Caltrans 2019b) for pavement design.[1]

3.7.2.2.4 California Building Code

California regulations protecting the public from geologic and seismic hazards are contained in the 2022 *California Code of Regulations*, Title 24, Part 2, California Building Code (CBC). This regulation applies to public buildings intended for human occupancy. The Metro *Rail Design Criteria* (Metro 2010) require conformance with the CBC for all construction. The restroom structures included as part of the Project would be designed in accordance with the CBC.

[1] For more information about the SDC, refer to https://dot.ca.gov/programs/engineering-services/manuals/seismic-design-criteria

3.7.2.2.5 Public Resources Code Section 5097.5

PRC Section 5097.5 prohibits excavation or removal of any of the following:

> *...vertebrate paleontological site, or any other archaeological, paleontological or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over such lands and specifies that state agencies may undertake surveys, excavations, or other operations as necessary on publicly owned lands to preserve or record paleontological resources.*

Public lands include those owned by or under the jurisdiction of the state of California or any city, county, district, authority, or public corporation or any agency thereof. PRC Section 5097.5 states that any unauthorized disturbance or removal of archaeological, historical, or paleontological materials or sites on public lands is a misdemeanor.

3.7.2.3 Local

Municipalities in the resource study area (RSA) include the City of Los Angeles, City of Vernon, City of Bell, City of Maywood, and portions of unincorporated Los Angeles County. These municipalities have general plan safety elements/land use/zoning codes that address geotechnical, subsurface, and seismic concerns.

3.7.3 Methodology

This section discusses the methodologies used to evaluate impacts to geology and soils and paleontological resources for the Proposed Project and its options.

3.7.3.1 Geology and Soils

The geology and soils analysis is based on the review and evaluation of previously published geologic and hydrogeologic information developed within the study area, including available as-built log of test borings (LOTBs).

The as-built LOTBs depict subsurface conditions encountered during past geotechnical investigations for the design of the existing bridge structures across the LA River. Near these existing bridge sites, similar conditions are likely to be encountered during design and construction of the Proposed Project or its options.

The existing geotechnical, subsurface, and seismic conditions and associated hazards in the study area, including seismic shaking and ground rupture, liquefaction/seismically induced settlement and inundation, expansive soils, ground settlement, collapsible soils, and naturally occurring oil and gas, are summarized in Section 3.7.4. Where components of the Proposed Project or its options, including design variations, are proposed within or directly adjacent to known geologic hazard areas, the potential for impact was identified and assessed.

3.7.3.2 Paleontological Resources

To assess the paleontological sensitivity of the Proposed Project and its options and to establish the paleontological sensitivity (potential) of each geologic unit present within and adjacent to the

footprints of the Proposed Project and its options. Proposed Project, Jacobs reviewed published geology maps, paleontological literature, and geotechnical data.

Geologic maps, geotechnical data, and available published and unpublished geological and paleontological literature covering the bedrock and surficial geology and paleontology of the footprints of the Proposed Project and its options and surrounding area were reviewed to determine what exposed and subsurface rock units are present, and to assess the potential paleontological productivity of each rock unit. This research identified the geologic units, previous paleontological studies, fossil localities (such as locations where paleontological resources have been documented), and types of fossils in geologic units that may be encountered within or adjacent to the footprints of the Proposed Project and its options, including design variations.

In addition, in July 2021, Jacobs submitted a request for a paleontology records (database) search by Natural History Museum of Los Angeles County (NHMLA) Department of Paleontology staff. The records search request was supplemented by an online fossil locality search by the Jacobs staff paleontologist, using the University of California Museum of Paleontology (UCMP) online fossil database (UCMP 2021).

After completing these tasks, each geologic unit mapped within or near the footprints of the Proposed Project and its options was assigned a paleontological potential (such as sensitivity), based on the number of previously recorded fossil sites (such as localities) it contains and the scientific importance of the fossil remains recorded. The methods employed are consistent with Society of Vertebrate Paleontology (SVP) criteria and guidelines for assessment and mitigation of adverse impacts to paleontological resources in areas of potential environmental effect and areas of critical environmental concern (SVP 2010). The SVP considers significant fossils as fossils that contribute new and useful taxonomic, taphonomic, phylogenetic, paleoecologic, biochronologic, and stratigraphic data (SVP 2010).

3.7.3.3 Resource Study Area

The RSAs identified for the purposes of evaluating geology and soils and paleontological resources impacts are described below.

3.7.3.3.1 Geology and Soils

For the purposes of evaluating geology and soils impacts, the RSA is defined as 0.25 mile from the permanent footprint and temporary footprints (including alignments, access points, design variations, and construction staging areas) of the Proposed Project and its options. Figure 3.7-1 shows the RSA for the geology and soils analysis. The geology and soils RSA width was established with the goal of capturing the area where major physical Project components, such as structures and pavements, would be constructed.

3.7.3.3.2 Paleontological Resources

For the purposes of evaluating paleontological resources impacts, the RSA is defined as 1 mile from the permanent footprint and temporary footprint (including alignments, access points, design variations, and construction staging areas) of the Proposed Project and its options. Figure 3.7-1 shows the RSA for the paleontological resources analysis. The geologic units that occur within the RSA were studied to assess the Project's potential impacts to known paleontological resources or rock units determined to possess a high potential to contain important paleontological resources. This distance was chosen to adequately encompass and understand the geological context of the area and to further correlate the results of the paleontological records search and literature review.

Figure 3.7-1. Geology, Soils, and Paleontological Resources Study Area



3.7.3.4 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate impacts of the Project associated with geology, soils, and paleontological resources are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to geology, soils, and paleontological resources would occur if the Project would do any of the following:

- **Impact GEO-1**: Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death, involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42?
  - Strong seismic ground shaking?
  - Seismic-related ground failure, including liquefaction?
  - Landslides?
- **Impact GEO-2**: Result in substantial soil erosion or loss of topsoil?
- **Impact GEO-3**: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?
- **Impact GEO-4**: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?
- **Impact GEO-5**: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?
- **Impact GEO-6**: Directly or indirectly destroy a unique paleontological resource or unique geologic feature?

As noted previously, CEQA regulates the effects of a project on the environment, not the effects of the environment on the project (*California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal. 4th 369 [2015]). For informational purposes, however, the following analyzes the potential impacts of developing the Project within the seismically active region of Southern California. The following analysis also considers whether the Project might exacerbate geological, seismic, and related hazards.

3.7.3.5 Project Features

As described in Appendix C*, Project Features*, a number of project features have been incorporated into the Proposed Project and its options to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features are relevant to geology and soils. No project features are identified for paleontological resources.

PF-GEO-01, *Final Geotechnical Report*

As part of final design, the contractor shall provide Los Angeles County Metropolitan Transportation Authority (Metro) with a final geotechnical report prepared by a licensed geotechnical engineer

registered in California. The final geotechnical report shall be prepared consistent with standard engineering practices and in accordance with the following:

- American Association of Highway and transportation Officials (AASHTO) *Load and Resistance Factor Design* (LRFD) (AASHTO 2017) with California amendments (Caltrans 2023) for Project bridges, and elevated path structures.
- Caltrans *Seismic Design Criteria* (SDC) (Caltrans 2019a) for Project bridges and elevated path structures.
- Caltrans *Highway Design Manual* (HDM) (Caltrans 2019b) for at-grade paths.
- California Building Code, Title 24, Part 2 (CBC 2022) for design of restroom buildings.
- US Army Corps of Engineers (USACE) engineering and design requirements (for example, for retaining walls using EM 1110-2-2502 [USACE 2022]).

The report shall include a site description, a summary of the relevant geological and geotechnical context, the results of site-specific field investigations and laboratory testing, a description of key soil properties, groundwater conditions, seismic hazards, assessments of risks, and recommendations. Specific topics to be addressed in the final geotechnical report shall include, but may not be limited to, the following items.

- Soil Characterization, Settlement, Collapse, Bearing Capacity: The final geotechnical report shall include and/or address the following:
  - Soil Sampling and Analysis: Soil samples from various depths of the Project site shall be collected. These samples shall be analyzed to determine the soil type, grain size distribution, consolidation characteristics, moisture sensitivity, and other properties that influence settlement behavior.
  - Field Testing for Bearing Capacity: Site-specific field tests, such as standard penetration tests or cone penetration tests, shall be performed to evaluate the soil's bearing capacity and its ability to support Project loads without significant settlement. The tests shall be used to determine the soil's shear strength and potential to withstand the loads imposed by the Project.
  - Settlement Estimate: Based on soil properties and consolidation characteristics, the final geotechnical report shall provide estimates for both immediate and long-term settlement. This information shall be used to guide Project design to accommodate anticipated settlement without compromising the structural stability of the Project's structures, including bridges, elevated paths, retaining walls, and restroom buildings.
  - Groundwater Levels: Groundwater levels shall be evaluated and recommendations to address potential settlement caused by lowering of the groundwater table during construction activities shall be provided.
  - Shear Strength Analysis: The shear strength parameters of loose or saturated soil, including cohesion, angle of internal friction, and their variations shall be evaluated.
  - Compaction Characteristics: The compaction behavior of loose soils and compaction efforts and achieved densities shall be evaluated.
  - Subsidence Risk Assessment: The risk of caving, ground collapse, or subsidence based on the combination of geological, hydrological, and geotechnical factors shall be evaluated.

  - Recommended Settlement Reduction Measures: Engineering measures to address potential settlement shall be recommended; these may include techniques like preloading, surcharge placement, compaction, or the use of specialized foundation types.
  - Recommended Measures for Loose and Saturated Soils: Soil improvement techniques, drainage strategies, and other measure to enhance stability and to address loose and saturated soils, such as shoring, casings, or other ground-stabilization techniques shall be provided. Recommendations shall be provided to prevent caving during drilling; the recommendations may include the installation of manufactured casing to support borehole walls, or the use of viscous nonhazardous and biodegradable fluids during drilling, which can also support borehole walls during construction.
  - Monitoring and Reporting: Settlement shall be monitored during construction and adjustments made if actual settlement deviations from predictions. Additionally, to detect caving and voids during construction, techniques such as borehole video logging or downhole cameras may be used to inspect boreholes for signs of voids, fractures, or caving.

- Slope Stability: To provide a site-specific understanding of slope conditions and risks, and to guide design to ensure safe and stable slopes, the final geotechnical report shall address:
  - Soil Properties: Laboratory tests on soils shall be performed to determine properties such as shear strength, cohesion, angle of internal friction, permeability, and density, which can influence the stability of slopes.
- Geotechnical Analysis: A geotechnical analysis, such as limit equilibrium analysis or numerical modeling, shall be performed to assess factors affecting slope stability, including slope angle, soil properties, groundwater conditions (including depth, flow direction, and seasonal variations), and external forces, such as rainfall. The analysis shall also consider slope geometry, including site-specific measurements and assessments of the angle of slopes and configurations at the Project site.
  - Slope Reinforcement: Based on the site properties and geotechnical analysis, recommendations shall be provided for slope reinforcement, including retaining walls, as needed. Construction Methods: Recommendations on construction methods to minimize disturbance to slopes and reduce the risk of triggering instability during construction shall be provided.
  - Monitoring and Warning System: A plan for monitoring ongoing slope stability during construction to detect movement shall be included.
- Appropriate Sources and Types of Fill: The final geotechnical report shall include the following considerations with respect to identifying the appropriate source and types of fill:
  - Material Characteristics: The geotechnical investigation shall evaluate the physical and engineering properties of potential fill materials, including grain size distribution, plasticity index, compaction characteristics, strength, and permeability.
  - Compatibility with Existing Soils: The geotechnical investigation shall consider fill interaction with the existing soil on the Project site. The properties of the fill material selected shall complement and integrate with the natural soil to avoid differential settlement or instability. The extent to which potential fill materials are prone to volume changes due to moisture variation shall also be considered.
  - Compaction Potential: The final geotechnical report shall address the potential fill material's compaction potential and recommend a fill that achieves recommended density and stability and minimizes the risk of future settlement.

  - Settlement Characteristics: The final geotechnical report shall address the loads that the fill would be subjected to by the Project; fill materials selected shall exhibit minimal long-term settlement to ensure the stability of the Project's structures, including bridges, elevated paths, retaining walls, and restroom buildings.

- Liquefaction and Lateral Spreading: The final geotechnical report shall include the following to assess the potential for liquefaction and lateral spreading and make recommendations to avoid triggering these conditions.
  - Evaluation: Geotechnical investigations shall use empirical methods, such as the standard penetration test, to determine the potential for liquefaction based on factors like the cyclic stress ratio and fines contents. The investigation shall evaluate the potential for liquefaction and lateral spreading based on soil properties (for example, stiffness, density, and resistance), known and anticipated seismic hazards, slope stability, shear strength, the potential for ground movement, and groundwater levels, including groundwater depth and fluctuations.
  - Recommendations: Recommendations to reduce the risk of damage due to liquefaction and lateral spreading shall be provided. These recommendations may include installing ground improvement techniques, use of deep foundations, and implementing soil densification and stabilization methods, such as compaction, and proper construction sequencing.
- Structural Foundations: Based on site-specific characterizations, soil testing, slope stability analyses, and other information regarding site-specific conditions present at the Project site, including ground movement, the final geotechnical report shall recommend appropriate foundation structures. Recommendations shall include:
  - Foundation Design: Recommendations for elevated path, bridge, retaining wall, and restroom building foundation designs shall account for seismic forces, considering both vertical and horizonal loads. Recommended foundations may include deep foundations, pile groups, or caissons to anchor structures in stable soil or bedrock.
  - Lateral Load Resistance: Foundations for elevated paths, bridges, and retaining walls shall be designed to include supports to resist lateral loads caused by ground shaking.
  - Soil Structure Interaction: Recommendations for foundation design shall consider the interaction between soil and the Project structures during seismic events.
  - Seismic Retrofitting: The need to retrofit existing structures within the Project footprint shall be evaluated to determine whether retrofitting is required or advisable. Such retrofitting could involve adding supplemental lateral support or strengthening key components.
  - Seismic Design Codes and Regulations: Recommendations for foundation designs shall follow applicable seismic design codes and regulations, including AASHTO LRFD with California amendments and Caltrans SDC (for bridges and elevated path structures), Caltrans HDM (for at-grade paths), USACE design requirements (for example, compliance with USACE Engineer Manual [EM] 1110-02-2502, *Retaining and Flood Walls* (for Project retaining walls), and the CBC for restroom buildings.
- Grading and Excavations Practices: Based on the site-specific characterizations, soil testing, slope stability analyses, cut-and-fill analysis, compaction requirements, drainage considerations and other site-specific conditions related to seismicity and soils, the final geotechnical report shall include recommendations for best grading and excavation practices. These recommendations shall include, but not be limited to the following:

- Excavation Depth and Slope: The geotechnical investigation shall specify appropriate excavation depth and slope inclinations based on soil properties. Soil cohesion, angle of internal friction, and groundwater levels shall be considered in making the recommendations.
- Compaction Requirements: The geotechnical investigation shall specify compaction requirements for materials to achieve sufficient density and stability depending on soil type.
- Excavation Support: The geotechnical investigation shall determine the need for excavation support systems (for example, shoring, sheet piles) based on site-specific soil characteristics and the depth of excavation.
- Groundwater Management: The geotechnical investigation shall consider groundwater levels and the potential for groundwater to interfere with excavation and grading. Recommendations for dewatering techniques shall be provided if needed to control water ingress.
- Slope Erosion Prevention: Erosion control measures, such as geotextiles, grass seeding, or sediment basis, shall be provided to prevent soil erosion during and after grading.

The recommendations provided in the geotechnical design reports shall be incorporated into the Project's final design plans and construction specifications.

PF-GEO-02, *Construction Worker Safety*

Worker health and safety plans specific to each of the major tasks involved in development of the Project shall be prepared in accordance with California Division of Occupational Safety and Health (Cal/OSHA) requirements. Strict compliance with these worker health and safety plans will reduce the risks to workers.

PF-GEO-03, *Compliance with Federal, State, Regional, and Local Agencies*

Design of Project structures shall comply with the structural design criteria as required by affected federal, state, regional, and local agencies. These design criteria shall include, but not be limited to, US Army Corps of Engineers (USACE) manuals and regulations such as the *Memorandum for Record Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3 Hydraulic Design and Criteria for Underpasses and Access Ramps* (USACE 2022), American Association of Highway and transportation Officials (AASHTO) *Load and Resistance Factor Design* (LRFD) (AASHTO 2017) with California amendments (Caltrans 2023), Caltrans *Seismic Design Criteria* (SDC) (Caltrans 2019a) for bridges and elevated structures, the Caltrans *Highway Design Manual* (HDM) (Caltrans 2019b) for at-grade pavement design, and the California Building Code Title 24, Part 2 (CBC 2022) for restroom building design.

PF-GEO-04, *Construction Measures to Prevent Soil Caving*

Based on the recommendations of the geotechnical report prepared in accordance with PF-GEO-01, *Final Geotechnical Report*, common construction techniques shall be implemented to prevent caving and protect adjacent improvements during drilling. Construction techniques to prevent caving could include the installation of manufactured casing to support the borehole walls, or the use of viscous nonhazardous and biodegradable fluids during drilling which can support borehole walls during construction. The geotechnical report construction recommendations shall also address temporary excavations and provide the estimated soil parameters needed for shoring or other ground-stabilization needs, which would be used to minimize impacts during excavations. Monitoring plans shall be required, as applicable, for both on- and offsite properties and existing improvements that could be impacted by an excavation.

Additional applicable project features related to geology, soils, and paleontological resources include the following; refer to Section 3.10, *Hydrology and Water Quality*, for additional detail:

- PF-HWQ-01, *Stormwater/Water Quality Management During Construction*
- PF-HWQ-02, *Low-Impact Design Requirements*

3.7.4 Existing Setting

The following section describes existing conditions for geology, soils, and paleontological resources. Many of the components of the Proposed Project and its options would permanently interface with these existing conditions.

3.7.4.1 Regional Geology

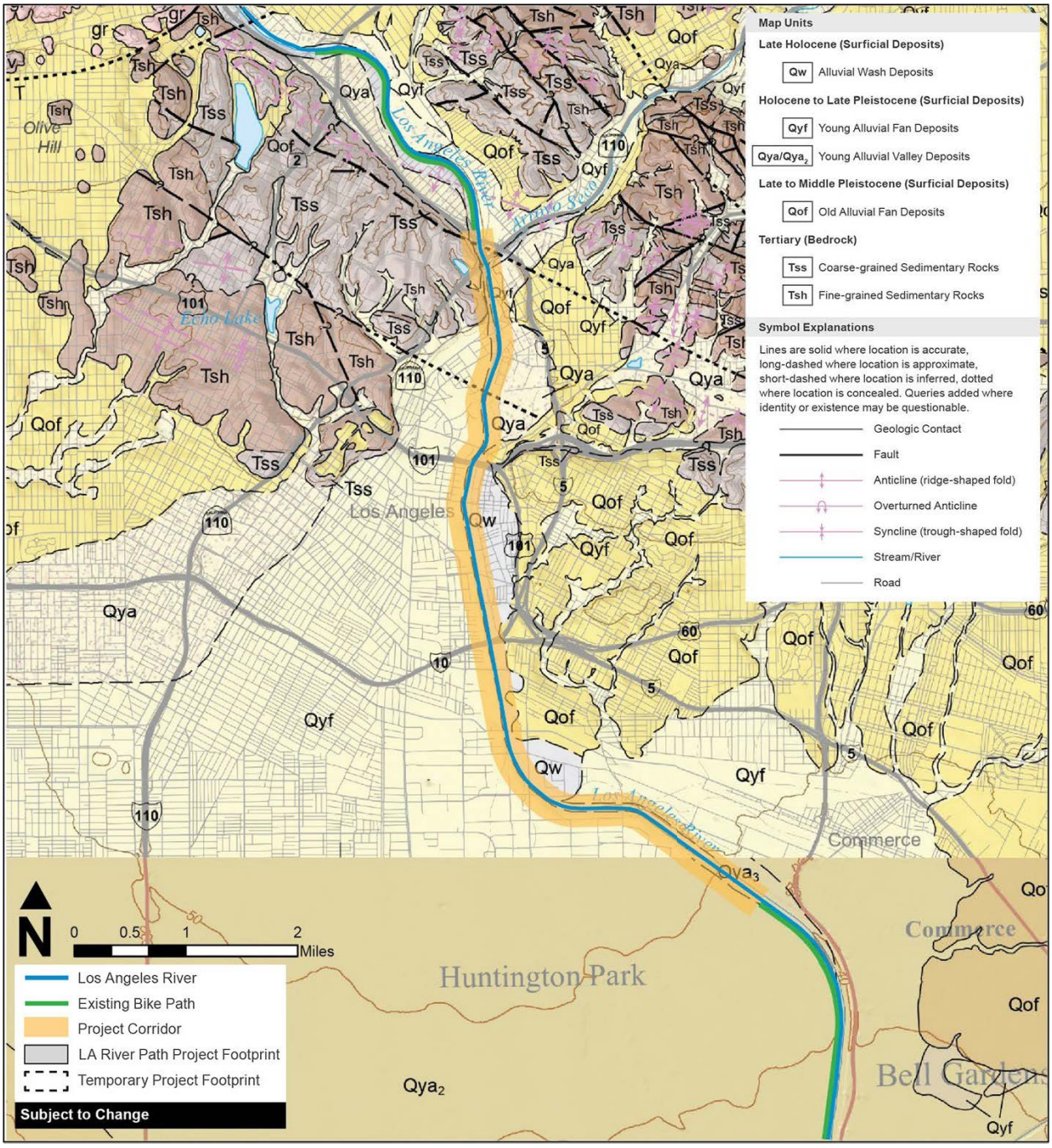
California is separated into 11 geomorphic provinces based on the distinct landforms (or geomorphology) of each province. The RSA is situated within the Los Angeles Basin portion of the Peninsular Ranges geomorphic province of California. The Peninsular Ranges province is characterized by northwest-trending mountain ranges, valleys, and faults, all of which generally parallel the trend of the San Andreas Fault system, which is located approximately 30 miles northeast of the study area. The Elysian Park-Repetto Hills and the Newport-Inglewood Fault Zone are prime examples of this northwest-trending regional structure. Near the central part of the Los Angeles Basin, nearly 30,000 feet of marine and alluvial sediments and sedimentary rocks of Quaternary and Tertiary age are present (Yerkes et al. 1965). These Quaternary aged (recent to 2 million years old) and Tertiary aged (2 to 65 million years old) units are underlain by Cretaceous age (greater than 65 million years old) crystalline bedrock. The surficial geology of the study area is shown on Figure 3.7-2.

3.7.4.2 Physiology and Topography

The study area is situated primarily on a gently sloping alluvial surface (the LA River channel and floodplain) within the Los Angeles Basin. Steeper terrain is present adjacent to the study area generally from where the LA River crosses below Interstate (I-)5 to where the LA River crosses below Broadway. The Elysian Hills are present in this area (on the west side of the LA River) with a local elevation high of approximately 620 feet near Figueroa Street (the LA River channel bottom in this area has an approximate elevation of 295 feet).

In the RSA, the concrete-lined LA River drains to the south and southeast. Approximate elevations along the LA River channel bottom range from a high of 300 feet at the north end of the study area, 260 feet at Cesar E Chavez Avenue, 225 feet at Sixth Street, 200 feet at Bandini Boulevard, and 155 feet at the southern terminus of the study area at Atlantic Boulevard. The LA River channel shape within the study area is rectangular along some reaches and trapezoidal along others.

Figure 3.7-2. Geologic Map



Sources: Bedrossian et al. 2012; Saucedo et al. 2016

3.7.4.3 Local Geology

The following summarizes the geologic conditions underlying the RSA, including geologic units. The surficial geology shown on Figure 3.7-2 represents the geographical extents of the various geologic units mapped at the ground surface. The extent of the units varies with depth below the ground surface and is dependent on several factors such as faulting and past and present depositional environment. Along with regional geologic information, as-built LOTBs were considered in preparation of the following geologic unit descriptions. The as-built LOTBs depict subsurface conditions encountered during past geotechnical investigations for the design of the existing bridge structures across the LA River. Near these existing bridge sites, similar subsurface conditions are likely to be encountered during the design and construction of the Proposed Project and its options. Appendix J, *Geology, Soils, and Paleontological Resources Technical Report* includes a summary of the as-built boring information data presented on the LOTBs.

3.7.4.3.1 Artificial Fill Soil

Artificial fill soils are present locally within the RSA. The depth and lateral extent of these fill soils are dependent on the original topography as well as past and current improvements in the study area. The composition of the fill soils varies depending on the source. Fill soil descriptions based on the LOTBs are included in Appendix J, *Geology, Soils, and Paleontological Resources Technical Report*. Review of the LOTBs indicate that fill soils present in the RSA are varied in composition, locally containing cobbles, boulders, trash, and construction debris. Because of the scale of the map and local nature of the fill soils, they are not shown on Figure 3.7-2.

3.7.4.3.2 Alluvial Soil

The alluvial materials in the RSA include coarse-grained sediment (sand, gravel, cobbles, and boulders, and sand and gravel with lesser amounts of fine-grained sediments) and fine-grained sediment (silt, clay, and silts and clays with lesser amounts of coarse-grained sediments). Within the RSA, cobbles and boulders (3 feet in diameter and greater) are widespread, but not uniformly distributed within the alluvial soils, at depths of 0 to over 120 feet below ground surface (bgs) (Yerkes et al. 1977). The cobble and boulder layers are generally irregularly shaped and are noncontinuous over longer distances. Some of the alluvial soils present contain hydrocarbons and peat. In addition, hydrogen sulfide and organic odors have been encountered locally. As shown on Figure 3.7-2, the alluvial soils mapped in the RSA include: Alluvial Wash Deposits (unit Qw); Young Alluvial Fan Deposits (unit Qyf); Young Alluvial Valley Deposits (units Qya/Qya_2/Qya_3); and Old Alluvial Fan Deposits (unit Qof).

The contact between the alluvial materials and underlying bedrock is irregular because the alluvium has covered landscapes developed by erosion into older deposits. The approximate depth to the alluvial soil/bedrock contact varies within the RSA from as shallow as 10 feet bgs in the area of State Route (SR) 110 to approximately 200 to 300 feet at the southern terminus of the RSA (Lamar 1970; Yerkes et al. 1965, 1977).

3.7.4.3.3 Bedrock

Two sedimentary bedrock formations are present at depths that could affect the Proposed Project and its options: the Pliocene-age Fernando Formation and the Miocene-age Puente Formation. These bedrock formations are represented by units Tss and Tsh on Figure 3.7-2.

The Fernando Formation generally includes soft, gray to black, vaguely bedded, claystone and siltstone. This formation underlies the alluvial soils along the study area from near US Highway 101 (US 101) to the southern terminus of the study area.

Three members of the Puente Formation are mapped in the study area: the fine- to medium-grained, well-bedded Sandstone Member; and the well-bedded Siltstone and Shale Members. The Puente Formation is mapped on both sides of the LA River (below the alluvial soils) generally from the northern terminus of the study area to US 101. The Elysian Hills are composed of Puente Formation bedrock.

Both the Puente and Fernando Formations contain scattered, hard concretions and thin hard layers. The degree of weathering in these rocks decreases with increasing depth from decomposed to fresh. Review of the LOTB indicates that the bedrock encountered in the study area is generally soft, with local (hard) concretionary areas encountered. It is likely that inactive, intra-formational faults are present within bedrock units underlying the study area. These inactive faults would have formed as a result of the Miocene and Pliocene tectonic regime (approximately 16 to 2 million years ago).

It is likely that inactive, intra-formational faults are present within bedrock units underlying the study area. These inactive faults would have formed as a result of the Miocene and Pliocene tectonic regime (approximately 16 to 2 million years ago).

3.7.4.4 Surface Water and Groundwater

The following surface and groundwater information is presented for geologic context only. Section 3.10, *Hydrology and Water Quality* provides a detailed discussion on existing water resources in the Proposed Project area, including hydrology and surface water bodies, groundwater resources, water supply, water quality, drainage patterns, floodplains, and flooding/inundation hazards.

3.7.4.4.1 Surface Water

The LA River collects runoff from the San Fernando Valley and a large portion of the Los Angeles Basin. Within the RSA, major tributaries to the LA River include the Arroyo Seco, which joins the LA River just south of SR-110. The portion of the RSA outside the LA River channel area drains by sheet flow into the LA River or into secondary drainages, which all eventually drain into the Pacific Ocean. Flowing surface water can result in an erosion hazard to any unprotected slopes and can result in scour around unprotected structural supports such as bridge columns.

3.7.4.4.2 Groundwater

Historically, the highest groundwater levels within the RSA generally range from 20 feet bgs at the northern terminus, 40 feet bgs between US 101 and First Street, 100 feet bgs near Fourth Street, 175 feet bgs near Seventh Street, 150 feet bgs near I-10, 60 feet bgs at Washington Boulevard, 40 feet bgs near Downey Road, and 15 feet bgs near Atlantic Boulevard (CGS 1998a, 1998b).

Generally, groundwater at depths in the upper 100 feet bgs could impact the Project. The bedrock units within the RSA generally do not have a fixed groundwater table. However, the bedrock can hold and transport groundwater in the form of seepages present within local sandstone beds as well as fault and/or fracture zones. Substantial amounts of groundwater inflows can be expected locally in alluvial deposits where situated below the groundwater table.

Groundwater can impact the Proposed Project and its options in a variety of ways. For example, a relatively shallow groundwater table is a required element for liquefaction to occur. In addition, during construction of cast-in-drilled-hole piles for bridge or elevated path structures, the groundwater table may facilitate temporary caving conditions during drilling.

3.7.4.5 Faulting and Seismicity

3.7.4.5.1 Active Faults

There are no known active faults capable of ground rupture mapped within the RSA, and the RSA is not located in an Alquist-Priolo Earthquake Fault Zone (Figure 3.7-3). However, the RSA is underlain by the active blind thrust Upper Elysian Park Fault and Puente Hills Fault (Shaw and Suppe 1996; Shaw et al. 2002). Blind thrust faults are faults that terminate before reaching the surface, potentially producing uplift but never any clear surface rupture (SCEDC 2021). As such, these blind thrust faults are not considered capable of ground rupture and therefore are not subject to the conditions of the Alquist-Priolo Act.

Numerous other active faults are present in Southern California that also contribute to potential ground shaking hazards for the Proposed Project and its options (Table 3.7-1). These faults are considered in the seismic analysis discussed in Section 3.7.4.5.2.

Table 3.7-1. Summary of Nearby Active Faults

Fault Name	Moment Magnitude (M_w)	Closest Distance to RSA (miles)[a]
Puente Hills Fault–Los Angeles[a]	6.5-7.7[b]	1.62
Upper Elysian Park Fault[a]	6.2-6.7[c]	0
Elysian Park Fault–Lower Cfm[a]	6.2-6.7[c]	0
Newport-Inglewood Fault Zone–N. Los Angeles Basin Section	6.0-7.4[d]	6.8
Raymond Fault	6.0-7.0[d]	2.0
Hollywood Fault	5.8-6.5[d]	3.0
Puente Hills Fault –Santa Fe Springs[a]	6.5-7.1[b]	6.3
Verdugo–Eagle Rock Fault	6.0-6.8[d]	3.9
Sierra Madre Fault–Sierra Madre B	6.0-7.0[d]	8.3
Puente Hills Fault –Coyote Hills[a]	6.5-7.1[b]	10.0

[a] Blind thrust fault. Distance tabulated is approximately the closest distance from the surface projection of the fault to the study area, based on US Geological Survey (USGS) and CGS 2022. Note that the blind thrust faults do not actually extend to the surface.

[b] Shaw et al. 2002

[c] Oskin et al. 2000

[d] SCEDC 2024

Figure 3.7-3. Fault Location Map



Source: USGS and CGS 2022

3.7.4.5.2 Seismic Shaking

The RSA is located within the seismically active region of Southern California and may be subject to seismic ground shaking over time. The intensity of ground shaking is influenced by several factors, including the distance of the epicenter from the site and the depth at which the earthquake occurred, the magnitude of the earthquake, subsurface geologic structures, surface topography, and strength of the underlying earth materials. Earthquake-induced ground shaking is a seismic hazard and can result in lurching, liquefaction, lateral spreading of soils, landslides, and dynamic oscillation of structures.

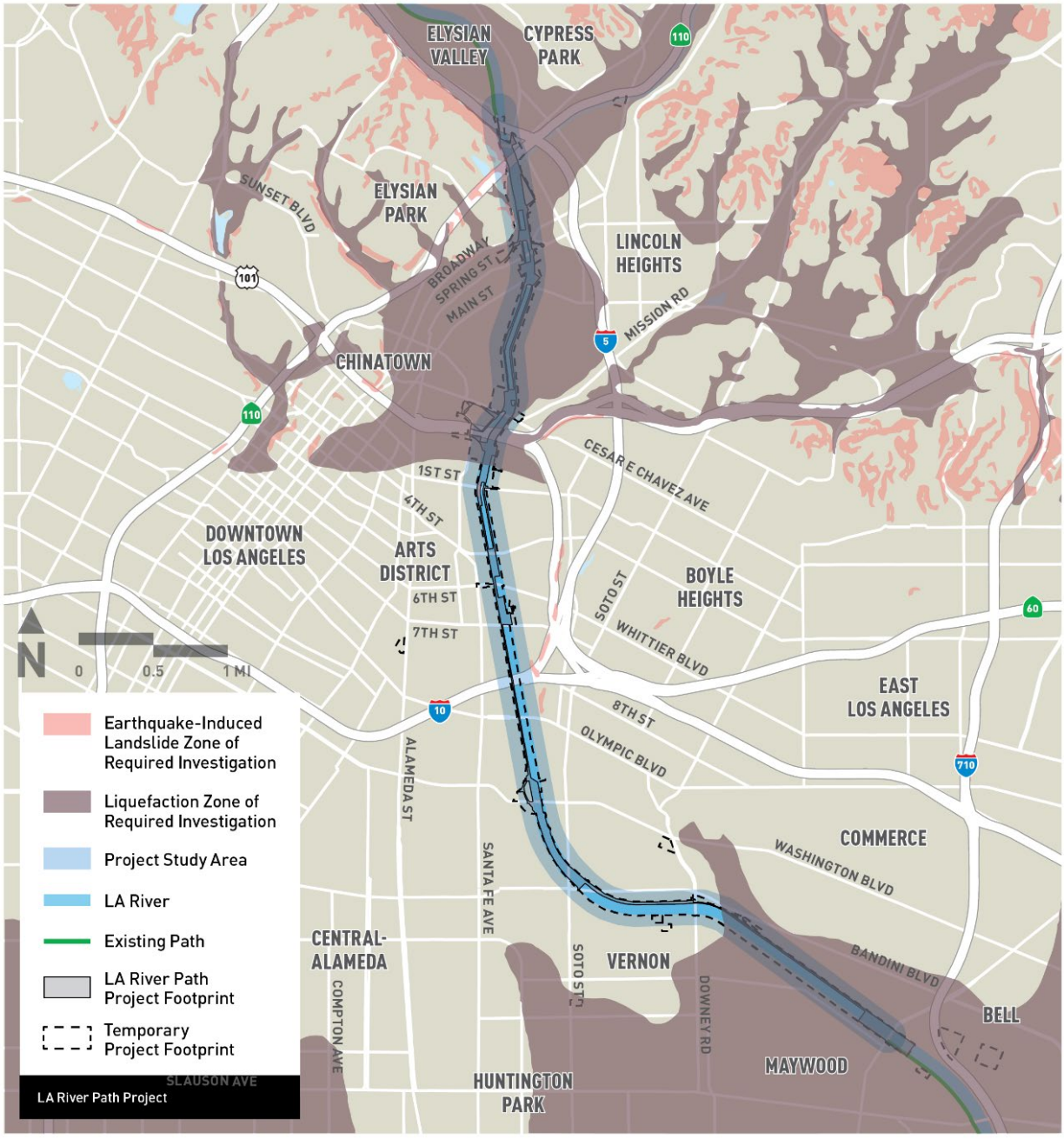
Planned components for the Proposed Project and its options include bridges and elevated paths supported by deep foundations, at-grade top-of-bank paths, incised paths built into the LA River channel lining (supported by retaining walls). Bridge and elevated path structures would be designed in accordance with Caltrans SDC, retaining walls associated with river channel would be designed in accordance with USACE requirements, and restroom buildings would be designed in accordance with the CBC, accounting for seismic hazards, as discussed in Section 3.7.2. Per PF-GEO-01, *Final Geotechnical Report*, the geotechnical study would be conducted during final design and would be included in any design plan and permit reviews.

3.7.4.5.3 Other Seismic Hazards

Seismic hazards (other than seismic shaking) present in the RSA are summarized as follows.

- **Liquefaction:** Liquefaction occurs when loose, saturated, cohesionless soils in the upper 50 to 75 feet bgs are transformed from a solid to a near-liquid state. This phenomenon can occur during moderate to severe ground shaking. Liquefaction-related phenomena include lateral spreading, flow failures, loss of bearing strength, subsidence, and buoyancy effects. Based on CGS Seismic Hazard Zones Official Maps (CGS 1999a, 1999b), the portions of the RSA from its northern end to roughly First Street, and from near Downey Road to the southern end, are located in a Zone of Required Investigation for liquefaction, as shown on Figure 3.7-4. The Zone of Required Investigation delineation is established around areas where existing data indicates that the potential for the hazard warrants a detailed evaluation, in accordance with the Seismic Hazards Mapping Act.
- **Lateral spreading:** In liquefiable areas, where the ground surface is gently sloped and/or has a free face (such as a riverbank), lateral spreading may occur. Lateral spreads develop on a relatively continuous layer of liquefiable soil that is present near the ground surface. Seismic and gravitational forces can cause the soil mass to move on the liquefied soil layer.
- **Seismically induced landslides:** The potential for seismically induced landslides would depend on the steepness of the slope, strength and structure of the soil/rock, groundwater depth and extent, and level of ground shaking. Most of the RSA is relatively flat, and no significant natural slopes are present. However, steeper terrain is present adjacent to the RSA generally from where the LA River crosses below I-5 to where the LA River crosses below Broadway. As shown on Figure 3.7-4, this area is located in a Zone of Required Investigation for earthquake-induced landslides (CGS 1999a).
- **Seismically induced settlement:** Loose, unsaturated granular soils are susceptible to seismically induced settlement. This could include the alluvial soils located above the groundwater table within the study area. These settlements can result in total and differential settlement of soils supporting structures and utilities. The magnitude of these settlements would depend on the type of structure, the characteristics of the soil below the structure, and the level of ground shaking. Within the RSA, granular alluvial soils in the upper 50 to 75 feet bgs are potentially susceptible to seismically induced settlement.

Figure 3.7-4. Seismic Hazard Zones Map



Sources: CGS 1999a, 1999b; Jacobs Alta 2021

- **Seismically induced inundation:** This hazard can occur when an earthquake causes catastrophic failure of a water-retaining structure such as a reservoir, dam, or levee, and subsequent flooding occurs due to the release of water from the structure. Los Angeles County has prepared a Dam and Reservoir Inundation Routes Map, which shows that the RSA is located within a potential dam inundation area (Los Angeles County 2012). The map depicts roughly two dozen reservoirs/dams, the majority of which are located near the foothills of the San Gabriel Mountains, as being potential sources of inundation.
- **Tsunamis and seiches:** Tsunamis are waves typically generated offshore or within large, open bodies of water primarily during subaqueous fault rupture or a subaqueous landslide event. Seiches are waves generated within a large and closed body of water, also caused either by subaqueous fault rupture or landslide events or by ground oscillations from distant earthquakes. At its closest point to the Proposed Project and its options, the Pacific Ocean is located over 15 miles to the southwest. No closed bodies of water are within or adjacent to the study area. Based on the distance between the study area and large bodies of water, the potential impact on the Proposed Project and its options due to a tsunami or seiche is negligible. In addition, the RSA is not located within a Tsunami Inundation Area (Los Angeles County 2012).

3.7.4.6 Nonseismic Hazards

Potential geologic hazards that may exist within the RSA under static loading conditions are discussed below. Static loading conditions are the normal conditions in which the primary load (or force) acting on a design feature or geologic unit is gravity. The potential for these hazards to occur in the RSA is discussed below. The potential for these hazards to occur in the RSA is also discussed below.

3.7.4.6.1 Slope Stability

The stability of a slope depends on the inclination, geology and geologic structure, soil and rock strength, and ground and surface water conditions within the slope. The majority of the RSA is relatively flat, and no significant natural slopes are present; however, steeper terrain is present adjacent to the RSA generally from where the LA River crosses below Interstate (I-)5 to where the LA River crosses below Broadway. The majority of the RSA is relatively flat, and no significant natural slopes are present; however, steeper terrain is present adjacent to the RSA generally from where the LA River crosses below I-5 to where the LA River crosses below Broadway. Regional geologic maps (Dibblee 1989; Lamar 1970) indicate that a landslide is present on the west side of the LA River, south of I-5 and immediately west of the newly constructed Riverside Drive Viaduct. This landslide is likely a relatively shallow “slump” type landslide.

3.7.4.6.2 Expansive Materials

Expansive soils are clay-rich soils that swell and shrink with wetting and drying. The shrink-swell capacity of expansive soils can result in differential movement below or adjacent to a structure, such as at-grade paths and retaining walls. Clay-rich soils exist locally within alluvial soils present in the RSA. In addition, bedrock units also can exhibit expansive properties due to the clay content within the bedrock; this includes the Puente Formation Siltstone Member, and the Fernando Formation present within the RSA.

3.7.4.6.3 Regional Subsidence

Regional subsidence results from the withdrawal of groundwater and/or hydrocarbons from the subsurface. As the groundwater or hydrocarbons are pumped out of the ground, the resultant voids or pores are compressed under the pressures of the soils above. Accumulation of the compression results in subsidence of the ground surface. The California Department of Water Resources (DWR) estimated the potential for future land subsidence within the RSA as low because groundwater withdrawal is restricted and managed and, where performed, is compensated by reinjection of water in volumes similar to what is withdrawn (DWR 2014). Similar protocol is in place during pumping for hydrocarbons.

3.7.4.7 Paleontological Resources

3.7.4.7.1 Paleontological Potential and Sensitivity

Paleontological potential is defined as the potential for a geologic unit to produce scientifically significant fossils. This is determined by rock type, geologic history of the rock unit in preserving and producing significant fossils, and fossil localities that are recorded from that unit. Paleontological potential is derived from the fossil data collected from the entire geologic unit, not just from a specific survey. A four-tiered classification system (Classes a through d) for paleontological potential, recommended by SVP (1995, 1996, 2010) and recognized in California is listed as follows:

- **Class a—High Potential:** Indicates rock units that have the potential for yielding abundant or significant fossils, such as significant vertebrate and invertebrate, plant or trace fossils, or microfossils, and the potential to yield important scientific data. These units range temporally from middle Holocene in age or older and are lithologically suitable for fossil preservation, such as fine-grained alluvial, fluvial, marine, and lacustrine sediments, paleosols, and volcanic (airfall and volcaniclastic). In rare instances, fossils may be present within low-grade metamorphic rocks, such as marble (limestone or dolostone variety) (SVP 2010).
- **Class b—Undetermined Potential:** Unknown or undetermined sensitivity indicates that the rock unit has not been sufficiently studied or lacks good exposures to warrant a definitive rating. This rating is treated initially as having a high sensitivity or potential. After study or monitoring, the unit may fall into one of the other categories. According to the SVP (2010), a "field survey by a qualified professional paleontologist to specifically determine the paleontological resource potential of these rock units is required before a paleontological resource impact mitigation program can be developed. In cases where subsurface data are not available, paleontological potential can sometimes be determined by strategically located excavations into subsurface stratigraphy" (SVP 2010).
- **Class c—Low Potential:** Indicates significant fossils are not likely to be found because of a random fossil distribution pattern, extreme youth of the rock unit (younger than middle Holocene), and/or the geologic history of rock formation processes, such as alteration by heat and pressure. The rock units would not likely require impact mitigation for fossil protection (SVP 2010).
- **Class d—No Potential:** Indicates significant fossils are not likely to be found because the rock unit is a high-grade metamorphic, or plutonic rock that is unsuitable for fossil preservation. These rock units do not typically require protection of impact mitigation for paleontological resources (SVP 2010). These units also include human altered or human placed sediments (fill) in ex-situ context, and disturbed sediments. Fossil in ex-situ context may be encountered in these deposits, yet they lack scientific integrity.

3.7.4.7.2 Records Search Results

A records search of the NHMLA database was requested on July 14, 2021, and results were received on July 22, 2021 (NHMLA 2021). Bell of the NHMLA reports that fossil localities from the NHMLA collections are not mapped within the RSA; however, fossils are recorded nearby within similar Pleistocene deposits, as well as the Monterey Formation and its local equivalent the Modelo Formation. The fossils are recorded from the surface (LACM VP-1880) to nearly 100 feet bgs (LACM VP-7507). The NHMLA fossil localities nearest the Proposed Project and its options are presented in Table 3.7-2.

Table 3.7-2. Natural History Museum of Los Angeles County Fossil Localities

Locality Number	Formation	Taxa	Depth; Distance from the Proposed Project, Option 1, and Option 2
LACM VP-7702	Unknown formation (Pleistocene; silt)	Fish (*Gasterosteus*); snake (*Colubridae*); rodents (*Thomomys*, *Microtus*); rabbit (*Sylvilagus*)	30 feet bgs; 0.6 mile east
LACM VP-3363	Unknown formation (Pleistocene; sand and silt)	Horse (*Equus*)	Unknown depth; > 1 mile east
LACM VP-7758	Unknown formation (Pleistocene)	Three-spined stickleback (*Gasterosteus*); rodents (*Perognathus*, *Thomomys*, *Microtus*)	16 feet bgs; > 1 mile west
LACM VP-1755	Unknown formation (Pleistocene)	Horse (*Equus*)	43 feet bgs; > 1 mile west
LACM VP-2032	Unknown formation (Pleistocene; silt and clay)	Mastodon (*Mammut*)	20–35 feet bgs; 0.7 mile east
LACM VP-1023	Unknown formation (Pleistocene)	Saber-toothed cat (*Smilodon*), horse (*Equus*), deer (*Odocoileus*), turkey (*Meleagris*)	Unknown depth (storm drain excavations); 0.6 mile east
LACM VP-7507	Monterey Formation	Fish (*Thyrsocles kriegeri*)	101.7–105 feet bgs (Humboldt Street Sewer Shaft); 0.15 mile east
LACM VP-1880	Modelo Formation (orange shale)	Fish (*Osteichthyes*)	Surface; 0.4 mile east

A search of the UCMP online fossil database determined that the UCMP has numerous pre-Quaternary and Quaternary age fossil specimens recorded for Los Angeles County. The fossil specimens include Miocene fossils, Eocene to Miocene microfossils, Eocene to Pliocene invertebrates, and Miocene mammal fossils. Numerous Quaternary age vertebrate, invertebrate, microfossil, insect, and plant fossils are also recorded for all of Los Angeles County. However, only two UCMP fossil localities are located within a 5-mile radius of the Proposed Project and its options. The two localities consist of Miocene-age microfossils (Foraminifera) from bedrock units associated with the Monterey Formation (Tss and Tsh). The localities are west and east of the Proposed Project and its options (UCMP 2021).

3.7.4.7.3 Overall Sensitivity of the Project and Vicinity

Table 3.7-3 lists the geologic units that occur within about 1 mile of the Proposed Project and its options. This distance was chosen to adequately encompass and understand the geological context of the area and to further correlate the results of the paleontological records search and literature review. Geologic units (bedrock units) mapped and described by Dibblee (1989) and Yerkes (Yerkes et al.1997) have been added to the table to better correlate paleontological localities with similar bedrock units that were mapped, described and labeled differently by various geologists over time. The paleontological sensitivity of each geologic unit is further discussed as follows.

Table 3.7-3. Geologic Units within about 1 Mile of the Proposed Project, Option 1, and Option 2

Map Symbol	Unit Description	Paleontological Potential	Mapped within or in Immediate Vicinity of Proposed Project, Option 1, and Option 2
Af1	Artificial Fill-Historic and modern fill	Class d—No Potential	Yes, extensive throughout urban area
Qw/Qg[a]	Late Holocene alluvial Wash Deposits (Qw)/Holocene alluvial clay and sand of valley areas (Qg)	Classes c to a—Low to High Potential, Increasing with depth	Yes, within and adjacent to LA River channel. May be encountered below fill. Paleontological Potential increases with depth toward underlying Pleistocene (or older) deposits
Qyf/Qya/Qya$_2$/ Qa[a]/Qay[b]	Holocene to late Pleistocene young alluvial fan deposits (Qyf)/young alluvial valley deposits (Qya, Qya$_2$)/Holocene floodplain deposits (Qa, Qay)	Classes c to a—Low to High Potential, Increasing with depth	Yes, adjacent to and surrounding landscape of LA River and RSA. May be encountered below fill or Qw, Qg Paleontological Potential increases with depth toward underlying Pleistocene (or older) deposits
Qof/Qoa[a]/Qt[b]/Qoa[b]	Late to Middle Pleistocene surficial deposits-old alluvial fan deposits (Qof)/Pleistocene Alluvium (Qoa, Qt)	Class a—High Potential	Yes, patches are present along east side of LA River and likely underlies Holocene deposits throughout RSA at unknown depth
Tss/Tsh/Tmss[a]/ Tmsh[a]/Tfr[a]/Tush[a]/Tpn[b]	Tertiary Sandstone Member (Tmss) and Shale Member (Tmsh) of the Monterey Formation/(Puente Formation) (Tss, Tush, Tpn)/Tertiary fine-grained sedimentary rocks (Fernando Formation) (Tsh, Tfr)	Class a—High Potential	Yes, within and adjacent to north end of RSA between I-5 and North Broadway. Underlies Holocene and Pleistocene deposits at variable depth. May be encountered at surface or shallow depth in north, yet likely too deep in south to encounter

Notes:
[a] Dibblee 1989
[b] Yerkes et al. 1997

Artificial fill and similar previously disturbed sediments, which are typically encountered in urban area, such as the RSA and surrounding landscape, would not have fossils in stratigraphic context. Most fossils and their associated stratigraphic context would have been destroyed by the mechanical equipment used in excavation, mixing, and spreading of fill. Therefore, this anthrosediment (anthropogenic sediment-fill) and similar disturbed sediments have a Class d—No paleontological potential (Paleo Solutions 2018; SWCA 2003).

The Holocene alluvium and fan deposits (Qw, Qg, Qyf, Qya, Qya_2,Qa, and Qay) that are mapped within and adjacent to the RSA are too young to contain important fossil resources and are considered Class c—Low paleontological potential. However, these deposits are likely underlain by Class a—high potential Pleistocene rock units, such as Qof, Qoa, and Qt, as well as the Pliocene and Miocene rock units (Tss, Tsh, Tmss, Tmsh, Tush, Tfr, and Tpn). Thus, the paleontological potential of the Holocene units is low, yet increases with depth.

The Pleistocene age terrace, fan and alluvial deposits that are mapped within and adjacent to the RSA are well-known fossil bearing units that has nearby (NHMLA 2021) and elsewhere produced numerous fossils of birds, snakes, turtles, rabbits, birds, sloths, as well as larger wolves, saber-toothed cats, horses, bison and mammoth, among others. Given this, the Pleistocene terrace, fan and alluvial sediments are all considered to possess a Class a—High paleontological potential (Paleo Solutions2018; SWCA 2003).

The Tertiary rock units of the Monterey Formation, Fernando Formation and Puente Formation (Tss and Tsh units) are mapped at the northern portion of the RSA all possess a Class a—High potential for paleontological resources that are significant and unique because the fossils, and sediments can provide important paleoclimatic, paleoecological, and paleontological data and information.

The Puente Formation is contemporaneous with the Monterey Formation and consists of mudstone, sandstone and conglomerate that was deposited in a submarine fan environment. The formation has produced an extensive collection of marine vertebrates and invertebrates and has thus been assigned a Class a—High paleontological sensitivity (SWCA 2003).

The Monterey Formation (and associated Modelo Formation) is a well-known fossil bearing unit that contains numerous fossils of marine mammals, invertebrates, fish and microfossils of diatoms, foraminifera and sponges, yet also numerous terrestrial fossils of plants, dogs, squirrels, deer and birds. Given this has been given a Class a—High paleontological potential (Paleo Solutions 2018; SWCA 2003; NHMLA 2021).

The paleontological study for the Proposed Project and its options determined that rock units with a Class a—High paleontological potential are mapped within and adjacent to the RSA, and at variable depth below the existing surface of Class c—Low potential Holocene deposits and Class d—No potential fill deposits.

3.7.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5, *Proposed Project and Options*), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to geology, soils, and paleontological resources is substantially the same. The analysis presented here thus applies to the Proposed Project and its options (including design variations).

3.7.5.1 Impact GEO-1(i): Exposure to Seismic Hazards

Impact GEO-1(i): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

3.7.5.1.1 Proposed Project, Option 1, and Option 2

3.7.5.1.1.1 Construction

No impact. Ground rupture refers to surface displacement which occurs along the surface trace of the causative fault during an earthquake. As discussed in Section 3.7.4.5.1 above, there are no known active faults capable of ground rupture mapped within the RSA. Additionally, the RSA is not located in an Alquist-Priolo Earthquake Fault Zone. Therefore, the Proposed Project and its options would have **no impact** related to fault rupture during construction.

3.7.5.1.1.2 Operations and Maintenance

No impact. O&M of the Proposed Project and its options would not result in an increased risk of loss, injury, or death due to fault rupture because there are no known active faults capable of fault rupture mapped within the study area. Additionally, the RSA is not located in an Alquist-Priolo Earthquake Fault Zone. Therefore, the Proposed Project and its options would have **no impact** related to fault rupture during operation.

3.7.5.2 Impact GEO-1(ii): Exposure to Seismic Hazards

Impact GEO-1(ii): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking?

3.7.5.2.1 Proposed Project, Option 1, and Option 2

3.7.5.2.1.1 Construction

Less than significant impact. The RSA is located within the seismically active region of Southern California and may be subject to seismic ground shaking over time. Construction of the Proposed Project and its options would require the presence of construction workers at the site; this increases the potential risk of loss, injury, or death during a strong seismic event. As previously noted, CEQA does not generally require an analysis of how existing environmental conditions will impact a project. Nonetheless, it should be noted that, given the relative rarity of strong seismic events in the region and the intermittent and temporary nature of construction work, the occurrence of strong seismic ground shaking during construction of the Proposed Project and its options is unlikely. In addition, pursuant to PF-GEO-02, *Construction Worker Safety,* worker health and safety plans specific to each major task involved in construction of the Proposed Project or its options would be prepared and implemented in accordance with Cal/OSHA requirements, thereby reducing risks to workers on site.

Along with implementation of PF-GEO-01, *Final Geotechnical Report,* the Proposed Project and its options would be constructed in accordance with applicable standards, requirements, and building codes to ensure structural integrity and safe construction as specified in PF-GEO-03, *Compliance with*

Federal, State, Regional, and Local Agencies. Further, excavations required for the Proposed Project and its options would be too shallow or too small in scale to cause or exacerbate significant geologic phenomena, such as seismic ground shaking. Therefore, construction of the Proposed Project and its options would have a **less than significant impact** related to risk of loss, injury, or death involving strong seismic ground shaking.

3.7.5.2.1.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.7.4.6, there are several faults in the vicinity of the RSA that are capable of producing strong ground motion. During an earthquake along any of the faults identified in Table 3.7-1, or in the region, seismically induced ground shaking would be expected to occur. The severity of the shaking would be influenced by the magnitude of the earthquake, the distance of the Project site to the seismic source, and the soil conditions.

During final design, in accordance with PF-GEO-01, *Final Geotechnical Report,* site-specific seismic design values would be determined on a structure-specific basis for bridges and elevated path structures. Bridges and elevated path structures would be designed and constructed to resist or accommodate appropriate site-specific estimates of ground loads and distortions and conform to the requirements of the Caltrans SDC for an Ordinary Bridge Structure. Consistent with those standards, structures would be designed to remain standing; however, they may no longer be functional and may need repair or complete replacement. Likewise, consistent with the Caltrans HDM, the at-grade path may need to be repaired if damaged during an earthquake. Such repairs would not be expected to result in adverse environmental effects as they would typically only involve restoring the existing structures and surfaces to their pre-damage states, rather than expanding into undisturbed areas. Retaining walls associated with river channel would also be designed per USACE design requirements to account for the design-level seismic event and would perform similar to bridges and elevated path structures. Restroom buildings would be designed per the CBC design requirements to account for the design-level seismic event and would perform similar to bridges and elevated path structures. As previously noted, CEQA does not generally require an analysis of how existing environmental conditions would impact a project's future users. Nonetheless, considering that the Proposed Project and its options would not be a critical part of the area infrastructure and visitors would only be on the site on a temporary basis, impacts would be **less than significant**.

3.7.5.3 Impact GEO-1(iii): Exposure to Seismic Hazards

Impact GEO-1(iii): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction?

3.7.5.3.1 Proposed Project, Option 1, and Option 2

3.7.5.3.1.1 Construction

Less than significant impact. As discussed in Section 3.7.4.5, the RSA is located within the seismically active region of Southern California and may be subject to seismic-related ground failure, including liquefaction. Construction of the Proposed Project and its options would require the presence of construction workers at the site, which could increase the potential risk of loss, injury, or death during a strong seismic event. As previously noted, CEQA generally does not require an analysis of how existing environmental conditions will impact a project. Nonetheless, it should be noted that, given the relative rarity of strong seismic events in the region and the intermittent and temporary nature of

construction work, the occurrence of seismic-related ground failure during construction of the Proposed Project and its options is unlikely. Pursuant to PF-GEO-02, *Construction Worker Safety,* worker health and safety plans specific to each major task involved in construction of the Proposed Project or its options would be prepared and implemented in accordance with Cal/OSHA requirements, thereby reducing risks to workers on site. For these reasons, the impact is considered **less than significant**.

3.7.5.3.1.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.7.4.5, during O&M, the Proposed Project and its options could be exposed to seismic-related ground failure, including liquefaction, lateral spreading, and seismically induced settlement, which could result in human injury or death, or damage to structures.

Seismic-related ground failure hazard is a well-known hazard in Southern California. Structures (such as bridges, elevated path, retaining walls and restroom buildings) on or above potentially liquefiable soils may experience bearing-capacity failures due to the temporary loss of foundation support, vertical settlements, and/or lateral spreading. As discussed in Section 3.7.6.6, based on *CGS Seismic Hazard Zones Official Maps* covering the study area (CGS 1999a, 1999b), portions of the RSA from its northern end to roughly First Street, and from near Downey Road to the southern end, are located in a Zone of Required Investigation for liquefaction, as shown on Figure 3.7-4. The Zone of Required Investigation delineation is established around areas where existing data indicate that the potential for the hazard warrants a detailed evaluation, in accordance with the Seismic Hazards Mapping Act.

In accordance with PF-GEO-01, *Final Geotechnical Report* during final design, site-specific subsurface characterization would be developed on a structure-specific basis for bridges and elevated path structures. Bridges and elevated path structures would be designed and constructed to resist or accommodate appropriate site-specific estimates of ground loads and distortions and conform to the requirements of the Caltrans SDC for an Ordinary Bridge Structure. Consistent with the Caltrans SDC, the structures would be designed to remain standing; however, they may no longer be functional and may need repair or replacement. Likewise, at-grade paths may need repairing in the event of seismic-related ground failure. Such repairs would not be expected to result in adverse environmental effects as they would typically only involve restoring the existing structures and surfaces to their pre-damage states, rather than expanding into undisturbed areas. Per USACE design requirements, retaining walls would be designed to account for the design-level seismic displacements and would perform similar to bridges and elevated path structures. Similarly, restroom buildings would be designed to account for the design-level seismic displacements mandated by the CBC and would perform similar to bridges and elevated path structures.

Seismically induced inundation can occur when an earthquake causes catastrophic failure of a water-retaining structure such as a reservoir, dam, or levee, and subsequent flooding occurs due to the release of water from the structure. If seismically induced inundation were to occur, the resultant inundation would be short-lived because most of the study area is paved and any resultant flood water would be quickly drained by the existing Los Angeles County and local jurisdiction drainage infrastructure. As previously noted, CEQA generally does not require an analysis of how existing environmental conditions would impact a project's future users. Nonetheless, considering that structures would not be a critical part of the area infrastructure and visitors would only be on the site on a temporary basis, impacts would be **less than significant**.

3.7.5.4 Impact GEO-1(iv): Exposure to Seismic Hazards

Impact GEO-1(iv): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides?

3.7.5.4.1 Proposed Project, Option 1, and Option 2

3.7.5.4.1.1 Construction

Less than significant impact. The majority of the RSA is relatively flat, with no significant natural slopes present. As previously noted, CEQA generally does not require an analysis of how existing environmental conditions would impact a project. Nonetheless, it should be noted that, given the relative rarity of seismic events in the region and the intermittent and temporary nature of construction work, the occurrence seismic ground shaking resulting in slope failure during construction of the Proposed Project and its options is unlikely. As mandated by PF-GEO-01, *Final Geotechnical Report,* the Proposed Project or its options would be constructed in accordance with applicable standards, requirements, and building codes to ensure structural integrity and safe construction. In addition, pursuant to PF-GEO-02, *Construction Worker Safety*, worker health and safety plans specific to each major task involved in construction of the Proposed Project or its options would be prepared and implemented in accordance with Cal/OSHA requirements, thereby reducing risks to workers on site.

Impacts due to temporary construction excavations are addressed as part of PF-GEO-01, *Final Geotechnical Report,* and PF-GEO-04, *Construction Measures to Prevent Soil Caving.* PF-GEO-1 and PF-GEO-4 mandate that design and construction requirements would be implemented and associated temporary excavation bracing or other means would be required to protect adjacent structures, traffic, rail corridors, utilities, and construction personnel. Suitable factors of safety would be used in the design of the temporary supports. In accordance with PF-GEO-02, *Construction Worker Safety,* construction activities would utilize worker health and safety plans which abide by Cal/OSHA worker safety requirements for excavations.

Although deep excavations required during construction could cause soil instability and could encounter loose or water-saturated soils, the use of common construction techniques and standards considering the site-specific soil parameters included in the final geotechnical report (prepared pursuant to PF-GEO-01, *Final Geotechnical Report*), would ensure that impacts associated with on- or offsite ground failure during construction would be less than significant and mitigation would not be required. Therefore, risk of loss, injury, or death due to landslides or seismically induced slope failures as a result of construction is **less than significant**.

3.7.5.4.1.2 Operations and Maintenance

Less than significant impact. The majority of the RSA is relatively flat, and significant natural slopes are not present; however, steeper terrain included in a Zone of Required Investigation for earthquake-induced landslides is present west of the LA River, generally from I-5 to where the river crosses below Broadway. Based on a review of the Proposed Project and its options alignment areas, the proposed paths would not impact the hillsides present in this area. As previously noted, CEQA generally does not require an analysis of how existing environmental conditions will impact a project's future users. Nonetheless, considering the distance between the alignment and the hillside, landslide impacts during operation and O&M activities would be **less than significant**.

3.7.5.5 Impact GEO-2: Soil Erosion

Impact GEO-2: Result in substantial soil erosion or loss of topsoil?

3.7.5.5.1 Proposed Project, Option 1, and Option 2

3.7.5.5.1.1 Construction

Less than significant impact. The Proposed Project and its options are located in an urban setting and the topsoil layer in most of the RSA is disturbed or concealed by previous human activities. Construction activities would result in ground surface disturbance that could create the potential for soil erosion. This is because construction of the Proposed Project and its options would require site clearance, excavation, and grading activities, which would expose bare soil to the effects of rain and wind. The Proposed Project and its options would be designed and constructed in accordance with state and local guidelines regarding erosion control and management as specified in Section 3.10, *Hydrology and Water Quality*, and a stormwater pollution prevention plan and water quality control plan would be required pursuant to PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. These plans would limit potential impacts related to erosion to a **less than significant** level.

3.7.5.5.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options are located in an urban setting and the topsoil layer in most of the study area is disturbed or concealed by previous human activities. Post-construction operation and O&M activities would not result in ground surface disturbance, site clearance, excavation, or grading that would otherwise create the potential for soil erosion to occur. As discussed in Section 3.10, *Hydrology and Water Quality,* the Proposed Project and its options would operate on facilities designed in accordance with state and local guidelines regarding erosion and as required by PF-HWQ-02, *Low-Impact Design Requirements*. In addition, a required stormwater pollution prevention plan and water quality control plan would be in place as part of Proposed Project and its options operations, among other regulatory requirements, as detailed in Section 3.10, *Hydrology and Water Quality*.

The RSA is not used for agricultural purposes and the topsoil layer has already been disturbed or concealed by previous human activities. Considering the design requirements associated with erosion and mandatory best management practices included in Section 3.10, *Hydrology and Water Quality*, operation of the Proposed Project and its options would not result in substantial soil erosion or loss of topsoil, impacts would be **less than significant**.

3.7.5.6 Impact GEO-3: Soil Stability

Impact GEO-3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

3.7.5.6.1 Proposed Project, Option 1, and Option 2

3.7.5.6.1.1 Construction

Less than significant impact. The Proposed Project and its options are in an area that has been urbanized for over 100 years, and there is no indication that the ground in the RSA is inherently unstable. The components of the Proposed Project and its options are common for the Los Angeles region and from a geology and soils perspective, are relatively minor. Accordingly, the construction activities would not generate new natural geologic hazard areas (such as landslide, lateral spreading, subsidence, liquefaction, or collapse), or result in significant impacts on the geology and soils of the RSA. No significant natural slopes are present within the RSA and temporary excavations would not likely exacerbate the risk of landslides. However, during construction, temporary excavations may need to be performed that could potentially cave, resulting in on- or offsite ground failure.

It is anticipated that foundation excavations (such as drilling) for the bridge and elevated path structures could be over 100 feet in depth. In addition, moderately deep excavations on the order of 10 to 20 feet may be needed in connection with potential footing excavations, utility relocations, and retaining walls. Construction of the river crossings and elevated path structures have the potential to destabilize the soils due to the substantial foundation excavations. If steps are not taken to stabilize the soils in excavations of 10 feet depth or greater, these deeper excavations could reduce lateral support for adjacent structures and slopes, resulting in potential damage.

Encountering caving soil conditions during drilling for deep foundations and during excavations is relatively common. Consistent with PF-GEO-01, *Final Geotechnical Report* well-known and common construction techniques would be implemented for the Proposed Project and its options to prevent caving and protect adjacent improvements. Based on the recommendations of the geotechnical report prepared in accordance with PF-GEO-01, *Final Geotechnical Report,* during drilling, techniques to prevent caving could include the installation of manufactured casing to support the borehole walls, or the use of viscous nonhazardous and biodegradable fluids during drilling, which can also support the borehole walls.

In addition, deep excavations within unconsolidated or saturated alluvial soils could lead to settlement resulting in damage and disturbances to adjacent areas. Further, during deep excavation work, loose or water-saturated alluvial soil deposits may be encountered, increasing the risk of soil collapse and reducing existing foundational and structural stability. In accordance with PF-GEO-01, *Final Geotechnical Report*, shoring, casing, or other ground-stabilization methods would be used to control and manage loose or water-saturated soil deposits during excavations.

In accordance with the PF-GEO-01, *Final Geotechnical Report,* and PF-GEO-04, *Construction Measures to Prevent Soil Caving,* design and construction requirements would be implemented and associated temporary excavation bracing or other means would be required to protect adjacent structures, traffic, rail corridors, utilities, and construction personnel. Suitable factors of safety would be used in the design of the temporary supports. In accordance with PF-GEO-02, *Construction Worker Safety*, construction would utilize worker health and safety plans which abide by Cal/OSHA worker safety requirements for excavations.

Although deep excavations required during construction could cause soil instability and could encounter loose or water-saturated soils, the use of common construction techniques and standards considering the site-specific soil parameters included in the final geotechnical report (prepared pursuant to PF-GEO-01, *Final Geotechnical Report*) would ensure that impacts associated with on- or offsite ground failure during construction would be **less than significant**.

3.7.5.6.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options are in an area that has been urbanized for over 100 years, and there is no indication that the ground in the RSA is inherently unstable. The components the Proposed Project and its options are common for the Los Angeles region and from a geology and soils perspective, are relatively minor. Accordingly, operation of Proposed Project and its options and O&M activities would not generate new natural geologic hazard areas (landslide, lateral spreading, subsidence, liquefaction, or collapse), or result in significant impacts on the geology and soils of the study area.

The soils in the RSA may be prone to collapse or settlement, which could result in differential movement beneath foundations, potentially causing distress to above-grade (bridges and elevated path) and at-grade (retaining walls, at-grade path, and restroom buildings) improvements. As such, operation of the above- and at-grade structures associated with the Proposed Project and its options would potentially subject people and structures to the effects of ground settlement, which could result in damage to structures. Collapse and settlement typically occur gradually over time and result in damage to improvements, but do not directly impact human health.

The Proposed Project and its options would be designed in accordance with the recommendations set forth in the final geotechnical reports prepared pursuant to PF-GEO-01, *Final Geotechnical Report*. The final geotechnical report would include design recommendations based on the results of the site-specific analysis. The recommendations that would be provided in the final geotechnical report would be incorporated into the final Project design and address detrimental ground settlement from new loads (such as bridges, elevated paths, retaining walls, restroom buildings, and at-grade paths). Therefore, impacts related to settlement or collapsible soil would be less than significant.

Regional subsidence results from the withdrawal of groundwater and hydrocarbons from the subsurface. DWR estimated the potential for future land subsidence within the study area to be low because groundwater withdrawal is restricted and managed, and, where performed, it is compensated for by reinjection of water in volumes similar to what is withdrawn (DWR 2014). Therefore, potential impacts related to regional subsidence would be a **less than significant** hazard to the Proposed Project and its options during operation.

3.7.5.7 Impact GEO-4: Expansive Soils

Impact GEO-4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

3.7.5.7.1 Proposed Project, Option 1, and Option 2

3.7.5.7.1.1 Construction

Less than significant impact. Expansive soils generally cause damage to improvements gradually over time. The risk to construction workers is very low as the construction duration would be temporary. Therefore, the risk to life or property due to expansive soils during construction of the Proposed Project and its options is **less than significant**.

3.7.5.7.1.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.7.4.6, clay-rich soils may exist locally within alluvial soils present in the RSA. The placement of at-grade paths, retaining walls, and restroom buildings directly on expansive soil could result in distress. Therefore, at-grade paths, retaining walls, and restroom buildings would potentially be subjected to the effects of expansive soils, which could result in damage. Damage as a result of expansive soils occurs gradually over time and typically does not directly impact human health. Bridge and elevated path structures generally would have deep foundations and would not be impacted by expansive soils.

At-grade paths, retaining walls, and restroom buildings would be designed in accordance with PF-GEO-01, *Final Geotechnical Report,* and PF-GEO-03 *Compliance with Federal, State, Regional, and Local Agencies* requirements specific to expansive soils. The required design standards would yield at-grade paths, retaining walls and restroom buildings that would tolerate the effects of expansive soil. Therefore, operational impacts related to expansive soils would be **less than significant**.

3.7.5.8 Impact GEO-5: Septic Tanks

Impact GEO-5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

3.7.5.8.1 Proposed Project, Option 1, and Option 2

3.7.5.8.1.1 Construction, Operations and Maintenance

No impact. The Proposed Project and its options are located in a highly urbanized area served by existing municipal sewage systems. The use of septic tanks or alternative wastewater systems is not anticipated. Therefore, there are no construction or operational impacts involving the adequacy of soils to support septic tanks or alternative waste disposal systems.

3.7.5.9 Impact GEO-6: Paleontological Resources

Impact GEO-6: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

3.7.5.9.1 Proposed Project, Option 1, and Option 2

3.7.5.9.1.1 Construction

Significant and unavoidable. The Proposed Project and its options are underlain by paleontologically sensitive rock units and deposits (refer to Table 3.7-3 for summary of geologic units) that would likely be encountered in moderately deep excavations (10- to 20-foot depth) for utility relocation trenches and incised path construction, and in deep construction excavation (over a 20-foot depth) for drilling for bridge and viaduct structures. The Proposed Project and its options could result in potential direct impacts to important paleontological resources in that construction excavations required could destroy unique paleontological resources. Pile driving and pier drilling (for example, boreholes up to 8 feet in diameter or less and over 20 feet in depth) may also impact paleontologically sensitive rock units.

The Pleistocene age terrace, fan and alluvial deposits that are mapped within and adjacent to the RSA are well-known fossil bearing units that have nearby and elsewhere produced numerous fossils of birds, snakes, turtles, rabbits, birds, sloths, as well as larger wolves, saber-toothed cats, horses, bison, and mammoth, among others. Given this, the Pleistocene terrace, fan, and alluvial sediments are all considered to possess a Class a—High paleontological potential and may be encountered from 5 to 15 feet bgs by excavations of construction trenches for utility relocation, for the incised pathway construction and drilling for bridge and viaduct structures of the Proposed Project and its options.

The Tertiary rock units of the Monterey Formation, Fernando Formation, and Puente Formation are mapped at the northern portion of the Proposed Project and its options all possess a Class a—High potential for paleontological resources that are significant and unique because the fossils, and sediments can provide important paleoclimatic, paleoecological, and paleontological data and information. The three Tertiary rock units may be encountered during excavations of construction trenches for utility relocations, for the incised pathway construction, and drilling for river crossing structures for the Proposed Project and its options.

The Puente Formation is contemporaneous with the Monterey Formation and consists of mudstone, sandstone and conglomerate that was deposited in a submarine fan environment. The formation has produced an extensive collection of marine vertebrates and invertebrates, and has thus been assigned a Class a—High paleontological sensitivity.

The Monterey Formation (and associated Modelo Formation) is a well-known fossil bearing unit that contains numerous fossils of marine mammals, invertebrates, fish and microfossils of diatoms, foraminifera and sponges, yet also numerous terrestrial fossils of plants, dogs, squirrels, deer, and birds. Given this the rock unit has been given a Class a—High paleontological potential.

Because the Proposed Project and its options have the potential to directly or indirectly destroy unique paleontological resources, this impact is considered potentially significant and mitigation measures would be required. MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan* and MM-PAL-02, *Worker Environmental Awareness Program Training* identified in Section 3.7.6, below, require a qualified paleontologist to undertake the following:

- Prepare and implement a Paleontological Resources Mitigation Plan (PRMP) (as specified in MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan*)
- Implement Worker Environmental Awareness Program (WEAP) training (as specified in MM-PAL-02, *Worker Environmental Awareness Program Training*)
- Perform paleontological monitoring (as specified in MM-PAL-02, *Worker Environmental Awareness Program Training*)
- Curate significant fossils recovered during construction (as specified in MM-PAL-03, *Curation*)

Construction of the river crossings and elevated top-of-bank would require substantial excavation that would increase potential of impact to paleontological resources. While implementation of MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan* through MM-PAL-03, *Curation* would decrease this risk, impacts to paleontological resources would be **significant and unavoidable**.

3.7.5.9.1.2 Operations and Maintenance

No impact. Operation of the Proposed Project and its options and O&M activities would occur above the underlying geologic rock units that may contain paleontological resources. Once construction is completed and all geologic units are buried. Therefore, there are **no operational impacts** involving the underlying geologic rock units that may contain paleontological resources.

3.7.6 Mitigation Measures

As identified in Section 3.7.5, the Proposed Project and its options, Option 1 and Option 2, would result in less than significant impacts to geology and soils under Impact GEO-1, Impact GEO-2, Impact GEO-3, Impact GEO-4, and Impact GEO-5.

As discussed under Impact GEO-6, the Proposed Project and its options are underlain by Pleistocene to Miocene deposits and bedrock units that are considered Class a—High Potential rock units for paleontological resources. Construction of the Proposed Project and its options could result in significant impacts to important paleontological resources and mitigation measures are required for construction. No mitigation measures are required for operation.

MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan*

A qualified paleontologist shall prepare a Paleontological Resources Monitoring Plan (PRMP) prior to the start of ground-disturbing construction activities that are expected to extend greater than 5 feet below ground surface (bgs). The PRMP shall include site-specific mitigation measures for paleontological monitoring of construction and fossil discovery and curation. The PRMP shall include requirements for full-time monitoring of excavations below 5 feet that are expected to penetrate intact Quaternary and older sediments and bedrock. Although pile driving and pier drilling (boreholes up to 8 feet in diameter or less) may unavoidably impact paleontologically sensitive rock units, the lack of spoils and expected destruction of fossils are not conducive to successful paleontological monitoring, which should be decided on a case-by-case basis. For construction activities that are conducive to successful paleontological monitoring, such as trenching and incised pathway excavations, the PRMP shall describe in detail the protocols for fossil discovery, such as halting construction activities within a 25-foot radius of the discovery (or 50 feet if the construction activity creates high ground vibrations), evaluation of the discovery by a qualified paleontologist, and appropriate salvage and curation of the

discovery. Construction work at the discovery location and buffer shall not resume until the area has been cleared and authorized by a qualified paleontologist.

MM-PAL-02, *Worker Environmental Awareness Program Training*

The qualified paleontologist shall prepare a paleontological-oriented Worker Environmental Awareness Program (WEAP) training program that is presented to construction personnel prior to start of work. Site workers must complete the training that includes the proper protocols for fossil discovery and communications. Site workers shall sign a WEAP training document that confirms training completion prior to start of work.

MM-PAL-03, *Curation*

A fossil repository agreement shall be in place prior to the start of construction. Fossils discovered during construction that are determined by the qualified paleontologist to be significant shall be curated at an accredited fossil repository, such as at the Natural History Museum of Los Angeles (NHMLA) that follow the repository agreement guidelines. The fossils shall be identified, protected during non-destructive exposure, prepared in place (jacketing where required) for proper mobilization and transport, and cataloged for curation by the qualified paleontologist. Field notes, photographs, stratigraphic and sedimentological analysis and cross sections, and other associated data associated with the discovery shall be curated with the fossil specimens at the repository.

3.7.7 Significance After Mitigation

Mitigation is required for the Proposed Project and its options, Option 1 and Option 2. The impacts would be reduced with mitigation but would remain significant and unavoidable under Impact GEO-6 after mitigation. Feasible mitigation to reduce Impact GEO-6 to less than significant is not available due to the limitations inherent in monitoring and salvaging fossils during construction activities such as pile driving and pier drillings. Impacts would be less than significant under Impact GEO-1, Impact GEO-2, Impact GEO-3, Impact GEO-4, and Impact GEO-5.

3.7.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for geological resources and paleontological resources, and extends further to include other projects that, due to the area's geology and existing infrastructure, may interact with Project elements. The geographic scope for cumulative impacts to geology and soils is 0.25 mile radius from the footprints of the Proposed Project and its options (including design variations). The geographic scope for cumulative impacts to paleontological resources is 1 mile radius from the footprints of the Proposed Project and its options (including design variations).

As discussed in Section 3.7.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.7.5, the Proposed Project and its options would result in substantially similar impacts related to geological resources and paleontological resources. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.7.8.1 Proposed Project, Option 1, and Option 2

3.7.8.1.1 Construction

The Proposed Project and its options are located in a seismically active region of Southern California. Construction of the Proposed Project and its options would not result in impacts related to geologic, subsurface, and seismic hazards and impacts would be less than significant. The Proposed Project and its options would comply with all prescribed standards, requirements, and guidance related to geologic, subsurface, and seismic hazards. Similar to the Proposed Project and its options, past, present, and probable future projects would be located in an area susceptible to geological hazards. These past, present and probable future projects would be required to comply with all prescribed building standards, requirements, and guidance related to geologic, subsurface, and seismic hazards and are unlikely to contribute to cumulative effects. Therefore, the Proposed Project and its options in combination with past, present, and probable future projects would not result in a cumulatively significant impacts related to geologic, subsurface, and seismic hazards.

Construction of the Proposed Project and its options would require river crossings and elevated top-of-bank that could require substantial excavation that would increase the potential of impact to paleontological resources. Although implementation of MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan*, MM-PAL-02, *Worker Environmental Awareness Program Training*, and MM-PAL-03, *Curation* would reduce construction risks to paleontological resources, impacts to paleontological resources would remain significant and unavoidable. Similarly, construction activities for past, present and probable future projects would be required to comply with all prescribed standards, requirements, and guidance related to paleontological resources. Nonetheless, impacts to paleontological resources are site-specific and significant impacts are largely localized and individual projects would be required to implemented project specific measures to minimize construction risks to paleontological resources, as applicable. Therefore, the Proposed Project and its options in combination with past, present, and probable future projects would result in a significant cumulative paleontological impact during construction and the incremental contribution of the Project and its options to the significant cumulative impact would be cumulatively considerable. Therefore, the Proposed Project and its options in combination with past, present, and probable future projects would result in a significant cumulative paleontological impact during construction and the incremental contribution of the Proposed Project and its options to the significant cumulative impact would be cumulatively considerable.

3.7.8.1.2 Operations and Maintenance

The Proposed Project and its options are located in a seismically active region of Southern California. The Proposed Project and its options would comply with all prescribed standards, requirements, and guidance related to geologic, subsurface, and seismic hazards and impacts would be less than significant during operation. Similar to the Proposed Project and its options, past, present, and probable future projects are also located in a seismically active region of Southern California and would be required to comply with all prescribed building standards, requirements, and guidance related to geologic, subsurface, and seismic hazards and is unlikely to contribute to cumulative effects. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant geologic, subsurface, and seismic hazard impacts during operation.

Proposed Project O&M would occur above the underlying geologic rock units that may contain paleontological resources and once construction is completed all geological units would be buried. As such, no impacts to paleontological resources would occur. Similarly, past, present, and probable future projects would have limited ground disturbance during operation. As all paleontological resources are unique, past, present, and probable future projects would be expected to comply with applicable federal, state, and local regulations to protect those resources. Therefore, the Proposed Project and its options, in combination with past, present, and probable future, would not result in cumulatively significant impacts to paleontological resources during operation.

3.8 Greenhouse Gas Emissions

3.8.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to greenhouse gas (GHG) emissions. This section also describes the existing setting and current applicable regulatory framework.

3.8.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to GHG emissions.

3.8.2.1 Federal

3.8.2.1.1 Massachusetts v. US Environmental Protection Agency, 2007

The US Environmental Protection Agency's (EPA's) authority to regulate GHG emissions stems from the 2007 US Supreme Court decision in *Massachusetts v. EPA* (549 *United States Reports* 497). The Supreme Court ruled that GHGs meet the definition of air pollutants under the Clean Air Act (CAA) and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, EPA finalized an endangerment finding in December 2009 (EPA 2009). EPA found that six GHGs (that is, carbon dioxide [CO_2], methane [CH_4], nitrous oxide [N_2O], hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride [SF_6]), taken in combination, endanger both the public health and the public welfare of current and future generations. EPA also found that the combined emissions of these GHGs from new motor vehicles and new motor vehicle engines contribute to the greenhouse effect and, under Section 202(a) of the Clean Air Act, result in air pollution that endangers public health and welfare.

3.8.2.1.2 Regulations for On-road Vehicles

Based on the 2009 endangerment finding, EPA and the National Highway Traffic Safety Administration (NHTSA) took coordinated steps to enable the production of a new generation of clean vehicles with reduced GHG emissions and improved fuel efficiency from on-road vehicles and engines. EPA, in conjunction with NHTSA, issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010 and significantly increased the fuel economy standards for all new passenger cars and light trucks sold in the country. The standards required these vehicles to meet an average fuel economy of 34.1 miles per gallon by 2016. In August 2012, the federal government adopted the second rule that increases fuel economy for the fleet of passenger cars, light-duty trucks, and medium-duty passenger vehicles for model years 2017 and beyond to an average fuel economy of 54.5 miles per gallon by 2025.

As part of the 2017–2025 standards rulemaking, EPA conducted a midterm evaluation of the longer-term standards for model years 2022–2025 and proposed to amend the Corporate Average Fuel Economy (CAFE) and GHG emissions standards for passenger cars and light trucks and establish new standards, covering model years 2021 through 2026 (83 *Federal Register* [FR] 16077) (EPA 2018).

In October 2016, NHTSA and EPA issued a Final Rule for Phase 2 for medium- and heavy-duty vehicles to improve fuel efficiency and reduce GHG emissions. The agencies estimate that the standards will save up to 2 billion barrels of oil and reduce CO_2 emissions by up to 1.1 billion metric tons over the lifetimes of model year 2018–2027 vehicles.

In April 2020, the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule was issued to amend the CAFE and tailpipe CO_2 emissions standards for passenger cars and light trucks covering model years 2021–2026 (85 FR 24174).

On August 5, 2021, EPA announced plans to reduce GHG emissions and other harmful emissions from heavy-duty trucks through a series of rulemaking over the next 3 years (EPA 2021). The first rulemaking of this plan, which is known as the Clean Trucks Plan, was signed on December 20, 2022, and focuses on reducing smog and particulate matter. As part of the Clean Trucks Plan, EPA intends to undertake a separate rulemaking regarding more stringent heavy-duty GHG standards in the future (that is, heavy-duty GHG Phase 3 standards).

3.8.2.1.3 Other Federal Regulatory Framework

GHGs, climate change, and the associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, manage GHG emissions, and mitigate climate change impacts. Upon taking office on January 20, 2021, President Biden rescinded President Trump's Executive Order (EO) 13783, *Promoting Energy Independence and Economic Growth*, and issued EO 13990, *Executive Order on Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*. EO 13990 calls for all federal agencies to review climate-related regulations and actions taken from 2017 to 2021 and tasks the Council on Environmental Quality (CEQ) with updating its final guidance titled *Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews* (81 *Federal Register* 51866). On January 9, 2023, CEQ issued interim *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*, and the public comment period ended on April 10, 2023 (88 *Federal Register* 10097), and no further action has been taken since the close of the comment period (CEQ 2023).

3.8.2.2 State

California laws, regulations, and programs address GHG emissions and climate change through multiple senate bills, assembly bills, and EOs.

3.8.2.2.1 Executive Order S-3-05, Assembly Bill 32, and Climate Change Scoping Plan

Reducing GHG emissions in California by establishing GHG emission targets has been the focus of the state government for approximately 20 years. The goal of EO S-3-05, *Targets for Greenhouse Gas Emission Reduction*, is to reduce California's GHG emissions 80% below 1990 levels by 2050. This goal was further reinforced with the passage of Assembly Bill (AB) 32 in 2006, the Global Warming Solutions Act of 2006 and Senate Bill (SB) 32 in 2016, the Global Warming Solutions Act of 2016.

AB 32 codified the 2020 GHG emissions-reduction goals outlined in EO S-3-05, while further mandating that the California Air Resources Board (CARB) create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." The law requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically

feasible and cost-effective GHG reductions. AB 32 requires CARB to publish an update to the scoping plan every 5 years, detailing how CARB plans to meet emission reduction targets.

CARB's initial scoping plan was published in December 2008. CARB's most recent scoping plan is the *2022 Scoping Plan Update for Achieving Carbon Neutrality* (2022 Scoping Plan) (CARB 2022). The 2022 Scoping Plan lays out a path to keep California on track to meet its AB 32 GHG reduction target of at least 40% below 1990 emissions by 2030, and identifies a technologically feasible, cost-effective path to achieve carbon neutrality by 2045 and a reduction in anthropogenic GHG emissions by 85% below 1990 levels, as directed by Assembly Bill 1279. The 2022 Scoping Plan also outlines how carbon neutrality can be achieved by taking bold steps to reduce GHGs to meet the anthropogenic emissions target and by expanding actions to capture and store carbon through the state's natural and working lands and using a variety of mechanical approaches.

3.8.2.2.2 Executive Order B-55-18, *Achieving Carbon Neutrality*

EO B-55-18, *Achieving Carbon Neutrality*, sets a new statewide goal to achieve and maintain carbon neutrality no later than 2045. This goal is in addition to existing statewide targets of reducing GHG emissions.

3.8.2.2.3 Executive Order N-19-19, *Redoubling California's Climate Goals*

EO N-19-19, *Redoubling California's Climate Goals*, advances California's climate goals in part by directing the California State Transportation Agency to leverage annual transportation spending to reverse the trend of increased fuel consumption and reduce GHG emissions from the transportation sector. EO N-19-19 orders a focus on transportation investments near housing, managing congestion, and encouraging alternatives to driving. This EO also directs CARB to encourage automakers to produce more clean vehicles, formulate ways to help Californians purchase them, and to propose strategies to increase demand for zero-emission vehicles.

3.8.2.2.4 Assembly Bill 1279, the California Climate Crisis Act

AB 1279, the California Climate Crisis Act was signed into law on September 16, 2022, and requires the state to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter. It also requires the state to reduce statewide GHG emission by 85% compared to 1990 levels and directs CARB to work with relevant state agencies to achieve these goals.

CARB's 2022 Scoping Plan builds on the state's existing programs and integrates efforts to reduce both GHGs and air pollution. The 2022 Scoping Plan lays out a path to achieve California's target for carbon neutrality and to reduce anthropogenic GHG emissions by 85% below 1990 levels no later than 2045, as directed by AB 1279. Per the 2022 Scoping Plan, California's future climate strategy will focus on zero- and near-zero-emission vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation, further reductions in short-lived climate pollutants; integrated land conservation and development strategies; increased action on natural and working lands to reduce emissions; and increased actions to sequester, capture, and store carbon (CARB 2022).

3.8.2.2.5 Advanced Clean Cars Program

In addition to establishing GHG emission targets and scoping plan, California has adopted transportation-related standards and regulations to reduce GHG emissions. California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). In January 2012, CARB approved the Pavley Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025. In August 2022, CARB approved the Advanced Clean Cars II rule, which requires that by 2035, all new passenger cars and light trucks sold in California will be zero emissions.

3.8.2.2.6 Senate Bill 375 Sustainable Communities and Climate Protection Act

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, requires CARB to set regional emissions-reduction targets for passenger vehicles. The metropolitan planning organization (MPO) for each region must then develop a Sustainable Communities Strategy that integrates transportation, land use, and housing policies to plan how it will achieve the emissions target for its region.

3.8.2.2.7 Senate Bill 391 California Transportation Plan

SB 391, the *California Transportation Plan*, was issued in September 2021 and requires the state's long-range transportation plan to identify strategies to address California's climate change goals under AB 32.

3.8.2.2.8 Senate Bill 350 and Senate Bill 100

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned utilities to procure 50% of their electricity from renewable resources by 2030. In September 2018, Governor Brown signed SB 100, which replaced SB 350's requirements. Under SB 100, the renewable portfolio standards for public-owned facilities and retail sellers consists of 44% renewable energy by 2024, 52% by 2027, and 60% by 2030. SB 100 also establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100% of all retail sales of electricity to California end-use customers and 100% of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100% carbon-free electricity target.

3.8.2.3 Regional and Local

3.8.2.3.1 Southern California Association of Governments

The Southern California Association of Governments (SCAG) is the MPO for the six-county region that includes Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties. SCAG adopted *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020) on September 3, 2020. Connect SoCal includes various commitments to reduce emissions from transportation sources in compliance with SB 375, including close integration of land use and transportation planning.

3.8.2.3.2 Los Angeles County Metropolitan Transportation Authority

3.8.2.3.2.1 Climate Action and Adaptation Plan and *Moving Beyond Sustainability*

Metro's guiding document for the climate program is the 2012 *Climate Action and Adaptation Plan* (CAAP) (Metro 2012). The CAAP establishes a framework to reduce operational GHG emissions and prepare for the impacts of climate change. In the updated 2019 CAAP (Metro 2019), Metro commits to reducing operational GHG emissions by 79% relative to 2017 levels by 2030 and 100% (that is, zero emissions) by 2050. A total of 13 measures are identified in the 2019 CAAP to reduce operational GHG emissions. These measures demonstrate major changes that will affect Metro's fleets, energy supply, buildings, and employee commuting practices. The 2019 CAAP also serves to harmonize GHG and resilience goals with broader agency goals and priorities set forth by other Metro documents, including the Equity Platform Framework, Program Management Plan, business continuity plans, *Vision 2028 Strategic Plan* (Metro Year), and *Long Range Transportation Plan* (Metro 2020a). CAAP GHG emissions reduction goals were included and expanded on in Metro's *2020 Sustainability Strategic Plan: Moving Beyond Sustainability* (MBS) (Metro 2020b).

Metro's Countywide Sustainability Planning Program provides leadership for the implementation of a regional transit system with the goals of increasing mobility, fostering walkable and livable communities, and minimizing GHG emissions and environmental impacts. Metro's Countywide Planning Policy is a tool for defining desired sustainability outcomes and facilitating greater coordination and collaboration across transportation modes, planning disciplines, and government agencies. The policy aims to integrate sustainability into Metro's planning functions, provide a framework for building upon federal, state, regional, and local sustainability policies/plans, and foster collaboration and partnerships, leading to more sustainable communities. This program and policy were incorporated into the MBS.

3.8.2.3.2.2 Green Construction Policy

Metro adopted a Green Construction Policy in August 2011 (Metro 2011a) and is committed to implementing best practices and using more sustainable construction equipment and vehicles to reduce diesel emissions from all Metro construction projects performed on Metro properties and in Metro rights-of-way (ROWs). The Green Construction Policy requires the use of construction equipment with technologies such as hybrid drives and specific fuel economy standards to reduce emissions during the construction period. Best management practices (BMPs) in the Green Construction Policy that would reduce or minimize GHG emissions include, but are not limited to, maintaining equipment according to the manufacturer's specifications, restricting the idling of construction equipment and on-road heavy-duty trucks to a maximum of 5 minutes when not in use, and the use of diesel particulate traps as feasible.

3.8.2.3.2.3 Energy Conservation and Management Plan

In 2011, Metro published its *Energy Conservation and Management Plan* (ECMP) (Metro 2011b) to serve as a strategic blueprint for proactively guiding energy use in a sustainable, cost effective, and efficient manner. The ECMP focused on electricity for rail vehicle propulsion, electricity for rail and bus facility purposes, natural gas for rail and bus facility purposes, and the application of renewable energy.

3.8.2.3.2.4 Resiliency Indicator Framework

In 2015, Metro released the Resiliency Indicator Framework (Metro 2020b) that established a mechanism to measure and evaluate climate adaptation priorities to ensure infrastructure resilience and maintain a good state of repair. These indicators facilitate continual improvement and allow tracking the effectiveness of Metro's planning, construction and operations to increase agency-wide resilience.

3.8.2.3.3 Los Angeles County and Cities

Los Angeles County and cities within the Project area have local regulations pertaining to GHG emissions. These regulations include the relevant general plan policies, ordinances, and municipal codes of Los Angeles County and the Cities of Los Angeles and Vernon. The general and climate action plans in the Project area include:

- Los Angeles County's *Community Climate Action Plan* (County of Los Angeles 2020), which is part of the County's *General Plan 2035* (County of Los Angeles Department of Regional Planning 2022). This plan only applies to the small portion of the Project that is in the unincorporated area of Los Angeles County.
- Los Angeles County's *2045 Los Angeles County Climate Action Plan* that is being prepared (County of Los Angeles Los 2023)
- City of Los Angeles' *GreenLA* (City of Los Angeles 2007)
- City of Los Angeles' *Sustainable City pLAn* (City of Los Angeles 2015)
- City of Vernon's *Climate Action Plan* (City of Vernon 2021)

3.8.3 Methodology

This section discusses the resource study area (RSA) for GHGs and presents the methods used to analyze GHG impacts from construction and operational activities of the Proposed Project and its options. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.8.3.1 Resource Study Area

For the purposes of evaluating GHG emissions impacts, the RSA is defined as 1 mile from the permanent and temporary footprints (including construction staging areas, access points, and design variations) of the Proposed Project and its options. Because GHG effects are cumulative impacts that occur at a global level, GHG impacts are discussed at the regional, state, and global levels.

3.8.3.2 Construction Emissions

Construction GHG emissions would be generated from the use of vehicles and off-road equipment. Construction emissions of GHGs from the Proposed Project and its options were estimated using the methodologies and emission factors described in California Emissions Estimator Model (CalEEMod) *User Guide Version 2022.1* (CAPCOA 2022). On-road vehicle emission factors were obtained from CARB's EMFAC2021 modeling software (CARB 2021). Specific equipment types and daily usages during each activity were based on the current design and anticipated construction schedule and

activities. The CalEEMod default load factors for corresponding equipment types were used in the emissions calculations. The Project's anticipated construction start is summer/fall 2028, with completion anticipated in summer/fall 2031. Because equipment emission factors tend to decrease in future years due to the use of cleaner and more efficient equipment, emission factors for all construction activities are based on calendar year 2025 to be conservative. The use of 2025 as the construction start year was based on the information available at the time of the analysis. While the construction start year may change, the construction activities would be the same as analyzed in this section. Therefore, if construction starts later than 2025, the emissions analyzed in here remain valid and represent a conservative emission scenario.

3.8.3.3 Operation Emissions

Operational emissions would be generated by vehicles and equipment used for operations and maintenance (O&M) activities. Operational activities may also result in changes to regional mobile source emissions. Regional vehicle miles traveled (VMT) and associated GHG emissions may be reduced by people switching from driving in passenger vehicles to walking/biking. Simultaneously, there is a potential for VMT increases related to the secondary effects of regional users driving to the Project area for recreational trips. This increase is anticipated to be minimal and would not result in an offset of the daily reductions in vehicle travel locally.

Direct GHG emissions from vehicles and equipment used for O&M activities of the Proposed Project and its options were estimated following the same methodology as short-term construction emissions. On-road vehicle emissions were estimated using EMFAC2021 (CARB 2021). O&M activities of the Proposed Project and its options would require minimal use of off-road construction equipment. Therefore, GHG emissions from off-road construction equipment would be expected to be negligible.

GHG emission reductions from the Proposed Project and its options related to people switching from driving to walking and bicycling were evaluated based on the potential changes of VMT in the Project area and from EMFAC2021 passenger vehicle emission factors.

Indirect GHG emissions due to electricity use during operation were estimated using emission factors from the EPA Emissions & Generation Resource Integrated Database (eGRID) (EPA 2020).

Operation emissions of GHGs from vehicles were based on EMFAC2021 emission factors of 2028, which is the earliest year to start operation if construction starts in 2025. Project operation activities are not expected to change regardless of starting year. Therefore, if operation would start later than 2028, emissions analyzed here would remain valid and represent a conservative estimate of operational emissions, because future year equipment and vehicle emissions tend to be lower due to improvements in emission control technologies and fleet turnover.

3.8.3.4 Thresholds of Significance

The significance threshold used in this Draft EIR to evaluate impacts associated with GHG emissions from the Project and its options are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to GHG emissions would occur if the Project would do any of the following:

- **Impact GHG-1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

- **Impact GHG-2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

Currently, there are no applicable quantitative thresholds from the state, South Coast Air Quality Management District (SCAQMD), or Metro for GHG and climate change impacts. CEQA Guidelines Section 15064.4(b)(2) allows a lead agency to determine a threshold of significance that applies to a project, and CEQA Guidelines Section 15064(h)(3) allows a lead agency to make a finding of a less than significant impact for GHG emissions if a project complies with adopted programs, plans, policies and/or other regulatory strategies to reduce GHG emissions. Therefore, impacts of GHG emissions that would result from the Proposed Project and its options were evaluated based on whether the Proposed Project and its options are consistent with the state's and region's GHG reduction plans and policies, and if GHG emissions from the Proposed Project would hinder or delay the state's or region's ability to meet GHG reduction targets.

In addition, the SCAQMD established an interim GHG Significance Threshold of 10,000 metric tons per year for industrial sources (SCAQMD 2008). While the Project is not an industrial source, due to the lack of quantitative GHG emission thresholds that are applicable to this project, the SCAQMD's interim GHG threshold was used as a reference level to determine the level of GHG impacts of the Project.

GHG effects on climate change are cumulative and result from the combination of construction and operation emissions from a project and all other sources of GHG on a long-term, global scale. For this analysis, GHG impacts were assessed based on combined estimates of direct and indirect construction and operation emissions.

3.8.3.5 Project Features

As described in Appendix C, *Project Features,* a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. No project features have been developed specifically for GHG emissions.

3.8.4 Existing Setting

The following section describes the existing conditions for GHG emissions.

In California, transportation sources (that is, passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest category of GHG-emitting sources (CARB 2022). In 2020, annual California statewide GHG emissions were 369.2 million metric tons of carbon dioxide equivalent (MT CO_2e). The transportation sector accounts for about 38% of the statewide GHG emissions inventory. The industrial and the electric power sectors account for 23% and 11%, respectively, of the total statewide GHG emissions inventory. The dominant GHG emitted is CO_2, primarily from fossil fuel combustion.

Metro emitted an estimated 432,337 MT CO_2e from operational activities in 2017. Transit emissions accounted for the largest portion of emissions, representing 81% of total emissions (Metro 2019). Metro's GHG emissions decreased by approximately 12% from 2010 to 2017, despite a nearly 4% increase in service. Metro's GHG emissions are 326,953 MT CO_2e in 2019. In 2020, Metro generated 231,279 MT CO_2e of GHG emissions—a 29.3% reduction from 2019. While some of this reduction is likely due to reduced operations resulting from the coronavirus disease (COVID) pandemic, other Metro activities are also reducing emissions (Metro 2020b).

City of Los Angeles community wide 2018 GHG emissions are estimated at 24.3 MT CO_2e, representing a 24% reduction compared to its 1990 baseline. The City is on track for the interim target of a 50% reduction by 2025 and overall goal of carbon neutrality by 2050. The stationary energy sector (that is, emissions associated with fuel consumption, including electricity and natural gas use, at residential, commercial, and industrial facilities) accounts for the majority of emissions, and is also the sector that has seen the largest reduction in emissions. Overall, GHG reductions are the result of a wide array of sustainability programs and policies enacted by the state and the City of Los Angeles to tackle the climate emergency, such as expanding the renewable energy portfolio, installing public electric vehicle chargers, and improving access to recycling services (City of Los Angeles 2021). Estimates of GHG emissions from the City of Vernon are not readily available.

3.8.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to GHG are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.8.5.1 Impact GHG-1: Emission Generation

Impact GHG-1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

3.8.5.1.1 Proposed Project, Option 1, and Option 2

3.8.5.1.1.1 Construction

Less than significant impact. GHG emissions would occur during construction of the Proposed Project or its options and would include emissions from fuel combustion in construction equipment, haul trucks, and worker commute vehicles. CO_2e emissions from construction equipment and vehicles were estimated using the methodologies and emissions factors from CalEEMod (CAPCOA 2022) with specific phasing, equipment usage, and VMT for the Proposed Project and its options.
Table 3.8-1 presents estimated GHG emissions for construction. Detailed construction schedule, equipment usage, vehicle travel information, and emission calculations are in Appendix E.

Table 3.8-1. Estimated Construction Emissions of Greenhouse Gases

Timeline	Proposed Project Emissions (MT CO_2e per year)	Option 1 Emissions (MT CO_2e per year)	Option 2 Emissions (MT CO_2e per year)
2025	2,413.9	2,364.6	3,176.3
2026	1,845.9	2,195.1	2,444.5
2027	2,331.9	1,683.2	2,022.6
Amortized over 30-year Lifetime	219.7	208.1	254.8

GHG emissions from construction activities would range from approximately 1,683.2 to 3,176.3 MT CO_2e per year for the Proposed Project and its options. Annual GHG emissions amortized over the Proposed Project's 30-year lifetime would range from 208.1 to 254.8 MT CO_2e per year. Actual GHG emissions may be lower because the Proposed Project would implement Metro's Green Construction Policy and BMPs during construction to minimize unnecessary construction vehicle trips and idling time, which would reduce GHG construction emissions. Generation of emissions is not considered significant as emissions are related to the construction of an active transportation path, which has been identified by state and regional agencies as an efficient method of reducing statewide emissions. Temporary GHG emissions would be generated to construct an energy-efficient active transportation path that will reduce long-term regional GHG emissions. Therefore, construction-related GHG emissions for the Proposed Project and its options would have a **less than significant impact** on the environment during construction

3.8.5.1.1.2 Operations and Maintenance

Less than significant. The Proposed Project and its options would cause direct operational GHG emissions associated with O&M activities, such as the use of off-road equipment and on-road vehicles. Operation of the Proposed Project and its options would be consistent with current O&M activities of the existing LA River Greenway to the north of the Proposed Project and the existing LA River Bike Path to the south of the Proposed Project. Using the path for biking, walking, or rolling would not create air emissions during operation of the Proposed Project or its options.

The Proposed Project and its options would have the same equipment and follow the same schedule for O&M activities. Therefore, O&M emissions would be the same for the Proposed Project and its options. GHG emissions from vehicles and equipment used for O&M activities were estimated using CalEEMod and EMFAC2021 emission factors, as discussed in Section 3.8.3.3.

Indirect emissions would result from power generation for electricity requirements such as lighting. The anticipated power demand to support the operation of the Proposed Project and its options is approximately 58 megawatt-hours each year.

In addition, the Proposed Project and its options may reduce passenger vehicle trips when people switch from driving to walking or bicycling to access nearby destinations, resulting in GHG reductions that would partially offset GHG emissions increase. The traffic study indicated that the Proposed Project and its options would reduce vehicle trips compared to future conditions without the Proposed Project. In 2028, the Proposed Project and its options are estimated to reduce trips on six streets parallel to the Proposed Project area from 20 to 280 vehicles per day, depending on roadway characteristics and surrounding conditions. Trip reduction would be similar for the Proposed Project and its options (refer to Section 3.16, *Transportation*). GHG emissions due to reduced vehicle trips

were estimated using an average trip reduction of 150 trips per day, an average trip distance of 2.5 miles, and emission factors from EMFAC2021.

Table 3.8-2 lists estimated GHG emissions for the operation and maintenance of the Proposed Project and its options, which consider the direct and indirect GHG emissions of operation.

Table 3.8-2. Estimated Annual GHG Emissions of Greenhouse Gases from Operation of the Proposed Project and Its Options

Long-term Emission	Proposed Project Emissions (MT CO_2e per year)	Option 1 Emissions (MT CO_2e per year)	Option 2 Emissions (MT CO_2e per year)
Direct O&M emissions	19.3	19.3	19.3
Indirect power generation	13.6	13.6	13.6
Reduced emissions due to vehicle trip reductions	-36.4	-36.4	-36.4
Total operation emissions	**-3.5**	**-3.5**	**-3.5**

Note:

Direct O&M emissions, indirect power generation, and reduced emissions due to vehicle trip reduction are based on 2028 emission factors.

Indirect GHG emissions from electricity consumption by lighting for the Proposed Project and its options are expected to be lower than what are presented in Table 3.8-2 because of the increasingly renewable electricity grid in future years. Because the Proposed Project and its options would implement BMPs to minimize GHG emissions during the construction and operation phase, and because it will benefit the region by reducing GHG emissions from vehicles travel, the Proposed Project and its options are consistent with the GHG reduction strategies and goals, as further discussed in Impact GHG-2.The Proposed Project and its options support transportation planning efforts to reduce VMT and achieve GHG emissions reduction targets outlined in the CARB 2022 Scoping Plan and Connect SoCal. The Proposed Project and its options are consistent with the objectives of state plans and policies to reduce GHG emissions from passenger vehicles by providing alternative transportation modes for both local and regional trips. Therefore, GHG emissions from the Proposed Project and its options would have a **less than significant impact** on the environment during operation.

3.8.5.1.1.3 Total Project Construction and Operation Emissions

To evaluate the overall impacts from the Proposed Project and its options, construction emissions and operation emissions were combined and compared to the SCAQMD's interim GHG significance threshold. The construction emissions were amortized over a 30-year lifetime span and added to the annual operation emissions as suggested by SCAQMD (SCAQMD 2008). The total annualized GHG emissions are shown in Table 3.8-3. The annualized GHG emissions from the Proposed Project and its options would be below the SCAQMD interim threshold of 10,000 MT CO_2e per year. Therefore, the total GHG emissions from the project construction and operation would have a **less than significant impact** on the environment.

Table 3.8-3. Annualized GHG Emissions of Greenhouse Gases from Construction and Operation of the Proposed Project and Its Options

Long-term Emission	Proposed Project Emissions (MT CO_2e per year)	Option 1 Emissions (MT CO_2e per year)	Option 2 Emissions (MT CO_2e per year)
Operational Emissions (direct and indirect)	-3.5	-3.5	-3.5
Amortized Construction Emissions (over 30 years)	219.7	208.1	254.8
Total annualized emissions	216.2	204.6	251.3
SCAQMD Interim Threshold for Industrial Sources	10,000	10,000	10,000

3.8.5.2 Impact GHG-2: Applicable Plans, Policies, and Regulations

Impact GHG-2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

3.8.5.2.1 Proposed Project, Option 1, and Option 2

3.8.5.2.1.1 Construction, Operations and Maintenance

Less than significant impact. To meet GHG reduction goals, CARB prepared the AB 32 Scoping Plan and provided updates to the plan in 2014, 2017, and 2022 to guide statewide GHG reduction strategies. The 2022 Scoping Plan assesses progress toward the statutory 2030 target, while laying out a path to achieving carbon neutrality no later than 2045 (CARB 2022). The 2022 Scoping Plan focuses on outcomes needed to achieve carbon neutrality by assessing paths for clean technology, energy deployment, natural and working lands, and others, and is designed to meet the state's long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities. The 2022 Scoping Plan is the primary plan to reduce GHG emissions throughout California and is designed to reduce statewide anthropogenic GHG emissions in California by 85% as compared to the 1990 levels by 2045, as directed by AB 1279. Regional and local climate action plans in the Proposed Project area, as discussed in Sections 3.8.2.2 and 3.8.2.3, have similar aggressive goals for GHG reduction.

The Proposed Project and its options are consistent with the 2022 Scoping Plan, with regional and local general plans, and with climate action plans. The Proposed Project and its options would be built to meet the current building standards to provide reliable infrastructure consistent with goals to develop, implement, and maintain climate change adaptation strategies, supporting community and public services that are resilient to climate change. Because GHG emissions from vehicles are the top contributor of GHG in California and a major contributor in the region, and the Proposed Project and its options would reduce VMT, the Proposed Project and its options are consistent with GHG emission reduction strategies in state and local climate change action plans.

More specifically, the Proposed Project and its options would enhance recreational open space within Los Angeles County and provide alternative modes of travel within communities. With additional travel options that connect nearby communities to activity/commercial centers and transit stops, the Proposed Project and its options encourage walking, bicycling, or a combination of walking and bicycling with other transit modes to reduce VMT in the region. While GHG reductions from the

transportation sector may come from vehicle technologies such as zero-emission vehicles, and from transitioning away from conventional vehicles to zero-carbon alternative fueled vehicles, VMT reductions remain an essential strategy to achieving the 2022 Scoping Plan's GHG reduction targets. By providing additional travel modes to reduce passenger vehicle VMT, the Proposed Project and its options are consistent with the 2022 Scoping Plan's VMT reduction strategies, as specified in its Transportation Sustainability section. The Proposed Project and its options are also consistent with the GHG reduction goals in Metro's MBS to displace GHG emissions (that is, to provide an alternative mode of transit to prevent GHG emissions).

The Proposed Project and its options are consistent with the City of Los Angeles *GreenLA plan* (City of Los Angeles 2007) and the pLAn by implementing green building policies and changing transportation patterns to reduce dependence on automobiles. In the City of Vernon, the Proposed Project and its options are consistent with the Active Transportation goal in its *Climate Action Plan*, creating safe, connected walking/biking paths and reducing vehicle GHG emissions (City of Vernon 2021).

SB 375 requires each California's federally designated MPO to develop a Sustainable Community Strategy or an Alternative Planning Strategy that meets the regional GHG emission reduction targets for passenger vehicles set by CARB. SCAG adopted Connect SoCal in September 2020 (SCAG 2020). On October 30, 2020, and as specified in CARB EO G-20-239, *2020 Sustainable Communities Strategy CARB Acceptance of GHG Quantification Determination* (CARB 2020), CARB determined that Connect SoCal would achieve the GHG emissions-reduction targets established for the region for 2020 and 2035. The Proposed Project is listed in Connect SoCal (ID 1162O001) and was included in the evaluation of Connect SoCal that has demonstrated it will meet the region's GHG reduction goals. Therefore, Connect SoCal is consistent with the regional GHG emission reduction plan and strategy.

The Proposed Project and its options, Option 1 and Option 2, would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG and this impact would be **less than significant**.

3.8.6 Mitigation Measures

As identified in Section 3.8.5, the Proposed Project and its options, Option 1 and Option 2 would result in less than significant impacts on GHG emissions under Impact GHG-1 and Impact GHG-2. No mitigation measures would be required for construction.

3.8.7 Significance After Mitigation

No mitigation is required for Proposed Project or its options, Option 1 and Option 2. The impacts would be less than significant under Impact GHG-1 and Impact GHG-2.

3.8.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the cumulative analysis approach and lists the related projects identified within a 1-mile radius of the Proposed Project alignment that could produce related or cumulative impacts. This distance is consistent with the RSA for GHG emissions, and additional distance that is expected to include other projects that may be considered in conjunction with Proposed Project elements based on topography and the existing built environment. For the purposes of cumulative analysis, the general geographic area that could be affected by the Proposed Project and its options in combination with past, present, and future projects varies

depending on the environmental resource. The geographic scope for cumulative impacts to GHG emissions is beyond the areas where the proposed path would be constructed and operated, and are discussed at regional, state, and global levels.

The Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.8.5, the Proposed Project and its options would result in substantially similar impacts related to GHG emissions. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.8.8.1 Proposed Project, Option 1, and Option 2

3.8.8.1.1 Construction, Operations and Maintenance

There is an existing cumulative impact in the Proposed Project area related to GHG emissions. The cumulative setting is both regional and statewide. Emissions generated by the Proposed Project and its options, when combined with the related projects, could contribute to this impact. The CEQA Guidelines emphasize that the effects of GHG emissions are cumulative in nature and should be analyzed in the context of CEQA's existing cumulative impacts analysis. The Governor's Office of Planning and Research also acknowledges that, although climate change is cumulative in nature, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment (Governor's Office of Planning and Research 2018).

As discussed here, the Proposed Project and its options would not result in significant GHG emission increases that would hinder the state's or region's GHG reduction plans and goals. The Proposed Project and its options are consistent with CARB's 2022 Scoping Plan, regional and local general plans, and climate action plans. The Proposed Project and its options would be built to meet the current building standards and would provide reliable infrastructure consistent with goals to develop, implement, and maintain climate change adaptation strategies, supporting community and public services that are resilient to climate change. The Proposed Project and its options would enhance recreational open space within Los Angeles County and provides alternative modes of travel within communities. With additional travel options that connect nearby communities to activity/commercial centers and transit stops, the Proposed Project and its options encourage walking, bicycling, or a combination of walking and bicycling with other transit modes to reduce VMT in the region.

The intersectionality of reducing on-road VMT and meeting GHG emissions-reduction targets warrants specific acknowledgement. While most of the future GHG reductions from the transportation sector will come from more efficient engine and zero-emission technologies, VMT reductions are also necessary to achieve CARB's 2022 Scoping Plan GHG reduction targets. As CARB explained in the 2022 Scoping Plan, even with full implementation of CARB's Advanced Cars II Regulations, with 100% zero-emission vehicles sales in the light-duty vehicle sector by 2035, a significant portion of passenger vehicles will still rely on vehicles with internal combustion engines. Therefore, CARB's 2022 Scoping Plan acknowledges that VMT reductions "will play an indispensable role in reducing overall transportation energy demand" and achieving the state's climate change goals (CARB 2022). To that end, the 2022 Scoping Plan recommends strategies for reducing VMT, including funding for multimodal alternatives and creating environments conducive to walking and biking (CARB 2022).

The Proposed Project and its options would provide additional travel modes to reduce passenger vehicle VMTs. Therefore, the Proposed Project and its options are consistent with the GHG reduction goal and strategy in the 2022 Scoping Plan. The Proposed Project and its options are also consistent

with the GHG reduction goals in Metro's MBS to displace GHG emissions (that is, to provide an alternative mode of transit to prevent GHG emissions).

GHG emissions associated with construction and O&M activities of the Proposed Project and its options are not considered significant as increasing multimodal transportation networks and reducing on-road VMT is a key component of GHG reduction plans. Indirect GHG emissions associated with electricity generation will also decrease in future operational years as electric service providers such as Los Angeles Department of Water and Power and Southern California Edison expand the supply of energy delivered to customers that is derived from renewable resources. As the power mix becomes less carbon-dependent, the Proposed Project and its options will experience significant reductions in indirect GHG emissions associated with electricity generation. There is no potential for the Proposed Project or its options to interfere with state and regional initiatives to achieve mandated GHG reduction targets. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts and would not have a cumulatively considerable contribution to the existing cumulative impact to GHG emissions. Therefore, the Proposed Project and its options, would not have a cumulatively considerable contribution to the existing cumulative impact.

3.9 Hazards and Hazardous Materials

3.9.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to hazards and hazardous materials. This section also describes the existing setting and current applicable regulatory framework.

3.9.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to hazards and hazardous materials. Agencies that are responsible for administering hazards and hazardous materials regulations and programs are also identified and discussed.

3.9.2.1 Federal

The US Environmental Protection Agency (EPA) is the primary federal agency responsible for overseeing and enforcing laws and regulations that protect the environment and people from health risks at the federal level. The following federal regulations relating to hazardous materials are applicable to the construction and/or operation of the Project and are enforced by EPA.

3.9.2.1.1 Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act (RCRA) (42 *United States Code* [USC] Section 6901 et seq.) regulates the identification, generation, transportation, storage, treatment, and disposal of solid and hazardous materials and hazardous wastes through comprehensive "cradle to grave" tracking requirements. EPA has authorized the California Department of Toxic Substances Control (DTSC) to have the primary authority for administering all RCRA regulations in the state.

3.9.2.1.2 Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC Section 9601 et seq.) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. This act established the National Priorities List of contaminated sites and the Superfund cleanup program. CERCLA established requirements for abandoned hazardous waste sites and provided for liability of persons responsible for releases of hazardous waste at these sites.

3.9.2.1.3 Superfund Amendments and Reauthorization Act

The Superfund Amendments and Reauthorization Act (SARA) (42 USC Section 9601 et seq.) amends CERCLA (via Statute 94 Page 2767) and increases state involvement requiring Superfund actions to consider state environmental laws and regulations. SARA also established a regulatory program for underground storage tanks (USTs) and the Emergency Planning and Community Right-to-Know Act.

3.9.2.1.4 Clean Air Act

The Clean Air Act (42 USC Section 7401 et seq.) protects the public from exposure to airborne contaminants that are known to be hazardous to human health. Under Section 211 of the Clean Air Act, EPA established National Emissions Standards for Hazardous Air Pollutants, which are emissions standards for air pollutants, including asbestos, which are known or suspected to cause cancer or other serious health effects.

Air toxics regulations under the Clean Air Act specify work practices for asbestos to be followed during demolitions and renovations of all facilities, including, but not limited to, structures, installations, and buildings (excluding residential buildings that have four or fewer dwelling units). The regulations require a thorough inspection of where the demolition or renovation activity will occur. The regulations require the owner or operator of the renovation or demolition activity to notify the appropriate delegated entity (often a state agency) before any demolition, or before any renovations of buildings that contain a certain threshold amount of regulated asbestos-containing material (ACM). The rule requires work practice standards that control asbestos emissions. The work practice standards are designed to minimize the release of asbestos fibers during building demolition or renovation, waste packaging, transportation, and disposal.

3.9.2.1.5 Clean Water Act

The Clean Water Act (33 USC Section 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulates quality standards for surface waters. Under the Clean Water Act, EPA implements pollution control programs and develops national water quality criteria recommendations for pollutants in surface waters. The Clean Water Act makes it unlawful to discharge any pollutant from a point source (which are discernible, confined and discrete conveyance, such as a pipe, ditch, channel, tunnel, conduit, discrete fissure, or container) unless a National Pollutant Discharge Elimination System (NPDES) permit is obtained (Clean Water Act Section 402; 33 USC Section 1342). The NPDES permit contains limits on what can be discharged, monitoring and reporting requirements, and other provisions to ensure that the discharge does not hurt water quality or people's health. EPA has authorized the State of California to issue NPDES permits (see Section 3.9.2.2.14, below).

3.9.2.1.6 Safe Drinking Water Act

The Safe Drinking Water Act (42 USC Section 300[f] et seq.) regulates discharges of pollutants to underground aquifers and establishes standards for drinking water quality.

3.9.2.1.7 Toxic Substances Control Act

The Toxic Substances Control Act (15 USC Section 2601 et seq.) regulates manufacturing, inventory, and disposition of industrial chemicals, including hazardous materials. It addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), ACMs, and lead-based paint (LBP).

3.9.2.1.8 Federal Insecticide, Fungicide, and Rodenticide Act

The Insecticide, Fungicide, and Rodenticide Act (7 USC Section 136 and 40 *Code of Federal Regulations* [CFR] Parts 152.1 to 171) regulates the manufacturing, distribution, sale, and use of pesticides.

3.9.2.1.9 Hazardous Materials Transportation Act

The Hazardous Materials Transportation Act (49 USC Section 5101 et seq. 49 CFR Parts 101, 106, 107, and 171–180) regulates the transport of hazardous materials by motor vehicles, rail, marine vessels, and aircraft.

3.9.2.1.10 Hazardous Materials Transportation Uniform Safety Act of 1990

The Hazardous Materials Transportation Uniform Safety Act (Public Law 101–615) regulates the safe transport of hazardous material in intrastate, interstate, and foreign commerce. The statute includes provisions to encourage uniformity between different state and local highway routing regulations, to develop criteria for the issuance of federal permits to motor carriers of hazardous materials, and to regulate the transport of radioactive materials.

3.9.2.1.11 Emergency Planning and Community Right-to-Know Act

The Emergency Planning and Community Right-to-Know Act (42 USC Section 11001 et seq. and 40 CFR Part 350.1 et seq.) regulates facilities that use hazardous materials in quantities that mandate reporting to emergency response officials.

3.9.2.1.12 Federal Compliance with Pollution Control

Presidential Executive Order 12088, *Federal Compliance with Pollution Control Standards*, issued in 1978, requires federal agencies to take necessary actions to prevent, control, and abate environmental pollution from federal facilities and activities under control by federal agencies.

3.9.2.1.13 Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act of 1970 requires training handlers of hazardous materials, notifying employees who work in the vicinity of hazardous materials, acquiring safety data sheets that describe the proper use of hazardous materials, and training employees to remediate any accidental releases of hazardous material. It also regulates lead and asbestos as it relates to employee safety to reduce potential exposure. Additionally, it requires contractors conducting LBP and ACM surveys and removal to be certified by the Occupational Safety and Health Administration (OSHA).

3.9.2.1.14 29 Code of Federal Regulations Section 1926.62

The regulation of lead during construction is described in 29 CFR Section 1926.62. This regulation applies to all construction work where an employee may be occupationally exposed to lead, including the demolition, removal, new construction, alteration, repair, renovation, and installation of structures and materials that contain lead, as well as the transportation, disposal, storage, and containment of lead or lead-containing materials. The regulation establishes the permissible lead exposure limit and requires an assessment and monitoring of construction workers' lead exposure. The regulation also requires implementation of a compliance program, employee protection, and employee medical surveillance.

3.9.2.1.15 Disaster Mitigation Act of 2000

The Disaster Mitigation Act of 2000 (DMA) created a framework that shifted the federal government's role in planning for disasters to state, local, tribal, and territorial government to engage in hazard mitigation planning. DMA requires state and local governments to develop hazard mitigation plans as a condition for federal disaster grant assistance. Regulations developed to fulfill DMA's requirements are included in 44 CFR. DMA encourages cooperation among state and local authorities in pre-disaster planning.

3.9.2.2 State

California has developed hazardous waste regulations similar to federal laws but more stringent in their application. These and other applicable state regulations are discussed below.

3.9.2.2.1 Hazardous Waste Control Law

The Hazardous Waste Control Law (HWCL) (California *Health and Safety Code* Division 20 Chapter 6.5, Section 25100 et seq.) is similar to RCRA. HWCL regulates the identification, generation, storage, transportation, treatment, and disposal of hazardous waste in the state. HWCL empowers DTSC, a division of the California Environmental Protection Agency (CalEPA) and formerly part of the California Department of Health Services, to administer hazardous waste regulations. Under HWCL, all hazardous waste treatment must be permitted or authorized by DTSC. DTSC has the primary responsibility for enforcing and implementing HWCL in the state. This responsibility is also shared with other state agencies, including the State Water Resources Control Board (SWRCB), and enforcement authority may be delegated to local jurisdictions, including the Los Angeles Regional Water Quality Control Board (LARWQCB), and city and county governments.

3.9.2.2.2 Regulations Governing Transport of Hazardous Materials

Regulations governing the transport of hazardous materials are included in the California Vehicle Code, as well as in *California Code of Regulations* (CCR) Title 13, *Motor Vehicle Regulations;* Title 19 *State Fire Marshal Regulations;* and Title 22, *Enforcement, Inspections, and Informant Rewards Regulations*. The California Highway Patrol, California Department of Transportation (Caltrans), and DTSC are responsible for enforcing federal and state regulations, and for responding to hazardous materials transportation emergencies.

3.9.2.2.3 Asbestos Abatement Regulations

Asbestos abatement efforts must be made in compliance with 7 CCR Section 5208, 8 CCR Section 1529, and 8 CCR Sections 341.6–341.14. The regulations in 7 CCR Section 5208 implement worker exposure limits, require exposure monitoring, implement compliance programs, require employee protection and hazard communication, and require employee medical surveillance and reporting. The regulations in 8 CCR Section 1529 regulate asbestos exposure in all construction work. The regulations in 8 CCR Sections 341.6–341.14 require employers who engage in asbestos-related work to be registered with the California Division of Occupational Safety and Health (Cal/OSHA) and require written notice to be provided to Cal/OSHA prior to the start of any asbestos-related work.

3.9.2.2.4 Lead and Lead-Based Paint Regulations

Lead and LBP regulations are provided in 8 CCR Section 1532.1. As with 29 CFR Section 1926.62, 8 CCR Section 1532.1 applies to all construction work where an employee may be occupationally exposed to lead, including the demolition, removal, new construction, alteration, repair, renovation, and installation of structures and materials that contain lead, as well as the transportation, disposal, storage, and containment of lead-containing material. The regulations establish the permissible lead exposure limit; require an assessment and monitoring of the construction workers' lead exposure; and require implementation of a compliance program, employee protection, and employee medical surveillance.

3.9.2.2.5 Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) (California Health and Safety Code, Division 20, Chapter 6.11, Sections 25404–25404.9; 27 CCR Section 15100 et seq.) consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of multiple environmental and emergency response programs. State agencies involved with the Unified Program include CalEPA, DTSC, California Office of the State Fire Marshal, and SWRCB. CalEPA is directly responsible for coordinating and evaluating the administration of the Unified Program. State agencies set standards for their programs, while local governments implement the standards. These local implementing agencies are called Certified Unified Program Agencies (CUPA) and regulate/oversee Hazardous Materials Business Plans; California Accidental Release Prevention (CalARP) plans or federal risk management plans; the operation of USTs and aboveground storage tanks (ASTs); universal waste and hazardous waste generators/handlers; onsite hazardous waste treatment; inspections, permitting, and enforcement, Proposition 65 reporting (refer to Safe Drinking Water and Toxic Enforcement Act, below); and emergency response programs. In addition to implementing statewide regulations, CUPAs administer policies and regulations found in local and regional plans (including general plans and municipal codes) that address hazardous materials and wastes.

3.9.2.2.6 Waters Bill of 1985, Business Emergency Plan/Hazardous Materials Business Plan

The Waters Bill of 1985, otherwise referred to as the California Hazardous Materials Release Response Plans and Inventory Law, requires facilities that meet minimum hazardous materials use/storage thresholds to prepare Hazardous Materials Business Plans (HMBPs) or Business Emergency Plans. An HMBP/Business Emergency Plan includes disclosures and inventories of hazardous materials, facility floor plans showing where hazardous materials are stored, an emergency response plan, and provisions for employee safety and emergency response training per California Health and Safety Code Division 20, Chapter 6.95, Article 1.

3.9.2.2.7 La Follette Bill

The La Follette Bill (Assembly Bill 3777) established guidelines for hazardous materials management as outlined in California *Health and Safety Code*, Division 20, Chapter 6.95, Article 2, Sections 25531-25540. Risk Management and Prevention Programs (RMPPs) include all administrative and operational programs that are designed to prevent acutely hazardous materials accident risks. The programs are required to anticipate the circumstances that could result in accidental releases and

require the taking of necessary precautionary and preemptive actions, consistent with the nature of the hazardous materials handled by the facility and the surrounding environment. It requires owners or operators of each business in the state that, at any time, handle any acutely hazardous material in quantities equal to or greater than 500 pounds, 55 gallons, or 200 cubic feet under standard temperature and pressure for compressed gas, to register with an administering agency. Requirements pertaining to the contents of RMPPs, as well as for reporting, records management, and inspections, are outlined in the California *Health and Safety Code*. Article 2 of the code has subsequently been amended several times since the adoption of the La Follette Bill.

The CalARP program replaced the RMPP in 1997. The CalARP program requires businesses that handle more than a threshold quantity of a regulated substance to develop a Risk Management Plan. The program is implemented at the local government level by the Unified Program agencies.

3.9.2.2.8 Hazardous Materials Release Response Plans and Inventory Law

The Hazardous Materials Release Response Plans and Inventory Law (California Health and Safety Code Section 25500 et seq.) requires facilities using hazardous materials to prepare HMBPs that describes their facilities, inventories, emergency response plans, and training programs. Disclosure of hazardous materials inventories is required. The law also requires the establishment of a statewide environmental reporting system for HMBPs.

3.9.2.2.9 Well Safety Devices for Critical Wells

14 CCR Section 1724.3 governs safety devices required on "critical wells," defined as follows:

- A well within 300 feet of any building intended for human occupancy that is not necessary to the operation of the well,
- A well within 100 feet of any dedicated public street, highway, or nearest rail of an operating railway that is in general use,
- A well within 100 feet of any navigable body of water or watercourse perennially covered by water,
- A well within 100 feet of any public recreational facility, such as a golf course, amusement park, picnic ground, campground, or any other area of periodic high-density population, or
- A well within 100 feet of any officially recognized wildlife preserve.

3.9.2.2.10 Public Resources Code Section 3208.1

California *Public Resources Code* (PRC) Section 3208.1 allows the State Oil and Gas Supervisor to order the abandonment of previously abandoned wells if the supervisor or the district deputy has reason to question the integrity of the previous abandonment, or if the well is not accessible or visible. The California Department of Conservation's Geologic Energy Management Division (CalGEM) is charged with implementing PRC Section 3208.1. In response, CalGEM "developed the Construction Site Well Review Program to assist local permitting agencies in identifying and reviewing the status of oil or gas wells located near or beneath proposed structures."

3.9.2.2.11 Gas Monitoring and Control at Active and Closed Disposal Sites

The requirements set forth in 27 CCR Section 20917 et seq. determine the performance standards and the minimum substantive requirements for landfill gas monitoring and control as they relate to active

solid waste disposal sites and to proper closure, post-closure maintenance, and ultimate reuse of solid waste disposal sites. These ensure that public health, safety, and the environment are protected from pollution due to the disposal of solid waste.

3.9.2.2.12 Closure and Post-Closure Maintenance of Landfills

The regulations contained in 27 CCR Division 2, Chapter 3, Subchapter 5 provide closure and post-closure maintenance guidelines, including requirements for an emergency response plan and site security at closed landfills. They regulate post-closure land use, requiring post-closure land use to be designed and maintained to protect public health and safety; prevent damage to structures, roads, utilities and gas monitoring and control systems; prevent public contact with waste, landfill gas and leachates; and prevent landfill gas explosions. Construction on such a site must maintain the integrity of the final cover, drainage, and erosion control systems, and of the gas monitoring and control systems. All post-closure land use within 1,000 feet of the disposal area, structures on top of waste, modification of the low permeability layer, or irrigation over waste must be approved by the local enforcement agency.

3.9.2.2.13 California Public Resources Code Section 21151.4

PRC Section 21151.4 requires the lead agency to consult with any school district with jurisdiction over a school within 0.25 mile of a project about potential impacts to the school if the project might reasonably be anticipated to emit hazardous air emissions, handle an extremely hazardous substance, or handle a mixture containing an extremely hazardous substance.

3.9.2.2.14 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) (California Water Code Division 7, Section 13000 et seq.) established the responsibilities and authorities of SWRCB and the nine California Regional Water Quality Control Boards (RWQCBs). According to Section 13001 of the Porter-Cologne Act, RWQCBs have the primary responsibility for the coordination and control of water quality in the state. RWQCBs issue NPDES permits for discharges into surface waters, as well as oversee water monitoring and contamination cleanup and abatement.

3.9.2.2.15 Safe Drinking Water and Toxic Enforcement Act

The Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health and Safety Code Section 25249.5 et seq.) is similar to the federal Safe Drinking Water Act and the federal Clean Water Act in that it regulates the discharge of contaminants to groundwater. This act prohibits persons, in the course of doing business, from knowingly discharging listed chemicals known to have these toxic characteristics into any source of drinking water or onto land in which the material may come into contact with drinking water. It also requires businesses to warn any person exposed to chemicals known to cause cancer or reproductive toxicity. The act requires businesses to provide clear and full disclosure if the business purposefully exposes anybody to chemicals known to cause cancer or reproductive toxicity.

3.9.2.2.16 Land Use Covenant Regulations

Land Use Covenant regulations (22 CCR Section 67391.1) require a Land Use Covenant to be executed and recorded on a property prior to a facility closure, corrective action, remedial or removal action, or

other response actions are undertaken and when hazardous materials, hazardous wastes or constituents, or hazardous substances will remain at the property at levels that are not suitable for unrestricted use of the land. Land use covenants include easements, servitudes, covenants, and restrictions that run with the land and impose limitations and restrictions that can limit uses on a property to protect the environment, public health, and safety. A Land Use Covenant is entered between DTSC and the property owner when DTSC has determined that it is safe to leave specific types of contamination on the property as long as defined restrictions are adhered to. Restrictions may include, but are not limited to, limiting soil disturbance, stating that a remedial system should not be disturbed, or disallowing sensitive uses (for example, schools or hospitals) to be developed on the property.

3.9.2.2.17 Cortese List Statute

The Cortese List Statute (California Government Code Section 65962.5) requires DTSC to compile and maintain lists of potentially contaminated sites located throughout the state and includes the Hazardous Waste and Substances Sites List. The overall list is called the Cortese List. DTSC and the SWRCB are required to compile and update a regulatory site listing as specified by this statute. *California Government Code* Section 65962.5 also requires the local enforcement agency, as designated pursuant to 14 CCR Section 18051, to compile, as appropriate, a list of all solid waste disposal facilities from which there is a known migration of hazardous waste.

3.9.2.2.18 California Occupational Safety and Health Act

The California Occupational Safety and Health Act regulates worker safety in a manner similar to that used by the federal government. It also requires preparation of an Injury and Illness Prevention Program, which is an employee safety program that includes inspections, procedures to correct unsafe conditions, employee training, and occupational safety communication. In addition, the regulations associated with the California Occupational Safety and Health Act indirectly protect the public by requiring construction managers to post warning signs, limit public access to construction areas, and obtain permits for work considered to present a significant risk of injury, such as excavations 5 feet deep or greater.

3.9.2.3 Regional and Local

Regional and local agencies that oversee, enforce, and monitor regulations, programs, and permits related to hazards and hazardous wastes include the South Coast Air Quality Management District (SCAQMD), LARWQCB, Los Angeles County Department of Public Health, and Los Angeles County Department of Public Works. Additionally, local jurisdictions affected by the Project have developed plans and programs to respond to hazardous and emergency events.

SCAQMD is the regulatory agency responsible for improving air quality in Los Angeles, Orange, Riverside, and San Bernardino Counties. SCAQMD has adopted air quality rules to reduce emissions from various sources, including specific types of equipment, industrial processes, paints, solvents, and consumer products.

While SWRCB develops statewide policies and regulations for water quality control, the nine RWQCBs provide local implementation of statewide policies and regulations, set water quality standards and implementation provisions in plans and policies, issue waste discharge permits, determine compliance with permit requirements, and take enforcement actions against violators. RWQCB boundaries are based on watersheds so that their water quality decisions and actions appropriately

recognize local differences in climate, topography, geology, and hydrology. The Proposed Project and its options are located within the jurisdiction of LARWQCB. Within the Los Angeles region, LARWQCB is responsible for decisions regarding regional water quality and the regulation of surface and groundwaters of the state, which include the setting of standards, issuing of waste discharge requirements, determining compliance with the set requirements, and taking the appropriate enforcement actions.

The Los Angeles County Department of Public Health provides soil boring and groundwater monitoring well permitting services to Los Angeles County, except for the City of Vernon. The City of Vernon issues permits for wells drilled within its jurisdictional boundary.

The Los Angeles County Department of Public Works is a CUPA and Participating Agency to the Los Angeles County CUPA, which is managed by the Los Angeles County Fire Department, Health Hazardous Materials Division. The Health Hazardous Materials Division administers the following programs within Los Angeles County:

- Hazardous Waste Generator Program
- Hazardous Materials Release Response Plans and Inventory Program
- CalARP program
- AST Program
- UST Program

The Los Angeles County Department of Public Works, Environmental Programs Division permits and inspects USTs within unincorporated areas of Los Angeles County. The City of Vernon Health Department and the City of Los Angeles Fire Department (LAFD) manage their own CUPA for USTs within their jurisdictions.

The City of Los Angeles Emergency Management Department supports the City's capabilities during four phases of emergency management: mitigation, planning, response, and recovery. The department works with City departments, municipalities, and community-based organizations to ensure that the City and its residents have the resources and information they need in the event of an emergency. The Emergency Operations Organization (EOO) operates under the Emergency Management Department and is responsible for the City's emergency preparations (including planning, training, and mitigation), as well as response and recovery operations. EOO centralizes command and information coordination to enable its unified chain-of-command to operate efficiently and effectively in managing the City's resources.

LAFD administers hazardous materials environmental compliance programs within the City jurisdiction. These programs include a hazardous materials disclosure and business plan, UST program, AST spill prevention control and countermeasure, hazardous waste generator program (administered by Los Angeles County Fire Department), and CalARP program. LAFD also provides a robust multi-tier emergency services response to hazardous materials incidents, including mass and emergency decontamination, rapid extraction (rescue in a hazardous environment), weapons of mass destruction procedures and emergency medical services protocols (containment and treatment, for example, of infectious diseases).

The City of Vernon Health and Environmental Control Department provides soil boring and groundwater monitoring well permitting services within its jurisdictional boundaries.

3.9.2.3.1 SCAQMD Rules 1403 and 1166

SCAQMD regulates asbestos through Rule 1403, *Asbestos Emissions from Renovation/Demolition Activities*. Rule 1403 regulates asbestos as a toxic material and controls the emissions of asbestos from demolition and renovation activities by specifying agency notifications, appropriate removal procedures and handling and cleanup procedures.

SCAQMD also regulates volatile organic compound (VOC) emissions from contaminated soil through Rule 1166, *VOC Emissions from Decontamination of Soil*. Rule 1166 sets requirements to control VOC emissions from excavating, grading, handling, and treating soil contaminated with VOCs as a result of leakage from storage or transfer operations, accidental spillage, or other deposition.

3.9.2.3.2 Los Angeles County Operation Area Emergency Response Plan

The 2012 *Los Angeles County Operational Area Emergency Response Plan* (Los Angeles County Board of Supervisors 2012) addresses a coordinated response to emergency situations associated with natural, human-made, and technological situations.

3.9.2.3.3 City of Los Angeles Methane Ordinance

In 2004, the City of Los Angeles adopted Ordinance 175790, *City of Los Angeles Methane Ordinance*, which requires compliance with the Methane Mitigation Standards as outlined in the Methane Seepage Regulations (*Los Angeles Municipal Code* [LAMC] Chapter IX, Division 71, Sections 91-7101–91-7109), and as directed and approved by the Los Angeles Department of Building and Safety and LAFD. Ordinance 175790 outlines the general methane requirements for mitigation; testing, maintenance and service of gas detection and mechanical ventilation systems; emergency procedures; application of Methane Seepage Regulations to locations or areas outside the methane zone and methane buffer zone boundaries; and additional remedial measures (general, abandoned oil wells).

3.9.2.3.4 City of Maywood Emergency Organization and Functions Regulations

The City of Maywood *Municipal Code* Title 4, Chapter 4 provides for the preparation and carrying out of plans for the protection of persons and properties within the City in the event of an emergency. This chapter of the municipal code also provides the direction for the City's emergency organization; coordinates the emergency functions of the City with other public agencies, corporations, organizations, and affected persons; and establishes the City's Disaster Council, which is empowered to develop emergency and mutual aid plans and agreements. The Disaster Council is responsible for developing the City's emergency plan.

3.9.2.3.5 Local Hazard Mitigation Plans

The City of Los Angeles *2018 Local Hazard Mitigation Plan* (City of Los Angeles 2018) and the City of Vernon *2023 Local Hazard Mitigation Plan* (City of Vernon 2023) identify resources, information, and strategies for reducing risk from natural and human-made hazards. Hazards addressed in the plans include adverse weather, dam failure, drought, air pollution, seismic hazards, flooding, and release of hazardous materials.

3.9.2.3.6 Local General Plans

Table 3.9-1 lists potentially relevant hazardous material policies as specified in the *City of Los Angeles General Plan's* Element (City of Los Angeles 2021), *City of Vernon General Plan* (City of Vernon 2015), and *City of Bell 2030 Comprehensive General Plan* (City of Bell 2018). Whereas the Cities of Los Angeles and Vernon address natural and human-made hazards in their Local Hazard Mitigation Plan, the City of Maywood address these hazards in its General Plan Safety Element. The City of Maywood is in the process of updating its General Plan, and its General Plan Safety Element is not available.

Table 3.9-1. Summary of Hazardous Materials Policies

Plans	Summary
City of Los Angeles General Plan Safety Element	▪ Safety Element (2021) Hazard Mitigation Goal 1: A city where potential injury, loss of life, property damage and disruption of the social and economic life of the City due to fire, water related hazard, seismic event, geologic conditions or release of hazardous materials disasters is minimized. ▪ Objective 1.1: Implement comprehensive hazard mitigation plans and programs that are integrated with each other and with the City's comprehensive emergency response and recovery plans and programs. ▪ Policy 1.1.1 Coordination: Coordinate information gathering, program formulation and program implementation between City agencies, other jurisdictions and appropriate public and private entities to achieve the maximum mutual benefit with the greatest efficiency of funds and staff. [All EOO hazard mitigation programs involving cooperative efforts between entities implement this policy.] ▪ Policy 1.1.4 Health/Environmental Protection: Protect the public and workers from the release of hazardous materials and protect City water supplies and resources from contamination resulting from accidental release or intrusion resulting from a disaster event, including protection of the environment and public from potential health and safety hazards associated with program implementation. (All EOO hazardous materials hazard and water pollution mitigation programs implement this policy.)
City of Vernon General Plan	▪ Circulation and Infrastructure Element, Goal CI-4: Maintain the sewer system to assure the health and safety of all residents and businesses. ▪ Policy CI-4.1: Periodically evaluate the sewage disposal system to determine its adequacy to meet changes in demand and changes in types of waste. ▪ Policy CI-4.2: Ensure that all new developments bear the cost of expanding the sewage disposal system to handle any increase in load that they generate. ▪ Policy CI-4.3: Investigate and implement means of financing maintenance and improvements to the sewer system. ▪ Circulation and Infrastructure Element, Goal CI-5: Maintain the storm drainage system to assure the protection of lives and property of in Vernon. ▪ Policy CI-5.1: Periodically evaluate the size and condition of the storm drainage system to determine its ability to handle expected storm runoff. ▪ Policy CI-5.2: Evaluate the impact of all new developments and expansion of existing facilities on storm runoff and require that the cost of upgrading existing drainage facilities to handle the additional runoff is paid for by the development, which generates the need to improve a facility. ▪ Policy CI-5.3: Monitor the use and storage of hazardous materials to prevent accidental discharge into the storm drainage system. ▪ Policy CI-5.4: Allow new development projects to creatively implement NPDES standards and requirements. ▪ Safety Element, Goal S-2: Provide a high degree of protection for all residents and workers from hazardous materials and the hazards associated with transport of such materials. ▪ Policy S-2.1: Continue to support and encourage State efforts to identify existing or previously existing hazardous waste generators or disposal sites in the City of Vernon. ▪ Policy S-2.2: Continue to require every business to maintain a list of the chemicals and other hazardous materials used or stored on site in accordance with appropriate material safety data sheets and otherwise in accordance with law, and to provide that list to the Fire Department and

Table 3.9-1. Summary of Hazardous Materials Policies

Plans	Summary
	Environmental Health Department. Require that the Fire Department and Environmental Health Department maintain a list of such materials and the location where they are stored or used to permit emergency personnel to respond appropriately, if required. ▪ Policy S-2.3: Permit new residential uses only within the Housing Overlay District. Strategically identify sites for new housing in areas determined to be most compatible for housing with limited hazard impacts.
City of Bell 2030 General Plan Health and Safety Element	▪ Policy 9: The City of Bell shall identify areas of high risk (high densities, older structures, fire hazards) so that disaster response may be prioritized. The City will also focus on potential sources of contamination, including lead and asbestos-containing materials found in older buildings. These areas of risk must be identified in the City's Emergency Preparedness Plan. ▪ Policy 11: The City of Bell shall establish and enforce standards that are designed to reduce the level of risk. The City shall work with the Los Angeles County Fire Department and other public agencies to discuss both risk and emergency preparation. Finally, the City shall work with the Fire Department and the larger community to review, and if necessary, develop new standards.

Source: City of Los Angeles 2021, City of Vernon 2015, City of Bell 2018

3.9.3 Methodology

Assessment of impacts is based on environmental conditions in the resource study area (RSA) and applicable laws and regulations related to hazards and hazardous materials. The term "environmental condition" refers to existing or potential site conditions that may present environmental health and safety concerns during future construction or operation of the Project.

"Hazardous materials" are defined by the California *Health and Safety Code* Section 25501(n) as "any materials that if released pose a significant hazard to human health and safety or to the environment because of quantity, concentration, or physical and chemical characteristics, present or potential." Hazardous materials include hazardous substances, hazardous wastes, and any material that a handler or the administering regulatory agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

Hazardous wastes include residues, discards, byproducts, contaminated products, or similar substances that exceed regulatory thresholds for toxicity, ignitibility, corrosivity, or reactivity. Federal and state regulations identify specific wastes by name that the EPA has determined are hazardous and has designated them as "listed wastes." A listed waste is determined to be hazardous if it is specifically listed on one of four lists (the F, K, P and U lists) found in 40 CFR Section 261.

For industrial and commercial land uses in the RSA, the most frequent hazardous materials typically present include petroleum products used at gasoline stations or automotive service areas, lubricants and solvents used in industrial properties, and various other hazardous materials used or stored at manufacturing properties. Other hazardous materials that may naturally be present in the soil include methane and hydrogen sulfide (H_2S) gas.

A Phase I Environmental Site Assessment (ESA) (Metro 2024) was conducted to identify the presence of hazardous materials in the RSA. The Phase I ESA was conducted in accordance with the ASTM International's (ASTM's) Standard E1527-21, *Standard Practice for Environmental Site Assessments* (Practice) (ASTM 2021). The Phase I ESA consisted of site reconnaissance, interviews, and review of

available documents to identify sites of environmental concern within the RSA, defined in Section 3.9.3.1. The Phase I ESA identified and documented the following:

- **Recognized Environmental Conditions (RECs)**—The presence or likely presence of a hazardous substance or petroleum as a result of an existing release, a past release, or a material threat of a release of hazardous substances or petroleum products into the structures, ground, groundwater, or surface water of the site.
- **Controlled Recognized Environmental Conditions (CRECs)**—REC resulting from a past release of hazardous substances or petroleum products that have been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.
- **Historical Recognized Environmental Conditions (HRECs)**—A past release of any hazardous substance or petroleum product that has occurred in connection with the property; has been remediated to the satisfaction of the applicable regulatory authority or has meet the unrestricted use criteria established by the regulatory authority, without subjecting the property to any required controls; and has been given regulatory closure.
- **De Minimis Conditions**—A condition that generally does not present a material risk of harm to public health or the environment and generally would not be subject of an enforcement action if brought to the attention of appropriate government agencies.

This assessment of potential environmental concerns entailed incorporating portions of the methodology specified in ASTM's Standard 1528-14, *Standard Practice for Limited Environment Due Diligence: Transaction Screen Process* (ASTM 2014).

Sites of existing or potential environmental concerns that may present environmental health and safety concerns in the RSA as a result of construction and operations of the Project were identified and evaluated based on the following:

- **Regulatory database review**—Federal, state, tribal, and local environmental database records in Environmental Data Resources, Inc.'s (EDR's) report for known or potential hazardous waste sites or sites that are currently under investigation or that have been investigated as a result of environmental violations or releases to the environment in the RSA were reviewed. The list of regulatory databases that were searched are provided in the Phase I ESA (Metro 2024).
- **Historical use review**—Historical aerial photographs, US Geological Survey (USGS) topographic maps, and Sanborn Fire Insurance Maps were reviewed to obtain historical use information for the RSA. Historical aerial photographs were reviewed to assess historical land uses and identify evidence of hazardous substance releases. Historical USGS topographic maps depict cultural features, natural surface features, and elevation contours. Sanborn Fire Insurance Maps were reviewed for indications of past usage which may have resulted in the potential presence of contamination.
- **Site reconnaissance**—A windshield site reconnaissance in the RSA from public rights-of-way (ROWs) was performed for the purpose of identifying existing land uses that may be considered a potential hazardous waste issue or for any sites with visible indications of contamination.
- **Evaluate potential health and safety concerns**—The potential for the Project to expose the public or the environment to hazards associated with each environmental concern site were evaluated based on the types of activities that would occur on each site as a result of construction and operations of the Project.

The same methodology was applied to evaluating the impacts of the Proposed Project and its options.

3.9.3.1 Resource Study Area

For the purposes of identifying and analyzing impacts to hazards and hazardous materials, the RSA is defined as 500 feet from the temporary and permanent footprints (including alignments, access points, design variations, and construction staging areas) of the Proposed Project, Option 1, and Option 2. The 500-foot radius from the footprints is sufficiently representative of the existing hazards and hazardous materials conditions that have the potential to result in impacts due to the Proposed Project and its options. Properties within the RSA include commercial properties, industrial developments, parks and recreational facilities (including Los Angeles State Historic Park), schools, flood control facilities, and transportation facilities. Figure 3.9-1 shows the RSA for the hazards and hazardous materials analysis.

CEQA, specifically, PRC Section 21151.4, requires consultation with school districts with jurisdiction over schools within 0.25-mile of a project that could reasonably be anticipated to emit hazardous air emissions, which could handle an extremely hazardous substance, or that could handle a mixture containing extremely hazardous substances. Educational facilities within 0.25-mile of the footprints of the Proposed Project and its options that could be affected by construction and/or operation were identified and evaluated. For the purposes of the analysis related to educational facilities, the RSA for hazards and hazardous materials is 0.25 mile.

Figure 3.9-1. Hazards and Hazardous Materials Resource Study Area for the Proposed Project and its Options



3.9.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with hazards and hazardous materials are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to hazards and hazardous materials would occur if the Project would do any of the following:

- **Impact HAZ-1:** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- **Impact HAZ-2:** Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- **Impact HAZ-3:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?
- **Impact HAZ-4:** Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- **Impact HAZ-5:** For a project located in an airport land use plan or, where such a plan has not been adopted, and within 2 miles of a public airport or public use airport, would result in a safety hazard for people residing or working in the project area?
- **Impact HAZ-6:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- **Impact HAZ-7:** Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

3.9.3.3 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Project to comply with the laws, guidelines, and best practices of regulatory agencies. The following project features have been developed for hazards and hazardous materials.

PF-HAZ-01, *Hazardous Materials and Waste Plan*

Prior to construction, the contractor shall prepare and provide Los Angeles County Metropolitan Transportation Authority (Metro) with a hazardous materials and waste plan describing responsible parties and procedures for handling, storage, and transport of hazardous waste and hazardous materials in a manner consistent with applicable state and federal regulations, including the Resource Conservation and Recovery Act (40 *Code of Federal Regulations* Part 263); Comprehensive Environmental Response, Compensation, and Liability Act (42 *United States Code* Chapter 103); Hazards Materials Release Response Plans and Inventory Law (*California Health and Safety Code* Section 6.95); and Hazardous Waste Control Act (22 *California Code of Regulations* Section 4.5).

PF-HAZ-02, *Contractor-Generated Waste Management Plan*

Prior to the start of construction and consistent with Los Angeles County Metropolitan Transportation Authority (Metro) general requirement specifications, the contractor shall develop a Contractor-Generated Waste Management Plan that outlines provisions for hazardous wastes and solid wastes that are generated, released, or discharged by the contractor, contractor's agents, or subcontractors.

The Contractor-Generated Waste Management Plan shall also include provisions for the handling and disposal of asbestos and lead. The Contractor-Generated Waste Management Plan shall be prepared in accordance with 22 *California Code of Regulations* Division 4.5 et seq., *California Health and Safety Code* Section 25100 et seq., 23 *California Code of Regulations*, and the requirements of the selected waste disposal facility or waste treatment facility, including publicly owned wastewater treatment facility.

PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*

Prior to the start of construction and consistent with Los Angeles County Metropolitan Transportation Authority (Metro) general requirement specifications, the contractor shall prepare a Contaminated Substances and Hazardous Substances Disposal Plan that shall describe procedures for identifying, excavating, segregating, stockpiling, sampling, analyzing, measuring, transporting, and disposing of contaminated substances and wastes and/or hazardous substances and wastes (soil, groundwater, pavement stripes/markings, paint, Transite pipe, etc.) generated during construction or from known contaminated sites. This plan shall include oversight agency notifications prior to subsurface disturbance that shall occur at properties that have been identified by the US Environmental Protection Agency, the California Department of Toxic Substances Control, the State Water Resources Control Board, the Los Angeles Regional Water Quality Control Board, or a county, local, or state regulatory agency as an open environmental case or that includes a Land Use Covenant or deed restriction requiring agency notification.

PF-HAZ-04, *Disposal of Groundwater*

Prior to construction, if dewatering or other activities requiring dewatering necessitate the disposal of contaminated groundwater (known and undocumented), Los Angeles County Metropolitan Transportation Authority (Metro) shall consult with the Los Angeles Regional Water Quality Control Board (LARWQCB) to obtain the required permits, including the construction dewatering permit and waste discharge requirement permit. Since groundwater discharge and disposal requirements vary by agency, site location, chemicals of concern and concentration, Metro shall consult and coordinate with the County of Los Angeles Department of Public Works and all other applicable agencies prior to discharging groundwater into the sewer or stormwater systems to ensure that groundwater discharge and disposal comply with all applicable requirements.

PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*

If potentially hazardous materials are encountered during construction, construction work shall stop. Contractors shall comply with all applicable federal, state, and local regulations regarding discovery, notification, response, disposal, and remediation for previously unidentified hazardous materials encountered during construction activities. Metro and construction contractors shall consult and coordinate with the appropriate regulatory agencies to determine the appropriate response for the encountered hazardous materials, including but not limited to remedial action.

PF-HAZ-06, *Compliance with the City of Los Angeles Building Code Methane Regulations*

Prior to final design, the Los Angeles County Metropolitan Transportation Authority (Metro) shall verify that construction activities located within methane buffer zones (as defined by Los Angeles Bureau of Engineering) comply with the City of Los Angeles Building Code regulations set forth in Ordinances 175790 and 180619. The ordinances require evaluation of methane hazards and mitigation of a methane hazard, if one exists, depending on the severity of the hazard.

Additional applicable project features related to hazards and hazardous materials include the following. Refer to Section 3.07, *Geology, Soils, and Paleontological Resources;* Section 3.10, *Hydrology and Water Quality;* Section 3.16, *Transportation;* and Section 3.18, *Utilities and Service Systems* for additional detail.

- PF-GEO-01, *Final Geotechnical Report*
- PF-PS-01, *Emergency Service Coordination*
- PF-UTL-01, *Utility Identification and Coordination*
- PF-HWQ-01**,** *Stormwater/Water Quality Management During Construction*
- PF-TR-01, *Prepare and Implement Transportation Management Plan*
- PF-TR-02, *Traffic Control Plan*

3.9.4 Existing Setting

The following section describes the existing conditions for hazards and hazardous materials. The RSA overlies the Los Angeles River Watershed. The LA River collects runoff from the San Fernando Valley and a large portion of the Los Angeles Basin. The Arroyo Seco is a major tributary to the LA River. In the RSA, the concrete-lined LA River drains and conveys surface water to the south and southeast. The portion of the RSA outside the LA River channel area drains by sheet flow into the LA River or into secondary drainages, which all eventually drain into the Pacific Ocean. Flowing surface water can result in an erosion hazard to any unprotected slopes and can result in scour around unprotected structural supports such as bridge columns.

A majority of the RSA is underlain by the Central Subbasin (Central Basin) of the Coastal Plain of the Los Angeles Groundwater Basin, with a small portion of the RSA (generally north of State Route [SR-]110) underlain by the San Fernando Valley Groundwater Basin. Regional groundwater flow underlying the RSA is generally to the southwest but varies locally due to the hydraulic effects of local groundwater pumping and recharge. Groundwater resources are replenished in the Central Basin through surface and subsurface flow and by direct percolation of precipitation, stream flow, and applied water in the forebay areas where permeable sediments are exposed at ground surface. Historically, the highest groundwater levels in the RSA generally range from 20 feet below ground surface (bgs) at the northern terminus, 40 feet bgs between US Highway Route (US-)101 and First Street, 100 feet bgs near Fourth Street, 175 feet bgs near Seventh Street, 150 feet bgs near I-10, 60 feet bgs at Washington Boulevard, 40 feet bgs near Downey Road, and 15 feet bgs near Atlantic Boulevard (CGS 1998a, 1998b). Section 3.10, *Hydrology and Water Quality* discusses groundwater in further detail.

The RSA consists of primarily industrial properties, with a smaller percentage characterized as transportation/communications/utilities, commercial, residential, open space/recreation, and vacant, respectively.

The following discussion provides a general description of the existing hazardous materials and hazard conditions that occur within the RSA. Sites of potential environmental concern in the RSA and schools within 0.25-mile of the footprints of the Proposed Project and its options are also identified. The results of the regulatory databases/standard environmental records search are provided in the Phase I ESA (Metro 2024).

3.9.4.1 Overview of Hazardous Material Conditions in the Resource Study Area

The types of infrastructure, land uses, facilities, business, and activities that were observed during site reconnaissance and that were identified during review of the regulatory database, aerial photographs, and maps for the Phase I ESA can indicate the general potential for certain types of hazardous materials to be present under existing conditions in the RSA. Based on the Phase I ESA, the types of hazardous materials expected to be encountered in the RSA include the following:

- Aerially deposited lead (ADL) in soils
- Lead-containing materials
- ACMs
- Contaminants from landfills and other waste sites
- Hazardous materials from utility pipeline corridors
- Hazardous subsurface gases
- Contaminants from oil and gas fields and oil wells
- Pesticides and other agricultural chemicals
- PCBs
- Railroad corridor contaminants

3.9.4.1.1 Aerially Deposited Lead in Soils

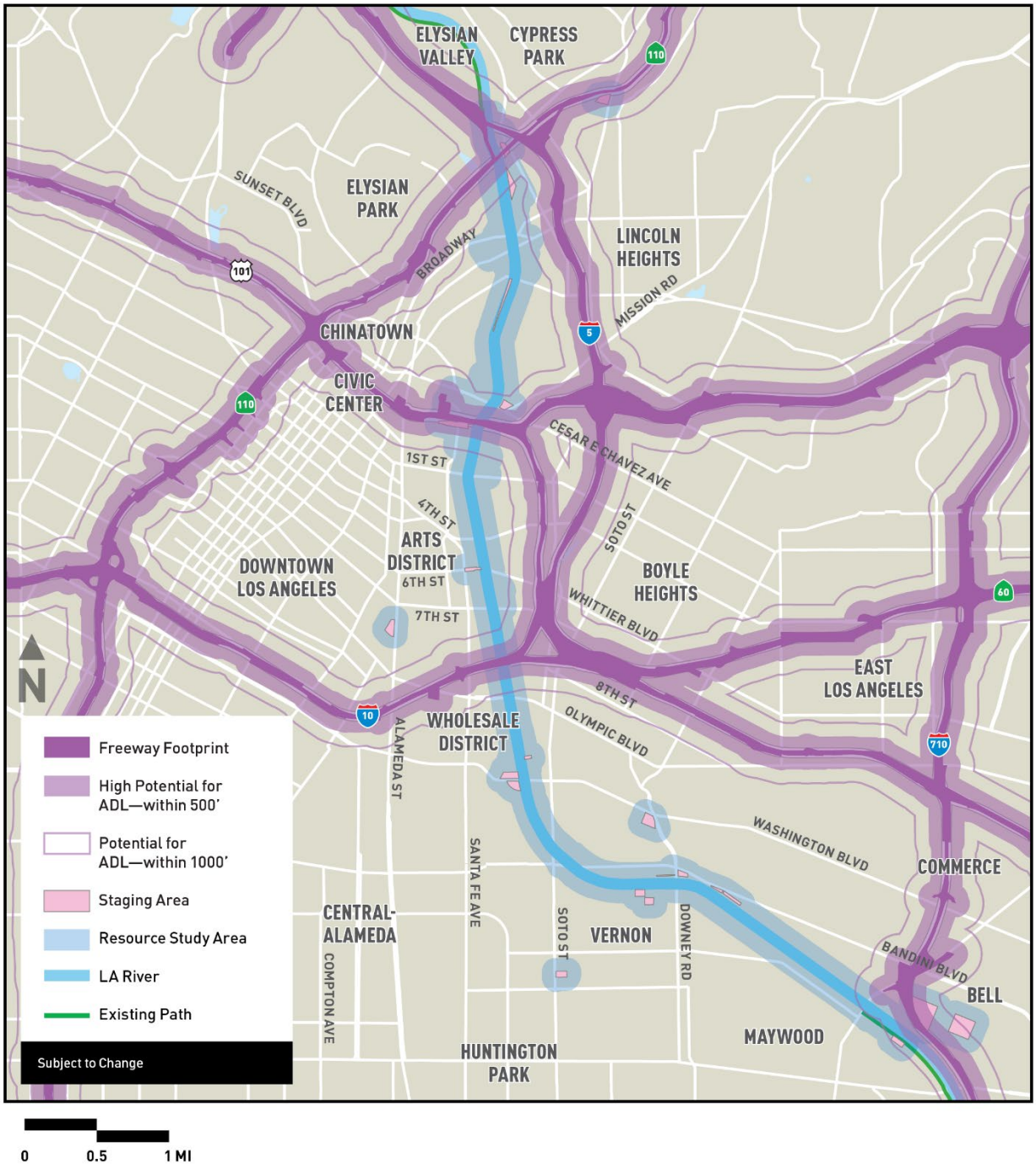
Health effects associated with lead exposure include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Historically, ADL was deposited by cars burning leaded gasoline and is typically found in soil adjacent to highways and roads. Elevated concentrations of ADL that exceed state regulatory thresholds may be present along existing roadways within the RSA. Any waste generated from the disturbance of soil in these locations may be regulated as a hazardous waste.

The following highways and the areas in the immediate vicinity of these highways within the RSA may have soil that are contaminated with ADL: Interstate (I)-5, SR-110, US-101, and I-10. ADL-contaminated soil may potentially occur within 1,000 feet of these highways, with even higher potential for ADL-contaminated soil within 500 feet of the freeways, as shown in Figure 3.9-2.

Open space areas with no asphalt or concrete paving have a higher potential of ADL contamination than paved roadways. Much of the RSA is paved and in an urban environment, so ADL contamination would most likely occur at brownfield sites and open spaces in the RSA.

Figure 3.9-2. Potential Areas with Aerially Deposited Lead in Soil



Note: Data available only along freeways

3.9.4.1.2 Lead-Containing Materials

As previously described in Section 3.9.4.1.1, human exposure to lead is an adverse health risk, particularly to young children. Small levels of exposure to lead-containing materials or lead dust could cause irreversible damage to health. Intact LBP is not considered to be a hazardous material. However, if in poor condition, LBP could create a potential health hazard for building occupants. Demolition of building structures could be a health hazard to construction workers if they are exposed to LBP.

Prior to 1978, over 80% of homes were treated with paint that contained some amount of lead. Although LBP was banned for use in residential buildings and child-occupied facilities in 1978, it continues to be used today on commercial structures due to its ability to prevent corrosion to underlying base metals, as well as its ability to provide a thick and tough coating.

LBP may be found in the RSA on metal structures such as bridges and commercial, industrial, and public buildings. Additionally, lead could also be found in other building features including roofs, cornices, tank linings, electrical conduits, and copper and tin pipe joints.

3.9.4.1.3 Asbestos-Containing Materials

Asbestos is a strong, incombustible, and corrosion-resistant material used in the majority of public and commercial buildings in the United States before the 1980s. As a result, many buildings of sufficient age may contain ACMs in the RSA. Inhalation of asbestos fibers can cause the asbestos fibers to get trapped in the lungs and irritate lung tissues. The inhalation of asbestos can lead to various cancer and non-cancer diseases, such as asbestosis, pleural disease, lung cancer, mesothelioma, and various other cancers (for example, of the larynx, ovary, pharynx, stomach, and colorectum). ACMs may be found in building materials, such as fireproofing material, thermal insulation, and acoustical plaster. ACMs contain more than 1% asbestos (some state and regional regulators impose a 0.1% threshold). The legal exposure limit is 0.1 fibers per cubic centimeter in buildings.

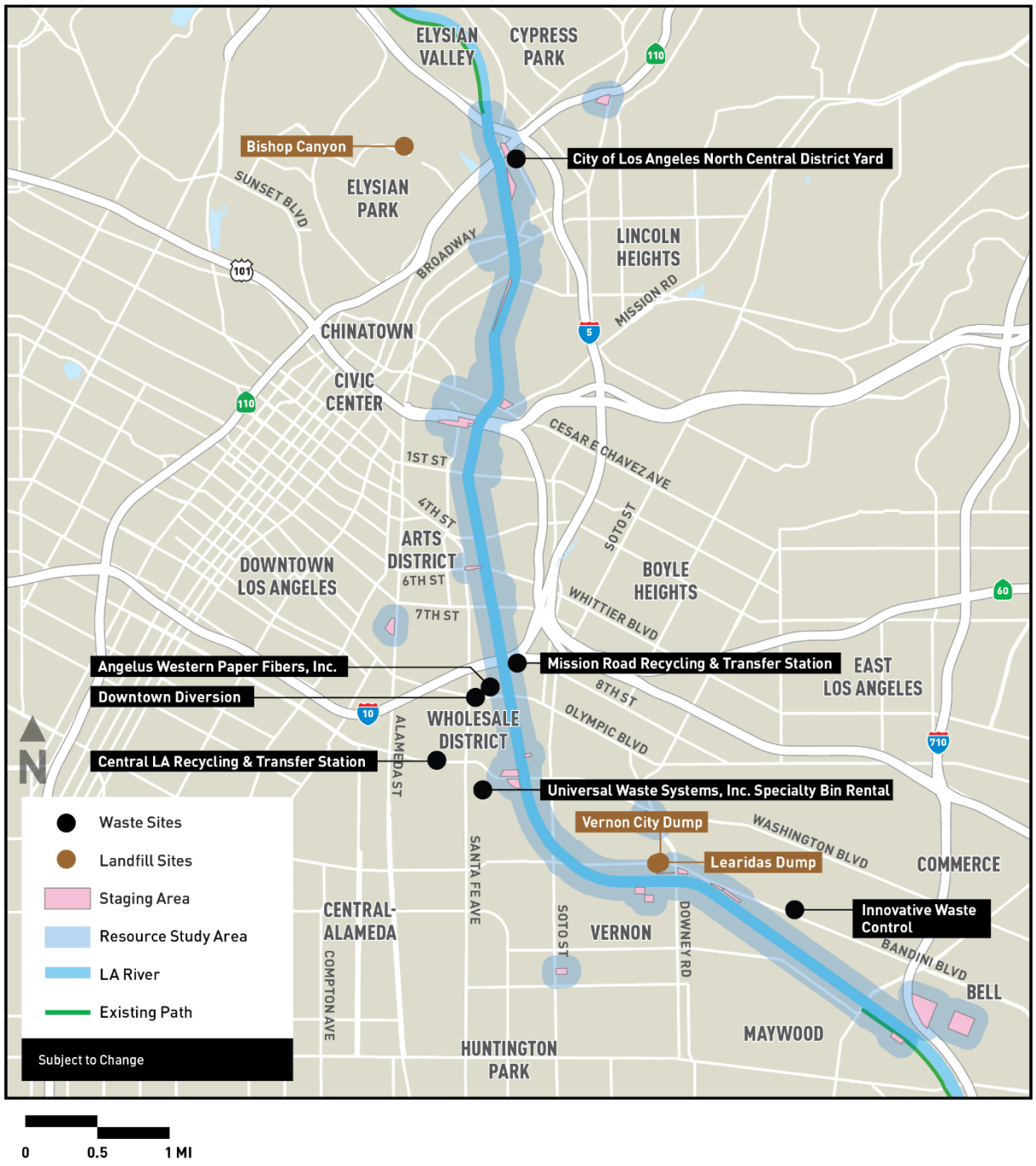
A 2023 Caltrans Bridge Removal Manual indicates that asbestos products may be present in bearings, rail shims, piping, or joint material in older bridges (Caltrans 2023). In the RSA, structures—including bridges that were constructed prior to 1976—may contain ACMs.

3.9.4.1.4 Contaminants from Landfills and Other Waste Sites

Landfill sites can release large amounts of hazardous chemicals to nearby groundwater and the air via leachate and landfill gas, which contain a wide variety of potential carcinogens and potentially toxic chemicals that represent a threat to public health. Potential pollutants include high levels of toxic metals, ammonia, toxic organic compounds, and pathogens. Exposure to these pollutants could cause loss of coordination, nausea, vomiting, and even death in high concentration. Other symptoms include nose and throat irritations, bronchoconstriction, asthma attacks, and respiratory infections.

Other waste sites, including transfer stations and processing facilities, recycling facilities and centers, storage areas for bins and containers used to manage waste collection and management, typically handle materials such as construction and demolition debris, green materials, household trash, industrial non-hazardous waste, and metals. Figure 3.9-3 shows specific facilities identified in the EDR report provided in the Phase I ESA (Metro 2024).

Figure 3.9-3. Landfills and Other Waste Sites

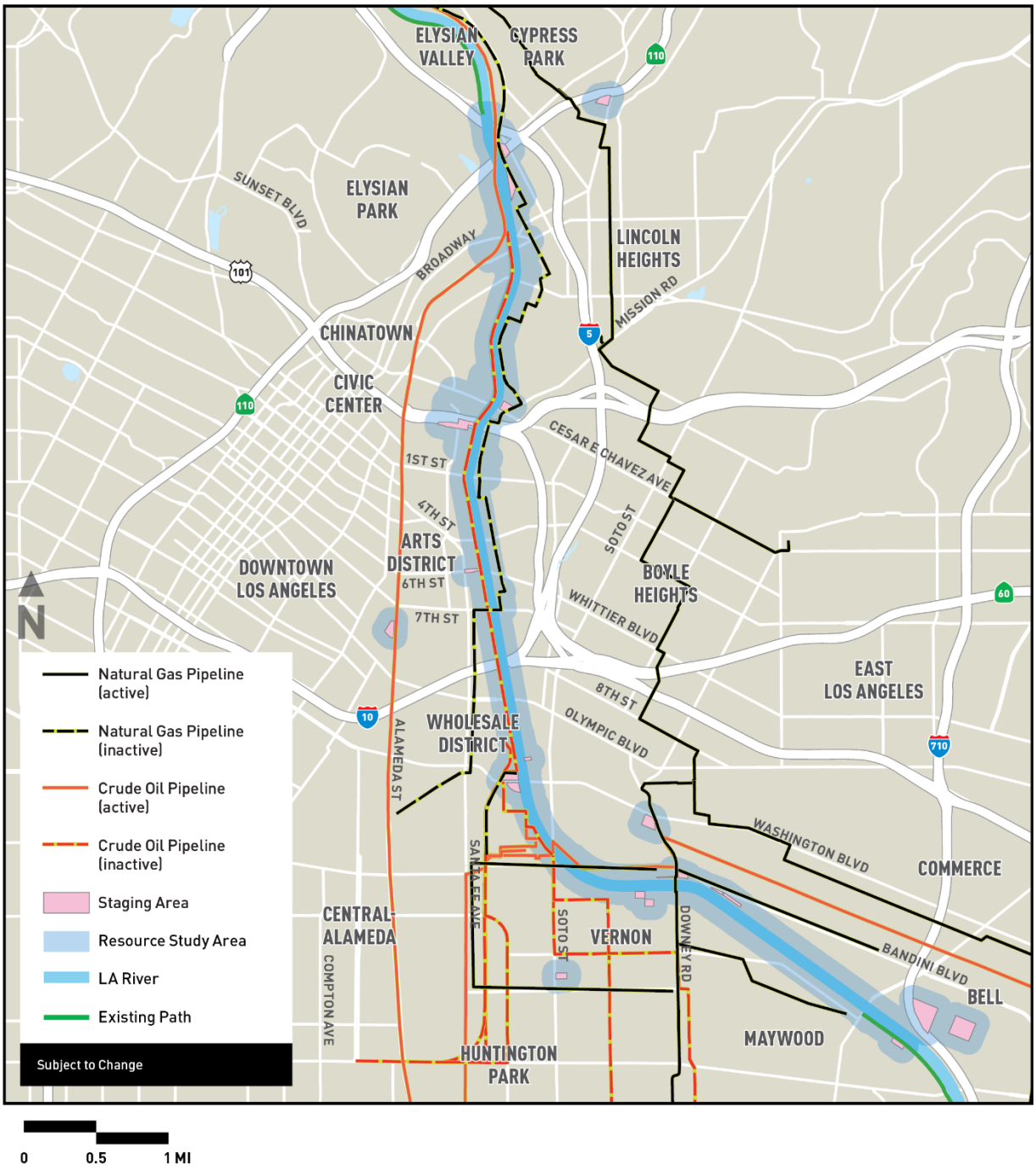


3.9.4.1.5 Hazardous Materials from Utility Pipeline Corridor

Public utility pipelines in the RSA that may contain hazardous materials include crude oil and natural gas pipelines (Figure 3.9-4). Locations of these pipelines within the RSA were identified using the National Pipeline Mapping System (NPMS) (NPMS 2022) public viewer website. Contaminants that may be present in soil, soil vapor, and groundwater near these utility pipelines in the RSA include petroleum hydrocarbons, VOCs, and metals. Health effects associated with swallowing or inhaling hydrocarbons include lung irritation, with coughing, choking, shortness of breath, neurologic problems, irregular heartbeats, rapid heart rate, or sudden death, particularly after exertion or stress. Exposure to VOCs may cause a variety of health effects, such as headaches; dizziness; eye, noise, throat, and skin irritation; damage to liver, kidneys, or central nervous system; fatigue; memory loss, visual impairment; and respiratory difficulties. Chronic exposure to elevated concentrations may result in the impairment of the hepatic and hematopoietic systems. Natural gas pipelines present an explosion risk.

Within the RSA, Plains All American Pipeline (Plains Pipeline) owns an active crude oil pipeline running adjacent to the east bank of the LA River channel that continues southward. An inactive natural gas pipeline runs along the east bank and crosses over to the west bank of the LA River near Seventh Street before continuing southwest towards Alameda Street. Additionally, an inactive crude oil pipeline runs adjacent to the west bank of the river and continues southward. An active crude oil pipeline and an active natural gas pipeline intersect the footprints of the Proposed Project and its options at the LA River channel near Soto Street. According to the National Pipeline Mapping System, no releases have been reported from these pipelines within the RSA. Additionally, no abandoned wells have been reported within the RSA. Reported or unreported releases of hazardous materials from utility pipelines could contaminate the surrounding soil, soil vapor, and/or groundwater within the RSA.

Figure 3.9-4. Hazardous Material Utility Pipelines

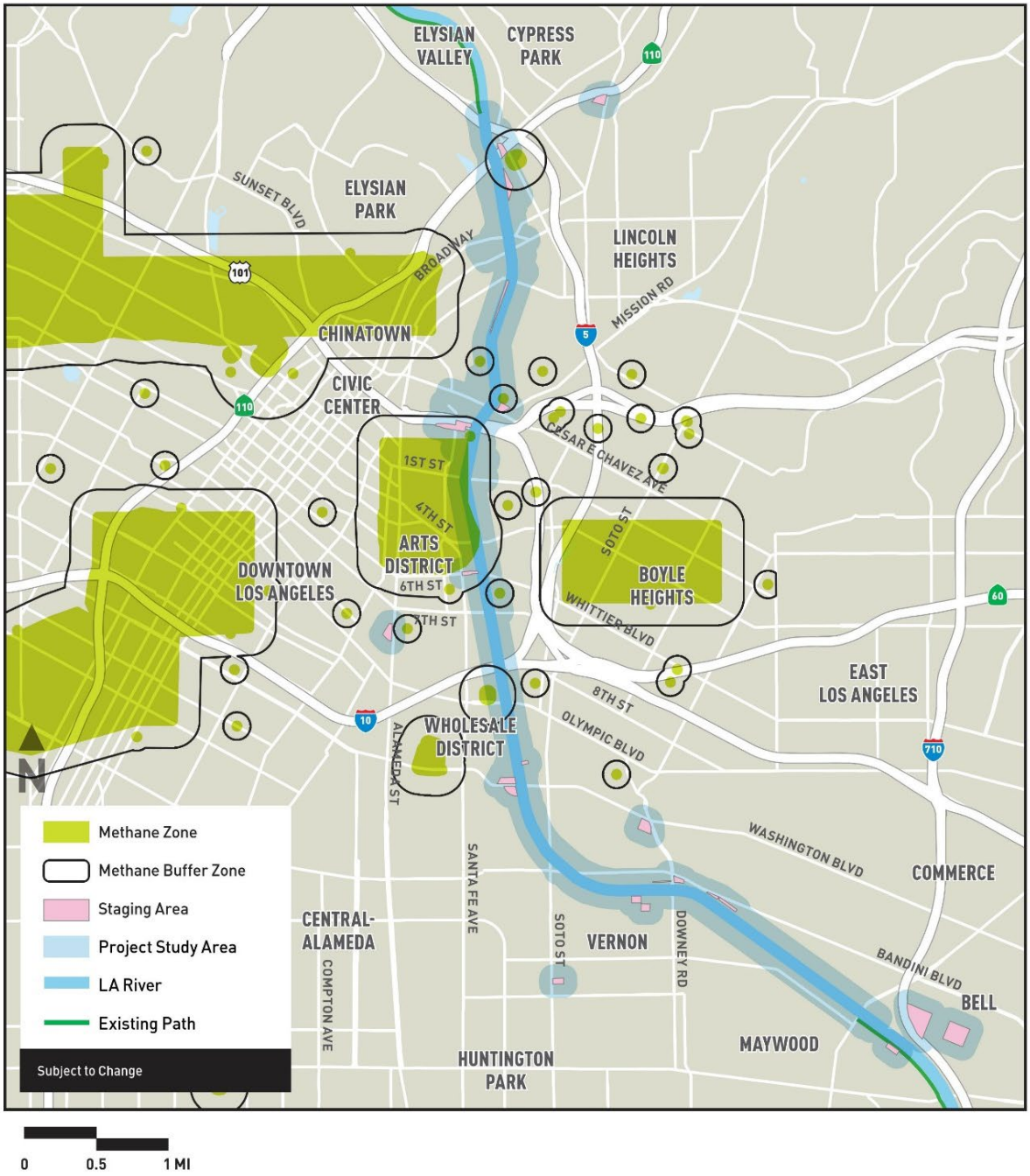


3.9.4.1.6 Hazardous Subsurface Gases

Hazardous subsurface gas in the RSA includes methane and H_2S. Methane is a naturally occurring gas associated with the decomposition of organic materials. Methane is present in the soil beneath much of Southern California. Areas more prone to high concentrations of methane gas include former and active oil fields, swamps, landfills, and anywhere near-surface naturally occurring petroleum deposits are present. Methane gas is common in oil and gas fields and often occurs with H_2S. H_2S is produced by anaerobic decomposition of any type of organic or inorganic matter that contains sulfur. Methane and H_2S could also occur in a dissolved state in groundwater. Methane and H_2S are considered hazardous gases due to their explosive properties. Methane is combustible when mixed with air in the range of between 5% and 15% by volume. The 5% methane volume is called the lower explosive limit. The OSHA permissible exposure limit to H_2S for workers is 10 parts per million. Workers exposed to hazardous subsurface gases have an increased chance of getting cancer or experiencing other serious health impacts, including damage to the immune system, and neurological, reproductive, developmental, respiratory, and other health problems.

As shown on Figure 3.9-5, portions of the RSA are located within a City of Los Angeles-designated methane zone or methane buffer zone (City of Los Angeles 2004). These methane and methane buffer zones were established where naturally occurring methane may occur and create a hazard to life and property. Methane data for neighboring cities, including the Cities of Vernon, Maywood, and Bell, are not publicly available.

Figure 3.9-5. Methane and Methane Buffer Zones in the City of Los Angeles



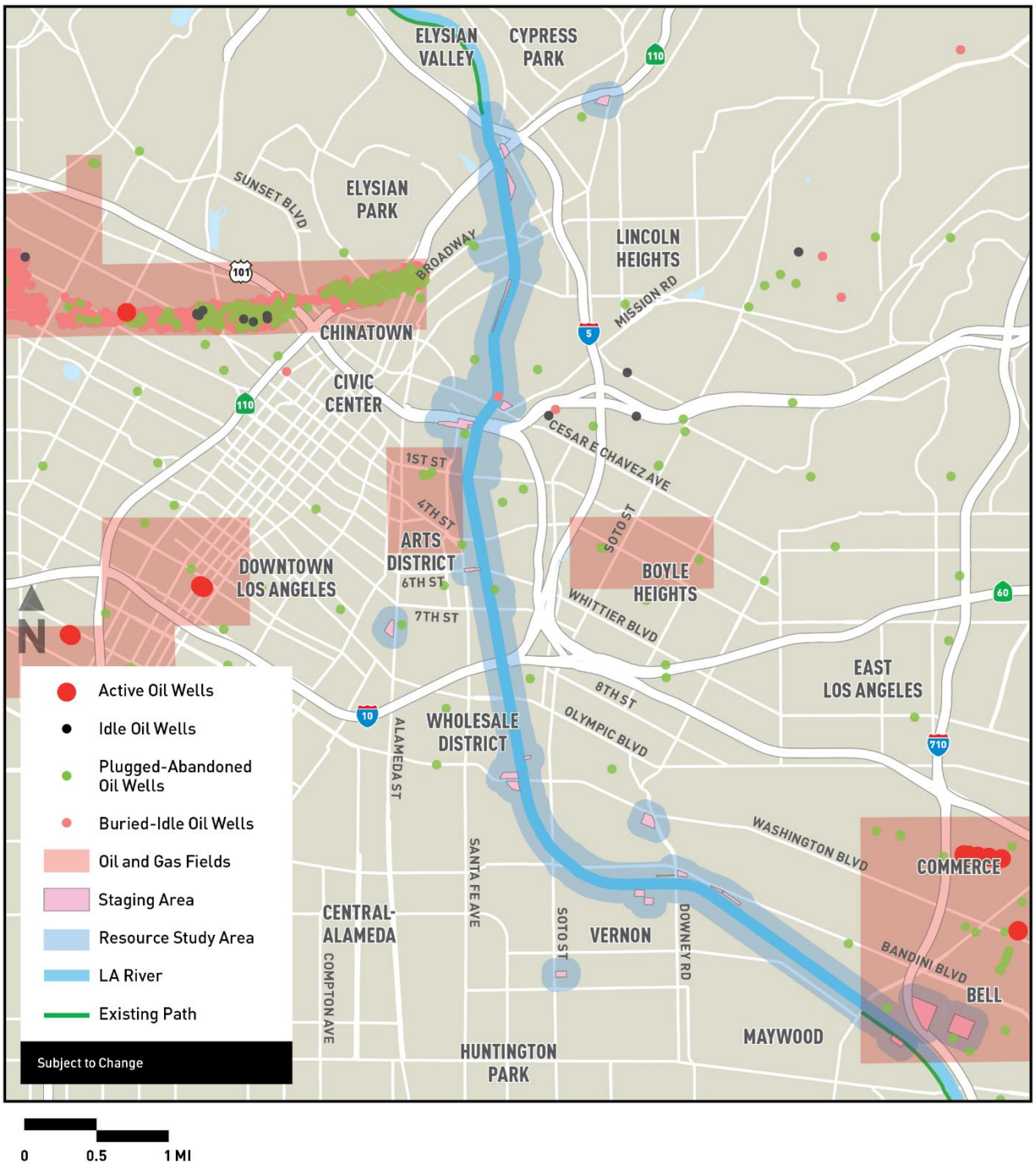
Source: City of Los Angeles 2004 (data for neighboring cities are not publicly available).

3.9.4.1.7 Contaminants from Oil and Gas Fields and Oil Wells

Naturally occurring oil and gas are present in portions of the RSA, and encountering gassy conditions anywhere in the RSA is possible because the RSA has areas with known subsurface gas conditions (Figure 3.9-5) and is characterized by oil and gas fields (Figure 3.9-6). The oil and gas fields and oil wells identified in Figure 3.9-6 are based on published resource maps produced by CalGEM (CalGEM 2018). Union Station Oil Field is mapped immediately west of the LA River (Los Angeles City Planning 1996) roughly from US-101 to Sixth Street. This oil field is abandoned and oil wells in this oil field have been plugged and abandoned. The southwest corner of the Bandini Oil Field overlaps the LA River roughly between South Atlantic Boulevard and East Slauson Avenue. The Bandini Oil Field has both abandoned and idle oil wells. In addition, and based on the CalGEM database, a buried and idle well is located within the LA River approximately 350 feet north of Cesar E Chavez Avenue (CalGEM 2018). A plugged oil well is located approximately 90 feet to the east of the LA River and 650 feet north of East Seventh Street. Another plugged oil well is located within the Bandini Oil Field, 150 feet to the east of the LA River and 600 feet to the south of South Atlantic Boulevard. No active oil wells are present within the RSA (CalGEM 2018).

Adverse health effects associated with subsurface gas are described above in Section 3.9.4.1.6. Contaminated soil, soil vapor, and/or groundwater in or near oil and gas fields and oil wells may be present in the RSA due to reported and unreported releases of oil and gas from these wells and fields.

Figure 3.9-6. Oil and Gas Fields and Oil Wells



3.9.4.1.8 Pesticides and Other Agricultural Chemicals

Pesticides and other agricultural chemicals could harm the nervous system. Health effects include the irritation of the skin and eyes. Some pesticides may be carcinogens. Others may affect the hormone or endocrine system in the body. Pesticides may be encountered in areas formerly used as agricultural areas or in agricultural chemical storage areas that may have been subject to regular applications of fertilizers, pesticides, or other chemicals for maintenance.

Based on available historical aerial photograph records dating back to 1948, the majority of the parcels within the RSA were developed by 1948. However, any former agricultural lands or landscapes adjacent to or in the RSA pre-dating 1948 may have been subject to regular applications of fertilizers, pesticides, or other chemicals for maintenance. Although the RSA does not have any properties that are currently used for agricultural purposes, it is possible that agricultural chemicals were previously stored or mixed at locations in the RSA.

3.9.4.1.9 Polychlorinated Biphenyls

PCBs have been demonstrated to cause a variety of adverse health effects, such as cancer. Serious non-cancer health effects as a result of exposure to PCBs include effects on the immune system, reproductive system, nervous system, and endocrine system. Transformers, elevators, fluorescent lighting, electrical substations, vehicle service lifts, and other areas where hydraulic equipment were used have some potential for PCB contamination. Pad-mounted transformers, pole-mounted transformers, stationary hydraulic equipment, and mobile hydraulic equipment are located in the RSA, but the presence of PCBs in this equipment is uncertain.

3.9.4.1.10 Railroad Corridor Contaminants

Railroad tracks and yards are in the RSA, many of which are in close proximity to the LA River channel (Figures 3.9-7 and 3.9-8). Various chemicals were historically used to preserve railroad ties and for weed abatement along the railroad tracks on both sides of the LA River. In addition, leaks, spills, and drips of various hazardous substances and petroleum products (including freight, fuels, and lubricants) may have occurred along railroad tracks. Contaminants common in railway corridors include petroleum hydrocarbons, pesticides and herbicides, polycyclic aromatic hydrocarbons (PAHs), and heavy metals, including arsenic and lead. Health impacts associated with railroad corridor contaminants include respiratory illnesses, risk of heart disease, cancer risk, adverse birth outcomes, effects on the immune system, multiple respiratory effects, neurotoxicity, and increased premature death.

Unused and abandoned railroad ties, which may contain various chemicals, may also remain within the RSA. Figures 3.9-7 and 3.9-8 indicate the types of rail service (that is, passenger or freight) in the RSA and, by association, common contaminants that are likely to occur along these railroad corridors.

Figure 3.9-7. Railroad Service Types (North)

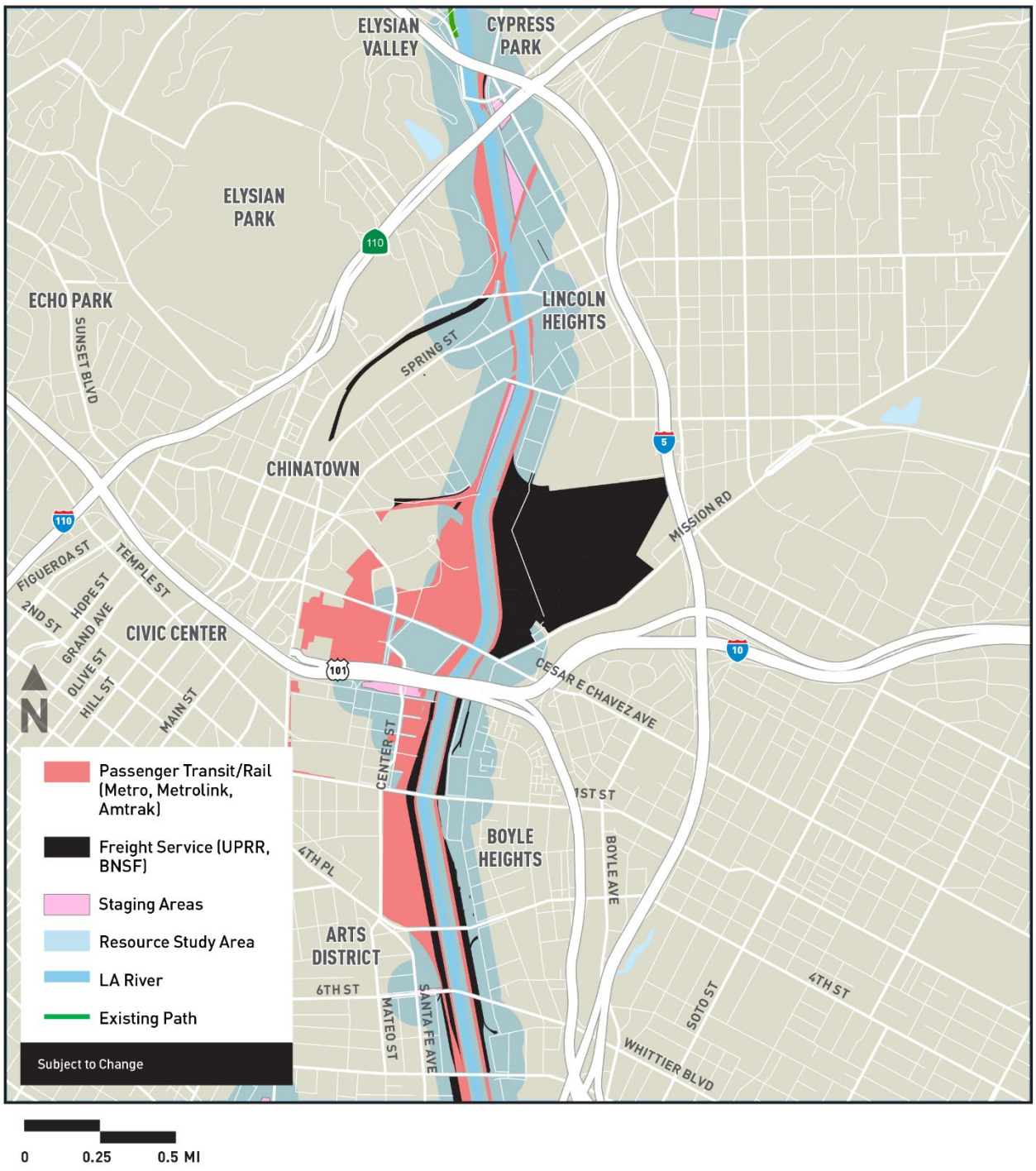


Figure 3.9-8. Railroad Service Types (South)



3.9.4.2 Sites of Potential Environmental Concern

As discussed in Section 3.9.3 and below, a review of historical sources, previous environmental reports, and public records were performed, and a Phase I ESA was completed to identify sites of potential environmental concern within the RSA. Sites of potential environmental concern include sites with soil, groundwater, and/or soil vapor contamination (including sites that have received regulatory closure and sites that have deed restrictions or activity and use limitations). The Phase I ESA identified 51 sites of potential environmental concern within the RSA. Of the 51 sites within the RSA, 33 sites are within the footprints of the Proposed Project, Option 1, and Option 2.

The sites of potential environmental concern within the RSA are identified and described in Table 3.9-2. Locations of these environmental concern sites are mapped and provided in the Phase I ESA (Metro 2024). TCEs and staging areas are within the temporary footprint of the Proposed Project, Option 1, and Option 2; however, for the purposes of determining the potential effects the Proposed Project and its options would have based on location, Table 3.9-2 specifies whether the sites of potential environmental concern are located within the footprints (including alignments, access points, design variations, and construction staging areas) of the Proposed Project, Option 1, or Option 2.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
Lawry's Chromal Site	5415-001-901	528 San Fernando Rd, Los Angeles CA 90065	No	This site is a former chromal plating facility that ceased operations in the 1940s. LARWQCB's regulatory status is Completed—Case Closed as of June 1, 2003. The soil remedial action completed at the site, included in situ treatment and stabilization of chromium-impacted vadose zone soils, which involved a two-pass soil mixing process. A soil closure letter dated August 10, 2000, was issued for this site (LARWQCB 2003).	HREC	No
San Fernando Consolidated Facility	5447-003-901	452 San Fernando Rd, Los Angeles CA 90031	No	LARWQCB issued a closure letter for the site on November 14, 2017. During the tank replacement in 1999, soil samples were collected and indicated detectable concentrations of TPH, TPHs, benzene, toluene, ethylbenzene, and xylenes. Concentrations of TPH-gasoline, TPH-diesel, benzene, toluene, ethylbenzene, xylenes, MTBE, and tertiary-butyl alcohol were detected in the groundwater (LARWQCB 2017).	HREC	Yes. Covenant and Environmental Restriction on Property.
LA—Former Lincoln Heights Jail/Field Operations Ave 19 Yard and N E Municipal Building	5447-005-900	401 Ave 19 North, Los Angeles CA 90031	Option 1, Option 2	This site shares the same APN as the N E Municipal Building (which is considered an HREC). A Phase II Targeted Brownfields Assessment was completed with soil sample results indicating the presence of gasoline and lead contamination (Weston 2018). LARWQCB's regulatory status is Open—Site Assessment as of January 16, 2019.	REC	No
Bortz Oil Co Inc	5409-002-029	1746 N Spring St, Los Angeles CA 90012	Option 1, Option 2	The former Bortz Oil Company stored various petroleum products in ASTs and USTs. These petroleum products were then blended and distributed offsite. No petroleum product storage has occurred at this site since 1986 (Tetra Tech 2008). In August 1996, DTSC completed a removal action which included removal of ASTs and structures and near-surface piping. The first Draft Closure Report was issued in October 2008. The report was approved by DTSC in July 2010. A	REC	Yes. Deed Restriction and Land Use Covenant on Property.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				Remedial Action Workplan has been prepared and documents the case for site closure. Site Closure reports have been certified in 2014 by DTSC. DTSC's regulatory status is Open--Inactive as of January 1, 2015.		
Albion Park (Former Ross Swiss Dairies)	5447-027-908	1739 Albion St, Los Angeles CA 90031	Option 1, Option 2	The site is reported to have had soil and groundwater contamination. LARWQCB states that the information provided to the agency was accurate and no further action related to the petroleum release(s) is required (LARWQCB 2014). This brownfield site was issued a site Closure Letter on January 29, 2014. Remedial activities included the excavation and removal of 9,537 tons of impacted soil. The RWQCB Underground Storage Tank Low Risk Case Review Form for two tanks that were removed in 2012, reported that during a May 2013 groundwater monitoring event, MTBE was detected at a concentration of 13.9 µg/L. TPH-gasoline, TPH-diesel, and VOCs were not detected. Depth to groundwater in 2013 was measured at 28 feet bgs. Maximum concentrations of petroleum constituents remaining in the soil at 5 to 10 feet bgs were reported as: benzene 0.0013 mg/kg, ethylbenzene non-detect, naphthalene 541 mg/kg, PAHs 0.301 mg/kg. Naphthalene was detected at levels higher than commercial limit for volatilization to outdoor air. However, because the site has been backfilled with 3 feet of clean soil, there is no direct contact and no migration of vapors into the air (SWRCB 2014). Unrelated to the contaminated soil and groundwater from historical industrial activities on the site, a previous investigation at this site identified a layer of crude oil and/or an oily substance identified in borings at depths of 20 to 40 feet bgs (Arcadis 2012). It should be noted that this layer of crude oil and/or	HREC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				oily substance may be related to the adjacent LA River Oil Seep located at 1700 East Albion and N. Main Street.		
LA River Oil Seep	5447-027-901	1700 East Albion and N Main St, Los Angeles CA 90031	Proposed Project, Option 1, Option 2	The soil and groundwater on the site are potentially contaminated with crude oil petroleum. The Environmental Database Report for the Phase I ESA reported that on the east bank of the LA River, just north of Main Street, oil was observed seeping out of the weep holes of the concrete-lined LA River.	REC	No
SoCalGas/LA Main Street MGP	5409-013-905 5409-013-908 5409-013-913	1630 N Main St, Los Angeles CA 90012	No	DTSC's regulatory status of this site is considered Inactive—Needs Evaluation as of July 25, 2008. From 1906 to approximately 1915, an MGP was used to produce gas and other related products by processing crude oil feedstock on this property. In 1961, LADWP became the property owner and has since performed extensive construction across the site. Chemicals detected in the soil included metals, PAHs, TPHs, and VOCs. Chemicals detected in the groundwater include MTBE, chloroform, naphthalene, trichloroethene, vinyl chloride, benzene, and 1,1-dichloroethane (Sullivan International Group 2006).	REC	No
BNSF—Mission Tower Site	5409-012-908	1430 Bolero, Los Angeles CA 90012	Option 2	This site has been reported to have contaminated soil and groundwater. The contaminants include crude oil, other polynuclear aromatic hydrocarbons, and total petroleum hydrocarbons (URS 2014). The regulatory status is Completed—Case Closed as of September 25, 2012, with a recommendation for no further action (LARWQCB 2012).	HREC	Deed Restriction. Agency notification required.
Aliso St Investigation	5409-020-901	Bauchet St, Temple St, East Cesar E Chavez Ave, Vignes St, Los Angeles CA 90013	No	This investigation includes 15 locations consisting of streets, alleys, sidewalks, and ROWs that were originally portions of the Aliso Street MGP. Generally, these streets and alleys do not have an	HREC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				associated APN. DTSC approved the Final Site Investigation Report in 2014 (Tetra Tech 2014). DTSC's regulatory status as of May 18, 2020, is no further action.		
Van Der Horst Plating	5409-019-907	496 Bauchet St, Los Angeles CA 90012	No	The property was originally part of Sector E of the Aliso Street MGP and occupied approximately 9 acres in Downtown Los Angeles. Contaminants discovered in the soil and groundwater include petroleum hydrocarbons, chlorinated solvents, cyanide PAHs, and heavy meals (Tetra Tech 2004b). The DTSC VCP status is active.	REC	Land Use Controls. Agency notification required.
SoCalGas/Aliso E MGP	5409-019-906	490 Bauchet St, Los Angeles CA 90012	No	This site is part of the former 52-acre Aliso Street MGP investigation. Sector E 490 Bauchet Street site is located in the southeast corner of Sector E. It is 1.7 acres in a fenced area, including a 40,000 square foot warehouse surrounded by asphalt pavement. Soil at the site is impacted by perchloroethylene, trichloroethene, and dicyclopentadiene (Tetra Tech 2004a; Tetra Tech 2004b). A Removal Action Completion Report was completed and approved in 2007 by DTSC. The Certification of Removal Action was finalized and completed in 2014. The DTSC VCP status is active.	REC	Land Use Controls. Agency notification required.
Metro	5409-017-905	900 Lyon St, Los Angeles CA 90012	Proposed Project, Option 1, Option 2	This site has historically operated as a cold storage and food processing facility and is associated with the former SoCal Gas Aliso Street MGP (Block Q). Site soil contamination consists of elevated concentrations of TPHd, TPHg, ethylbenzene, xylenes, and naphthalene detected in the soil. LARWQCB has provided oversight of the investigations workplan and report (LARWQCB, 2015). The regulatory status is Open—Inactive as of January 30, 2015.	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
SoCal Gas/Aliso D MGP	5409-017-905 5409-017-906 5409-018-916 5409-018-920 5409-020-905 5409-020-908	East Cesar E Chavez Ave and Lyons St, Los Angeles CA 90012	Proposed Project, Option 1, Option 2	This site is part of the former 52-acre Aliso Street MGP investigation. Sector D consists of approximately 10.5 acres near the intersection of Cesar E Chavez Avenue and Lyons Street. Historically, the site has been used for lampblack pits, processing, and storage. Contaminants of concern include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals (Tetra Tech 2005). Remedial Action was done in 2010 and the report was approved by DTSC in 2011. Drafting of a Land Use Covenant and an Operation and Maintenance Plan are currently in progress. The regulatory status is active as of January 19, 2001.	REC	No
Aliso MGP	N/A	600 East Cesar E Chavez Ave, Los Angeles CA 90012	Proposed Project, Option 1, Option 2	The site has an LARWQCB regulatory status of Open—Inactive as of January 29, 2015. The former site covers approximately 52 acres in Downtown Los Angeles and consists of an overall groundwater unit and five sectors which have individual remedial plans. According to a 2018 groundwater monitoring report, the depth to groundwater at the monitoring wells ranged from 24 feet bgs to 86 feet bgs (Tetra Tech 2019). LARWQCB regulatory status is Open-Inactive as of January 29, 2015.	REC	No
Los Angeles City/Police Department	5409-021-900	555 Ramirez St, Los Angeles CA 90012-2962	Proposed Project	Several investigations have been conducted as part of the removal and replacement of USTs at this site. Remediation is not feasible due to the ongoing operations of the Piper Technical Center site and the presence of a heliport. DTSC determined that no further action is required as of November 5, 2021 (LARWQCB, 2021). Soil and groundwater contamination remain at this site.	REC	Land Use Covenant. Agency notification required.
Santa Fe/Macy St	5409-021-902	Macy/Aliso/Keller Sts, Los Angeles CA 90012	Proposed Project, Option 2	The site is currently used by the LAPD as a vehicle storage area. From 1897 to 1992, the site was used for a variety of commercial and industrial activities. The soil was contaminated with high	REC	Land Use Covenant. Agency notification required.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				concentrations of benzene, PAHs, diesel, and gas. Although removal actions occurred, high concentrations still exist at deeper depths. DTSC determined that all contaminated soil was excavated in accordance with the approved Removal Action Workplan. A Land Use Covenant is in place, which limits the types of activities that may disturb the soil or groundwater. The status for the site is Certified Operation and Maintenance with Land Use Covenant. From Phase I ESA: Due to the ongoing operations of Piper Technical Center site and the presence of the heliport, DTSC was informed that no remediation is feasible at this site. As of September 20, 2018, DTSC stated "no further action" for this site (LARWQCB 2021). However, soil and groundwater contamination remain. PAHs remain in the soil above residential risk levels at depths of 10 feet or more below the surface.		
Southern California Regional Rail Authority Track Extension (Same site as Santa/Fe Macy St)	5410-006-902	Keller Yard near East Cesar E Chavez Ave Los Angeles CA 90012	Proposed Project, Option 2	This property was used for various commercial and industrial activities from 1897 to 1992. The southern portion of the site is currently used as a vehicle storage lot by LAPD. Metals, PAHs, TPH, and VOCs were detected in the soil. The removal plan documented the remediation of soils in accordance with DTSC-approved removal plan and the development of the site into a rail storage yard. Based on the data presented, DTSC determined the removal of contaminated soil from the site was done in accordance with the Soil Management Plan and the removal plan (DTSC 2011). Cleanup Status identifies no further action as of January 21, 2013. A Land Use Covenant is in place for the Santa Fe Macy Street site, which is the same location as this Southern California Regional Rail Authority Track Extension. The Land Use Covenant for this site	HREC	Land Use Covenant. Agency notification required.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				limits the types of activities that may disturb the soil or groundwater.		
Ramirez St Investigation	N/A	Approximately 400-foot stretch of Ramirez St located between Center and Keller Sts, Los Angeles CA 90012	Proposed Project	The Ramirez Steet Investigation is located within the former 52-acre Aliso Street MGP site. DTSC's regulatory status is considered active as of November 6, 2012. The area of interest for the Ramirez Street investigation is a 400-foot stretch of Ramirez Street located between Center and Keller Streets and between Sectors A and B. Ramirez Street was investigated in 1984 as part of the former Aliso Sector B. Results from the 2003–2004 remedial investigation of Aliso Sector B3 and September 2009 Aliso Streets Investigation indicated the presence of suspected MGP residuals in soil along portions of Ramirez Street. The Remedial Action Plan was approved by DTSC in 2017 (DTSC 2017). Implementation of the Remedial Action Plan is pending.	REC	No
SoCal Gas/Aliso MGP, Sector A—West Parcel	5409-022-905	Keller St, Vignes St, and US Highway Route 101 Los Angeles CA 90012	Proposed Project, Option 1, Option 2	The former Aliso Street MGP covered approximately 52 acres in Downtown Los Angeles. The site is being investigated as five sectors and an overall groundwater unit. Each sector has its own remedial plan (Tetra Tech 2005). The regulatory status is reported as Inactive—Action Required as of September 8, 2020. A remedial action completed at the site includes the removal of contaminated soil down to a depth of approximately 28 feet bgs. A Removal Action Completion Report was approved by DTSC in 2007 and DTSC issued a partial site certification letter for the soil cleanup. Groundwater underneath the soil is contaminated and monitoring and sampling of the whole Aliso site is currently underway (DTSC 2007).	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
SoCal Gas/Aliso MGP, Sector A—East Parcel	5409-022-905	Keller St, Vignes St, and US Highway Route 101 Los Angeles CA 90012	Proposed Project, Option 1, Option 2	This site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is reported as Inactive—Needs Evaluation as of September 8, 2020. The 1.2-acre site is an operable unit of the larger Aliso Street MGP. Contaminants included lampblack, tar, petroleum hydrocarbons, and possibly cyanide. The site is fully paved and there is no route of exposure unless construction occurs (Tetra Tech 2003). Removal Action was implemented, and a Completion Report was approved by DTSC in 2007.	REC	No
Aliso Sector A Denny's Parcel	5409-022-905	530 Ramirez St Los Angeles CA 90012	Proposed Project, Option 1, Option 2	The site is within the 52-acre former Aliso Street MGP site. Past MGP operations included coal gas and oil gas manufacturing. Remedial action included the removal of contaminated soil down to a maximum depth of 26 feet bgs in areas known to have contamination. The final Remedial Action Completion Report was approved by DTSC on June 19, 2000. Contaminants of concern remaining on the property are carcinogenic PAHs, naphthalene, and TPH. The Removal Action Completion Report concluded that the remaining residuals at the site pose no human health risk when used for commercial/industrial purposes (NOREAS 2021a).	REC	Land Use Covenant. Agency notification required.
SoCal Gas/Aliso Site-Wide—Groundwater	N/A	Temple/Vignes/Lyon/ Keller/Alhambra Sts, Los Angeles CA 90013	Proposed Project, Option 1, Option 2	This site is part of the former 52-acre Aliso Street MGP investigation. The site extends to the northern end of Bauchet Street and south to Temple Street. The southern half of the site is bisected by Center Street, while the northern section is to the east of Lyon Street and west of the LA River. Contaminants found include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals (DTSC 2001). DTSC has reviewed the groundwater data from the last 15 years, and current documents show groundwater monitoring well testing is still in progress.	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
SoCal Gas/Aliso Sector C, Block G	5173-018-001	Northwest Corner of Commercial and Center Sts Los Angeles CA 90012	Proposed Project, Option 1, Option 2	This site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is Inactive—Action Required as of September 8, 2020. The site is vacant land and covered with soil. The site is bordered by US Highway Route 101 to the north, Center Street to the east, East Commercial Street to the south, and a vacant piece of land to the west that contains an onramp to US-101. SoCal Gas owned and operated an MGP on an area of Aliso Street beginning in 1887. Remedial action includes removing a 60-inch-diameter pipeline and a 3,000-gallon UST from the site. SoCalGas has also removed contaminated soil down to a depth of approximately 18 feet bgs in the areas surrounding the pipeline and UST. The Remedial Investigation Report concluded that the remaining contaminated soil did not have any human health risk and the site is to be used for commercial or industrial use (Tetra Tech 2004c).	REC	No
Friedman Bag Company Inc	5173-019-006	801 E Commercial St, Los Angeles CA 90012	Proposed Project	Reportedly, USTs have been removed from the site. TPHs were identified in the soil and MTBE was identified in the groundwater. LARWQCB determined closure/no further action as of August 23, 2002.	HREC	No
SoCal Gas/Aliso Sector C, Block K	5173-020-911	Northeast Corner of Ducommun and Center Sts, Los Angeles CA 90012	Proposed Project, Option 1, Option 2	This site is part of the former 52-acre Aliso Street MGP investigation. Site contaminants at this 1.8-acre site include PAHs, benzene, TPH-diesel, TPH-gasoline, and various others. Removal action was implemented, and the Removal Action Completion Report was approved by DTSC in 2009 (NOREAS 2021b). A Land Use Covenant is in place for this site. DTSC's regulatory status is active as of January 19, 2001.	REC	Deed Restriction. Agency notification required.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
SoCal Gas/Aliso Sector C, Block L	5173-017-008	728 East Commercial St, Los Angeles CA 90012	No	This site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is Certified Operation and Maintenance—Land Use Restrictions Only as of December 7, 2004. Contaminants suspected include petroleum hydrocarbons, VOCs, PAHs, and heavy metals (TRC 2004).	REC	Deed Restriction. Agency notification required.
SoCal Gas/Aliso Sector C, Block O	5173-016-008	Southwest corner of Ducommun and Center Sts, Los Angeles CA 90012	No	This 1.5-acre site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is Inactive—Action Required as of September 9, 2020. A remedial site investigation was conducted in 2003 and a supplemental investigation was performed in 2008. Contaminants included benzene, lead, PAHs, TPH-diesel, and various others (DTSC EnviroStor 2022).	REC	No
410 Center St Property (Metro Project)	5173-021-905	410 Center St, Los Angeles CA 90012	Proposed Project	This property is a former MGP, including former crude oil collection and storage. Regulatory status is Certified Operation and Maintenance—Land Use Restrictions Only as of December 7, 2004. In 2006, SoCal Gas completed removal action activities specified in their Removal Action Workplan approved by DTSC in August 2004. As of 2007, the site remains contaminated with perchloroethylene in soil vapor. The current owner plans to address concern through additional remediation (Avocet Environmental, Inc. [Avocet] 2007).	REC	Land Use Covenant. Agency notification required.
Aliso Sector C Block R	5173-015-016	820 East Jackson St, Los Angeles CA 90012	No	This site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is Inactive—Action Required as of May 18, 2020. Block R was not used for any MGP operations, although the northern portion of the adjacent Block Q had cooling towers that were used in MGP operations. Contaminants include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals. The norther portion is vacant and is the	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				area that was investigated. Remedial investigations were done in 2011 and 2013 (Tetra Tech 2013a).		
SoCal Gas/Aliso Sector C, Blocks Q&R	5173-015-016, 5173-022-905	Southeast and southwest corners of Jackson and Center Sts, Los Angeles CA 90012	No	This site is part of the former 52-acre Aliso Street MGP investigation. DTSC's regulatory status is Inactive—Action Required as of September 8, 2020. The southern portion of Block Q does not include contamination with levels that can have adverse effects on human health. Contaminants include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals. The northern portion is vacant and is the area that was investigated. Remedial investigations were done in 2011 and 2013 (Tetra Tech 2013b).	REC	No
Metro/ADCO/Atlas	5173-022-906	200 Center St, Los Angeles CA 90012	No	This site has historically operated as a cold storage and food processing facility and is associated with the former SoCal Gas Aliso Street MGP (Block Q). DTSC's regulatory status is active as of September 29, 2017. Site soil contamination includes elevated concentrations of arsenic, lead, and various contaminants. DTSC has provided oversight of the investigations workplan and report (DTSC EnviroStor 2022).	REC	No
United Technologies Inmont Cor	5164-005-904	590 S Santa Fe Ave, Los Angeles CA 90013	No	This 2.7-acre site includes two land parcels and is the former site of a paint, lacquer, and printing manufacturing facility. Soil and groundwater under the site are contaminated with VOCs (Avocet 2014). Regulatory status is active as of December 7, 2012.	REC	No
Angelus Western Paper Fibers Inc	5168-028-008	2474 Porter St, Los Angeles CA 90021	No	A leak was reported on December 1, 1990. The groundwater was reportedly contaminated with gasoline. LARWQCB's regulatory status as of February 13, 1995, is Completed—Case Closed (SWRCB 2022).	HREC	No
Redondo Junction Diesel Facility	5168-011-905	2435 E Washington Blvd, Los Angeles CA 90021	No	DTSC's regulatory status is active as of January 10, 2003. Historic usage includes a railroad	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				maintenance yard. Chlorinated solvents trichloroethene and perchloroethylene have been identified in the soil along the southern border of the site according to the *Final Remedial Investigation Report on Amtrak's Los Angeles Yards, Redondo Junction and Northern Extension. January 31, 2008* (DTSC EnviroStor 2022).		
ACTA North—Permanent Easement	5168-015-802, 5168-015-902, 5168-017-012	2607–2649 Washington Blvd, Los Angeles CA 90021	Proposed Project, Option 1, Option 2	A Phase II Investigation identified TPH, 1, 2-dichlorobenzene, and lead in the soil of the ACTA North—Permanent Easement site. LARWQCB determined that no further action is required as of September 24, 2002 (LARWQCB, 2002).	HREC	No
Calmat Co	5169-016-011	2715 E Washington Blvd, Los Angeles CA 90023	No	The Vulcan Materials site was found at this same address. A leak was reported on July 30, 2002. The soil was determined to be contaminated with diesel. LARWQCB's regulatory status as of September 25, 2006, was Completed—Case Closed.	HREC	No
Hoffman Bros Packing Co, Inc.	6302-001-044, 6302-001-045	2731 S Soto St Vernon, CA 90023	Option 1, Option 2	The site is currently covered by buildings and paved parking areas and is zoned for heavy industrial use. Soil contamination was present, and the owner entered into a voluntary cleanup agreement with DTSC. As of June 20, 1995, the regulatory status was no further action (DTSC EnviroStor 2022).	HREC	No
Chevron Station 94111	6303-004-039	3600 S Soto St Vernon, CA 90058	Option 1, Option 2,	The soil at this site was determined to be contaminated with gasoline. The City of Vernon Health and Environmental Control Department indicated that the regulatory status as of August 20, 1997, was Completed—Case Closed.	HREC	No
Vernon Paving Company	6303-006-050	3150 Bandini Blvd Vernon, CA 90058	No	LARWQCB's regulatory status as of May 2016 is Completed—Case Closed. This site is reported to be an LDS. Regulatory agency databases for this site indicate no potential contaminants of concern or impacts to the soil or groundwater (EDR 2022).	HREC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
Bandini Truck Terminal	6303-007-021	3152 Bandini Blvd Vernon, CA 90023	No	A leak was reported on April 18, 1995. The regulatory status as of August 23, 1999, was Completed—Case Closed (SWRCB 2022). The soil was determined to be contaminated with diesel.	HREC	No
Harshaw/Filtrol (Bandini Blvd Facility)	6303-001-015	3305 Bandini Blvd Vernon, CA 90058	No	A leak was reported on April 21, 1988. The City of Vernon Health and Environmental Control Department indicated that the regulatory status as of April 21, 1988, is open. Potential contaminants include acids or other corrosives. The site is reported to have potentially contaminated groundwater (EDR 2022).	REC	No
United States Aluminum	5192-029-813	3663 Bandini Blvd Vernon, CA 90023	No	This property is a former solid waste disposal site. A 2008 Phase II Investigation completed for the International Aluminum Facility indicated chemicals of potential concern in the soil, including PAHs and inorganic constituents with the potential for lateral movement in the perched groundwater toward the LA River channel (URS Corporation [URS] 2008).	REC	No
ANR Freight Lines, Inc.	5192-029-806	3677 Bandini Blvd Vernon, CA 90058	No	Past use includes a vehicle maintenance facility. Two diesel fuel USTs and one waste oil UST were removed in 1991. Contaminated soil was removed or treated. Lead and copper were detected at elevated concentrations. DTSC designated specific actions in the Remedial Action Plan. Santa Fe Rail Company completed the construction of a cap over the 10-acre site (URS 2014).	REC	Yes. Deed Restriction.
Ferro Union	5192-029-273, 5192-029-802, 5192-029-803, 5192-029-806, 5192-029-807, 5192-029-808, 5192-029-809, 5192-029-810,	3691–3695 Bandini Blvd Vernon, CA 90023	No	The site is within a heavy industrial area in the City of Vernon and encompasses over 9 acres. Past activities include a landfill operation, trucking facility, iron and steel works, and medical and infectious waste treatment. Subsurface soil near the former steel forming area and the landfill material is contaminated with lead and various contaminants. A final Remedial Action Plan was	REC	Yes. Deed Restriction.

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
	5192-029-811, 5192-029-812			approved by DTSC in June 1998. The site is currently under an Operation and Maintenance Agreement established in August 2003 and contains land use controls, such as an asphalt cap to remain as long as contaminated soils are present on site (TRC 2014).		
Exide Technologies, Inc.	5243-021-024	2700 Indiana St Vernon, CA 90058	No	The site is a former lead acid battery recycling facility. Soil beneath and surrounding the facility have been polluted with high levels of lead, arsenic, cadmium, and other toxic metals. DTSC established a PIA that encompasses an approximately 1.7-mile radius around the former Exide facility (which is located outside of the Proposed Project footprint). Cleanup efforts within the PIA are in progress, and DTSC aims to remediate sensitive land use properties in the PIA with the highest lead concentrations in the soil and greatest potential for exposure. Industrial areas near the Proposed Project have not been remediated. Therefore, there is a potential for unpaved areas in the industrial areas within a 1.7-mile radius to contain lead, arsenic, cadmium, or other heavy metals (DTSC EnviroStor 2022). Although the site is not within the RSA, a portion of the PIA is within the RSA.	REC	No
Globe Union Inc	6304-010-011	5015 District Blvd Vernon, CA 90058	No	Lead/acid automotive battery manufacturer occupied the space from 1956 to 1962. DTSC completed a Preliminary Assessment Summary of the site in April of 1997 and recommended a site investigation with a low priority assigned. Although the site is currently paved, there has been no site investigation to determine to the potential for soil or groundwater contamination that may be present as a result of the historical lead battery manufacturing process (Weston 2010).	REC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
Service Oil, Inc.	6314-003-001, 6314-003-800	5122 Atlantic Blvd Vernon, CA 90058	No	The site was involved in aboveground petroleum storage and distribution. LARWQCB's regulatory status is Open—Site Assessment as of July 25, 2016. ASTs are empty but are believed to be the source of soil and groundwater contamination. In 2007, Krystal Enterprises, LLC entered into a voluntary cleanup agreement with DTSC. Remediation activities stopped in mid-2013 and have not resumed per the letter from City of Vernon dated May 2016. Oversight has been transferred to LARWQCB and a request for Low Threat Case Closure has been submitted. Response from LARWQCB has not been found at this time (City of Vernon 2016).	REC	No
Former Thermador Industrial Site	6314-001-035, 6314-001-036, 6314-001-800, 6314-003-010	5119-5309 District Blvd Vernon, CA 90058	No	The site has been subjected to numerous environmental investigations and remedial actions since 1997. Phase I and II ESAs were conducted and indicated elevated concentrations of metals contaminated soils under the southeastern portion (PIC 2005). The City of Vernon and DTSC entered into a voluntary cleanup agreement in 2013 to oversee the cleanup and completion of the site.	REC	Yes. Deed Restriction.
Bell Army Reserve Center	6332-002-964	5631 Rickenbacker Rd Bell, CA 90201	Staging Area for Proposed Project, Option 1, and Option 2: Rickenbacker 2	This site is located at the Rickenbacker 2 Staging Area located approximately 2,500 feet to the southeast of the Proposed Project. The Bell Army Reserve Center is also identified on the EnviroStor website as US Army Base 1. The Bell Army Reserve Center encompasses 42.93-acres and is a former military facility that operated between 1943 and 1961. Historical site maps reveal railroad tracks, former UST area, two production wells in the vicinity, former truck maintenance pits, and former railroad maintenance and fueling areas. The site screening did not reveal an actual or potential link between the historical activities, reported chemicals or the known groundwater well impacts	HREC	No

Table 3.9-2. Sites of Potential Environmental Concern Within the RSA

Site	APN	Address	In Proposed Project, Option 1, or Option 2 Footprint[a]	Findings	REC Findings	Agency Oversight Required
				(DTSC 2018). The regulatory status as of September 14, 2018, has determined no further action required.		
Former Welch's Uniform Facility	5205-004-010	3505 Pasadena Ave Los Angeles, CA 90031	Staging Area for Proposed Project, Option 1, and Option 2: Pasadena/Ave 35	The site is undergoing post-remedial action monitoring. Soil and groundwater have been primarily contaminated with trichloroethene. Groundwater levels were reported in the shallow zone at depths ranging from 36.95 feet bgs to 42.31 feet bgs. The groundwater flow direction in the shallow zone was reported to be toward the southwest (away from the site). The Land Use Covenant at this site includes limitations on soil excavation, grading, removal, trenching, filling, earth movement, and drilling (Apex 2022).	REC	Yes. Land Use Covenant. Agency notification required.
Soco-Lynch Corporation	5169-022-008, 5169-022-009, 5169-022-270	3270 E Washington Blvd Vernon, CA 90023	Staging Area for Proposed Project, Option 1, and Option 2: Washington Blvd	Soil and groundwater underlying the site have been contaminated with VOCs, primarily tetrachloroethene, trichloroethene, acetone, and ethyl methyl ketone, as well as TPH (Geosyntec 2021). LARWQCB's regulatory status is currently Historical – Waste Discharge Requirements as of December 16, 2003.	HREC	No

DTSC = Department of Toxic Substances Control
ESA = Environmental Site Assessment
HREC = historical recognized environmental condition
LARWQCB = Los Angeles Regional Water Quality Control Board
LAPD = Los Angeles Police Department
LDS = land disposal site
MGP = manufacturing gas plant
MTBE = methyl tertiary-butyl ether
PAH = polycyclic aromatic hydrocarbons
PIA = Preliminary Investigation Area
REC = recognized environmental condition
TPH = total petroleum hydrocarbons
UST = underground storage tank
VCP = Voluntary Cleanup Program
VOC = volatile organic compound

3.9.4.3 Educational Facilities

Individuals who may be particularly sensitive to hazardous materials exposure, such as toddlers, children, teens, and young adults, are the primary users of educational facilities (defined as colleges, high schools, elementary schools, preschools, or nursery schools). The following educational facilities are within 0.25-mile of the temporary and permanent footprints of the Proposed Project and its options and are shown in Figure 3.9-9:

- Florence Nightingale Middle School
- Loretto Street Elementary School
- Hillside Elementary
- Los Angeles Leadership Academy Center
- Alliance Susan and Eric Smidt Technology High School
- Albion Street Elementary School
- PUC Milagro Charter Elementary School
- Ann Street Elementary School
- Utah Street Elementary School
- Felicitas and Gonzalo Mendez Learning Center
- Southern California Institute of Architecture
- Para Los Niños Charter
- Metropolitan Continuation High School
- Maywood Elementary School
- South Region Highschool #8/Maywood Center for Enriched Studies

Figure 3.9-9. Public Schools within 0.25-Mile of the Footprints of the Proposed Project and its Options



3.9.4.4 Airports

No airports are within the RSA or within 2 miles of the temporary and permanent footprints of the Proposed Project and its options. The nearest airport is Hawthorne Municipal Airport, located approximately 8.3 miles southwest of these footprints. Los Angeles International Airport is approximately 10.3 miles southwest, Hollywood Burbank Airport is approximately 10.5 miles northwest, and San Gabriel Valley Airport is approximately 10.7 miles east of the footprints of the Proposed Project and its options.

3.9.4.5 Designated Disaster Routes

The Proposed Project and its options are located within an urbanized area with numerous roadways. The County of Los Angeles Department of Public Works designated the following disaster routes within the RSA:

Freeways:

- I-5
- I-10
- I-710
- US-101
- SR-110

Roads:

- San Fernando Road
- N. Spring Street
- Cesar E Chavez Avenue
- E. Fourth Street
- N. Soto Street
- Washington Boulevard

3.9.4.6 Wildlands

Wildland can be defined as undeveloped lands protected as wilderness. A wildland-urban interface is an area where urban development is near open space or wildland areas. The potential for wildland fires represents a hazard where development is adjacent to open space, near wildland, or located in designated fire severity zones. The hot, arid climate of the Southern California region, especially during the summer and fall, can dry out vegetation and cause dry brush to be prone to fires caused by lightning strikes and spontaneous combustion. Steep hillsides and varied topography also contribute to the risk of wildland fires.

The RSA is located in an urbanized area and is surrounded by predominantly industrial, commercial, residential, and transportation uses. The northern portion of the RSA consists of several open space areas and parklands. At the northern end of the RSA, Elysian Park is adjacent to the west side of the LA River. This park consists of undeveloped areas with steep slopes.

Additionally, the California Department of Forestry and Fire Protection *California Fire Hazard Severity Map*[1] identifies Elysian Park and the portion of the LA River channel between the I-5/US-101 juncture and Broadway as a Very High Fire Hazard Severity Zone (VHFHSZ). As a potential staging area, Staging Area 1 Pasadena/Avenue 35, is also adjacent to a designated VHFHSZ. This VHFHSZ is

[1] https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps-2022

located to the east of Pasadena Avenue and north of Avenue 35. Refer to Section 3.19, *Wildfire* for more details regarding VHFHSZs.

3.9.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to hazards and hazardous materials are substantially the same. The analysis presented here applies to the Proposed Project and its options, including design variations, and the impact conclusions are valid and consistent for the Proposed Project and its options. For instances where the Proposed Project, Option 1 or Option 2 (including design variations) would result in substantially different or additional impacts, the impact analysis is separated.

3.9.5.1 Impact HAZ-1: Transport, Storage, Use, or Disposal of Hazardous Materials

Impact HAZ-1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

3.9.5.1.1 Proposed Project

3.9.5.1.1.1 Construction

Less than significant impact. As detailed below, construction of the Proposed Project would involve the transport, use, and disposal of hazardous materials. Additionally, contaminated soil, materials, and groundwater would potentially be encountered and would need to be transported and disposed of. The transport, use, and disposal of hazardous materials during construction would potentially create a hazard to the public and environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the transport, use, and disposal of these hazardous materials during construction of the Proposed Project are discussed below. Overall, the Proposed Project would result in a **less than significant** impact related to the routine transport, use, or disposal of hazardous materials during construction.

3.9.5.1.1.1.1 Transport, Use, and Disposal of General Construction Materials

During construction, the use of hazardous materials and substances would be required. Hazardous materials that would be used during construction include vehicle fuels, asphalt/concrete, lubricants, epoxy resins, drilling fluids, and paints. The use of these materials would create hazardous waste that would need to be disposed of. Most hazardous waste that would be generated during construction (e.g., unused, or off-specification paint and primer, paint thinner, solvents, and vehicle and equipment maintenance-related materials) is of low risk and can be recycled.

Equipment fueling would likely occur using temporary ASTs at specified staging areas. Other potentially hazardous materials used in smaller quantities (for example, paints, asphalt, or similar) would be stored using specialized containment, such as sheds or trailers.

Project features that would be implemented during construction and would limit hazards associated with the transport, use, and disposal of hazardous materials associated with the use of general construction materials include the following:

- PF-HAZ-01, *Hazardous Materials and Waste Plan*
- PF-HAZ-02, *Contractor-Generated Waste Management Plan*
- PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*
- PF-HWQ-01, *Stormwater/Water Quality Management During Construction*

PF-HAZ-01, *Hazardous Materials and Waste Plan*, PF-HAZ-02, *Contractor-Generated Waste Management Plan*, and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan* involve the development of plans to ensure that hazardous materials and wastes would be managed appropriately during construction. The contractor would also follow the Stormwater Pollution Prevention Plan (SWPPP) that would be prepared for the Proposed Project as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide best management practices (BMPs) that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. The SWPPP would include specific requirements for the storage of hazardous material and hazardous waste and how or where such materials should be stored to prevent any stormwater runoff and contain spills. These project features, including compliance with applicable federal, state, and local regulations, would ensure that hazardous materials associated with general construction materials would be managed in a manner that would not create a hazard to the public or the environment during construction. Therefore, the impacts related to transport, use, and disposal of general construction materials would be less than significant.

3.9.5.1.1.1.2 Transport and Disposal of Contaminated Soil and Materials

During construction, parts of the LA River channel lining would be demolished and excavation activities would be required to allow for the construction of path alignments, river crossings, connectors, access points, and path amenities, such as lighting and signage. Demolition and excavation activities would require the removal, transport, and disposal of soils and materials that have potentially been contaminated by various contaminants of concern identified in Section 3.9.4.1. Some of the anticipated demolition-related hazardous waste (for example, batteries, mercury-containing lamps, and electronics) are known as "universal waste," which are commonly generated hazardous waste. Universal waste is of low risk to the public or environment and can be recycled. Other anticipated hazardous waste (such as ACMs, LBP, or PCBs) is of higher risk and can pose a significant hazard to the public or environment if not managed properly. The removal of materials with these contaminants must comply with federal and state regulations. For ACMs and LBP, federal regulations such as the Clean Air Act and 29 CFR Section 1926.62 require structures to be inspected prior to demolition to prevent unnecessary exposure of ACMs or LBP to workers and people nearby. If ACMs or LBP are found, these hazardous materials must be removed prior to demolition. Compliance with applicable federal and state regulations would minimize potential exposure of construction workers and the public to significant health hazards associated with contaminated soil and materials.

Within the RSA, the Proposed Project has 51 sites of potential environmental concern that may contain contaminated soil, of which 33 sites of potential environmental concern are within the Proposed Project temporary footprint. Site clearing, demolition, and excavation activities at these sites may require the removal, transport, and disposal of contaminated soil. Section 3.9.4.2 and the Phase I

ESA (Metro 2024) provide a detailed description of sites in the RSA with documented soil contamination.

Construction of the Proposed Project would require excavation and other ground-disturbing activities on 10 of the 33 sites of potential environmental concern within its footprint, including Albion Park (former Ross Swiss Dairies), LA River Oil Seep, Aliso Manufacturing Gas Plant (MGP), Los Angeles City/Police Department, Santa Fe/Macy Street, Ramirez Street Investigation, Friedman Bag Company Inc., ACTA North – Permanent Easement, Hoffman Bros Packing Company, and Chevron Station 9411. It is anticipated that approximately 260,000 cubic yards of soils would be disturbed from Proposed Project construction, 2% to 4% of which is assumed to be contaminated.

The handling of contaminated soils would occur during short-term construction activities and would be subject to federal (40 CFR Sections 239–282), state (22 CCR Division 4.5), and local health and safety requirements (for example, those specified by Metro, railroad operators, or property owners on a case-by-case basis). Typical requirements include temporary storage BMPs, containment in closed containers, characterization of waste material for disposal, and disposal at facilities that are equipped and licensed to handle waste with specified characteristics. Prior to disposal of any contaminated soil, the stockpiled soil would be profiled by a laboratory to determine the correct waste designation and for accurate manifesting purposes. Contaminated soil would be treated or disposed of at a permitted landfill per the specifications of DTSC, RWQCB, or other agencies overseeing construction of the Proposed Project. Within Los Angeles County, Azusa Land Reclamation Landfill accepts asbestos-containing waste. No active landfills or facilities in Los Angeles County process contaminated soil. The nearest facilities to the RSA that actively process contaminated soil are Hazmat TSDF, Inc. and Soil Safe of California, Inc., both of which are in San Bernardino County. Hazmat TSDF, Inc. is approximately 48 miles east and Soil Safe of California, Inc. is approximately 58 miles northeast of the RSA.

Project features that would be implemented during construction and would limit hazards associated with the transport, use, and disposal of hazardous materials from the demolition of structures and contaminated soils from excavation activities include the following:

- PF-HAZ-01, *Hazardous Materials and Waste Plan*
- PF-HAZ-02, *Contractor-Generated Waste Management Plan*
- PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*
- PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*
- PF-WQ-02, *Stormwater/Water Quality Management During Construction*

PF-HAZ-01, *Hazardous Materials and Waste Plan*, PF-HAZ-02, *Contractor-Generated Waste Management Plan*, and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan* involve the development of plans to ensure that hazardous materials and wastes would be managed appropriately during construction. Per PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*, construction activities would stop if potentially hazardous materials were encountered. The contractor would also follow the SWPPP that would be prepared for the Proposed Project as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide BMPs that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. The SWPPP would include specific requirements for the storage of hazardous material and hazardous waste and how or where such materials should be stored to prevent any stormwater runoff and contain spills. These project

features, including compliance with applicable regulatory requirements, would ensure that impacts related to the routine transport, use and disposal of contaminated materials and soil are less than significant.

3.9.5.1.1.1.3 Transport and Disposal of Contaminated Groundwater

Construction of the Proposed Project would require dewatering, a process that involves removing groundwater from a specific location. Dewatering is especially likely to occur where columns are constructed within the LA River channel. Groundwater removed as a result of dewatering could come in contact with construction-related contaminants, such as fuels, solvents, oils, and grease. The contaminated groundwater would then require specialized handling, treatment, and eventual offsite transport. Spills from construction materials or equipment could also become contaminant sources for groundwater.

Existing contaminated groundwater may also be encountered during construction activities, such as from deep excavations for bridge foundations and site grading. Where contaminated groundwater must be dewatered, the extracted groundwater would be collected onsite in Baker Tanks or similar containers. Per PF-HAZ-04, *Disposal of Groundwater*, NPDES and/or waste discharge requirement permits would be obtained from LARWQCB, and other applicable agencies prior to dewatering or discharge activities, which would ensure that contaminated groundwater is appropriately treated and discharged. Additionally, the Proposed Project would develop a hazardous materials and waste plan for the handling, storage, and transport of hazardous waste and materials (PF-HAZ-01, *Hazardous Materials and Waste Plan*)*;* a waste management plan for hazardous wastes and solid wastes that are generated, released, or discharged during construction (PF-HAZ-02, *Contractor-Generated Waste Management Plan*); and a Contaminated Substances and Hazardous Substances Disposal Plan for the identification, excavation, segregation, stockpiling, sampling, analysis, measurement, transport, and disposal of contaminated substances and wastes and/or hazardous substances and wastes (PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*). These project features, and compliance with all applicable regulatory requirements, would ensure that contaminated groundwater is managed properly. Therefore, impacts related to the transport and disposal of contaminated groundwater would be less than significant.

3.9.5.1.1.2 Operations and Maintenance

Less than significant impact. Operations of the Proposed Project would not result in the routine transport, use, or disposal of hazardous materials or wastes as the Proposed Project would be an active transportation facility for walking, rolling, and bicycling. Operations and maintenance (O&M) activities associated with the Proposed Project would generally include path pavement sweeping; sealing, repaving, and pothole repair; graffiti removal; solid waste disposal and recycling; replacement and repair of signs, fences, barriers, and lighting; maintenance of furniture, emergency telephones, landscaping, and irrigation systems; bridge inspection; weed control; drainage system cleaning; and corrective maintenance (such as bioswales) (refer to Section 2.8, *Operations and Maintenance* for more details about O&M activities). These activities would involve the occasional use, storage, and disposal of hazardous materials, such as vehicle fuels, oils, transmission fluids, paint, solvents, cleaners, pesticides, and other miscellaneous maintenance materials. Use of these materials would be in small quantities and would not generate significant amounts of hazardous materials that would require routine transport, use, or disposal or create conditions involving the release of hazardous materials into the environment.

Additionally, use of these materials would be required to comply with existing safety standards related to the handling, use, and storage of hazardous materials, and applicable federal, state, and local regulations. Therefore, the Proposed Project would result in a **less than significant impact** related to the routine transport, use, and disposal of hazardous materials during O&M.

3.9.5.1.2 Option 1

3.9.5.1.2.1 Construction

Less than significant impact. Similar to the Proposed Project, construction of Option 1 would involve the transport, use, and disposal of hazardous materials. Additionally, contaminated soil, materials, and groundwater would potentially be encountered and would need to be transported and disposed of. The transport, use, and disposal of hazardous materials during construction would potentially create a hazard to the public and environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the transport, use, and disposal of these hazardous materials during construction of Option 1 are discussed below. Overall, Option 1 would result in a **less than significant impact** related to the routine transport, use, or disposal of hazardous materials during construction.

3.9.5.1.2.1.1 Transport, Use, and Disposal of General Construction Materials

Similar to the Proposed Project, Option 1 construction activities would require the use of hazardous materials and substances. Hazardous materials that would be used during construction would be the same as discussed in Section 3.9.5.1.1.1.1 and would create hazardous waste that would need to be disposed. PF-HAZ-01, *Hazardous Materials and Waste Plan*, PF-HAZ-02, *Contractor-Generated Waste Management Plan*, and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan* would also be implemented and would involve the development of plans to ensure that hazardous materials and wastes would be managed appropriately during construction. The contractor would also follow the SWPPP that would be prepared for Option 1 as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide BMPs that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. These project features, and compliance with applicable federal, state, and local regulations, would ensure that hazardous materials associated with general construction materials would be managed in a manner that would not create a hazard to the public or the environment during construction. Therefore, impacts related to transport, use, and disposal of general construction materials would be less than significant.

3.9.5.1.2.1.2 Transport and Disposal of Contaminated Soils and Materials

Similar to the Proposed Project, under Option 1, parts of the LA River channel lining would be demolished and excavation activities would be required to allow for the construction of the path alignments, river crossings, connectors, access points, and path amenities, such as lighting and signage. Demolition and excavation activities would be similar to the activities described in Section 3.9.5.1.1.1.1 for the Proposed Project and would require the removal, transport, and disposal of soils and materials that have potentially been contaminated by various contaminants of concern identified in Section 3.9.4.2. The removal of materials with these contaminants must comply with federal and state regulations. As previously discussed, for ACMs and LBP, federal regulations require structures to be inspected prior to demolition to prevent unnecessary exposure of ACMs and LBP to workers and people nearby. If ACMs and LBP are found, these hazardous materials must be removed

prior to demolition. Compliance with applicable federal and state regulations would minimize potential exposure of construction workers and the public to significant health hazards associated with contaminated soil and materials.

Within the RSA, there are 51 sites of potential environmental concern that may contain contaminated soil, of which 33 sites of potential environmental concern are within the Option 1 temporary footprint. Site clearing, demolition, and excavation activities at these sites may require the removal, transport, and disposal of contaminated soil. Section 3.9.4.2 and the Phase I ESA (Metro 2024) provides a detailed description of all the sites in the RSA with documented soil contamination.

Construction of Option 1 would require excavation and other ground-disturbing activities on 11 of the 33 sites of potential environmental concern within the Option 1 footprint, including Albion Park (Former Ross Swiss Dairies), LA River Oil Seep, Aliso MGP, Los Angeles City/Police Department, Santa Fe/Macy Street, Ramirez Street Investigation, Friedman Bag Company Inc, ACTA North - Permanent Easement, Hoffman Bros Packing Company Inc., Chevron Station 94111, and the Former Lincoln Heights Jail. It is anticipated that approximately 220,000 cubic yards of soils would be disturbed from Option 1 construction, 6% to 8% of which is assumed to be contaminated.

Similar to the Proposed Project and as discussed in Section 3.9.5.1.1.1.2, the handling of contaminated soils would occur during short-term construction activities and would be subject to federal (40 CFR Sections 239–282), state (22 CCR Division 4.5), and local health and safety requirements. Prior to disposal of any contaminated soil, the stockpiled soil would be profiled by a laboratory to determine the correct waste designation and for accurate manifesting purposes. Contaminated soil would be treated or disposed of at a permitted landfill per the specifications of DTSC, RWQCB, or other agencies overseeing construction of Option 1. Within Los Angeles County, Azusa Land Reclamation Landfill accepts asbestos-containing waste. No active landfills or facilities in Los Angeles County process contaminated soil. The nearest facilities to the RSA that actively process contaminated soil are Hazmat TSDF, Inc. and Soil Safe of California, Inc., both of which are in San Bernardino County. Hazmat TSDF, Inc. is approximately 48 miles east and Soil Safe of California, Inc. is approximately 58 miles northeast of the RSA.

Project features PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; P-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*; PF-WQ--02, *Stormwater/Water Quality Management During Construction* would be implemented during construction and would limit hazards associated with the transport, use, and disposal of hazardous materials from structures that were demolished and contaminated soils from excavation activities. The contractor would also follow the SWPPP that would be prepared for Option 1 as described in PF-WQ--02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide BMPs that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. The SWPPP would include specific requirements for the storage of hazardous material and hazardous waste and how or where such materials should be stored to prevent any stormwater runoff and contain spills. These project features, including compliance with applicable regulatory requirements, would ensure impacts related to the routine transport, use and disposal of contaminated materials and soil are less than significant.

3.9.5.1.2.1.3 Transport and Disposal of Contaminated Groundwater

Similar to the Proposed Project, construction of Option 1 would require dewatering and existing contaminated groundwater may be encountered, such as from deep excavations for bridge

foundations and site grading. Where contaminated groundwater must be dewatered, the extracted groundwater would be collected onsite in Baker Tanks or similar containers. PF-HAZ-04, *Disposal of Groundwater* would ensure that contaminated groundwater is appropriately treated and discharged. Option 1 would also implement PF-HAZ-01, *Hazardous Materials and Waste Plan;* PF-HAZ-02, *Contractor-Generated Waste Management Plan*); and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*. These project features, and compliance with applicable regulatory requirements, would ensure that impacts related to the transport and disposal of contaminated groundwater would be less than significant.

3.9.5.1.2.2 Operations and Maintenance

Less than significant impact. Similar to the Proposed Project, Option 1 would not result in the routine transport, use, or disposal of hazardous materials or wastes as Option 1 would be an active transportation facility for walking, rolling, and bicycling. O&M activities as described in Section 2.8, *Operations and Maintenance* would involve the occasional use, storage, and disposal of hazardous materials, such as vehicle fuels, oils, transmission fluids, paint, solvents, cleaners, pesticides, and other miscellaneous maintenance materials. Use of these materials would be in small quantities and would not generate significant amounts of hazardous materials that would require routine transport, use, or disposal or create conditions involving the release of hazardous materials into the environment. Additionally, use of these materials would be required to comply with existing safety standards related to the handling, use, and storage of hazardous materials, and applicable federal, state, and local regulations. Therefore, Option 1 would result in a **less than significant** impact related to routine transport, use, and disposal of hazardous materials during O&M.

3.9.5.1.3 Option 2

3.9.5.1.3.1 Construction

Less than significant impact. Similar to the Proposed Project, construction of Option 2 would involve the transport, use, and disposal of hazardous materials. Additionally, contaminated soil, materials, and groundwater would potentially be encountered and would need to be transported and disposed. The transport, use, and disposal of hazardous materials during construction would potentially create a hazard to the public and environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the transport, use, and disposal of these hazardous materials during construction of Option 2 are discussed below. Overall, Option 2 would result in a **less than significant impact** related to the routine transport, use, or disposal of hazardous materials during construction.

3.9.5.1.3.1.1 Transport, Use, and Disposal of Hazardous Materials

Similar to the Proposed Project and Option 1, Option 2 construction activities would require the use of hazardous materials and substances. Hazardous materials that would be used during construction would be the same as discussed above in Section 3.9.5.1.1.1.1 and would create hazardous waste that would need to be disposed of. PF-HAZ-01, *Hazardous Materials and Waste Plan*, PF-HAZ--02, *Contractor-Generated Waste Management Plan*, and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan* would also be implemented and involve the development of plans to ensure that hazardous materials and wastes would be managed appropriately during construction. The contractor would also follow the SWPPP that would be prepared for Option 1 as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The contractor would also follow the SWPPP that would be prepared for

Option 2 as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide BMPs that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. These project features, and compliance with applicable federal, state, and local regulations, would ensure that hazardous materials associated with general construction materials would be managed in a manner that would not create a hazard to the public or the environment during construction. Therefore, impacts related to transport, use, and disposal of general construction materials would be less than significant.

3.9.5.1.3.1.2 Transport and Disposal of Contaminated Soils and Materials

Similar to the Proposed Project and Option 1, under Option 2, parts of the LA River channel lining would be demolished and excavation activities would be required to allow for the construction of the path alignments, river crossings, connectors, access points, and path amenities, such as lighting and signage. Demolition and excavation activities would be similar to the activities described in Section 3.9.5.1.1.1.2 for the Proposed Project and would require the removal, transport, and disposal of soils and materials that have potentially been contaminated by various contaminants of concern identified in Section 3.9.4.1. The removal of materials with these contaminants is regulated by federal and state regulations. As previously discussed, for ACMs and LBP, federal regulations, such as the Clean Air Act and 29 CFR Section 1926.62, require structures to be inspected prior to demolition to prevent unnecessary exposure of ACMs and LBP to workers and people nearby. If ACMs and LBP are found, these hazardous materials must be removed prior to demolition. Compliance with applicable federal and state regulations would minimize potential exposure of construction workers and the public to significant health hazards associated with contaminated soil and materials.

Within the RSA, there are 51 sites of potential environmental concern that may contain contaminated soil, of which 33 sites of potential environmental concern are within the Option 2 temporary footprint. Site clearing, demolition, and excavation activities at these sites may require the removal, transport, and disposal of contaminated soil. Section 3.9.4.2 and the Phase I ESA (Metro 2024) provide a detailed description of the sites in the RSA with documented soil contamination.

Construction of Option 2 would require excavation on 12 of the 33 sites of potential environmental concern within the Option 2 footprint, including Albion Park (Former Ross Swiss Dairies), LA River Oil Seep, BNSF Mission Tower Site, Aliso MGP, Los Angeles City/Police Department, Santa Fe/Macy Street, Ramirez Street Investigation, Friedman Bag Company Inc., ACTA North – Permanent Easement, Hoffman Bros Packing Company, Chevron Station 94111, and LA-Former Lincoln Heights Jail/Field Operations Avenue 19 Yard. It is anticipated that approximately 220,000 cubic yards of soils would be disturbed from Option 2 construction, 6% to 8% of which is assumed to be contaminated.

Similar to the Proposed Project and Option 1 and discussed above, the handling of contaminated soils would occur during short-term construction activities and would be subject to federal (40 CFR Sections 239–282), state (22 CCR Division 4.5), and local health and safety requirements. Prior to disposal of any contaminated soil, the stockpiled soil would be profiled by a laboratory to determine the correct waste designation and for accurate manifesting purposes. Contaminated soil would be treated or disposed of at a permitted landfill per the specifications of DTSC, RWQCB, or other agencies overseeing construction of Option 2. Within Los Angeles County, Azusa Land Reclamation Landfill accepts asbestos-containing waste. No active landfills or facilities in Los Angeles County process contaminated soil. The nearest facilities to the RSA that actively process contaminated soil are Hazmat TSDF, Inc. and Soil Safe of California, Inc., both of which are in San Bernardino County. Hazmat TSDF, Inc. is approximately 48 miles east and Soil Safe of California, Inc. is approximately 58 miles northeast of the RSA.

PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*; PF-WQ-02, *Stormwater/Water Quality Management During Construction* would be implemented during construction and would limit hazards associated with the transport, use, and disposal of hazardous materials from structures that were demolished and contaminated soils from excavation activities. The contractor would also follow the SWPPP that would be prepared for Option 2 as described in PF-WQ-02, *Stormwater/Water Quality Management During Construction* (refer to Section 3.10, *Hydrology and Water Quality*). The SWPPP would provide BMPs that would be implemented to minimize potential short-term increases in sediment transport caused by construction and to limit the generation and potential release of pollutants. The SWPPP would include specific requirements for the storage of hazardous material and hazardous waste and how or where such materials should be stored to prevent any stormwater runoff and contain spills. These project features, including compliance with applicable regulatory requirements, would ensure impacts related to the routine transport, use and disposal of hazardous materials are less than significant.

3.9.5.1.3.1.3 Transport and Disposal of Contaminated Groundwater

Similar to the Proposed Project and Option 1, construction of Option 2 would require dewatering and groundwater removed as a result of dewatering could come in contact with construction-related contaminants such as fuels, solvents, oils, and grease. The contaminated groundwater would then require specialized handling, treatment, and eventual offsite transport. Where contaminated groundwater must be dewatered, the extracted groundwater would be collected onsite in Baker Tanks or similar containers. PF-HAZ-04, *Disposal of Groundwater,* would ensure that contaminated groundwater is appropriately treated and discharged. Option 2 would also implement PF-HAZ-01, *Hazardous Materials and Waste Plan;* PF-HAZ-02, *Contractor-Generated Waste Management Plan*; and PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*. These project features, and compliance with applicable regulatory requirements, would ensure that impacts related to the use and disposal of contaminated groundwater would be less than significant.

3.9.5.1.3.2 Operations and Maintenance

Less than significant impact. Similar to the Proposed Project and Option 1, Option 2 would not result in the routine transport, use, or disposal of hazardous materials or wastes as Option 2 would be an active transportation facility for walking, rolling, and bicycling. O&M activities as described in Section 2.8, *Operations and Maintenance* would involve the occasional use, storage, and disposal of hazardous materials, such as vehicle fuels, oils, transmission fluids, paint, solvents, cleaners, pesticides, and other miscellaneous maintenance materials. Use of these materials would be in small quantities and would not generate significant amounts of hazardous materials that would require routine transport, use, or disposal or create conditions involving the release of hazardous materials into the environment. Additionally, use of these materials would be required to comply with existing safety standards related to the handling, use, and storage of hazardous materials, and applicable federal, state, and local regulations. Therefore, Option 2 would result in a **less than significant impact** related to routine transport, use, and disposal of hazardous materials during O&M.

3.9.5.2 Impact HAZ-2: Release of Hazardous Materials

Impact HAZ-2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

3.9.5.2.1 Proposed Project

3.9.5.2.1.1 Construction

Less than significant impact with mitigation incorporated. The RSA contains sources of hazardous materials that could be encountered during construction of the Proposed Project. Construction occurring in areas with sources of hazardous materials has the potential to result in the release of hazardous materials that would create a hazard to the public or the environment. Construction of the Proposed Project would also involve the use of hazardous materials that have the potential to create a hazard if the hazardous materials were accidentally released into the environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the release of these hazardous materials during construction of the Proposed Project are discussed below. Overall, with implementation of the MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment*; MM-HAZ-02, *Soil Management Plan Surveys*; and MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, construction of the Proposed Project would result in a **less than significant impact** related to the accidental release of hazardous materials into the environment.

3.9.5.2.1.1.1 Sites of Environmental Concern

As shown in Table 3.9-2, 33 sites of environmental concern are located within the Proposed Project temporary footprint. Of the 33 sites that are within the Proposed Project temporary footprint, 20 are considered RECs. The remaining 13 sites are considered HRECs. Although HRECs have been remediated and given regulatory closure, HRECs may still pose a risk of harm to public health or the environment and are treated with caution.

The effect of Proposed Project construction at the sites of environmental concern within the Proposed Project temporary footprint are discussed below. As discussed, excavation, other ground-disturbing activities, and dewatering activities would occur at some of the sites of environmental concern with contaminated soil or groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. The following project features would be implemented during construction, which would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern:

- PF-HAZ-01, *Hazardous Materials and Waste Plan*
- PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*
- PF-HAZ-04, *Disposal of Groundwater*
- PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*
- PF-WQ-02, *Stormwater/Water Quality Management During Construction*

These project features would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern because hazardous materials would be managed

appropriately, and the operator would be prepared when encountering known or undocumented hazardous materials. However, impacts would remain potentially significant.

Implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would reduce potentially significant impacts to less than significant levels. The preparation of a Phase II ESA (MM-HAZ-01) within the temporary footprint of the Proposed Project would identify undocumented hazardous materials that may be encountered during Proposed Project construction and would determine the extent of soil or groundwater contamination at the sites of environmental concern. The development of a Soil Management Plan for sites of environmental concern where ground-disturbing activities would occur would ensure that contaminated soil is handled and disposed of in a manner that is protective of human health and the environment. With implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*, impacts associated with the release of hazardous materials at sites of environmental concern would be reduced to less than significant levels.

3.9.5.2.1.1.1.1 Albion Park (Former Ross Swiss Dairies), 1739 Albion Street, Los Angeles, CA 90031 (APN 5447-027-908)

This site is an HREC as the presence of diesel was reported in the soil and groundwater. Hazardous material cleanup was conducted for development of a park. LARWQCB states that the information provided to the agency was accurate and no further action related to the petroleum release(s) at the site is required. The Proposed Project would construct an elevated top-of-bank ramp structure, which would require deep excavations of up to 125 feet for the pilings. The depth of groundwater on this site ranges from approximately 25 to 29 feet bgs, and dewatering would be necessary. A layer of crude oil and/or an oily substance were identified in borings at depths of 20 to 40 feet bgs (Arcadis 2012). Excavation, other soil disturbing activities, and dewatering activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*.

3.9.5.2.1.1.1.2 LA River Oil Seep, 1700 East Albion and North Main Street, Los Angeles, CA 90031 (APN 5447-027-901)

This site is an REC and was reported in the California Hazardous Material Incident Reporting System. Oil was observed seeping out of the weep holes of the concrete-lined east bank of the LA River at this location, just north of Main Street. The site has potentially contaminated soil and groundwater with crude oil petroleum. The Proposed Project would require construction of an elevated top-of-bank path and river crossing at this location, which would require excavation at this site. Dewatering would be required if excavation extends to the water table. Dewatering, excavation, and other ground-disturbing activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.3 BNSF Mission Tower Site, 1430 Bolero, Los Angeles, CA 90012 (APN 5409-012-908)

The site is an HREC and has been reported to have contaminated soil and groundwater; however, the regulatory status of the site was listed as completed and the case was closed as of September 25, 2012, with a recommendation for no further action. The site would be temporarily used for access during construction, and construction activities would occur outside the boundaries on the site. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.1.1.1.4 Los Angeles County Metropolitan Transportation Authority, 900 Lyon Street, Los Angeles, CA 90012 (APN 5409-017-905)

This site is an REC due to soil contamination consisting of elevated concentrations of arsenic, lead, and various contaminants. The site would be temporarily used for access during construction. Construction activities would occur outside the boundaries of this site. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.1.1.1.5 SoCal Gas/Aliso D MGP, East Cesar E Chavez Ave and Lyons St, Los Angeles CA 90012 (APNs 5409-17-905, 5409-017-906, 5409-018-916, 5409-018-920, 5409-020-905, 5409-020-908)

This site is an REC and consists of approximately 10.5 acres near the intersection of Cesar E Chavez Avenue and Lyons Street. Contaminants of concern at this site include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals. A Land Use Covenant and an Operation and Maintenance Plan are in place for this site. The site would be temporarily used for access during construction. The main path alignment for the Proposed Project would be located on the east bank, and construction would occur outside of the parcel boundary. The Proposed Project's East Cesar E Chavez Avenue design variation would be located on the west bank, and construction would also occur outside of the parcel boundary. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.1.1.1.6 Aliso Manufacturing Gas Plant, 600 East Cesar E Chavez Avenue, Los Angeles, CA 90012 (APN N/A)

This site is an REC due to contaminated groundwater. The Proposed Project's Union Station design variation would include construction of an at-grade path, which would require excavation of up to 2 feet deep at this site. Groundwater depth in this area is between 20 to 30 feet bgs, and excavation activities would be above the groundwater table, which would minimize potential exposure to contaminated groundwater. Excavation activities at this site have the potential to disturb contaminated soil, which would result in the potential localized spread of contamination and exposure of construction workers to contaminated soil.

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.7 Los Angeles City/Police Department, 555 Ramirez Street, Los Angeles, CA 90012-2962 (APN 5409-021-900)

This site is an REC due to soil and groundwater contamination. The main path alignment for the Proposed Project would be located on the east bank, and construction of the Proposed Project would occur outside of the site boundaries. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

The Proposed Project Union Station design variation would permanently construct a Class IV path along the northern limits of this site, which is currently used as parking for the Piper Technical Center. Construction of this design variation would occur at the existing parking and outdoor storage area. This design variation involves construction of an at-grade path, protective posts or barriers, and signage. Grading, excavation of up to 3 feet in depth, trenching, and other ground-disturbing activities would occur on this site. These ground-disturbing activities have the potential to disturb contaminated soil, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.8 Santa Fe/Macy Street, Macy Street/Keller Street and Southern California Regional Rail Authority Track Extension, Los Angeles, CA 90012 (APN 5409-021-902)

This site is an REC due to soil and groundwater contamination. The soil at this location was contaminated with high concentrations of benzene, PAHs, diesel, and gas. Although removal actions occurred, high concentrations still exist at deeper depths. A Land Use Covenant is in place for this site, which limits the types of activities that may disturb the soil or groundwater. The main path alignment for the Proposed Project would be located on the east bank, and construction activities would occur outside of the site boundaries. Thus, construction of the main path alignment for the Proposed Project is not expected to disturb contaminated soil on this site, and construction workers and the public would not be exposed to contaminated soils and groundwater from the site.

Construction of the Proposed Project Union Station and Keller Street design variations would occur at a sliver of this site. Grading, excavation, trenching, and other ground-disturbing activities would occur at and adjacent to this site. Excavation and trenching would be limited to a depth of 2 feet. Soil disturbance activities may affect the Land Use Covenant for this site with the DTSC. MM-HAZ-02, *Soil Management Plan Surveys,* would be required to manage and dispose of contaminated soil that would be displaced during ground-disturbing activities to ensure that contaminated soil is handled in a manner that is protective of human health and the environment and would not conflict with the Land Use Covenant for the site. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of MM-HAZ-02, *Soil Management Plan Surveys*.

3.9.5.2.1.1.1.9 Ramirez Street Investigation, Approximately 400-Foot Stretch of Ramirez Street between Center and Keller Streets, Los Angeles, CA 90012 (APN N/A)

This site is an REC and consists of a 400-foot stretch of Ramirez Street located between Center and Keller Streets within the former 52-acre Aliso Street MGP site. Previous investigations of this site

indicate the presence of suspected MGP residuals in soil along portions of Ramirez Street. Construction of the main path alignment for the Proposed Project would be located on the east bank and would not be located on this site. Thus, construction activities are not expected to disturb contaminated soil on this site, and construction workers and the public would not be exposed to contaminated soils and groundwater from this site.

The Proposed Project Union Station design variation at Center Street would construct a Class IV path involving street pavement markings, protective posts or barriers, and signage along the length of the Ramirez Street Investigation site. Ground-disturbing activities, including excavation, at this site would be limited to a depth of up to 2 feet. Contaminants would potentially be encountered from excavation and other ground-disturbing activities at this site, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.10 SoCal Gas/Aliso MGP, Sector A—West Parcel, Keller Street, Vignes Street, and US Highway Route 101, Los Angeles CA 90012 (APN 5409-022-905)

This site is an REC due to contaminants including lampblack, tar, petroleum hydrocarbons, and possibly cyanide. The site is fully paved and there is no route of exposure to contaminants unless ground-disturbing activities occur on this site. The site would be temporarily used for access during construction, and construction would occur outside of the parcel boundary. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil, and construction workers and the public would not be exposed to contaminated soil from this site.

3.9.5.2.1.1.1.11 SoCal Gas/Aliso Site-Wide—Groundwater, Temple/Vignes/Lyon/Keller/Alhambra Streets, Los Angeles CA 90013 (APN N/A)

This site is an REC due to contaminated groundwater. The site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Therefore, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater, and construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.1.1.1.12 SoCal Gas/Aliso Sector C, Block G, Northwest Corner, of Commercial Street and Center Street, Los Angeles CA 90012 (APN 5173-018-001)

This site is an REC and is vacant land covered with soil. The site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Thus, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater, and construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.1.1.1.13 Friedman Bag Company Inc., 801 East Commercial Street, Los Angeles, CA 90012 (APN 5173-019-006)

This site is an HREC, and LARWQCB determined closure/no further action as of August 23, 2002. The Proposed Project would construct an elevated path through this site to connect with Union Station via

Center Street access point. The Proposed Project would construct an elevated top-of-bank ramp structure, which would require deep excavations of up to 125 feet for the pilings at this site. Given the depth of excavation, dewatering would be necessary. Dewatering, excavation, and other ground-disturbing activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.14 SoCal Gas/Aliso Sector C, Block K, Northeast Corner of Ducommun Street and Center Street, Los Angeles CA 90012 (APN 5168-015-802,5168-015-902,5168-017-012)

This site is an REC and has a Land Use Covenant in place. The site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Thus, construction of the Proposed Project is not expected to disturb contaminated soil or groundwater, and construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.1.1.1.15 ACTA North—Permanent Easement, 2607-2649 Washington Boulevard, Los Angeles, CA 90021 (APNs 5168-015-802, 5168-015-902,5168-017-012)

This site is an HREC, and LARWQCB determined that no further action is required as of September 24, 2002. Construction activities associated with the main path alignment for the Proposed Project and the Proposed Project East Washington Boulevard (In-Channel) design variation would occur outside the parcel boundaries.

The Proposed Project East Washington Boulevard (Triangular Helix) design variation would require construction of an elevated path through APN 5168-015-902 and across the northeast corner of APN 5168-017-012. The site would also be temporarily used for access during construction of this design variation. To construct the elevated path, excavation and other ground-disturbing activities would be required at this site, which would potentially disturb contaminated soil. Dewatering would be required if excavation extends to the water table. Dewatering, excavation, and other ground-disturbing activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.16 Hoffman Bros. Packing Co., Inc., 2731 South Soto Street, Vernon, CA 90023 (APNs 6302-001-044, 6302-001-045)

This site is an HREC and is currently covered by buildings and paved parking areas. Construction of the Proposed Project would occur outside of the parcel boundaries for APN 6302-001-044. The Proposed Project would not alter or demolish the existing buildings on this site. The Proposed Project would construct an elevated top-of-bank path alignment at APN 6302-001-045, which would require excavation and other ground-disturbing activities. Dewatering would be required if excavation extends to the water table. Thus, contaminants on this parcel would potentially be exposed, which could result

in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.17 Chevron Station 94111, 3600 South Soto Street, Vernon, CA 90058 (APN 6303-004-039)

This site is an HREC due to soil contamination and the regulatory status as of August 20, 1997, is Completed—Case Closed. Construction of the Proposed Project would not disturb the existing commercial buildings and a parking area on this site. The Proposed Project would construct an access point and a river crossing in the southern portion of this parcel, which is an undeveloped portion of the site. Deep excavation of up to 100 feet would be required. Dewatering would be necessary at this site. Excavation soil, other soil disturbing activities, and dewatering activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.1.1.1.18 Sites of Environmental Concern within TCE and Staging Area Footprints

No construction or ground-disturbing activities would occur on sites of environmental concern that would only be used as TCEs or staging areas. Although these sites would be temporarily used for access and/or staging and storage of construction equipment and materials, Proposed Project construction is not expected to disturb contaminated soil or groundwater at these sites. Thus, construction workers and the public would not be exposed to contaminated soil or groundwater from these sites. Refer to Section 3.9.5.1.1.1 for a discussion of the potential hazards that could occur from the use of hazardous materials during Proposed Project construction.

3.9.5.2.1.1.2 Soil Vapor Migration

Hazardous subsurface gases that are present in the RSA, including naturally occurring oil, gas, oil seeps, methane gas, and H_2S, would pose a hazard during construction. The primary hazard associated with naturally occurring oil and gas would occur during deep excavations, such as those required for cast-in-drilled-hole pile type foundation systems, in areas with these oil and gas. Under certain conditions, the gases can become trapped under an impermeable layer. Human-made structures, such as pavement or structure foundations, can also prevent gas from venting to the atmosphere. As the gas accumulates, it can build up to high concentrations and pressures. Construction activities that involve substantial subsurface disturbance, such as drilling for column foundations, may inadvertently release the gas to the environment and public.

Construction of the Proposed Project components, including river crossings, connectors, and access points, would require excavation with a maximum depth of approximately 15 feet below grade for most of the path length, 100 feet below grade for drilled shaft foundations for specific structure locations, and up to 125 feet for pilings. Excavation activities occurring at the oil fields and areas with oil seeps and methane gas have the potential to disturb soils that are contaminated with petroleum and

petroleum products, which could release volatile hydrocarbons. Additionally, methane gas and/or H_2S would potentially be encountered if excavation activities occur in methane zones and methane buffer zones. Excavation activities that are over 4 feet in depth are considered confined spaces by OSHA if the excavation area is an enclosed area. If construction of the Proposed Project requires excavation of 4 or more feet below grade level at an oil field, methane zone, or methane buffer zone, hazardous gas, such as volatile hydrocarbons, methane and H_2S, would potentially accumulate in these confined spaces, which would be a human health hazard. Methane gas would also be an explosion hazard if an adequate concentration of gas exists where combustion is possible. However, the anticipated construction methods for the Proposed Project involve relatively wide excavations and would not be considered confined spaces; therefore, high concentration of soil vapors would not occur in an enclosed space. Therefore, excavation activities at the oil field, methane zones, and methane buffer zones would not be a health hazard to construction workers and would not be an explosion hazard.

The Proposed Project would be required to comply with OSHA and Cal/OSHA regulations, including 29 CFR Section 1926.55 and 8 CCR Section 5416. These regulations limit the exposure time that construction workers would have from gases, fumes, dust, and mist (29 CFR Section 1926.55) and require ventilation for flammable vapors (8 CCR Section 5416). Additionally, the Proposed Project would be required to comply with the City of Los Angeles Methane Seepage Regulations (LAMC Chapter IX, Division 71, Sections 91-7101–91-7109), which provides regulations to control methane intrusion. As the Proposed Project would comply with OSHA and Cal/OSHA regulations, as well as the City of Los Angeles Methane Seepage Regulations, impacts associated with soil vapor migration would be less than significant.

3.9.5.2.1.1.3 Hazardous Materials from Utility Pipelines

The utility pipelines within the RSA that contain crude oil and natural gas have the potential to release hazardous materials, such as petroleum hydrocarbons, VOCs, and metals. The release of hazardous materials could occur through spills or rupture of a pipeline during construction. The release of these hazardous materials would contaminate the soil and groundwater and would pose a hazard to human health and safety or to the environment.

Under CCR Section 4216.6, excavators are required to contact Dig Alert (811) prior to any excavation activities. The Dig Alert service requires excavators and construction operators to identify and mark the location of all utilities in the proposed excavation area using a universal color-coding system. As noted in PF-UTL-01, *Utility identification and Coordination* in Section 3.18, *Utilities and Service Systems*, the construction contractor would coordinate with all existing utility providers/owners to obtain documentation and verification of existing utility locations that would be affected by the Proposed Project. The requirements of Dig Alert and PF-UTL-01, *Utility identification and Coordination* would prevent Proposed Project excavation activities from accidentally damaging abandoned and active hazardous material utility pipelines. Therefore, the potential for construction of the Proposed Project to accidentally damage a hazardous material utility line that would result in the release of hazardous materials into the environment would be less than significant.

3.9.5.2.1.1.4 Railroad Tracks and Yards

Given that existing railroad tracks and yards are located in close proximity to the LA River channel, it is anticipated that areas containing common contaminants associated with railroad tracks and yards would be disturbed during construction of the Proposed Project, which would potentially lead to the accidental release of or exposure to hazardous material. If potentially hazardous materials are encountered during construction, construction work would stop, and the construction contractors for the Proposed Project would be required to comply with all applicable federal, state, and local

regulations regarding discovery, notification and response where hazardous materials are encountered during construction activities (PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*). This project feature would limit the exposure of construction workers and the public to hazardous materials. Therefore, the Proposed Project would result in a less than significant impact related to the accidental release of hazardous materials near railroad tracks and yards during construction.

3.9.5.2.1.1.5 Asbestos, Lead, and Universal Waste

The Proposed Project is anticipated to require alteration to and partial demolition of older structures and structural components that may contain lead and asbestos, such as the connector and access point at the East First Street bridge. Universal waste would potentially be generated during these construction activities. Alteration or partial demolition of structures containing LBPs, asbestos, or universal waste would require specific remediation activities, which are regulated by federal (40 CFR Section 745), state (17 CCR Sections 35001–36100, 22 CCR Division 4.5, Chapter 23), and local regulations.

The Proposed Project would implement PF-HAZ-02, *Contractor-Generated Waste Management Plan*, which ensures that hazardous and solid wastes, including asbestos, lead, and universal waste, are properly handled and disposed. However, since any accidental release of asbestos, lead, and universal waste could pose a hazard both to construction employees, the public, and the environment, depending on the magnitude and relative hazard of the material released, a significant impact would occur, and mitigation would be required.

MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys* would require a survey to be conducted prior to demolishing structures suspected of containing hazardous materials, such as ACMs, LBP, and universal waste. This mitigation measure would ensure that construction workers and the public would not be exposed to hazards associated with asbestos, lead and universal waste. In conjunction with a pre-demolition investigation, a plan for proper removal would be prepared in accordance with applicable OSHA and the Los Angeles County Department of Public Health requirements prior to removal. With implementation of MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, impacts related to the accidental release of asbestos, lead, and universal waste would be reduced to less than significant levels.

3.9.5.2.1.1.6 Use and Handling of Hazardous Materials from General Construction Materials

As previously mentioned, the use of hazardous materials and substances would be required during construction. Most hazardous materials that would be used during construction would be of low risk, can be recycled, and would be stored using specialized containments, such as sheds or trailers. However, spills could occur during equipment fueling and other construction-related activities, potentially resulting in the accidental release of hazardous materials that could pose a hazard to construction employees, the public, and the environment, depending on the magnitude of the spill and relative hazard of the material released. PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; and PF-WQ-02, *Stormwater/Water Quality Management During Construction* would be implemented during construction and would limit the accidental release of hazardous materials. These project features would reduce the potential hazards associated with the use and handling of hazardous materials during construction because hazardous materials would be handled, stored, and transported appropriately. Implementation of these project features, including compliance with applicable federal, state, and local regulations, would ensure that hazardous

materials would be managed appropriately during construction. Therefore, impacts related to the accidental release of hazardous materials through the use and handling of construction materials would be less than significant.

3.9.5.2.1.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.9.5.1.1.2, O&M activities would involve the occasional use, storage, and disposal of hazardous materials that are required to comply with specified requirements. If a spill of these materials were to occur, the accidental release could pose a hazard to maintenance employees, the public, and the environment, but given the small quantity of such materials anticipated to be used and stored during O&M activities, accidental release of hazardous materials is expected to be minor. The Proposed Project would also comply with all applicable regulations associated with the handling, use, transport, and disposal of hazardous materials. Therefore, the Proposed Project would result in a **less than significant impact** related to accident conditions involving the release of hazardous materials into the environment during O&M.

3.9.5.2.2 Option 1

3.9.5.2.2.1 Construction

Less than significant impact with mitigation incorporated. Similar to the Proposed Project, the RSA contains sources of hazardous materials that could be encountered during construction of Option 1. Construction occurring in areas with sources of hazardous materials has the potential to result in the release of hazardous materials that would create a hazard to the public or the environment. Construction of Option 1 would also involve the use of hazardous materials that have the potential to create a hazard if the hazardous materials were accidentally released into the environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the release of these hazardous materials during construction of Option 1 are discussed below. Overall, with implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* through MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, construction of Option 1 would result in a **less than significant impact** related to the accidental release of hazardous materials into the environment.

3.9.5.2.2.1.1 Sites of Environmental Concern

As shown in Table 3.9-2, 33 sites of environmental concern are located within the Option 1 temporary footprint. Of the 33 sites that are within the Option 1 temporary footprint, 20 are considered RECs. The remaining 13 sites are considered HRECs. Although HRECs have been remediated and given regulatory closure, HRECs may still pose a risk of harm to public health or the environment and are treated with caution.

The effects of construction at the sites of environmental concern within the Option 1 temporary footprints are discussed below. As discussed, excavation, other ground-disturbing activities, and dewatering activities would occur at some of the sites of environmental concern with contaminated soil or groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater.

Similar to the Proposed Project, PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; PF-HAZ-04, *Disposal of Groundwater*; PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*; and PF-WQ-02,

Stormwater/Water Quality Management During Construction would be implemented during construction, which would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern. These project features would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern because hazardous materials would be managed appropriately, and the operator would be prepared when encountering known or undocumented hazardous materials. However, impacts would remain potentially significant.

Similar to the Proposed Project, with the implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*, impacts associated with the release of hazardous materials at sites of environmental concern would be reduced to less than significant levels.

3.9.5.2.2.1.1.1 LA—Former Lincoln Heights Jail/Field Operations Avenue 19 Yard, 401 Avenue 19 North, Los Angeles, CA 90031 (APN 5447-005-900)

This site is an REC, and the LARWQCB's regulatory status for this site is Open—Site Assessment as of January 16, 2019. A Phase II Targeted Brownfields Assessment was completed with soil sample results indicating the presence of gasoline and lead contamination. An additional Phase II Investigation was completed at the Former Lincoln Heights Jail in 2021 that confirmed VOCs in the soil. The Option 1 Egret Park to Ed P. Reyes Greenway design variation's Lincoln Heights Jail spur path would construct an at grade path along the backside of the Former Lincoln Heights Jail site's western parcel limits, which would require excavation at this site. Excavation and other ground-disturbing activities at this site would disturb contaminated soil, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil. None of the buildings on the parcel would be disturbed. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.2.1.1.2 Bortz Oil Company, Inc. 1746 N. Spring Street, Los Angeles, CA 90012. (APN 5409-002-029)

This site is an REC with a DTSC regulatory status of Open—Inactive as of January 1, 2015. The site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Thus, construction of Option 1 is not expected to disturb contaminated soil or groundwater, and construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.2.1.1.3 Albion Park (Former Ross Swiss Dairies), 1739 Albion Street, Los Angeles, CA 90031 (APN 5447-027-908)

This site is an HREC as the presence of diesel was reported in the soil and groundwater at this site. Hazardous material cleanup was conducted for development of park. LARWQCB states that the information provided to the agency was accurate and no further action related to the petroleum release(s) at the site is required. Option 1 and the Option 1 Albion Street design variation would construct elevated top-of-bank paths with connectors to the Albion Park access point, which would require deep excavations of up to 125 feet for the pilings. The depth of groundwater on this site ranges from approximately 25 to 29 feet bgs, and dewatering would be necessary. A layer of crude oil and/or an oily substance were identified in borings at depths of 20 to 40 feet bgs (Arcadis 2012). Excavation,

other soil disturbing activities, and dewatering activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater.

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*.

3.9.5.2.2.1.1.4 LA River Oil Seep, 1700 East Albion and North Main Street, Los Angeles, CA 90031 (APN 5447-027-901)

This site is an REC and was reported in the California Hazardous Material Incident Reporting System. Oil was observed seeping out of the weep holes of the concrete-lined east bank of the LA River at this location, just north of Main Street. The site has potentially contaminated soil and groundwater with crude oil petroleum. Option 1 would temporarily use the site for access during construction. An elevated top-of-bank path would also be constructed, which would require excavation at this site. Dewatering would be required if excavation extends to the water table. Dewatering, excavation, and other ground-disturbing activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.2.1.1.5 Los Angeles County Metropolitan Transportation Authority, 900 Lyon Street, Los Angeles, CA 90012 (APN 5409-017-905)

This site is an REC due to soil contamination consisting of elevated concentrations of arsenic, lead and various contaminants. The site would be temporarily used for access during construction. Construction activities would occur outside the boundaries of this site. Therefore, construction of Option 1 is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.2.1.1.6 SoCal Gas/Aliso D MGP, East Cesar E Chavez Ave and Lyons St, Los Angeles CA 90012 (APNs 5409-17-905, 5409-017-906, 5409-018-916, 5409-018-920, 5409-020-905, 5409-020-908)

This site is an REC and consists of approximately 10.5 acres near the intersection of Cesar E Chavez Avenue and Lyons Street. Contaminants of concern at this site include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals. A Land Use Covenant and Operation and Maintenance Plan are in place for this this site. The site would be temporarily used for access during construction. The main path alignment for Option 1 would be located on the east bank, and construction would occur outside of the parcel boundary. The Option 1 East Cesar E Chavez Avenue design variation would be located on the west bank, and construction would also occur outside of the parcel boundary. Therefore, construction of Option 1 is not expected to disturb contaminated soil or groundwater on

this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.2.1.1.7 Aliso Manufacturing Gas Plant, 600 East Cesar E Chavez Avenue, Los Angeles, CA 90012 (APN N/A)

This site is an REC due to contaminated groundwater. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.6.

3.9.5.2.2.1.1.8 Los Angeles City/Police Department, 555 Ramirez Street, Los Angeles, CA 90012-2962 (APN 5409-021-900)

This site is an REC due to soil and groundwater contamination. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project Union Station design variation discussed in Section 3.9.5.2.1.1.1.7.

3.9.5.2.2.1.1.9 Santa Fe/Macy Street, Macy Street/ Keller Street and Southern California Regional Rail Authority Track Extension, Los Angeles, CA 90012 (APN 5409-021-902)

This site is an REC due to soil and groundwater contamination. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.8.

3.9.5.2.2.1.1.10 Ramirez Street Investigation, Approximately 400-Foot Stretch of Ramirez Street located between Center and Keller Streets, Los Angeles, CA 90012 (APN N/A)

This site is an REC and consists of a 400-foot stretch of Ramirez Street located between Center and Keller Streets within the former 52-acre Aliso Street MGP site. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project Union Station design variation discussed in Section 3.9.5.2.1.1.1.9.

3.9.5.2.2.1.1.11 SoCal Gas/Aliso MGP, Sector A—West Parcel, Keller Street, Vignes Street, and US Highway Route 101, Los Angeles CA 90012 (APN 5409-022-905)

This site is an REC due to contaminants including lampblack, tar, petroleum hydrocarbons, and possibly cyanide. The site is fully paved and there is no route of exposure to contaminants unless ground-disturbing activities occur on this site. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.10.

3.9.5.2.2.1.1.12 SoCal Gas/Aliso Site-Wide—Groundwater, Temple/Vignes/Lyon/Keller/Alhambra Streets, Los Angeles CA 90013 (APN N/A)

This site is an REC due to contaminated groundwater. This site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Therefore, construction of Option 1 is not expected to disturb contaminated soil or groundwater, and construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.2.1.1.13 SoCal Gas/Aliso Sector C, Block G, Northwest Corner, of Commercial Street and Center Street, Los Angeles CA 90012 (APN 5173-018-001)

This site is an REC and is vacant land covered with soil. This site would be temporarily used for access during construction and construction would occur outside of the boundaries of this site. Thus, construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.2.1.1.14 Friedman Bag Company Inc., 801 East Commercial Street, Los Angeles, CA 90012 (APN 5173-019-006)

This site is an HREC, and LARWQCB determined closure/no further action as of August 23, 2002. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.13.

3.9.5.2.2.1.1.15 SoCal Gas/Aliso Sector C, Block K, Northeast Corner of Ducommun Street and Center Street, Los Angeles CA 90012 (APN 5168-015-802,5168-015-902,5168-017-012)

This site is an REC and has a Land Use Covenant in place. This site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Thus, construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.2.1.1.16 ACTA North—Permanent Easement, 2607-2649 Washington Boulevard, Los Angeles, CA 90021 (APN 5169-016-011)

This site is an HREC, and LARWQCB determined that no further action is required as of September 24, 2002. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.15.

3.9.5.2.2.1.1.17 Hoffman Bros. Packing Co., Inc., 2731 South Soto Street, Vernon, CA 90023 (APNs 6302-001-044, 6302-001-045)

This site is an HREC and is currently covered by buildings and paved parking areas. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.16.

3.9.5.2.2.1.1.18 Chevron Station 94111, 3600 South Soto Street, Vernon, CA 90058 (APN 6303-004-039)

This site is an HREC due to soil contamination and the regulatory status as of August 20, 1997 is Completed—Case Closed. Option 1 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.17.

3.9.5.2.2.1.1.19 Sites of Environmental Concern within TCE and Staging Area Footprints

No construction or ground-disturbing activities would occur on sites of environmental concerns that would only be used as TCEs or staging areas. Although these sites would be temporarily used for access and/or staging and storage of construction equipment and materials, construction of Option 1 is not expected to disturb contaminated soil or groundwater at these sites. Thus, construction workers

and the public would not be exposed to contaminated soil or groundwater from these sites. Refer to Section 3.9.5.1.2 for a discussion of the potential hazards that could occur from the use of hazardous materials during construction of Option 1.

3.9.5.2.2.1.2 Soil Vapor Migration

Construction of Option 1 would involve similar construction activities in areas with soil vapor and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.2).

Option 1 would be required to comply with OSHA and Cal/OSHA regulations, including 29 CFR Section 1926.55 and 8 CCR Section 5416. These regulations limit the exposure time that construction workers would have from gases, fumes, dust, and mist (29 CFR Section 1926.55) and require ventilation for flammable vapors (8CCR Section 5416). Additionally, Option 1 would be required to comply with the City of Los Angeles Methane Seepage Regulations (LAMC Chapter IX, Division 71, Sections 91-7101–91-7109), which provides regulations to control methane intrusion. As Option 1 would comply with OSHA and Cal/OSHA regulations, as well as the City of Los Angeles Methane Seepage Regulations, impacts associated with soil vapor migration would be less than significant.

3.9.5.2.2.1.3 Hazardous Materials from Utility Pipelines

Construction of Option 1 would involve similar construction activities around the utility pipelines and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.3). Option 1 would be required to comply with Dig Alert prior to any excavation activities. Additionally, the construction contractor would coordinate with all existing utility providers/owners to obtain documentation of and verify the existing utility locations that would be affected by Option 1 (PF-UTL-01, *Utility identification and Coordination* in Section 3.18, *Utilities and Service Systems*). The requirements of Dig Alert and PF-UTL-01, *Utility identification and Coordination* would prevent excavation activities from accidentally damaging abandoned and active hazardous material utility pipelines. Therefore, the potential for construction of Option 1 to accidentally damage a hazardous material utility line that would result in the release of hazardous materials into the environment would be less than significant.

3.9.5.2.2.1.4 Railroad Tracks and Yards

Construction of Option 1 would involve similar construction activities around the railroad tracks and yards and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.4). If potentially hazardous materials are encountered during construction, construction work would stop, and the construction contractors would be required to comply with all applicable federal, state, and local regulations regarding discovery, notification and response where hazardous materials are encountered during construction activities (PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*). This project feature would limit the exposure of construction workers and the public to hazardous materials. Therefore, Option 1 would result in a less than significant impact related to the accidental release of hazardous materials near railroad tracks and yards during construction.

3.9.5.2.2.1.5 Asbestos, Lead, and Universal Waste

Construction of Option 1 would involve similar construction activities as the Proposed Project (as described in Section 3.9.5.2.1.1.5). Option 1 involves alterations and partial demolition of older

structures and structural components that may contain lead and asbestos. Universal waste would potentially be generated during these construction activities. Alteration or partial demolition of structures containing LBPs, asbestos, or universal waste would require specific remediation activities, which are regulated by federal (40 CFR Section 745), state (17 CCR Sections 35001–36100, 22 CCR Division 4.5, Ch 23), and local regulations.

Option 1 would implement PF-HAZ-02, *Contractor-Generated Waste Management Plan*, which ensures that hazardous and solid wastes, including asbestos, lead, and universal waste, are properly handled and disposed. However, since any accidental release of asbestos, lead, and universal waste would pose a hazard both to construction employees, the public, and the environment, depending on the magnitude and relative hazard of the material released, a significant impact would occur, and mitigation would be required.

MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys* would require a survey prior to demolishing structures suspected of containing hazardous materials, such as ACMs, LBPs, and universal waste. This mitigation measure would ensure that construction workers and the public would not be exposed to hazards associated with asbestos, lead and universal waste. In conjunction with a pre-demolition investigation, a plan for proper removal would be prepared in accordance with applicable OSHA and the Los Angeles County Department of Public Health requirements prior to removal. With implementation of MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, impacts related to the accidental release of asbestos, lead, and universal waste would reduce to less than significant levels.

3.9.5.2.2.1.6 Use and Handling of Hazardous Materials from General Construction Materials

As previously mentioned in Section 3.9.5.2.1.1.6, the use of hazardous materials and substances would be required during construction. Most hazardous materials that would be used during construction would be of low risk, can be recycled, and would be stored using specialized containments, such as sheds or trailers. However, spills could occur during equipment fueling and other construction-related activities, potentially resulting in the accidental release of hazardous materials that could pose a hazard to construction employees, the public, and the environment, depending on the magnitude of the spill and relative hazard of the material released. Project features PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; and PF-WQ-02, *Stormwater/Water Quality Management During Construction* would be implemented during construction and would limit the accidental release of hazardous materials.

These project features would reduce the potential hazards associated with the release of hazardous materials from the use and handling of hazardous materials during because hazardous materials would be handled, stored, and transported appropriately. Implementation of these project features, including compliance with applicable federal, state, and local regulations, would ensure that hazardous materials would be managed appropriately during construction. Therefore, impacts related to the accidental release of hazardous materials through the use and handling of construction materials would be less than significant.

3.9.5.2.2.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.9.5.2.1.2, O&M activities would involve the occasional use, storage, and disposal of hazardous materials that are required to comply with

specified requirements. If a spill of these materials were to occur, the accidental release could pose a hazard to maintenance employees, the public, and the environment, but given the small quantity of such materials anticipated to be used and stored during O&M activities, accidental release of hazardous materials is expected to be minor. Similar to the Proposed Project, Option 1 would also comply with all applicable regulations associated with the handling, use, transport, and disposal of hazardous materials. Therefore, Option 1 would result in a **less than significant** impact related to accident conditions involving the release of hazardous materials into the environment during O&M.

3.9.5.2.3 Option 2

3.9.5.2.3.1 Construction

Less than significant impact with mitigation incorporated. Similar to the Proposed Project and Option 1, the RSA contains sources of hazardous materials that could be encountered during construction of Option 2. Construction occurring in areas with sources of hazardous materials has the potential to result in the release of hazardous materials that would create a hazard to the public or the environment. Construction of Option 2 would also involve the use of hazardous materials that have the potential to create a hazard if the hazardous materials were accidentally released into the environment. The types of hazards and hazardous materials that would be involved and the potential impacts associated with the release of these hazardous materials during construction of Option 2 are discussed below. Overall, with implementation of the MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* through MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, construction of Option 2 would result in a **less than significant impact** related to the release of hazardous materials into the environment.

3.9.5.2.3.1.1 Sites of Environmental Concern

As shown in Table 3.9-2, 33 sites of environmental concern are located within the Option 2 temporary footprint. Of the 33 sites that are within the Option 2 footprint, 20 are considered RECs. The remaining 13 sites are considered HRECs. Although HRECs have been remediated and given regulatory closure, HRECs may still pose a risk of harm to public health or the environment and are treated with caution.

The effects of construction at the sites of environmental concern within the Option 2 temporary footprints are provided below. As discussed, excavation, other ground-disturbing activities, and dewatering activities would occur at some of the sites of environmental concern with contaminated soil or groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater.

Similar to the Proposed Project and Option 1, PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; PF-HAZ-04, *Disposal of Groundwater*; PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*; and PF-WQ-02, *Stormwater/Water Quality Management During Construction* would be implemented during construction, which would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern. These project features would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern because hazardous materials would be managed appropriately, and the operator would be prepared when encountering known or undocumented hazardous materials. However, impacts would remain potentially significant.

Similar to the Proposed Project and Option 1, with the implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*, impacts associated with the release of hazardous materials at sites of environmental concern would be reduced to less than significant levels.

3.9.5.2.3.1.1.1 LA—Former Lincoln Heights Jail/Field Operations Avenue 19 Yard, 401 Avenue 19 North, Los Angeles, CA 90031 (APN 5447-005-900)

This site is an REC and the LARWQCB's regulatory status for this site is Open—Site Assessment as of January 16, 2019. A Phase II Targeted Brownfields Assessment was completed with soil sample results indicating the presence of gasoline and lead contamination. An additional Phase II Investigation was completed at the Former Lincoln Heights Jail in 2021, that confirmed VOCs in the soil. Option 2 would construct an elevated top-of-bank path along the site's western parcel limits, which would require excavation at this site. Dewatering would be required if excavation extends to the water table. Excavation, other ground-disturbing activities, and dewatering at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. None of the buildings on the parcel would be disturbed. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.3.1.1.2 Bortz Oil Company, Inc. 1746 N. Spring Street, Los Angeles, CA 90012. (APN 5409-002-029).

This site is an REC with a DTSC regulatory status of Open—Inactive as of January 1, 2015. The site would be temporarily used for access during construction. Construction associated with Option 2 would occur outside the parcel boundary. Therefore, construction of Option 2 is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.3.1.1.3 Albion Park (Former Ross Swiss Dairies), 1739 Albion Street, Los Angeles, CA 90031 (APN 5447-027-908)

This site is an HREC as the presence of diesel was reported in the soil and groundwater at this site. Hazardous material cleanup was conducted for development of park. LARWQCB states that the information provided to the agency was accurate and no further action related to the petroleum release(s) at the site is required. Option 2 would construct an elevated top-of-bank path, which would require deep excavations of up to 125 feet for the pilings. The depth of groundwater on this site ranges from approximately 25 to 29 feet bgs, and dewatering would be necessary. A layer of crude oil and/or an oily substance were identified in borings at depths of 20 to 40 feet bgs (Arcadis 2012). Excavation, other soil disturbing activities, and dewatering activities at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater.

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to

less than significant levels with implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*.

3.9.5.2.3.1.1.4 LA River Oil Seep, 5447-027-901 (LA River Channel)

This site is an REC and was reported in the California Hazardous Material Incident Reporting System. Oil was observed seeping out of the weep holes of the concrete-lined east bank of the LA River at this location, just north of Main Street. The site has potentially contaminated soil and groundwater with crude oil petroleum. Option 2 would temporarily use the site for access during construction. An elevated river crossing would be constructed at this location, which would require excavation at this site. Dewatering would be required if excavation extends to the water table. Excavation, other ground-disturbing activities, and dewatering at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil and groundwater. MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of mitigation measures.

3.9.5.2.3.1.1.5 BNSF Mission Tower Site, 1430 Bolero, Los Angeles, CA 90012 (APN 5409-012-908)

The site is an HREC and has been reported to have contaminated soil and groundwater; however, the regulatory status of the site was listed as completed and the case was closed as of September 25, 2012 with a recommendation for no further action. Option 2 would construct an elevated top-of-bank path, which would require excavation activities at this site. Dewatering would be required if excavation extends to the water table. Excavation, other ground-disturbing activities, and dewatering at this site would disturb contaminated soil and groundwater, which could result in the potential localized spread of contamination and exposure of construction workers to contaminated soil.

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys* would determine the extent of soil or groundwater contamination and ensure that the contaminants are handled in a manner that is protective of human health and the environment. Therefore, impacts associated with the release of hazardous materials at this site would be reduced to less than significant levels with implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*.

3.9.5.2.3.1.1.6 Los Angeles County Metropolitan Transportation Authority, 900 Lyon Street, Los Angeles, CA 90012 (APN 5409-017-905).

This site is an REC due to soil contamination consisting of elevated concentrations of arsenic, lead and various contaminants. The site would be temporarily used for access during construction. Construction activities would occur outside the boundaries of this site. Therefore, construction of Option 2 is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.3.1.1.7 SoCal Gas/Aliso D MGP, East Cesar E Chavez Ave and Lyons St, Los Angeles CA 90012 (APNs 5409-17-905, 5409-017-906, 5409-018-916, 5409-018-920, 5409-020-905, 5409-020-908)

This site is an REC and consists of approximately 10.5 acres near the intersection of Cesar E Chavez Avenue and Lyons Street. Contaminants of concern at this site include petroleum hydrocarbons, VOCs, cyanide, PAHs, and heavy metals. A Land Use Covenant and Operation and Maintenance Plan are in place for this this site. The site would be temporarily used for access during construction. The main path alignment for Option 2 would be elevated in-channel and construction would occur outside of the parcel boundary. The Option 2 East Cesar E Chavez Avenue design variation would be located on the west bank, and construction would also occur outside of the parcel boundary. Therefore, construction of Option 2 is not expected to disturb contaminated soil or groundwater on this site, and construction workers and the public would not be exposed to contaminated soil and groundwater from this site.

3.9.5.2.3.1.1.8 Aliso Manufacturing Gas Plant, 600 East Cesar E Chavez Avenue, Los Angeles, CA 90012 (APN N/A)

This site is an REC due to contaminated groundwater. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.6.

3.9.5.2.3.1.1.9 Los Angeles City/Police Department, 555 Ramirez Street, Los Angeles, CA 90012-2962 (APN 5409-021-900)

This site is an REC due to soil and groundwater contamination. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.7.

3.9.5.2.3.1.1.10 Santa Fe/Macy Street, Macy Street/ Keller Street and Southern California Regional Rail Authority Track Extension, Los Angeles, CA 90012 (APN 5409-021-902)

This site is an REC due to soil and groundwater contamination. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.8.

3.9.5.2.3.1.1.11 Ramirez Street Investigation, Approximately 400-Foot Stretch of Ramirez Street located between Center and Keller Streets, Los Angeles, CA 90012 (APN N/A)

This site is an REC and consists of a 400-foot stretch of Ramirez Street located between Center and Keller Streets within the former 52-acre Aliso Street MGP site. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.9.

3.9.5.2.3.1.1.12 SoCal Gas/Aliso MGP, Sector A—West Parcel, Keller Street, Vignes Street, and US Highway Route 101, Los Angeles CA 90012 (APN 5409-022-905).

This site is an REC due to contaminants including lampblack, tar, petroleum hydrocarbons, and possibly cyanide. The site is fully paved and there is no route of exposure to contaminants unless ground-disturbing activities occur on this site. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.10.

3.9.5.2.3.1.1.13 SoCal Gas/Aliso Site-Wide—Groundwater, Temple/Vignes/Lyon/Keller/Alhambra Streets, Los Angeles CA 90013 (APN N/A).

This site is an REC due to contaminated groundwater. This site would be temporarily used for access during construction. Construction activities associated with Option 2 would occur outside of the boundaries of this site. Therefore, construction of Option 2 is not expected to disturb contaminated soil or groundwater; construction workers and the public and would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.3.1.1.14 SoCal Gas/Aliso Sector C, Block G, Northwest Corner, of Commercial Street and Center Street, Los Angeles CA 90012 (APN 5173-018-001).

This site is an REC and is vacant land covered with soil. This site would be temporarily used to access the construction area. Construction activities associated with Option 2 would occur outside of the boundaries of this site and, thus, construction workers and the public would not be exposed to contaminated soil or groundwater from this site.

3.9.5.2.3.1.1.15 Friedman Bag Company Inc., 801 East Commercial Street, Los Angeles, CA 90012 (APN 5173-019-006)

This site is an HREC, and LARWQCB determined closure/no further action as of August 23, 2002. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.13.

3.9.5.2.3.1.1.16 SoCal Gas/Aliso Sector C, Block K, Northeast Corner of Ducommun Street and Center Street, Los Angeles CA 90012 (APN 5168-015-802,5168-015-902,5168-017-012).

This site is an REC with a Land Use Covenant in place. This site would be temporarily used for access during construction, and construction would occur outside of the boundaries of this site. Thus, construction workers and the public would not be exposed to contaminated soil or groundwater from this site

3.9.5.2.3.1.1.17 ACTA North—Permanent Easement, 2607-2649 Washington Boulevard, Los Angeles, CA 90021 (APN 5169-016-011)

This site is an HREC, and LARWQCB determined that no further action is required as of September 24, 2002. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.15.

3.9.5.2.3.1.1.18 Hoffman Bros. Packing Co., Inc., 2731 South Soto Street, Vernon, CA 90023 (APNs 6302-001-044, 6302-001-045)

This site is an HREC and is currently covered by buildings and paved parking areas. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.16.

3.9.5.2.3.1.1.19 Chevron Station 94111, 3600 South Soto Street, Vernon, CA 90058 (APN 6303-004-039)

This site is an HREC due to soil contamination and the regulatory status as of August 20, 1997 is Completed—Case Closed. Option 2 would construct the same improvements, involve the same construction activities, and result in similar impacts as the Proposed Project discussed in Section 3.9.5.2.1.1.1.17.

3.9.5.2.3.1.1.20 Sites of Environmental Concern within TCE and Staging Area Footprints

No construction or ground-disturbing activities would occur on sites of environmental concerns that would only be used as TCEs or staging areas. Although these sites would be temporarily used for access and/or staging and storage of construction equipment and materials, construction of Option 2 is not expected to disturb contaminated soil or groundwater at these sites. Thus, construction workers and the public would not be exposed to contaminated soil or groundwater from these sites. Refer to Section 3.9.5.1.3 for a discussion of the potential hazards that could occur from the use of hazardous materials during construction of Option 2.

3.9.5.2.3.1.2 Soil Vapor Migration

Construction of Option 2 would involve similar construction activities in areas with soil vapor and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.2).

Option 2 would be required to comply with OSHA and Cal/OSHA regulations, including 29 CFR Section 1926.55 and 8 CCR Section 5416. These regulations limit the exposure time that construction workers would have from gases, fumes, dust, and mist (29 CFR Section 1926.55) and require ventilation for flammable vapors (8 CCR Section 5416). Additionally, Option 2 would be required to comply with the City of Los Angeles Methane Seepage Regulations (LAMC Chapter IX, Division 71, Sections 91-7101–91-7109), which provides regulations to control methane intrusion. As Option 2 would comply with OSHA, Cal/OSHA, as well as the City of Los Angeles Methane Seepage Regulations, impacts associated with soil vapor migration would be less than significant.

3.9.5.2.3.1.3 Hazardous Materials from Utility Pipelines

Construction of Option 2 would involve similar construction activities around the utility pipelines and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.3). Option 2 would be required to comply with Dig Alert prior to any excavation activities. Additionally, the construction contractor would coordinate with all existing utility providers/owners to obtain documentation of and verify the existing utility locations that would be affected by Option 1 (PF-UTL-01, *Utility identification and Coordination* in Section 3.18, *Utilities and Service Systems*). The requirements of Dig Alert and PF-UTL-01, *Utility identification and Coordination* would prevent excavation activities from accidentally damaging abandoned and active hazardous material utility pipelines. Therefore, the potential for construction of Option 2 to accidentally damage a hazardous material utility line that would result in the release of hazardous materials into the environment would be less than significant.

3.9.5.2.3.1.4 Railroad Tracks and Yards

Construction of Option 2 would involve similar construction activities around the railroad tracks and yards and result in similar impacts as the Proposed Project (as described in Section 3.9.5.2.1.1.4). If potentially hazardous materials are encountered during construction, construction work would stop,

and the construction contractors would be required to comply with all applicable federal, state, and local regulations regarding discovery, notification and response where hazardous materials are encountered during construction activities (PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*). This project feature would limit the exposure of construction workers and the public to hazardous materials. Therefore, Option 2 would result in a less than significant impact related to the accidental release of hazardous materials near railroad tracks and yards during construction.

3.9.5.2.3.1.5 Asbestos, Lead, and Universal Waste

Construction of Option 2 would involve similar construction activities as the Proposed Project (as described in Section 3.9.5.2.1.1.5). Option 2 involves alterations and partial demolition of older structures and structural components that may contain lead, LBPs and asbestos. Universal waste would potentially be generated during these construction activities. Alteration or partial demolition of structures containing LBPs, asbestos, or universal waste would require specific remediation activities, which are regulated by federal (40 CFR Section 745), state (17 CCR Sections 35001–36100, 22 CCR Division 4.5, Chapter 23), and local regulations.

Option 2 would implement PF-HAZ-02, *Contractor-Generated Waste Management Plan*, which ensures that hazardous and solid wastes, including asbestos, lead, and universal waste, are properly handled and disposed. However, since any accidental release of asbestos, lead, and universal waste would pose a hazard both to construction employees, the public, and the environment, depending on the magnitude and relative hazard of the material released, a significant impact would occur and mitigation would be required.

MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys* would require a survey prior to demolishing structures suspected of containing hazardous materials, such as ACMs, LBPs, and universal waste. This mitigation measure would ensure that construction workers and the public would not be exposed to hazards associated with asbestos, lead and universal waste. In conjunction with a pre-demolition investigation, a plan for proper removal would be prepared in accordance with applicable OSHA and the Los Angeles County Department of Public Health requirements prior to removal. With implementation of MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*, impacts related to the accidental release of asbestos, lead, and universal waste would reduce to less than significant levels.

3.9.5.2.3.1.6 Use and Handling of Hazardous Materials from General Construction Materials

As previously mentioned in Section 3.9.5.2.1.1.6, the use of hazardous materials and substances would be required during construction. Most hazardous materials that would be used during construction would be of low risk, can be recycled, and would be stored using specialized containments, such as sheds or trailers. However, spills could occur during equipment fueling and other construction-related activities, potentially resulting in the accidental release of hazardous materials that could pose a hazard to construction employees, the public, and the environment, depending on the magnitude of the spill and relative hazard of the material released. Project features PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*; and PF-WQ-02, *Stormwater/Water Quality Management During Construction* would be implemented during construction and would limit the accidental release of hazardous materials.

These project features would reduce the potential hazards associated with the release of hazardous materials from the use and handling of hazardous materials during because hazardous materials would be handled, stored, and transported appropriately. Implementation of these project features, including compliance with applicable federal, state, and local regulations, would ensure that hazardous materials would be managed appropriately during construction. Therefore, impacts related to the accidental release of hazardous materials through the use and handling of construction materials would be less than significant.

3.9.5.2.3.2 Operations and Maintenance

Less than significant impact. As discussed in Section 3.9.5.2.1.2, O&M activities would involve the occasional use, storage, and disposal of hazardous materials. If a spill of these materials were to occur, the accidental release could pose a hazard to maintenance employees, the public, and the environment, but given the small quantity of such materials anticipated to be used and stored during O&M activities, accidental release of hazardous materials is expected to be minor. Similar to the Proposed Project and Option 1, Option 2 would also comply with all applicable regulations associated with the handling, use, transport, and disposal of hazardous materials. Therefore, Option 2 would result in a **less than significant impact** related to accident conditions involving the release of hazardous materials into the environment during O&M.

3.9.5.3 Impact HAZ-3: Hazardous Materials Within 0.25-Mile of a School

Impact HAZ-3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of an existing or proposed school?

3.9.5.3.1 Proposed Project, Option 1, and Option 2

3.9.5.3.1.1 Construction

Less than significant impact with mitigation incorporated. There are 15 educational institutions within 0.25-mile of the permanent and temporary footprints of the Proposed Project, Option 1, and Option 2. Figure 3.9-9 shows the locations of educational institutions within 0.25-mile of the footprints. The RSA contains multiple sources of potentially hazardous materials that could be encountered during construction. Overall, the Proposed Project and its options would have a **less than significant impact with implementation of mitigation measures** during construction related to the potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25-mile of a school. The following sections describe the impacts in detail for the types of hazards and hazardous materials that educational institutions would potentially be exposed to by the Proposed Project and its options.

3.9.5.3.1.1.1 Handling of Hazardous Materials

During construction, commercially available hazardous materials, such as gasoline, brake fluids, coolants, and paints, would be used. Standard equipment maintenance and good housekeeping practices during construction would minimize the risk of any release. However, if any release of these substances did occur, releases are anticipated to be localized and unlikely to pose a risk to educational institutions within 0.25-mile of the temporary footprints of the Proposed Project and its options, mainly due to the distance of the educational institutions from the construction areas.

3.9.5.3.1.1.2 Transport of Hazardous Materials

Construction of the Proposed Project and its options would involve the transport and disposal of soil or other media contaminated with hazardous materials. PF-HAZ-01, *Hazardous Materials and Waste Plan* would be included as part of the Proposed Project and its options. This project feature involves developing a hazardous materials and waste plan, which would ensure that hazardous waste is properly transported and disposed of. This project feature, including compliance with applicable federal and state regulations, would ensure that the transport and disposal of hazardous materials would not pose a risk to educational institutions within 0.25-mile of the temporary footprint of the Proposed Project or its options.

3.9.5.3.1.1.3 Hazardous Emissions

Construction of the Proposed Project and its options would require the operation of multiple construction vehicles, including haul, ready mix, and crew trucks. As discussed in Section 3.3, *Air Quality*, the use of off-road construction equipment and on-road vehicles would result in short-term emissions of diesel particulate matter (PM) emissions. Diesel PM emissions would be temporary, relatively short-term, and restricted to relatively small areas where only a limited amount of construction equipment would be operating at any one time. Additionally, the Proposed Project and its options would comply with applicable California Air Resources Board's Airborne Toxic Control Measures by using off-road construction equipment meeting Tier 4 emission standards to minimize diesel PM emissions. Metro's Green Construction Policy (Metro 2011) would also be implemented, which also includes the use of Tier 4 emission standards. Metro's Green Construction Policy also involves the installation of the best available control technologies to reduce diesel PM emissions, limiting the idling of equipment and vehicles to no more than 5 minutes, and encouraging the use of electric power in lieu of diesel power where available. While the main concern of exposure to diesel PM is cancer risks, cancer risks are usually evaluated based on a 30-year lifetime exposure. Construction activities for the Proposed Project or its options would last for approximately 3 years, which would be less than the 30 years used for cancer risk determination; therefore, diesel PM from construction is not expected to pose a risk to educational institutions within 0.25-mile of the temporary footprints of the Proposed Project or its options.

As discussed above, the Proposed Project and its options would require the alteration and partial demolition of older structures and structural components that may contain asbestos and lead. These alteration and demolition activities would potentially emit asbestos and lead. The Proposed Project and its options would comply with all applicable federal, state, and local regulations pertaining to asbestos and lead. Additionally, PF-HAZ-02, *Contractor-Generated Waste Management Plan* would be included as part of the Proposed Project and its options. This project feature would provide construction workers with a protocol for the safe handling and appropriate method of disposing of asbestos and lead. However, since any accidental release of asbestos and lead could pose a hazard both to construction employees, the public, and the environment, depending on the magnitude and relative hazard of the material released, a significant impact would occur, and mitigation would be required.

MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys* would require a survey to be conducted prior to demolishing structures suspected of containing hazardous materials, such as ACMs, LBP, and universal waste. This mitigation measure would ensure that construction workers and the public would not be exposed to hazards associated with asbestos, lead and universal waste. In conjunction with a pre-demolition investigation, a plan for proper removal would be prepared in accordance with applicable OSHA and Los Angeles County Department of Public Health requirements prior to removal. With implementation of MM-HAZ-03, *Pre-Construction Asbestos, Lead-*

Based Paint, and Universal Waste Surveys, impacts related to the accidental release of asbestos and lead within 0.25-mile of educational institutions would be reduced to less than significant levels.

3.9.5.3.1.2 Operations and Maintenance

No impact. O&M activities would not involve activities that would require the handling of hazardous or acutely hazardous materials, substances, or waste. Therefore, the Proposed Project and its options are not expected to pose a risk to educational institutions within 0.25-mile of the footprints of the Proposed Project and its options, and **no impact** would occur.

3.9.5.4 Impact HAZ-4: Hazardous Materials Sites

Impact HAZ-4: Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

3.9.5.4.1 Proposed Project, Option 1, and Option 2

3.9.5.4.1.1 Construction

Less than significant impact with mitigation incorporated. Within the RSA, five sites of environmental concern are listed in the hazardous materials site compiled pursuant to *Government Code* Section 65962.5 (Cortese List). These sites include Bortz Oil Company, Inc.; Albion Park (former Ross Swiss Dairies); Los Angeles City/Police Department; Friedman Bag Company Inc.; and Chevron Station 94111. As discussed in Section 3.9.5.2.1.1.1, construction of the Proposed Project and its options would require excavation, grading, and/or other ground-disturbing activities at Albion Park, Los Angeles City/Police Department, Friedman Bag Company Inc., and Chevron Station 94111. For Option 1 and Option 2, Bortz Oil Company, Inc. would be used temporarily to access the construction area.

Construction activities could encounter contaminants or interfere with ongoing remediation efforts at the five sites that are on the Cortese List. Unless construction activities are coordinated with site-remediation activities, there could be a temporary increased risk of damage to or interference with site-remediation activities, such as soil containment areas. Construction at sites with existing contamination could also result in the generation of additional waste materials and could expose workers to hazardous materials. Additionally, construction activities could result in the discovery of unanticipated contamination at known release sites, potential environmental concern sites, or historical environmental concern sites (as identified in Section 3.9.5.2.1.1.1). The release of hazardous waste would generally be limited to areas where the materials would be excavated, handled, and stored because potential exposure would most likely occur in these areas. The size of the areas would depend upon the volume and nature of the release materials and the general condition of the release site (for example, paved, unpaved, sloped, flat, or bermed). Individuals most at-risk would be construction workers, or others in the immediate vicinity during excavation, transportation, or storage of the hazardous wastes, or during demolition and construction. The exposure pathways through which these individuals could be exposed include inhalation, ingestion, dermal contact, or injection.

Construction contractors would be required to implement federal and state handling and disposal regulations, which would reduce the risk of exposure of the public and the environment to hazardous materials during transport and disposal of hazardous contaminants encountered during construction.

The Proposed Project and its options would implement the following project features when handling hazardous materials during construction:

- PF-HAZ-02, *Contractor-Generated Waste Management Plan*
- PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*
- PF-HAZ-04, *Disposal of Groundwater*
- PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*

These project features would reduce the potential hazards associated with the release of hazardous materials at the sites of environmental concern because hazardous materials would be managed appropriately, and the operator would be prepared when encountering known or undocumented hazardous materials. Although the Proposed Project and its options would implement these project features and would comply with existing federal and state regulations pertaining to hazardous material handling, transport, and disposal, grading, excavation, and other ground-disturbing activities would potentially interfere with ongoing remediation efforts, would potentially expose construction workers to contaminated soil and/or groundwater, and has the potential to release hazardous materials into the environment. Therefore, a significant impact would occur, and mitigation measures would be required to reduce this significant impact.

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* would require a Phase II ESA to be completed within the temporary footprint of the Project prior to final design of the Project to determine the extent of soil or groundwater contamination. If the Phase II ESA identifies contaminant concentrations above the screening levels, the soil and/or groundwater would be remediated in accordance with the recommendations of the Phase II ESA. Where ground-disturbing activities would occur on sites of environmental concern, a Soil Management Plan would be required under MM-HAZ-02, *Soil Management Plan Surveys* to ensure that contaminated soil is handled and disposed of in a manner that is protective of human health and the environment.

With implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment* and MM-HAZ-02, *Soil Management Plan Surveys*, impacts related to hazardous materials sites compiled pursuant to *Government Code* Section 65962.5 would be reduced to **less than significant** levels.

3.9.5.4.1.2 Operations and Maintenance

No impact. The exposure to any potential hazardous materials from sites on the Cortese List would cease after construction of the Proposed Project or its options have been completed because O&M activities would not involve any subsurface disturbance. Therefore, O&M activities of the Proposed Project and its options would not create a significant hazard to the public or environment, and **no impact** would occur.

3.9.5.5 Impact HAZ-5: Project Located Within Airport Use Plan or Within 2 Miles of Airport

Impact HAZ-5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

3.9.5.5.1 Proposed Project, Option 1, and Option 2

3.9.5.5.1.1 Construction

No impact. The Proposed Project and its options are not located within an airport land use plan and is not located within 2 miles of a public airport or public use airport. Therefore, there would be **no impact**.

3.9.5.5.1.2 Operations and Maintenance

No impact. The Proposed Project and its options are not located within an airport land use plan and is not located within 2 miles of a public airport or public use airport. Therefore, there would be **no impact**.

3.9.5.6 Impact HAZ-6: Emergency Response or Emergency Evacuation Plan

Impact HAZ-6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

3.9.5.6.1 Proposed Project, Option 1, and Option 2

3.9.5.6.1.1 Construction

Less than significant impact. Construction of the Proposed Project and its options would not require the closure of bridges that could be used as an emergency route. The majority of construction activities would be constructed within the LA River, along the LA River banks, and outside of the public ROWs. Construction staging areas would be located on properties and within the temporary footprints of the Proposed Project and its options. Construction staging areas would not be located within public ROWs and would not obstruct emergency access and evacuation routes.

Several designated disaster routes are located within the RSA. At the construction access points and staging areas, construction activities associated with the Proposed Project and its options would result in temporary full and partial street closures. The full and partial street closures, presence of construction equipment, and sidewalk closures have the potential to block designated disaster routes and emergency access to adjacent land uses and the LA River. The temporary full and partial street closures are also anticipated to cause traffic delays and may require detours.

The Project would implement PF-TR-01, *Prepare and Implement Transportation Management Plan,* PF-TR-02, *Traffic Control Plan*, and PF-PS-01, *Emergency Service Coordination* that would maintain emergency access and evacuation routes during construction of the Project. As described in Section 3.16, *Transportation*, the Transportation Management Plan (TMP) would identify proposed closure schedules, detour routes, and construction traffic routes, including haul truck routes, and preferred staging locations and hours to avoid heavily congested areas during peak hours, where feasible. It would also address emergency services (for example, fire, police, and ambulances) during construction. The TMP would be developed in coordination with Metro, local jurisdictions, agencies, and other potentially affected parties (for example, fire, police, and other emergency service providers). The Traffic Control Plan would be implemented for local public streets to maintain traffic flow during construction activities, such as providing traffic controls, flaggers, and other traffic safety measures, maintaining local roadway access, and providing signage directing pedestrians and motorists around

construction areas. As discussed in Section 3.14, *Public Service/Safety and Security* for PF-PS-01, *Emergency Service Coordination*, construction contractors would coordinate with police, fire, and emergency service providers prior to and during construction to maintain emergency access through construction work areas. In addition to these project features, fire response and emergency medical services would have onboard live mapping that would provide construction traffic alerts during emergency calls and would re-route as necessary.

Construction of the Proposed Project and its options is not expected to conflict with the *City of Los Angeles 2018 Local Hazard Mitigation Plan* (City of Los Angles 2018), City of Vernon *2023 Local Hazard Mitigation Plan* (City of Vernon 2023), City of Bell *General Plan, Health and Safety Element* (City of Bell 2021); and the Cities of Los Angeles (2021), Vernon (2007), Bell (2018), and Maywood (2007) General Plan Safety Elements. Construction contractors would coordinate with local jurisdictions; fire, police, and other emergency service providers; and other potentially affected parties to maintain emergency access during construction. Additionally, the Proposed Project and its options would comply with all applicable federal, state, and local requirements pertaining to hazards and emergency response.

Therefore, construction of the Proposed Project and its options would not impair implementation of or physically interfere with any adopted emergency response or emergency evacuation routes within the RSA. Impacts would be **less than significant**.

3.9.5.6.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities along the LA River that would connect with the existing LA River Greenway Trail near Egret Park in the City of Los Angeles and the LA River Bicycle Path near Atlantic Boulevard in the City of Vernon. The Proposed Project and its options would be located entirely in or along the banks of the LA River and would not block or interfere with traffic along the surrounding roadways, including the designated disaster routes. No new streets or permanent street closures are proposed, and the existing roadway network would not be altered in a way that would interfere with designated disaster routes or emergency response vehicles traveling on the surrounding roadways. The Proposed Project and its options would comply with local code requirements pertaining to emergency vehicle access. Therefore, O&M of the Proposed Project and its options would not impair the implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan, and impacts would be **less than significant**.

3.9.5.7 Impact HAZ-7: Wildland Fires

Impact HAZ-7: Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires?

3.9.5.7.1 Proposed Project, Option 1, and Option 2

3.9.5.7.1.1 Construction

Less than significant impact. As previously discussed, the footprints of the Proposed Project and its options north of North Broadway and the adjacent Elysian Park are within a designated VHFHSZ. The LA River is separated from the Elysian Park hillside to the west by the SR-110 and I-5 freeways and the A Line tracks. Although some intermittent vegetation and green space are present along the LA River,

these locations are in or surrounded by concrete-lined disturbed lands that are largely confined by paved roads and existing development. As such, the vegetation fuel for a wildfire would be low.

Construction activities generally involve sparks or heat from equipment and have the potential to result in accidental wildfire ignitions. The Proposed Project and its options would manage such potential risk with the implementation of standard construction practices and regulatory compliance measures, including the California Fire Code and Fire Brush Clearance Zones requirements. Refer to Section 3.19, *Wildfire* for a detailed analysis on wildfire. Therefore, construction activities would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires. Impacts would be **less than significant**.

3.9.5.7.1.2 Operations and Maintenance

Less than significant impact. The LA River is separated from the Elysian Park hillside to the west by the SR-110 and I-5 freeways and the Metro A Line tracks. Vegetation in the LA River channel is limited to small brush and weeds. As discussed with respect to Impact WF-2 in Section 3.19, *Wildfire*, O&M activities are not anticipated to expose people or structures a significant risk of loss, injury, or death involving wildland fires. O&M activities would occur occasionally throughout the proposed path and are not anticipated to exacerbate wildfire risks. O&M activities would comply with applicable fire safety regulations, including the California Fire Code and Fire Brush Clearance Zones requirements, which include limitations on certain metal cutting blades for brush clearance activities; established specific requirements and penalties for violations for brush clearance activities; limited maintenance activities during red flag warnings; and use of drought-tolerant and low-maintenance landscaping and vegetation. The Proposed Project and its options may increase pedestrians and bicyclists along the proposed path but such activities would not exacerbate wildfire risks as the LA River is physically separated from the designated VHFHSZ to the west. Refer to Section 3.19, *Wildfire* for a detailed analysis on wildfire. Therefore, impacts related to wildland fire risks would be **less than significant**.

3.9.6 Mitigation Measures

As identified in Section 3.9.5, the Proposed Project and its options would result in less than significant impacts on hazards and hazardous materials under Impact HAZ-1, Impact HAZ-6, and Impact HAZ-7; and no impact under Impact HAZ-5. The Proposed Project and its options would result potentially significant impacts under Impact HAZ-2, Impact HAZ-3, and Impact HAZ-4. Mitigation measures are required for construction.

3.9.6.1 Construction

MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment*

Prior to final design, the construction contractor shall prepare a Phase II Environmental Site Assessment (ESA) within the temporary footprint of the Project to determine the extent of soil or groundwater contamination associated with the recognized environmental conditions (RECs) and historical recognized environmental conditions (HRECs). The Phase II ESA shall be prepared under the direct supervision of a Professional Geologist, licensed in the State of California, Phase II ESA activities shall follow ASTM standards and shall consist of the following:

- Collecting soil, groundwater, and soil vapor samples as applicable from borings for analysis by an environmental laboratory. Sampling shall be based on the Phase I ESA findings for the resource study area (RSA). ADL testing must be included for unpaved areas adjacent to freeways where excavation shall occur.
- Analyzing samples in a laboratory for chemicals of concern (COCs), such as volatile organic compounds (VOCs), polycyclic aromatic hydrocarbons (PAHs), total petroleum hydrocarbons, and metals identified in Title 22 of the California Code of Regulations.

Laboratory analysis results shall be compared to applicable environmental screening levels developed by the Los Angeles Regional Water Quality Control Board (LARWQCB) and/or the California Department of Toxic Substances Control (DTSC). The Phase II ESA report shall summarize the results of the analysis and provide necessary recommendations to Los Angeles County Metropolitan Transportation Authority (Metro). Metro shall implement the Phase II ESA findings. If the Phase II ESA identifies contaminant concentrations above the screening levels, the contaminated media shall be remediated in accordance with the recommendations of the Phase II ESA. Potential activities could include groundwater dewatering activities, remediation, or corrective action (for example, removing contamination, in situ treatment, or capping). The Phase II ESA shall be reviewed by the appropriate regulatory agency(ies), which may include federal, state, and/or local agencies (for example, US Environmental Protection Agency, DTSC, or the State Water Resources Control Board) and shall be conducted in full compliance with current and applicable federal and state laws and regulations. Where applicable, Voluntary Cleanup Agreements may be used for parcels requiring remediation or long-term monitoring.

MM-HAZ-02, *Soil Management Plan Surveys*

Prior to ground-disturbing activities on sites of environmental concern (e.g., grading, excavation, trenching), a Soil Management Plan shall be prepared and approved by the Department of Toxic Substances Control. The Soil Management Plan shall include procedures and protocols for the management and disposal of contaminated soil that would be displaced during ground-disturbing activities to ensure that contaminated soil is handled in a manner that is protective of human health (including construction workers) and the environment.

MM-HAZ-03, *Pre-Construction Asbestos, Lead-Based Paint, and Universal Waste Surveys*

Prior to demolition of any structures, a certified contractor shall conduct a survey to determine the presence or absence of building materials that contain hazardous materials, such as asbestos-containing materials (ACMs), lead-based paints (LBPs), and other materials characterized as universal waste in accordance with federal and state regulations, including the following:

- 1994 Federal Occupational Exposure to Asbestos Standards
- Southern California Air Quality Management District (SCAQMD) Rule 1403, *Asbestos Emissions from Demolition/Renovation Activities*
- 22 *California Code of Regulations* Division 4.5
- US Department of Housing and Urban Development Lead-Based Paint Guidelines
- 40 *Code of Federal Regulations* Part 761

If any hazardous building materials are discovered during the survey, a plan for proper removal, disposal, and transport of hazardous materials shall be prepared in accordance with applicable federal, state, and local regulations, including regulations from the federal Occupational Safety and Health Administration (OSHA) and the Los Angeles County Department of Public Health, prior to removal. The contractor performing the work shall be required to implement the removal plan, shall be required to have a C-21 license in the State of California and shall possess an A or B classification. If asbestos-related work is required, the contractor or their subcontractor shall be required to possess a California Contractor License (Asbestos Certification). Following completion of removal activities, Los Angeles County Metropolitan Transportation Authority (Metro) shall submit documentation to the relevant oversight agency and applicable interested parties verifying that all hazardous materials were properly removed and disposed.

3.9.6.2 Operations and Maintenance

All O&M activities would result in less than significant or no impacts. Therefore, no operational mitigation measures are required.

3.9.7 Significance After Mitigation

3.9.7.1 Construction

Construction of the Proposed Project or its options would result in less than significant impacts related to Impact HAZ-1, Impact HAZ-6, and Impact HAZ-7; and no impact under Impact HAZ-5.

Construction impacts for the Proposed Project and its options under Impact HAZ-2, Impact HAZ-3, and Impact HAZ-4 would be less than significant with incorporation of MM-HAZ-01 through MM-HAZ-03.

3.9.7.2 Operations and Maintenance

No mitigation measures are required for O&M activities.

3.9.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology,* discusses the approach for analyzing cumulative impacts and identifies projects located within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for hazards and hazardous materials, and extends further to include additional projects that, due to the area's topography and existing infrastructure, might interact with the Project elements The geographic scope for cumulative impacts to hazards and hazardous materials is 500 feet from the permanent and temporary footprints of the Proposed Project and its options (including construction staging areas).

As discussed in Section 3.9.5, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.9.5, the Proposed Project and its options would generally result in similar impacts related to hazards and hazardous materials. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.9.8.1 Proposed Project, Option 1, and Option 2

3.9.8.1.1 Construction

3.9.8.1.1.1 Hazardous Materials

The Proposed Project and its options would vary in alignment length, where they follow the west bank or the east bank of the LA River, and in the path types used to navigate through RSA constraints. In general, impacts associated with hazards and hazardous materials are specific to the Proposed Project and its options, and adverse effects are largely localized. However, due to the location of the LA River adjacent to the temporary footprint of the Proposed Project and its options, accidental releases of hazardous materials have the potential to create a hazard to all areas downstream of the area where the accidental release occurs. Cumulative impacts related to hazards and hazardous materials could occur if past, present, and probable future projects, in conjunction with the Project, have the potential to expose people to hazards through the routine transport, use, or disposal of hazardous materials or through the redevelopment of sites and structures that may be contaminated from either historic or ongoing uses or if related projects.

The Proposed Project or its options, and past, present, and probable future projects would involve the alteration or demolition of structures that contain lead and asbestos. An existing structure at the Friedman Bag Company Inc., (801 East Commercial Street), which may contain asbestos and lead, is planned for demolition as part of the Link Union Station project. Prior to the alteration or demolition of structures with asbestos and lead, remediation activities are required. These remediation activities are governed by federal (40 CFR Section 745), state (17 CCR Sections 35001–36100, 22 CCR Division 4.5, Chapter 23), and local regulations. These regulations would limit the exposure of construction workers and the public to asbestos and lead.

Construction of the Proposed Project or options, and past, present, and probable future projects would involve the storage, use, disposal, and transport of hazardous materials to varying degrees during construction. Any hazardous wastes or materials encountered during construction would be handled and disposed of in accordance with federal, state, and local regulatory requirements, standards, and guidance related to hazards and hazardous materials. Similarly, related projects would also be subject to the same federal, state, and local regulations to minimize potential impacts. Additionally, the Project would implement mitigation measures (as described in Section 3.9.6) to reduce potential impacts. Past, present, and probable future projects would also comply with the same regulatory requirements and standards as the Project. Related projects would apply mitigation measures, as needed, to reduce potential impacts. Therefore, the Proposed Project and its options in combination with related past, present, and probable future projects would not result in significant cumulative impacts related to hazards and hazardous materials during construction or operations.

3.9.8.1.1.2 Emergency Response Plan/Emergency Evacuation Plan

Construction of the Proposed Project or its options, and related projects has the potential to result in full and/or partial street closures. The Proposed Project or its options would develop a TMP (PF-TR-01, *Prepare and Implement Transportation Management Plan;* refer to Section 3.16, *Transportation*) and a Traffic Control Plan (PF-TR-02, *Traffic Control Plan*; refer to Section 3.16, *Transportation*). The TMP and Traffic Control Plan would be developed in coordination with Metro, local jurisdictions, agencies, and other potentially affected parties (e.g., fire, police, and other emergency service providers). Construction contractors for the Proposed Project or its options would also coordinate with police, fire, and emergency service providers prior to and during construction to

maintain emergency access through construction work areas (PF-PS-01, *Emergency Service Coordination;* refer to Section 3.14, *Public Services/Safety and Security*). Local jurisdictions, police, fire, and emergency service providers would also be informed about concurrent construction activities of related projects that would also require full and/or partial street closures. The TMP and Traffic Control Plan would be developed in conjunction with affected agencies and local jurisdictions to maximize opportunities for coordinated detours with concurrent construction activities of related projects, which would reduce the Proposed Project and its options' incremental contribution to cumulative impacts related to emergency response. Additionally, fire response and emergency medical services would have onboard live mapping that would provide construction traffic alerts of the Proposed Project or its options, and past, present, and probable future projects during emergency calls and would re-route as necessary. The Proposed Project or its options, and past, present, and probable future projects would comply with all applicable federal, state, and local requirements pertaining to hazards and emergency response. In the event of natural disasters, the cities would implement its own adopted emergency response plans or emergency evacuation plans, including local hazard mitigation plans. Therefore, the Proposed Project or its options, in combination with past, present, and probable future projects, would not result in significant cumulative impacts related to emergency response and evacuation during construction.

3.9.8.1.1.3 Wildland Fires

The Proposed Project, its options, and past, present, and probable future projects would manage potential risk associated with wildland fires by implementing standard construction practices and regulatory compliance measures, including the California Fire Code and Fire Brush Clearance Zones requirements. Therefore, the Proposed Project or its options, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to wildland fire risks during construction.

3.9.8.1.2 Operations and Maintenance

3.9.8.1.2.1 Hazardous Materials

O&M activities associated with the Proposed Project or its options would involve path maintenance and are not anticipated to expose the public or the environment to hazards associated with the routine transport, use, disposal or accidental release of hazardous materials. O&M activities associated with the Proposed Project or its options, and past, present, and probable future projects would comply with applicable regulatory requirements, standards, and guidance related to the use of hazardous materials needed for the O&M and upkeep of the recreational path. Related projects would also be required to comply with all prescribed standards, requirements, and guidance related to hazards and hazardous materials during operation. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant hazard and hazardous material impacts during O&M.

3.9.8.1.2.2 Emergency Response Plan/Emergency Evacuation Plan

The Proposed Project and its options would be located entirely within the LA River channel or along the banks of the LA River. The Proposed Project and its options would not block or interfere with traffic along the surrounding roadways, including the designated disaster routes. Past, present, and probable future projects are also not expected to block or interfere with traffic along the surrounding roadways, including the designated disaster routes. Therefore, the Proposed Project and its options, in

combination with past, present, and probable future projects, would not result in significant cumulative impacts related to emergency response and evacuation during O&M.

3.9.8.1.2.3 Wildland Fires

O&M activities for the Proposed Project and its options would not exacerbate wildfire risks. O&M activities associated with the Proposed Project, its options, and past, present, and probable future projects would comply with applicable fire safety regulations. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in significant cumulative impacts related to wildland fire risks during O&M.

3.10 Hydrology and Water Quality

3.10.1 Introduction

This section examines potential environmental effects of construction and operation of the Proposed Project and its options, Option 1 and Option 2, on hydrology and water quality. This section also describes the existing setting, and applicable regulatory framework.

3.10.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to hydrology and water quality.

3.10.2.1 Federal

3.10.2.1.1 Clean Water Act of 1972

The Clean Water Act of 1972 (CWA) (33 *United States Code* [USC] 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into waters of the United States and gives the US Environmental Protection Agency (EPA) the authority to implement pollution-control programs such as setting wastewater standards for industries. In most states, including California, EPA has delegated this authority to state agencies.

3.10.2.1.1.1 Clean Water Act Section 303(d), Impaired Waters and Total Maximum Daily Loads

CWA Section 303(d) requires states, territories, and authorized tribes to develop a list of water quality-impaired segments of waterways. The federal CWA Section 303(d) List includes water bodies that do not meet water quality standards for the specified beneficial uses of that waterway, even after dischargers of point sources of pollution have installed the minimum required levels of pollution-control technology. The law requires these jurisdictions to establish priority rankings for water bodies on their own CWA Section 303(d) lists and implement a process, called total maximum daily loads (TMDLs), to meet water quality standards. The TMDL process establishes maximum allowable pollutant loads and provides the basis for establishing water quality-based standards.

The LA River is identified on the CWA Section 303(d) list. Section 3.10.4 describes the existing condition of waterways and groundwater in the resource study area (RSA), beneficial uses as established in *Water Quality Control Plan Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties* (Basin Plan) (LARWQCB 2019), and associated TMDLs.

3.10.2.1.1.2 Clean Water Act Section 401, State Certification of Water Quality

CWA Section 401 requires a state water quality certification to show that a proposed project will comply with state water quality standards for any activity that results in a discharge to a water body. In the event that a project requires permitting under CWA Section 404 (described in Section 3.4.2.1.2.1 and below), Section 404 regulates the discharge of dredged or fill material into waters of the United

States; water quality certification is also required under CWA Section 401. In California, the State Water Resources Control Board (SWRCB) and regional water quality control boards (RWQCBs) are responsible for reviewing proposed projects and issuing water quality certifications.

3.10.2.1.1.3 Clean Water Act Section 402, National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) permit process provides a regulatory mechanism for the control of point source discharges (for example, a municipal or industrial discharge at a specific location or pipe) to waters of the United States, including the LA River. Two exceptions that are regulated under the NPDES program are (1) diffuse source discharges caused by general construction activities of over 1 acre and (2) stormwater discharges in municipal stormwater systems as a separate system in which runoff is carried through a developed conveyance system to specific discharge locations.

3.10.2.1.1.4 Clean Water Act Section 404, Permitting Discharges of Dredge or Fill Material

CWA Section 404 also requires obtaining a permit from the United States Army Corps of Engineers (USACE) when discharge of dredged or fill material is proposed within waters of the United States, including the LA River. Under CWA Section 404 (as codified in 33 USC 328.3[a]), discharges of dredged or fill materials are regulated to minimize water quality impacts, including increased turbidity.

3.10.2.1.2 Rivers and Harbors Appropriation Act of 1899

Section 10 of the Rivers and Harbors Appropriation Act of 1899 (RHA), which is codified in 33 USC 403, requires a permit for creating obstructions (including excavation and fill activities) to the navigable waters of the United States. Navigable waters are defined as those water bodies subject to the ebb and flow of the tide and/or that are used in their natural condition or by reasonable improvements as means to transport interstate or foreign commerce. The LA River is a navigable waterway and is within USACE jurisdiction.

RHA Section 14, as codified in 33 USC 408, requires permission for the use, including modifications or alterations, of any flood control facility work built by the US to ensure that the usefulness of the federal facility is not impaired. Permission for occupation or use is to be granted by "an appropriate real estate instrument in accordance with existing real estate regulations."

USACE must approve any modifications, alterations, or occupation of USACE public works projects through their Section 408 permitting program. Public works projects include dams, basins, levees, channels, navigational channels, and any other local flood protection works constructed by USACE (for example, the LA River, which is a flood control facility). A Section 408 permit is required for alterations proposed within lands and real property within USACE jurisdiction. To attain permit approval from USACE, a project must demonstrate improvements would not alter the hydraulics in a manner that adversely affects the operation or integrity of the public works project.

3.10.2.1.3 Executive Order 11988, Floodplain Management

Executive Order (EO) 11988, *Floodplain Management* directs all federal agencies to avoid, to the extent possible, incompatible floodplain development, to be consistent with the standards and criteria of the

National Flood Insurance Program (NFIP), and to restore and preserve natural and beneficial floodplain values. Incompatible development includes long- and short-term adverse impacts associated with the occupancy and modification of floodplains.

EO 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input* amended EO 11988 in 2015, and establishes a federal flood risk management standard, along with a process for soliciting and considering stakeholder input (FEMA 2015). EO 13690 was revoked in 2017 by Section 6 of EO 13807, *Establishing Discipline and Accountability in the Environmental Review and Permitting Process for Infrastructure*. In January 2021, EO 13834 revoked EO 13807, and EO 13690 came back into effect.

The Federal Emergency Management Agency (FEMA) administers NFIP and provides floodplain information for many areas of the country through Flood Insurance Studies and their associated Flood Insurance Rate Maps (FIRMs). The RSA contains flood hazard zones as delineated by the FIRMs and is further discussed in Section 3.10.3.

3.10.2.1.4 National Flood Insurance Act

The purpose of the National Flood Insurance Act (codified in 42 USC 4001 et seq.) is to identify flood-prone areas and provide insurance. The act requires the purchase of insurance for developments in special flood hazard areas. The act applies to any federally assisted acquisition or construction project in an area identified as having special flood hazards and is therefore applicable to the Project. Projects should avoid construction in, or develop a design to be consistent with, FEMA-identified flood hazard areas.

3.10.2.2 State

The SWRCB and the nine RWQCBs are responsible for the protection of water quality in California. The SWRCB establishes statewide policies and regulations mandated by federal and state water quality statutes and regulations. The RWQCBs are responsible for the development and implementation of water quality control plans, also known as basin plans, which address regional beneficial uses, water quality characteristics, and water quality problems. The RWQCBs are responsible for implementing the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) discussed below. The RWQCBs are also responsible for issuing water quality certifications pursuant to CWA Section 401, as described in Section 3.10.2.1.

3.10.2.2.1 Porter-Cologne Water Quality Control Act of 1969

The Porter-Cologne Act established the principal California program for water quality control. The Porter-Cologne Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and groundwater); regulates discharges to surface and groundwater; and directs the RWQCBs to develop regional basin plans. California Water Code Section 13170 also authorizes the SWRCB to adopt water quality control plans on its own initiative. The Porter-Cologne Act also divides California into nine RWQCB areas. Each RWQCB implements and enforces provisions of the CWA subject to policy guidance and review by the SWRCB. The RSA is in LARWQCB Region 4. LARWQCB developed the Basin Plan.

3.10.2.2.2 California Fish and Game Code

California Fish and Game Code Section 1602, as administered by the California Department of Fish and Wildlife (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." Streambed alteration must be permitted by CDFW through a Lake or 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 manmade reservoirs." CDFW jurisdiction includes ephemeral, intermittent, and perennial watercourses and can extend to habitats adjacent to watercourses.

To meet the requirements of California Fish and Game Code Section 1602, entities must notify CDFW of any proposed activity that may substantially modify a river, stream, or lake. The notification requirement applies to work undertaken in or near a river, stream, or lake that flows at least intermittently through a bed or channel and applies to the Project.

3.10.2.2.3 State Antidegradation Policy

In accordance with the federal antidegradation policy as codified in 40 *Code of Federal Regulations* Section131.12, California's Antidegradation Policy was adopted by the SWRCB to maintain high-quality waters in California. The state policy restricts the degradation of surface and groundwaters. Implemented by the RWQCBs, the policy helps California achieve federal CWA goals and objectives. In particular, the policy protects bodies of water where the existing water quality is higher than necessary for the protection of present and anticipated beneficial uses. Pollutants regulated under the policy can be attributed to, among other sources, industrial and municipal discharges. The policy requires that any activity that produces or may produce a waste or increased volume or concentration of waste and that discharges or proposes to discharge into high-quality waters is required to meet waste discharge requirements (WDRs) to control the discharge and assure that a pollution or nuisance will not occur.

3.10.2.2.4 National Pollutant Discharge Elimination System Construction General Permit

On September 2, 2009, via Order 2009-0009-DWQ, and as amended by Orders 2010-0014-DWQ and 2012-0006-DWQ, the SWRCB adopted the *General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities,* also known as the Construction General Permit, or CGP. The CGP is in accordance with CWA Section 402(p), which regulates municipal and industrial stormwater discharges under the NPDES program.

On September 8, 2022, via Order WQ 2022-0057-DWQ, NPDES CAS000002, the SWRCB adopted the new statewide CGP. Because the new GCP shall become effective on September 1, 2023, it is likely the Project will be constructed under the new CGP.

The CGP has the following main objectives:

- Reduce erosion from construction projects or activities
- Minimize or eliminate sediment in stormwater discharges from construction projects
- Prevent materials used at a construction site from contacting stormwater

- Implement a sampling and analysis program to monitor construction site runoff
- Eliminate unauthorized non-stormwater discharges from the construction sites
- Implement appropriate measures to reduce potential impacts on waterways both during and after construction projects
- Establish maintenance commitments on postconstruction pollution-control measures

CGP requirements apply to any construction project that results in the disturbance of at least 1 acre of land or that is part of a larger common development plan and applies to the project. Additionally, the CGP would be required for related construction or demolition activities, including clearing, grading, grubbing, or excavation, or any other activity that results in more than 1 acre of land disturbance. The CGP also requires preparing and implementing a stormwater pollution prevention plan (SWPPP), which would identify the implementation strategy for stormwater best management practices (BMPs), which would minimize non-stormwater discharges, including sediment transport, caused by construction activities.

Minimum stormwater control requirements under the CGP are determined by project risk categories as determined by CGP Section VIII. Risk categories include the sediment risk factor and the receiving water risk factor. These are combined to determine a construction site's project risk level. Risk levels are identified as 1, 2, or 3 ranging from the lowest to the greatest risk to water quality. A project's risk level governs the applicable minimum BMPs, monitoring requirements, reporting requirements, and the effluent standards used to assess monitoring data and project compliance. Risk level 1 projects are subject to minimum BMP and visual monitoring requirements; risk level 2 projects are subject to numeric action levels and some additional monitoring requirements; and risk level 3 projects are subject to numeric action levels and more rigorous monitoring requirements such as receiving water monitoring and, in some cases, bioassessment. Once a project's risk level is determined, minimum BMP requirements are specified for compliance with the CGP.

BMPs are separated into the following five overall categories:

- Good site management housekeeping
- Non-stormwater management
- Run-on and runoff controls
- Erosion control
- Sediment controls

These BMPs address erosion control requirements, stormwater and non-stormwater management, and channel dewatering for affected stream crossings. The SWRCB finds that discharges in compliance with the CGP would not result in the lowering of water quality standards. Compliance with the CGP would result in improvements in water quality (SWRCB 2022).

3.10.2.2.5 Seismic Hazards Mapping Act

California's Seismic Hazards Mapping Act (1990) requires the state geologist to compile maps that identify and describe seismic hazard zones in California. The mapping area emphasizes urban areas in Los Angeles, Ventura, and Orange Counties in Southern California, and Alameda, San Francisco, San Mateo, and Santa Clara Counties in Northern California. This regulation is related to hydrology and water quality for the Project because the RSA is susceptible to earthquake movement and related

dam failure and inundation. Several faults are present near the RSA. Refer to Section 3.7, *Geology, Soils, and Paleontological Resources* for additional information.

3.10.2.2.6 Sustainable Groundwater Management Act

The group of legislation known as the Sustainable Groundwater Management Act (SGMA) was enacted in 2014. The California Department of Water Resources (DWR) is responsible for regulatory oversight and for providing ongoing assistance to local groundwater sustainability agencies (GSAs) who are tasked with managing and using groundwater in ways that can be maintained during SGMA's planning and implementation horizon without causing undesirable results (DWR 2022). SGMA requires local governments and water agencies of high- and medium-priority basins to halt overdraft and bring groundwater basins to balanced levels of pumping and recharge. SGMA also requires GSAs to manage basins sustainably and to adopt groundwater sustainability plans for crucial groundwater basins in California (DWR 2021). *California Water Code* Section 10720.8 identifies adjudicated areas under SGMA jurisdiction that have an existing defined entity administering the adjudication. Under SGMA, adjudicated portions of basins are exempt from developing a groundwater sustainability plan and from forming a GSA. However, entities administering the adjudications are subject to submitting annual groundwater management reports. The Central Groundwater Basin, which is adjudicated and managed by the Water Replenishment District of Southern California (WRD), lies beneath the RSA.

3.10.2.3 Regional and Local

3.10.2.3.1 Los Angeles Regional Water Quality Control Board

The LARWQCB has regulatory responsibility for protecting water quality in the Los Angeles region.

3.10.2.3.1.1 Municipal Separate Storm Sewer System

Per LARWQCB Order R4-2021-0105, NPDES Permit CAS004004, the Regional Phase I Municipal Separate Storm Sewer System (MS4) permit (SWRCB 2021), requires permittees to demonstrate that low-impact design (LID) ordinances are in place for each jurisdiction, and that those LID ordinances designate LID BMPs that must be used in specified categories of development to treat stormwater runoff, control peak flow discharges, and reduce post-project discharge of pollutants from stormwater conveyance systems. The Los Angeles County MS4 permit also requires permittees to implement technical standards for the selection, installation, and maintenance of BMPs in accordance with the CGP.

The LARWQCB adopted the MS4 permit on July 23, 2021, and the permit became effective on September 11, 2021. This MS4 permit regulates the Los Angeles County Flood Control District (LACFCD), the County of Los Angeles, 85 incorporated cities within the coastal watersheds of Los Angeles County (including the cities in the RSA), Ventura County Watershed Protection District, the County of Ventura, and 10 incorporated cities within Ventura County for discharges of stormwater and urban runoff from MS4 permitted areas, which also known as storm drainage systems. The Project area discharges stormwater flows to existing facilities owned and maintained by the LACFCD and the Cities of Los Angeles and Vernon and is therefore subject to various local stormwater-related ordinances that follow MS4 permit compliance requirements.

The MS4 permit requires new development and redevelopment projects to implement postconstruction treatment controls to manage pollutants, pollutant loads, and runoff volume emanating from a project site. Because the Project is considered a redevelopment project as defined in

MS4 permit Section VIII.F and as directed in PF-HWQ-02, *Low-Impact Design Requirements* (Section 3.10.3.3), the following must be implemented.

- To comply with applicable local stormwater ordinances, the Project must develop a site-specific LID plan that would implement LID standards such as incorporating structural and nonstructural treatment controls. Other LID standards would include the following:
  - Minimize stormwater pollutants of concern
  - Protect slopes and channels
  - Provide storm drain system stenciling and signage
  - Design proper trash storage areas
  - Provide proof of ongoing BMP maintenance
  - Design standards for structural or treatment control BMPs
  - Conserve natural areas and minimize the extent of disturbed areas
  - Implement pollutant source reduction measures
  - Design and construct appropriate onsite stormwater management facilities to control peak flow rates and volumes and to capture and treat runoff prior to discharge, especially for pollutant-generating surfaces, such as bicycle path access sites, parking areas, access roads and ramps, and new local street improvements
  - Use LID techniques to retain runoff onsite and to reduce offsite runoff, to the extent practical while considering use of constructed wetland systems, biofiltration and bioretention systems, wet ponds, organic mulch layers, planting soil beds and vegetated systems (biofilters) such as vegetated swales and grass filter strips
  - Locate all constructed stormwater BMPs outside of natural water bodies and streams
  - Use portions of the maintenance site for onsite infiltration of runoff, if feasible, or for stormwater detention, if not

Compliance with applicable local stormwater-related ordinances would reduce pollutants in stormwater discharges to the maximum extent practicable (LARWQCB 2012).

3.10.2.3.1.2 Construction Dewatering

Removal of nuisance water from a construction site (known as dewatering) generally requires care because of high turbidity and other pollutants potentially associated with this activity.

Nuisance, as defined by California Water Code Section 13050(m), means anything that meets all of the following requirements:

- Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property
- Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal
- Occurs during, or as a result of, the treatment or disposal of wastes

The following NPDES permits regulate different construction activities for projects:

- LARWQCB Order R4-2013-0095 (NPDES Permit CAG994004), Waste Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (construction dewatering permit), covers discharges to surface water from dewatering activities.
- LARWQCB Order 93-010, *Waste Discharge Requirements for Specified Discharges to Groundwater in the Santa Clara River and LA River Basins*, covers construction dewatering and dust control application. This WDR requires analyzing wastewater prior to discharge to determine if it contains pollutants in excess of the applicable basin plan water quality objectives. Additionally, any wastewater that might be encountered and subsequently discharged to groundwater would need to comply with applicable water quality standards.
- LARWQCB Order 91-93, Waste Discharge Requirements for Discharge of Non-Hazardous Contaminated Soils and Other Wastes in Los Angeles River and Santa Clara River Basins, protects waters of the State from contamination due to the disposal of soils containing moderate concentrations of petroleum hydrocarbons, heavy metals, and other wastes.

3.10.2.3.1.3 Water Quality Control Plan Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties

The Basin Plan applies to the Project area. This plan sets forth the regulatory water quality standards for surface waters and groundwater in the region. The plan's water quality standards address designated beneficial uses for each water body and the water quality objectives to meet them. Where multiple designated beneficial uses exist, water quality standards are written to protect the most sensitive use.

3.10.2.3.1.4 Total Maximum Daily Loads

In accordance with the federal CWA and the state Porter-Cologne Act, TMDLs were developed and incorporated into the Basin Plan for some pollutants identified on the CWA Section 303(d) List as causing contamination in the LA River Watershed. TMDLs govern the discharge of wastewater, urban runoff, and stormwater. A TMDL establishes a maximum limit for a specific pollutant that can be discharged into a water body without causing it to become impaired. As part of the TMDL compliance process, the LA River metals TMDL requires responsible implementation agencies to submit a coordinated monitoring plan to the LARWQCB and an implementation plan to describe regulatory and permitting requirements related to the TMDL, as well as BMP evaluation and implementation planning.

3.10.2.3.2 Los Angeles County Stormwater Ordinance

The Los Angeles County Stormwater Ordinance (as specified in Los Angeles County Code Chapter 12.80, Parts 3–5) regulates discharges to the storm drainage system, runoff management requirements, and violations of the ordinance. Applicable code sections include the following:

- **Section 450:** Prior to construction activity, all stormwater and runoff pollution mitigation measures must be implemented as required by applicable permits.
- **Section 510:** All BMPs required by applicable construction activity permits must be in effect during the term of the Project.

3.10.2.3.3 Los Angeles County Department of Public Works

The Los Angeles County Department of Public Works (LACDPW) is responsible for planning and implementing watershed management in Los Angeles County. Watershed management plans that pertain to the RSA include the *Los Angeles River Master Plan* (LACDPW 2022). The main goals of these watershed management plans are the protection and enhancement of the rivers for flood protection, recreation, and environmental services.

In 2016, LACDPW began updating the original 1996 master plan for all 51 miles of the LA River. The purpose of updating the master plan was to synthesize projects now in progress and include more recent ideas for portions of the LA River to develop a comprehensive vision. The latest *Los Angeles River Master Plan* was approved by the Los Angeles County Board of Supervisors on behalf of the County and LACFCD in June 2022.

3.10.2.3.4 Los Angeles County Flood Control District Master Drainage Plan for Los Angeles County

LACFCD is a division of LACDPW that provides flood protection, water conservation, and recreation and aesthetic enhancement within its boundaries. The LACFCD encompasses more than 3,000 square miles and 85 cities and has jurisdiction over the majority of drainage infrastructure within the incorporated and unincorporated areas of the County. The LACFCD develops master drainage plans to address individual watersheds in LACDPW's jurisdiction. The plans include proposed drainage facilities to protect upstream and downstream properties from serious damage.

3.10.2.3.5 Metro Moving Beyond Sustainability Plan

Metro's *Moving Beyond Sustainability Plan* (MBS) (Metro 2020) builds on Metro's sustainability policies, plans, and initiatives by outlining a comprehensive sustainability strategy for the next 10 years. The MBS seeks to optimize and manage Metro's water use and to manage wastewater and stormwater constructively by aiming to achieve the following targets.

- **Target 1:** Reduce potable water use by 22% from the 2030 Business as Usual scenario
- **Target 2:** Increase runoff infiltration and capture capacity for stormwater by 15% from 2020 baseline levels

3.10.2.3.6 City of Los Angeles General Plan

The City's *General Plan* establishes the long-term vision for how Los Angeles will evolve and prescribes policy goals and objectives to shape City physical development (City of Los Angeles 2001). The *General Plan* is composed of 11 elements: land use, air quality, conservation, health, safety, mobility, infrastructure systems, open space, public facilities and services, noise, and housing. The Conservation Element, Erosion Policy 2, and the Mobility Plan, Clean Environments and Healthy Communities Policy 5.5 provide directives regarding erosion, sedimentation, and stormwater capture/infiltration within the City's public ROWs.

3.10.2.3.7 City of Los Angeles Municipal Code

Los Angeles Municipal Code contains ordinances related to water courses, contamination and safety standards for water supply, sewerage facilities, permits and insurance requirements, storm drains and catch basins, and wastewater disposal.

3.10.2.3.8 Los Angeles River Revitalization Master Plan

The *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) outlines a framework to revitalize the river into a multi-purpose system that restores habitat, connects to park-poor neighborhoods with public greenways, and improves the river's flood capacity and water quality.

3.10.2.3.9 Floodplain Management Plan

The *2020 Floodplain Management Plan* (City of Los Angeles 2020) provides measures to reduce or alleviate the loss of life, personal injury, and property damage that could result from flooding.

3.10.2.3.10 City of Vernon General Plan

Goals and policies provided in the Circulation and Infrastructure Element of the *City of Vernon General Plan* (City of Vernon 2015) include strategies to maintain the storm drainage system, evaluate the impact of all new developments and expansion of existing facilities on storm runoff, monitor the use and storage of hazardous materials to prevent accidental discharge into the storm drainage system, and assign costs of upgrading existing drainage facilities to the development that generates the need for facility improvement.

3.10.2.3.11 City of Vernon Municipal Code

The *City of Vernon Municipal Code* contains ordinances related to water quality, specifically Chapter 21, Article V.

3.10.2.3.12 City of Bell 2010 General Plan

The Land Use Element of the *City of Bell 2010 General Plan* (City of Bell 2010) provides a blueprint for development within the City of Bell and sets forth goals, policies, and objectives concerning physical development within the community, existing and future development, land use compatibility, the availability of public services and infrastructure, public safety, and the conservation resources of concern to the community.

3.10.2.3.13 City of Maywood General Plan

The *City of Maywood General Plan*'s Land Use Element (City of Maywood 2023) identifies Maywood as not at risk of flooding per the current FEMA flood mapping. Since there are no mapped floodplains in Maywood, no land uses within the City are considered at risk of flooding. The revised zoning code will more strongly encourage (and require in some locations) the use of stormwater capture and LID techniques to help mitigate potential flooding concerns as the climate continues to change and the region experiences more frequent, intense rain events.

3.10.2.3.14 City of Maywood Municipal Code

The *City of Maywood Municipal Code*, under Title 6, contains ordinances related to stormwater and urban runoff pollution, urban stormwater mitigation and management, and sanitary sewer management.

3.10.3 Methodology

The method for evaluating impacts to water resources involves an analysis of existing data related to hydrology, drainage, water quality, floodplains, groundwater, and an assessment of whether the Proposed Project and its options would substantially degrade surface or groundwater quality; alter drainage patterns in a manner that would cause flooding, erosion, or siltation; result in the exposure of people and/or properties to water-related hazards; or otherwise conflict with applicable laws related to hydrology and water quality. Impact significance is determined by comparing Project impacts to the thresholds of significance described in Section 3.10.3.2.

Analyses for hydrology, water quality, floodplains, and groundwater associated with the Proposed Project and its options cover impacts from construction and operation, including direct, indirect, and cumulative impacts. The Proposed Project and its options are analyzed for potential construction and operation impacts. Construction-related surface water sedimentation impacts could result from erosion and runoff from construction staging areas. Operational impacts, such as increases in polluted stormwater runoff and decreased infiltration resulting from increased impervious surfaces, are analyzed in relation to applicable permits and regulations. A quantitative analysis for floodplain impacts is also included based on a hydraulic analysis performed for the Proposed Project and its options. Existing water quality conditions and identified beneficial uses of the watersheds in the RSA are also assessed.

Information regarding local storm drain and flood control infrastructure was collected from the LACDPW Enterprise GIS Hub (LACDPW 2021a). Watershed and surface water quality information was obtained from LACDPW, LARWQCB, and SWRCB. Floodplain information was provided by FEMA. Groundwater information was taken from MWD, LADPW, and WRD.

Assessment includes the following elements and influencing areas:

- **Surface water:** Receiving waters of potential Project runoff, including existing drainage infrastructure within Los Angeles County
- **Groundwater:** Aquifers underlying the RSA
- **Flooding in relation to hydrology and surface water:** FEMA-designated flood hazard areas located in the RSA, as well as any areas where flood frequency, extent, and duration could be affected by the Project

The same methodology is applied to evaluating the impacts of the Proposed Project and its options. An analysis of direct and indirect impacts[1] on hydrology and water quality from each option is provided below. Where needed, proposed mitigation measures are identified to mitigate significant impacts from the Project's construction and operation.

3.10.3.1 Resource Study Area

For the purposes of evaluating the hydrology and water quality impacts, the RSA is defined as the LA River channel between the existing path termini to the north and south, and 500 feet on either side of the top-of-bank of the river channel. Figure 3.10-1 shows the RSA for hydrology and water quality analysis.

[1] Direct effects would be caused by the Proposed Project and would occur during construction and operations and maintenance (O&M) of the Proposed Project. Direct impacts on hydrology and water quality would modify hydrologic conditions at the Proposed Project site or would cause adverse water quality impacts by discharging non-stormwater contaminants to directly receiving downstream water bodies, such as the LA River. Indirect effects or secondary effects would be caused by the Proposed Project later in time or farther removed in distance but would still be reasonably foreseeable. Indirect impacts would include the potential for adverse water quality impacts on sensitive water bodies further downstream of the Proposed Project area (for example, in downstream reaches of the LA River and in the Los Angeles Harbor).

Figure 3.10-1. Hydrology and Water Quality Resource Study Area Map



3.10.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with hydrology, water quality, and floodplains are based on questions set forth in Appendix G of the CEQA Guidelines. In addition, two thresholds of significance have been added to address the Project's potential to change flood risk in sensitive reaches of the LA River or cause water quality or hydraulic conflicts with the implementation of Los Angeles River Ecosystem Restoration (LARER) project. In particular, a significant impact related to hydrology, water quality, and floodplains would occur if the Project would do any of the following:

- **Impact HWQ-1:** Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?
- **Impact HWQ-2:** Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?
- **Impact HWQ-3:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation onsite or offsite?
- **Impact HWQ-4:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces in a manner which would substantially increase the rate or amount of surface runoff resulting in flooding onsite or offsite?
- **Impact HWQ-5:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- **Impact HWQ-6:** Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?
- **Impact HWQ-7:** In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?
- **Impact HWQ-8:** Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?
- **Impact HWQ-9:** Cause changes to flood risk in sensitive reaches of the LA River or conflict with USACE's obligations under Section 408?
- **Impact HWQ-10:** Cause water quality or hydraulic conflicts with the ultimate implementation of Los Angeles River Ecosystem Restoration (LARER) project?

3.10.3.3 Project Features

As described in Appendix C, *Project Features*, a number of project features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for hydrology and water quality.

PF-HWQ-01, *Stormwater/Water Quality Management During Construction*

The construction phase shall comply with the Construction General Permit (CGP) requirements, including the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP shall be prepared by a Qualified SWPPP Developer. Implementation of the construction SWPPP would avoid or minimize the discharge of contaminants.

The CGP establishes three risk levels that are based on sediment and receiving water risk factors as discussed in Section 3.10.2.2.4. A preliminary analysis indicates that the Project has a high sediment risk factor of 74 and a low receiving water risk factor. This combination of sediment and receiving water factors falls under Risk Level 2 (refer to Appendix K, *Hydrology and Water Quality*, for more information). Risk Level 2 measures consistent with the CGP shall be implemented throughout the Project's disturbance area and where construction activities are conducted within or immediately adjacent to sensitive environmental areas (for example, waters of the State/United States and biological habitats).

Compliance with the CGP requires that, prior to construction, the SWPPP identify pollutant sources that could affect water quality and identify, implement, and maintain best management practices (BMPs) to reduce pollutants and non-stormwater discharges in construction site runoff. For example, good housekeeping BMPs, such as waste management, stockpile management, and trash enclosures, would minimize the exposure of construction materials, sediments, trash and debris, and potential contaminants to stormwater. The SWPPP would also include details on construction techniques required to minimize pollutant and other non-stormwater discharges directly to surface waters, such as using cofferdams for in-stream construction. Construction site perimeter controls, such as silt fence and fiber rolls, would minimize the discharge of contaminants in stormwater via sheet flow. Erosion on exposed slopes would be minimized using slope stabilization BMPs (for example, temporary hydraulic mulch). Sediment control BMPs, such as check dams in drainage ditches and inlet barriers, would minimize sediment discharge. The SWPPP would identify the regular maintenance schedule for construction site BMPs and sampling and monitoring plans. Further, construction would comply with construction-related requirements specified in permits obtained from applicable resource agencies (for example, the California Department of Fish and Wildlife [CDFW] and the US Army Corps of Engineers [USACE]). Compliance with the CGP would also require compliance with other resource agency permits and final site stabilization.

The Project SWPPP shall also address the following:

- Where dewatering is required, construction activities shall be conducted in accordance with applicable orders and the appropriate permit(s), including the construction dewatering permit (Los Angeles Regional Water Quality Control Board [LARWQCB] Order R4-2018-0125/National Pollutant Discharge Elimination System [NPDES] Permit CAG994004).
- The SWPPP shall include a construction site BMP deployment plan that identifies site-specific plans and procedures to prevent the generation and potential release of pollutants. The plan shall be consistent with the *County of Los Angeles Department of Public Works Stormwater Best Management Practice Design and Maintenance Manual* (County of Los Angeles 2009) and the

California Stormwater Quality Association's BMP handbooks to prevent the generation and potential release of pollutants where required.

- If an extreme storm event is anticipated, then temporary stormwater control measures would be implemented to avoid or minimize increases in peak flows from the construction zone. Stormwater control measures could include but would not be limited to interim onsite detention facilities, capture and reuse measures, and/or other measures approved by Los Angeles County, designed to maintain or reduce surface runoff to the public storm drain system.

PF-HWQ-02, *Low-Impact Design Requirements*

To protect surface water quality and preserve pre-development hydrology, the operational design of the Project shall comply with applicable local regulatory requirements, conditions, low-impact development (LID) standards, and ordinances. The Project design shall meet stormwater regulatory requirements, including (1) minimizing or eliminating pollutant sources and (2) implementing structural and nonstructural best management practices (BMPs) to treat and control runoff from both developed and redeveloped areas.

The Project final design shall also comply with local LID ordinances stipulated by the Cities of Los Angeles and Vernon. These LID standards and ordinances were established by each jurisdiction to meet the requirements of the Municipal Separate Storm Sewer System (MS4) Permit. The Project final design shall include a site-specific LID plan that shall implement LID design standards as discussed in Section 3.10.2.3.1.1 and shall implement structural and nonstructural BMPs to treat and control runoff from both developed and redeveloped areas. Examples of structural BMPs include bioswales, tree wells, and hydrodynamic separator devices. Examples of nonstructural BMPs include education for maintenance staff and path users, common area landscape management, BMP maintenance, and common area litter control.

PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*

Los Angeles County Metropolitan Transportation Authority (Metro) has coordinated and continues to consult with the US Army Corps of Engineers (USACE) and the City of Los Angeles on the design and permitting process for the Project and the proposed alterations to the LA River flood control facility. The Project would require review and approvals from USACE pursuant to 33 *United States Code* (USC) Clean Water Act (CWA) Section 404 and the Rivers and Harbors Appropriation Act (RHA) Section 10 to construct the pedestrian and bicycling path within the LA River. Due to the interactions of the Project with the current and proposed LA River flood protection facilities, consultation between USACE, the City of Los Angeles, and Metro is expected to continue. Continuing this consultation will allow these agencies to identify opportunities where the Project design could be refined to simultaneously meet multi-agency objectives, (for example, providing enhanced public safety and emergency access to the channel).

Additional applicable project features related to hydrology and water quality include the following; refer to Section 3.9, *Hazards and Hazardous Materials*, for additional detail:

- PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*
- PF-HAZ-04, *Disposal of Groundwater*

3.10.4 Existing Setting

The description of the existing setting includes the following elements and influencing areas:

- **Hydrology and surface water:** Receiving waters of potential Project runoff, including existing drainage infrastructure in Los Angeles County
- **Groundwater:** Aquifers underlying the RSA
- **Floodplain in relation to hydrology and surface water:** FEMA-designated flood hazard areas located in the RSA, as well as any areas where flood frequency, extent, and duration could be affected by the Project

In addition, the description of the existing setting also discusses a relevant future project, the LARER project.

3.10.4.1 Hydrology and Surface Water Bodies

This section describes hydrology and surface water body existing conditions in the RSA.

3.10.4.1.1 Climate, Precipitation, and Topography

The RSA is located in the coastal plain of Los Angeles County, which is generally flat with mild slopes draining south to southwest toward the ocean. The coastal plain is an alluvial lowland area bounded to the north by the Santa Monica Mountains and the Elysian, Repetto, and Puente Hills, and bounded on the east and southeast by the Santa Ana Mountains and the San Joaquin Hills. Topography throughout the coastal plain area is generally defined by gradually sloping land from the foothills of the San Gabriel Mountains to the Pacific Ocean. Ground elevations along the Project reach range from 180 to 300 feet above mean sea level (msl).

The climate in the RSA is generally mediterranean and characterized by two climatic types: valley marginal and high desert. Summers are generally hot and dry, and winters are generally temperate and semi-moist. Overall, the area's climate is relatively mild, with summertime high temperatures averaging about 90 degrees Fahrenheit (°F) and wintertime lows around 40 °F (NOAA 2010). Annual precipitation averages from 13 to 15 inches. Almost all rainfall occurs between October and early May. Precipitation in neighboring mountain areas is substantially higher, reaching 22 inches per year and higher.

Changes to the global climate system are expected to change the Los Angeles hydroclimate over the next century (City of Los Angeles 2018). Extreme precipitation and flooding, wildfires, rising sea levels and other hazards are expected to occur with more intensity or frequency as the climate changes (Metro 2019a). These hazards may in turn disrupt or delay services, threaten health and safety, or lead to higher costs related to repair, maintenance, and operations of transportation facilities.

3.10.4.1.2 LA River Watershed

The LA River originates at the western end of the San Fernando Valley at the confluence of Arroyo Calabasas and Bell Creek. The six major tributaries along the river include Tujunga Wash, Burbank Western Storm Drain, Verdugo Wash, Arroyo Seco, Rio Hondo, and Compton Creek (LARWQCB 2021), as shown on Figure 3.10-2. The river is 55 miles long with an 824-square-mile watershed ranging from the eastern portions of the Santa Monica Mountains, Simi Hills, and the

Santa Susana Mountains in the west to the San Gabriel Mountains in the east. The entire RSA is contained within the LA River Watershed, as shown on Figure 3.10-3.

While approximately 324 square miles of the watershed are forest and open space, over half of the watershed is highly developed with commercial, industrial, and residential uses, which is representative of the RSA (LARWQCB 2021). Land use within the watershed consists of 37% residential, 8% commercial, 11% industrial, and 44% open space (LACDPW 2021b). Based on this land use, approximately 39%, or 207,400 acres of the watershed, are impervious.

3.10.4.1.3 Storm Drainage Infrastructure

The existing storm drainage system generally mimics the historical locations of rivers and tributaries in the watersheds (Figure 3.10-4). Many of the original natural drainages have been engineered to serve as storm drainage for the LACDPW (LACDPW 2006a) and discharge to the LA River. Land in Los Angeles County and cities in the RSA are urbanized and largely covered with impervious surfaces associated with areas of asphalt, concrete, buildings, and other land uses that concentrate storm runoff. Within the RSA, the LA River is a concrete channel, varying in shape from trapezoidal to rectangular, with a bottom of channel width ranging from 160 to 340 feet.

Throughout the RSA, stormwater and other surface water runoff is conveyed to municipal storm drains that eventually drain to the LA River. Storm drainage infrastructure in the RSA ranges from as small as 12-inch-diameter storm drain laterals to as large as a 10-by-12-foot reinforced concrete box regional drainage facility. The largest channel that discharges to the LA River in the RSA is the Arroyo Seco Channel south of the Arroyo Seco Parkway (State Route [SR]-110) Bridge. Most small storm drainage systems in the area are reinforced concrete pipes. However, some alternative pipe materials can be found in the RSA, including unreinforced concrete, asbestos cement, brick, corrugated metal, and vitrified clay. A multitude of regional storm drains cross or are parallel to the RSA, as shown on Figure 3.10-4.

Ownership and maintenance of storm drainage infrastructure in the RSA varies among the local jurisdictions, LACFCD, and the California Department of Transportation (Caltrans). As for the LA River channel, the *Final LA River Path Right-Of-Way Existing Conditions Assessment* (Metro 2019b) shows that prominent property owners include the City of Los Angeles, which owns the majority of the channel from the northern terminus of the Project to Washington Boulevard, and the LACFCD, which owns approximately two-thirds of the property underlying the channel south of Downey Road to the Project's southern terminus. While these agencies own the majority of the channel, USACE has operations and maintenance (O&M) responsibility for the LA River channel in the RSA.

Figure 3.10-2. Regional Watersheds, Rivers, and Tributaries

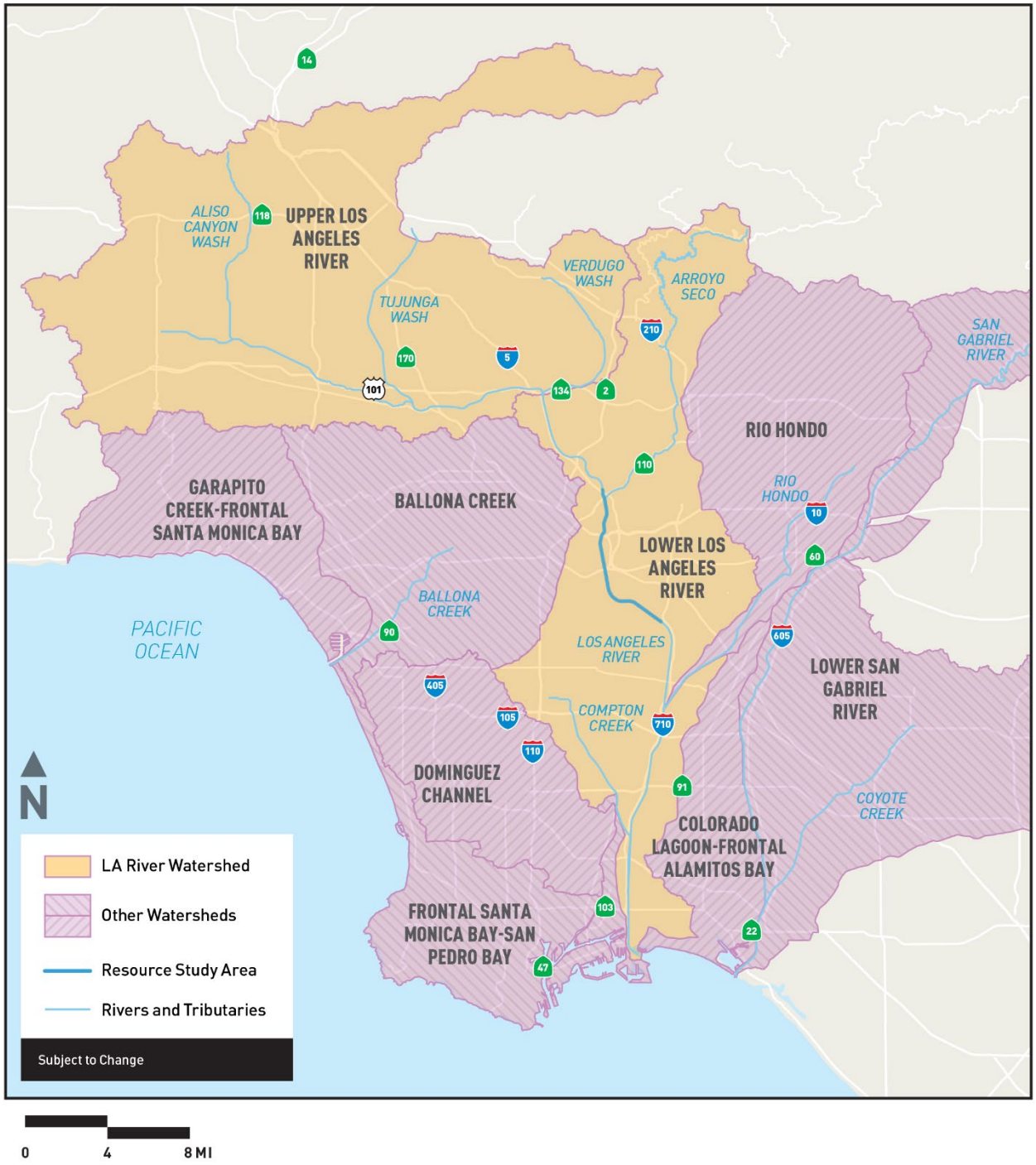


Figure 3.10-3. Hydrology, Surface Water Bodies, and River Stations

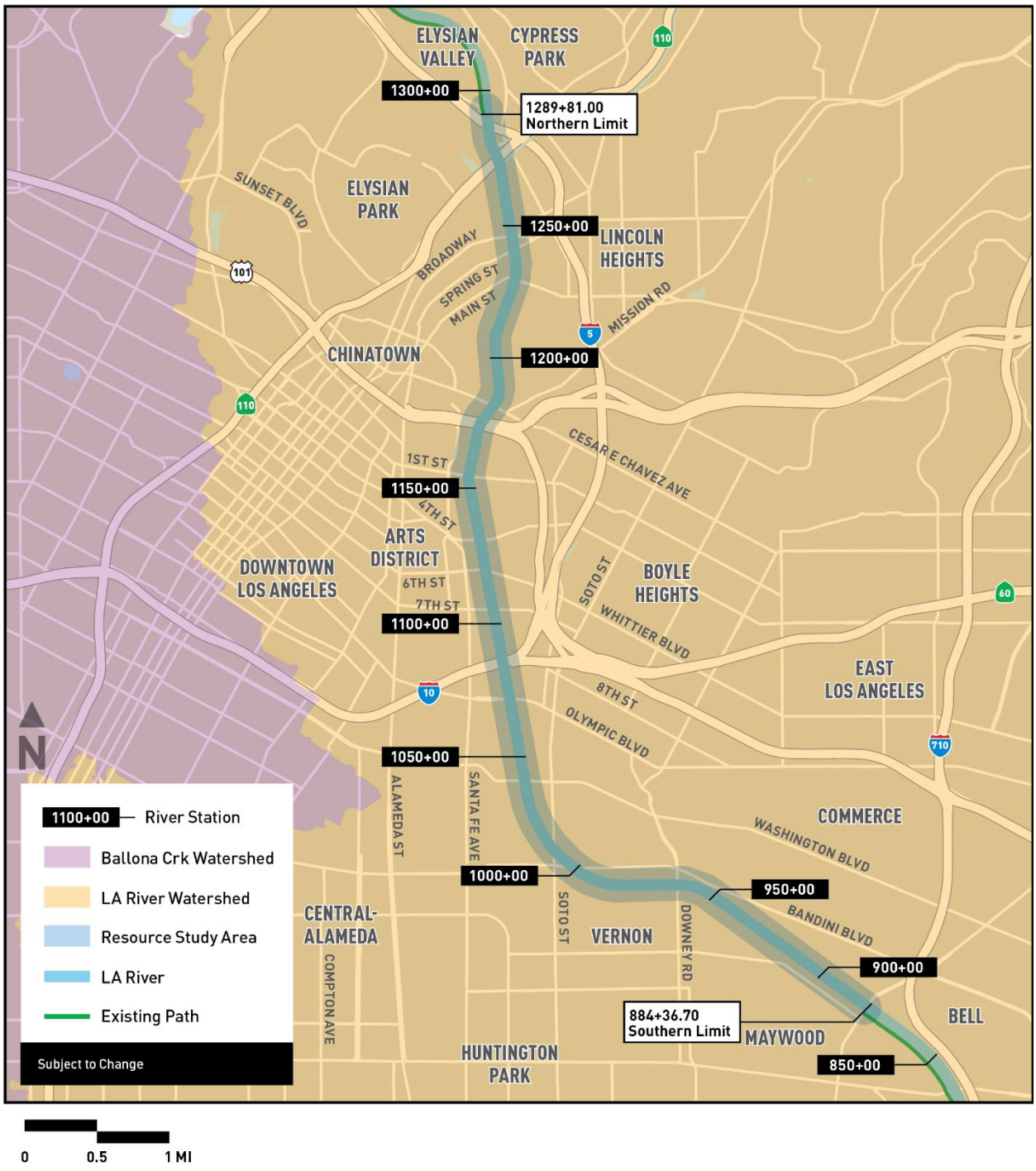
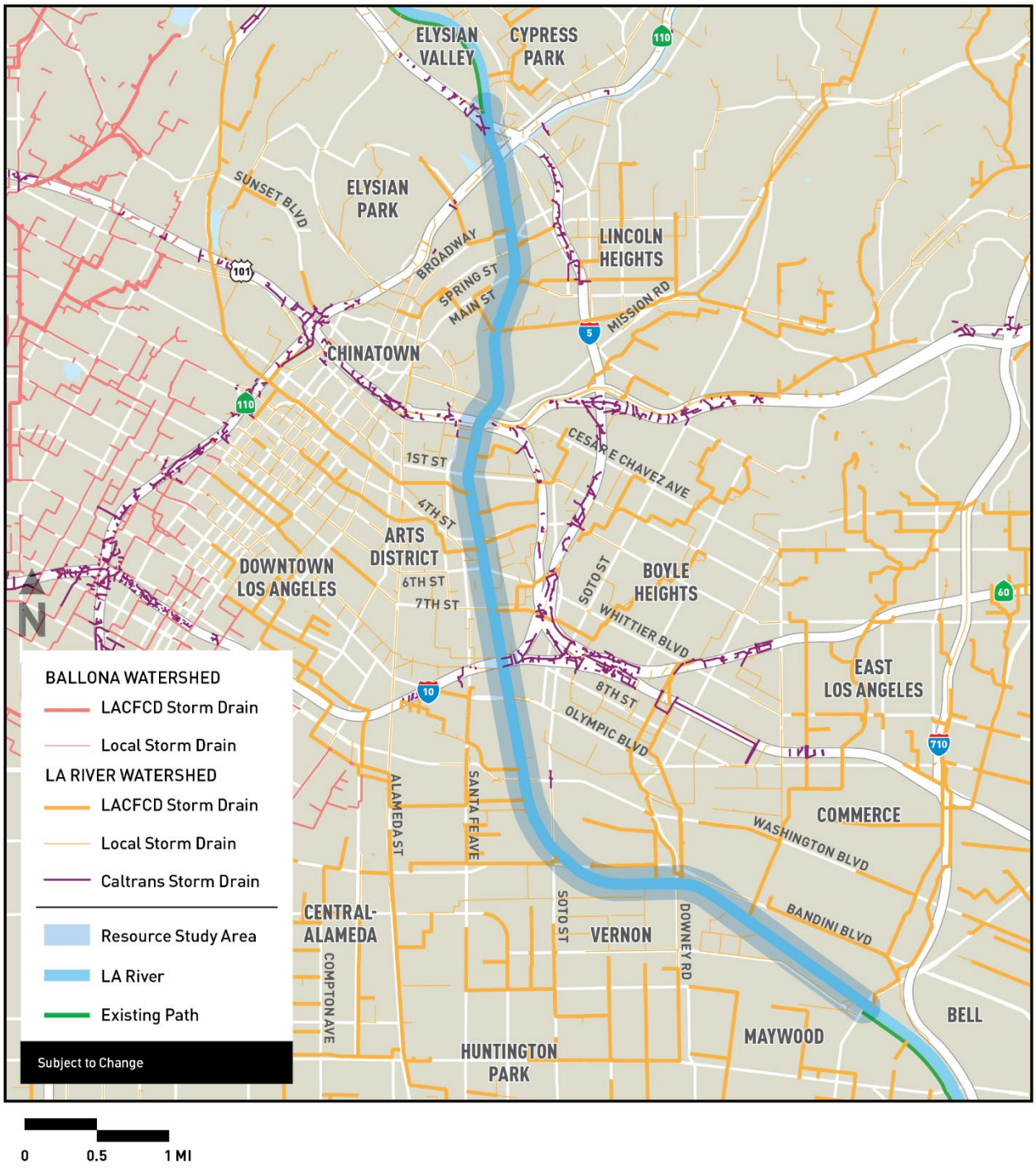


Figure 3.10-4. Regional Storm Drain System



3.10.4.1.4 Water Quality

Table 2-1 in the Basin Plan designates beneficial uses for surface and groundwater in the Los Angeles Basin area for the LA River Watershed. Beneficial uses are identified by river reach, as defined by LARWQCB in the plan. Beneficial uses can also be designated as potential for several reasons, including plans, public desire, or the potential for putting water to such future use.

The following beneficial uses are listed for the RSA and are listed in Table 3.10-1.

- **Groundwater recharge:** Uses of water for natural or artificial recharge of groundwater for purposes of future extraction, maintenance of water quality, or halting of saltwater intrusion into freshwater aquifers
- **Industrial service supply:** Uses of water for industrial activities that do not depend primarily on water quality, including but not limited to, mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well re-pressurization
- **Municipal and domestic supply:** Uses of water for community, military, or individual water supply systems, including but not limited to, drinking water supply
- **Warm freshwater habitat:** Uses of water that support warm water ecosystems, including but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates
- **Wetland habitat:** Uses of water that support wetland ecosystems, including preservation or enhancement of wetland habitats, vegetation, fish, shellfish, or wildlife, and other unique wetland functions that enhance water quality, such as providing flood and erosion control, stream bank stabilization, and filtration and purification of naturally occurring contaminants
- **Wildlife habitat:** Uses of water that support terrestrial ecosystems, including preservation and enhancement of terrestrial habitats, vegetation, wildlife (for example, mammals, birds, reptiles, amphibians, invertebrates), or wildlife water and food sources

Table 3.10-1. Beneficial Uses of Surface Water in the Assessment Area

LARWQCB Los Angeles River Reach[a]	Existing Beneficial Use	Potential Beneficial Use
LA River Reach 2 (Carson Street to Riverside Drive/Figueroa Street)	▪ Groundwater recharge ▪ Warm freshwater habitat	▪ Industrial service supply ▪ Municipal and domestic supply ▪ Wildlife habitat
LA River Reach 3 (Riverside Drive/Figueroa Street to Riverside Drive/Zoo Drive)	▪ Groundwater recharge ▪ Warm freshwater habitat ▪ Wetland habitat[b] ▪ Wildlife habitat	▪ Industrial service supply ▪ Municipal and domestic supply

Source: LARWQCB 2019

[a] River reaches are as designated by the Basin Plan. Only Reaches 2 and 3 of the Basin Plan apply to the Project.

[b] Waterbodies designated as wetland habitat may have wetlands habitat associated with only a portion of the waterbody. Any regulatory section would require a detailed analysis of the area.

The CWA requires the identification of water bodies that do not meet, or are not expected to meet, water quality standards (that is, impaired water bodies). The affected water body and associated pollutant or stressor is then prioritized in the *California 2018 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report)* (SWRCB 2018). Table 3.10-2 lists the CWA Section 303(d) List pollutants causing impairments in surface water bodies in the RSA.

Table 3.10-2. Clean Water Act Section 303(d) List of Impaired Water Bodies in the Resource Study Area

Impairment	Source of Impairment	TMDL Completion Date[a]
LA River Reach 2 (Carson Street to Riverside Drive/Figueroa Street)		
Ammonia	Point and nonpoint sources	2004
Copper	Source unknown	2005
Indicator bacteria	Source unknown	2012
Lead	Point and nonpoint sources	2005
Nutrients (algae)	Point and nonpoint sources	2004
Oil	Natural sources	2019
Trash	Nonpoint sources, surface runoff, and urban runoff/storm sewers	2008
LA River Reach 3 (Riverside Drive/Figueroa Street to Riverside Drive/Zoo Street)		
Ammonia	Point and nonpoint sources	2004
Copper	Source unknown	2008
Indicator bacteria	Source unknown	2012
Nutrients (algae)	Point and nonpoint sources	2004
Toxicity	Source unknown	2027
Trash	Nonpoint source, surface runoff, and urban runoff/storm sewers	2008

Source: SWRCB 2020–2022

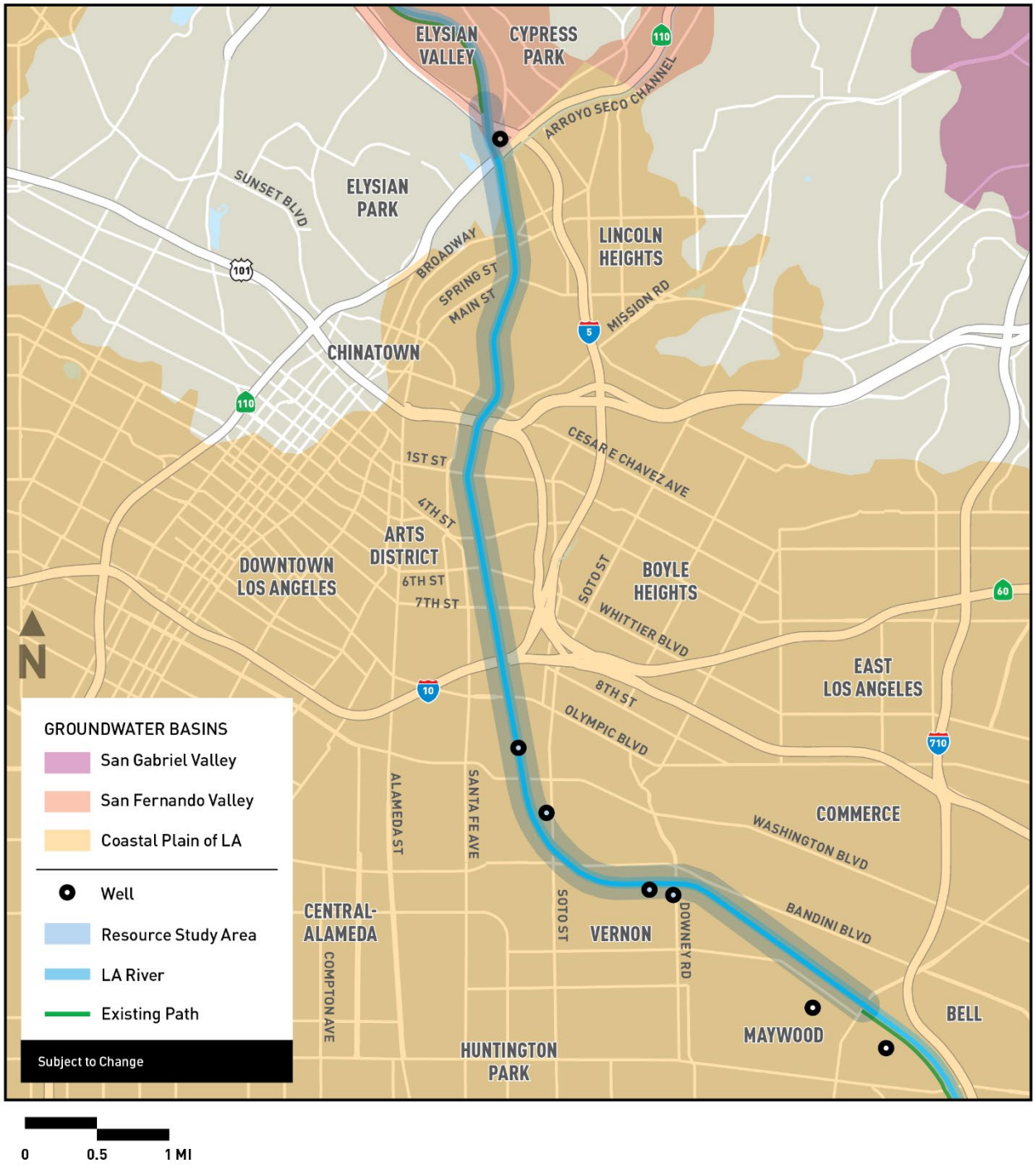
Note:

[a] The TMDL completion date is the date formally adopted by the EPA as the start of the water quality standard for new and existing permittees.

3.10.4.2 Groundwater

Groundwater basins are formed when sediments, including sand and gravel, fill underground formations that then collect water and serve as underground water reservoirs. A majority of the RSA is underlain by the Central Subbasin (Central Basin) of the Coastal Plain of Los Angeles Groundwater Basin, with a small portion of the area underlain by the San Fernando Valley Groundwater Basin, as shown on Figure 3.10-5.

Figure 3.10-5. Groundwater Basins and Wells



3.10.4.2.1 Central Basin

The Central Basin is part of the Los Angeles Coastal Plain Groundwater Basins, which are incorporated into the Coastal Plain Hydrographic Subunit. The Central Basin is a very low-priority groundwater basin based on SGMA prioritization (DWR 2019).[2] The Coastal Plain Hydrographic Subunit contains the Central, West Coast, Santa Monica, and Hollywood Subbasins. The Central Basin, one of the most important basins in the hydrographic subunit, directly underlies the RSA. The northeastern portion of the basin underlies the San Gabriel River Watershed, and the northwestern and western portions of the basin underlie the LA River Watershed. The basin is formed by the Whittier Narrows Fault Zone on the northeast and the Newport-Inglewood Fault on the southwest (LACDPW 2006a). Existing beneficial uses of the Central Basin include municipal, domestic, industrial service, industrial processing, and agriculture supplies (LARWQCB 2019).

Total water storage in the basin is 13.8 million acre-feet, and the natural safe yield is 125,805 acre-feet per year. In comparison, the managed safe yield of the basin is 217,367 acre-feet per year. This higher number is possible due to artificial recharge maintained by WRD. The depth of the Central Basin is between 1,600 and 2,200 feet (MWD 2007).

The basin is an unconfined aquifer with soils that allow water to percolate through the basin (LACDPW 2006a). Groundwater resources are replenished in the Central Basin through surface and subsurface flow and by direct percolation of precipitation, stream flow, and applied water in the forebay areas where permeable sediments are exposed at ground surface (DWR 2003). For the Central Basin, this takes place largely in the Whittier Narrows area near the Rio Hondo. As described in the *San Gabriel River Corridor Master Plan* (LACDPW 2006b), the Central Basin relies on four main sources of water:

- Imported water purchased from the MWD and injected into the basin
- Reclaimed water from local water reclamation plants
- Local runoff and rainfall
- Subsurface flows from adjacent basins

The main source of potable groundwater in the Central Basin is from the deeper aquifers of the San Pedro Formation (including the Lynwood, Silverado, and Sunnyside Aquifers). The shallower aquifers of the Alluvium and Lakewood Formation locally produce smaller volumes of potable water. In the forebay area, many of the aquifers merge and allow for direct recharge into the deeper aquifers (MWD 2007). Historically, groundwater flow within the basin tended to be from the recharge areas in the northeast flowing to the southwest, toward the Pacific Ocean. Central Basin water levels ranged from a high of about 160 feet above msl in the northeast portion of the basin to a low of approximately 90 feet below msl in the Long Beach area (MWD 2007).

LACDPW, WRD, and the US Geological Survey conduct regional groundwater quality monitoring in the Central Subbasin. There are seven groundwater wells located along the RSA. While most of these wells are located outside of the LA River, one has been identified as located within the river footprint for the river reach in between Olympic Boulevard and Washington Boulevard. These wells are being used for groundwater quality monitoring. Table 3.10-3 summarizes results of the WRD's Central Basin monitoring efforts for water 2019–20.

[2] DWR's SGMA Basin Prioritization Dashboard Tool available at: https://gis.water.ca.gov/app/bp-dashboard/final/

In September 2016, the WRD developed the *Groundwater Basins Master Plan* (WRD 2016) to help guide the stakeholders develop and assess concepts for additional recharge and pumping from the Central Basin so that groundwater in the basin would be fully used and dependence on imported water could be reduced. The goals identified by the master plan included increasing replenishment to the existing spreading grounds and infiltration in the unlined channels.

Table 3.10-3. Groundwater Quality in the Central Basin

Constituent	MCL	Production Wells Below MCL/SMCL (%)
Total Dissolved Solids	500–1,000 mg/L	100% below 1,000 mg/L
Iron	0.3 mg/L for drinking water	93
Manganese	50 µg/L	72
Chloride	250–500 mg/L	97% below 500 mg/L
Nitrate	10 mg/L	99
Trichloroethylene	5 µg/L	97
Tetrachloroethylene	5 µg/L	95
Arsenic	10 µg/L	91
Perchlorate	6 µg/L	99
Hexavalent chromium	50 µg/L	98

Source: WRD 2021

Note:

µg/L = microgram(s) per liter
MCL/SMCL = maximum contamination level/secondary maximum contamination level
mg/L = milligram(s) per liter

3.10.4.2.2 San Fernando Valley Basin

The San Fernando Valley Basin is an important source of drinking water for the Los Angeles metropolitan area, the cities of Glendale, Burbank, and San Fernando, La Canada–Flintridge, and the unincorporated area of La Crescenta. The San Fernando Valley Basin is designated as a very low-priority groundwater basin based on the SGMA basin prioritization (DWR 2019) A small portion of the northern end of the Project is underlain by the San Fernando Valley Basin, as shown on Figure 3.10-5. The basin is bounded on the north and northwest by the Santa Susana Mountains, on the north and northeast by the San Gabriel Mountains, on the east by the San Rafael Hills, on the south by the Santa Monica Mountains and Chalk Hills, and on the west by the Simi Hills. Existing beneficial uses of the San Fernando Valley Basin include municipal, domestic, industrial service, industrial processing, and agriculture supplies (LARWQCB 2012).

The San Fernando Valley Basin consists of four groundwater subbasins: San Fernando, Sylmar, Verdugo, and Eagle Rock. The total storage capacity of the San Fernando Valley Groundwater Basin is calculated at 3,670,000 acre-feet. The total extraction rights are 96,838 acre-feet per year, with the difference allotted to the cities of Glendale, Burbank, and Los Angeles for water imported to the basin from these cities for storage (DWR 2003).

The groundwater in this basin is mainly unconfined with some confinement within the Saugus Formation in the western part of the basin and in the Sylmar and Eagle Rock areas. Recharge of the basin is from a variety of sources. Spreading of imported water and runoff occurs in the Pacoima, Tujunga, and Hansen Spreading Grounds (DWR 2003).

In early 1980, the industrial chemicals trichloroethylene and perchloroethylene were discovered in the groundwater of the San Fernando Valley Basin (Los Angeles Department of Water and Power [LADWP] 1983). In response to these findings, the LADWP and the Southern California Association of Governments began a study to determine the extent and severity of the contamination and to develop strategies to control the groundwater contamination problem. The specific objective of the study was to develop a basin-wide Groundwater Quality Management Plan, including recommendations for implementing strategies to ensure the future protection and safe use of the groundwater basin (LADWP 1983).

3.10.4.3 Floodplains

3.10.4.3.1 LA River Channel

Los Angeles County is subject to a wide range of flood hazards, including floods caused by intense storms, earthquakes, and human-made disasters. USACE operates and maintains five major flood control reservoirs that flow to the LA River: the Hansen, Lopez, Santa Fe, Sepulveda, and Whittier Narrows Reservoirs. In addition to these reservoirs, LACDPW operates and maintains two reservoirs that flow to the LA River: the Devil's Gate Dam and Pacoima Dam (LACFCD 2021).

Los Angeles and nearby cities are located in a relatively flat alluvial plain, about 30 miles wide, lying on uplift terraces surrounded by mountain ranges. FEMA FIRMs identify areas in Los Angeles County and the surrounding cities that would be subject to flooding during 100-year and 500-year storm events (100-year and 500-year storms are defined as having a 1% and 0.2% chance, respectively, of occurring in any given year). FEMA and its local delegates use the 100-year flood zone as the benchmark in administering the NFIP, a voluntary program through which communities enforce floodplain management ordinances in return for federally backed flood insurance.

Figure 3.10-6 shows the FEMA-established 100-year and 500-year flood zones for the LA River near the RSA. Between the northern terminus and Interstate (I)-10 freeway, a 100-year flood zone is shown to be contained within the channel and is designated by FEMA FIRMs as "Zone A," with no base flood elevation determined. Zone A consists of areas within the 100-year floodplain with a 1% chance of flooding in any given year, which is considered a moderate to high risk. Out-of-channel flooding is identified on the east bank between Spring Street and Mission Road and designated as "Zone AE," with base flood elevations ranging from 300 to 314 feet above msl. Zone AE consists of areas within the 100-year floodplain in which base flood elevations and flood hazard factors have been determined. Generally, Zone AE has a 1% chance of flooding in any given year. Between I-10 and the southern terminus, the river and surrounding area are designated as "Zone X," which are characterized as "areas determined to be outside the 0.2% annual chance floodplain." Dams, debris basins, or spreading grounds do not exist within the RSA.

LA River geometry varies throughout the RSA. The river channel configuration is primarily trapezoidal or rectangular and concrete-lined, with soft-bottom reaches north of the RSA. Table 3.10-4 summarizes the shapes and materials of each river segment.

Figure 3.10-6. FEMA Flood Zones



Table 3.10-4. LA River Channel Geometry

Segment	River Station Range (feet)	Channel Shape	Avg Bottom of Channel Width (feet)	Side Slope	Material
Riverside Dr Bridge/I-5 to Arroyo Seco Confluence	1285+52.9 to 1272+50	Rectangular with inset trapezoid	177	Vertical	Concrete
Arroyo Seco Confluence to Washington Blvd	1272+50 to 1053+00	Trapezoidal with inset trapezoid	160	2:1	Concrete
Washington Blvd to Bandini Blvd	105300 to 1012+09.1	Rectangular	280	Vertical	H-Pile/Concrete
Bandini Blvd Section	1012+09.1 to 1003+10.8	Trapezoidal	300	2:1	Concrete
Bandini Blvd to Atlantic Blvd	1003+10.8 to 883+57	Trapezoidal with inset trapezoid	340	3:1	Concrete

Source: USACE 2005

3.10.4.3.2 LA River Hydraulic Conditions

The Project would encroach into the LA River, which is a flood control facility designed by and under the jurisdiction of USACE. The LA River through the Project reach is a steep, concrete-lined channel. Due to its relatively steep channel slope (approximately 19.3 feet/mile), peak flow velocities (the highest flow speed during a storm event) range from 25 to 35 feet per second (fps) during peak flow events (Metro 2021). Flow depths generally range from 10 to 30 feet, with an average depth of 18.9 feet in the Project reach. The majority of the Project reach can be classified as supercritical flow, which is generally characterized as shallow, fast-moving flows where the velocity of the water exceeds the critical velocity meaning the water is moving faster than the speed at which waves can propagate on the surface. This would lead to rapid and unstable flow condition or hydraulic jump that might cause the water level to rise and overtop the channel walls. One significant characteristic of supercritical flow is that disturbances in the channel cannot ripple or spread upstream. This means that an obstruction in a river with fast-moving flows cannot raise the water level far upstream, the rise in water level would only be a short distance upstream from the obstruction (approximately 10 to 100 feet). Similar effects are expected at pier columns or bridge abutments in the river during large flows.

3.10.4.4 Los Angeles River Ecosystem Restoration Project

USACE Los Angeles District and City of Los Angeles plan to restore the aquatic riparian ecosystem native to and along an approximately 11-mile stretch of the LA River. The improvements for the LARER project would provide ecosystem benefits while maintaining existing levels of flood risk management in the LA River. The overlapping improvements of the LARER project and the Project would occur within the LA River between I-5 and First Street. This reach corresponds to Reaches 7 and 8 of the LARER project.

The LARER project is discussed as an alternative baseline condition to evaluate the potential water quality and hydraulic conflicts between the Proposed Project and its options and LARER project elements. Although the LARER project is not currently an existing condition, LARER project elements are considered to determine if any conflicts may adversely affect implementation of USACE's buildout concept. As described in Section 3.1.2, the LARER project is also included in the evaluation of cumulative impacts.

3.10.4.4.1 Reach 7

Reach 7 of the LARER project lies between Riverside Drive and SR-110. Within Reach 7, the LARER project would expose the storm drain outlets and convert these to natural stream confluence on the west bank.

Along the east bank and under the Metro LA River Downey Bridge railroad tracks, the LARER project would restore a portion of the Arroyo Seco tributary and create nodal connections to the Arroyo Seco watershed. The LARER project would modify existing storm drain outlets and convert these to natural stream confluence on the east and west bank near the Metro A Line crossing. The LARER project would also remove invasive vegetation throughout the Reach 7 footprint including river and tributary channel bottom areas.

In the Los Angeles State Historic Park area, the LARER project would construct a hydrologic connection between upstream of the Los Angeles State Historic Park to LA River. The LARER project would create a new channel including an asphalt concrete maintenance road and fencing on both sides of the channel.

3.10.4.4.2 Reach 8

Reach 8 of the LARER project lies between Main Street and First Street. Within Reach 8, the LARER project will reconnect the LA River to the historic floodplain in Union Pacific Railroad (UP) Los Angeles Trailer and Container Intermodal Facility (LATC), located northeast of the LA River and the Cesar E Chavez Viaduct. The LARER project would implement this reconnection by removing the existing channel wall, restoring the historic wash and freshwater marsh within the LATC site, removing existing concrete and restoring wetlands within the riverbed, and constructing terraced and vegetated planters along the channel banks.

3.10.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures, and significance after mitigation measures. The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). The design variations are also included in the Proposed Project and its options footprints. Therefore, the potential for the Proposed Project and its options to result in an impact to hydrology and water quality are substantially the same. For instances where the Proposed Project, Option 1, or Option 2 would result in substantially different or additional impacts, the impact analysis is separated.

3.10.5.1 Impact HWQ-1: Water Quality

Impact HWQ-1: Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

3.10.5.1.1 Proposed Project

3.10.5.1.1.1 Construction

Less than significant impact with mitigation incorporated as described in the following sections.

Construction impacts are quantified by the total disturbance area required for construction of the Proposed Project, which includes both permanent and temporary disturbance areas. Temporary disturbance areas include construction staging areas, stockpiling, clearing, and grubbing for accessing the construction sites, and grading and excavation to accommodate the construction of the path and its associated features. Permanent disturbance areas are areas that convert pervious surfaces to impervious surfaces and are used for Project operation. Conversion of pervious areas to impervious areas requires construction; therefore all permanent disturbed areas are within temporary disturbed areas. Conversion of pervious surfaces to impervious surfaces is quantified in Table 3.10-6 in the O&M discussion below and is used to determine permanent Project impacts. The total temporary disturbed areas for the Proposed Project and its options are summarized in Table 3.10-5.

Table 3.10-5. Total Disturbed Soil Area Summary

Component	Disturbed Soil Area (acres)		
	Proposed Project	Option 1	Option 2
Stockpiling/Staging Areas	15.6	15.5	15.6
Other Construction Activities	202.0	218.9	208.3
Total	**217.6**	**234.4**	**223.9**

Note:
Other construction activities include clearing, grubbing, excavation, grading, paving

3.10.5.1.1.1.1 Surface Water Impacts

The Proposed Project's construction activities could degrade surface water quality by increasing the risk of a discharge of contaminants to surface water. Construction generally consists of four major activities: pre-construction activities and mobilization, site preparation, site work, and finishes. Prior to contractor mobilization, pre-construction work, including Proposed Project surveys, geotechnical investigation, and hazardous material investigation, would occur and would cause soil disturbances. Such soil disturbances could result in short-term water quality degradation associated with soil erosion and subsequent sediment transport to the LA River, adjacent properties, roadways, and storm drains. Pre-construction activities could also generate dust, settlement, or litter that could temporarily contaminate water runoff from the construction site.

Contractor mobilization would occur during construction initiation and would involve clearing staging areas, setting up construction trailers, and mobilizing equipment and materials to staging areas. Construction mobilization could cause soil disturbances, which, in turn, could result in short-term

water quality degradation associated with soil erosion and subsequent sediment transport to the LA River, adjacent properties, roadways, and storm drains. Contractor mobilization could also generate dust, settlement, litter, or oil that could temporarily contaminate water runoff from the construction site and staging areas.

Site preparation involves clearance of the site and preparing the Proposed Project footprint for construction. This generally involves clearing, grubbing, grading, and demolition activities in support of the upcoming construction activities. As a result of these activities, underlying soils would be temporarily exposed making the Proposed Project site temporarily more permeable and vulnerable to erosion and sedimentation that could be conveyed into the LA River or nearby storm drains during storm events. In addition, onsite watering activities to reduce airborne dust could contribute to short-term drainage and pollutant loading in urban runoff.

The Proposed Project would implement PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. Pursuant to this project feature, the Proposed Project would meet relevant regulatory requirements that would minimize potential impacts to surface water quality and ensure that the Proposed Project would not violate any water quality standards or WDRs or otherwise substantially degrade surface water quality.

Additionally, because the Proposed Project is a longitudinal encroachment into the LA River, construction work may require multiple simultaneous temporary diversion structures, such as cofferdams to protect the work zone. Failure of any of these protection structures could expose the LA River to water quality contaminants from construction materials, with a substantial degradation of water quality due to increased turbidity, sediment/total suspended solids, trash, metals, altered pH, and similar materials.

Temporary diversion structures, such as cofferdams and similar in-water features, would be subject to PF-HWQ-01, *Stormwater/Water Quality Management During Construction*, which would ensure the proper control of pollutants within the enclosed areas. However, good design of these temporary features will be necessary to ensure that failure does not occur, and that pollutants are not released into the LA River. Design of these in-water features will be reviewed by the USACE under the Rivers and Harbors Appropriation Act of 1899 Section 14 during the 408 Permit approval process. In addition, LACFCD has prepared its *Water Diversion Manual and Best Management Practices* (LACFCD 2016), which provides standard, locally applicable guidelines for these types of features. Figure 3.10-7 illustrates two types of temporary diversion structures – water-filled cofferdams and sheet-pile cofferdams – that could be used a river crossing and would be consistent with the LACFCD manual and other best practices.

Figure 3.10-7. Cofferdam Types



Photo source: AquaDam

WATER-FILLED COFFERDAM
A water-filled barrier is placed upstream and around pier columns to keep water away from construction areas.
(See Photo Example)

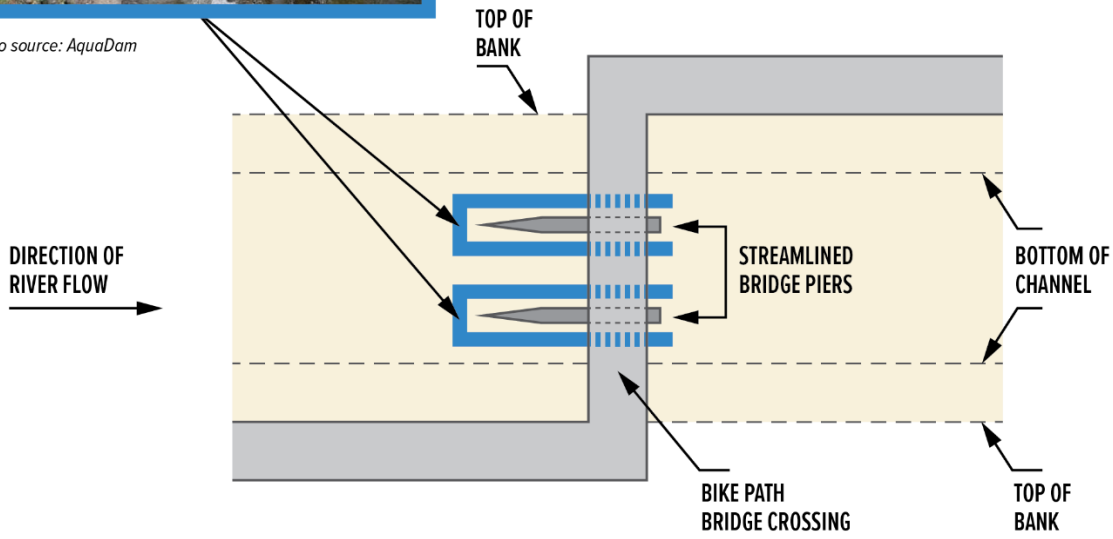
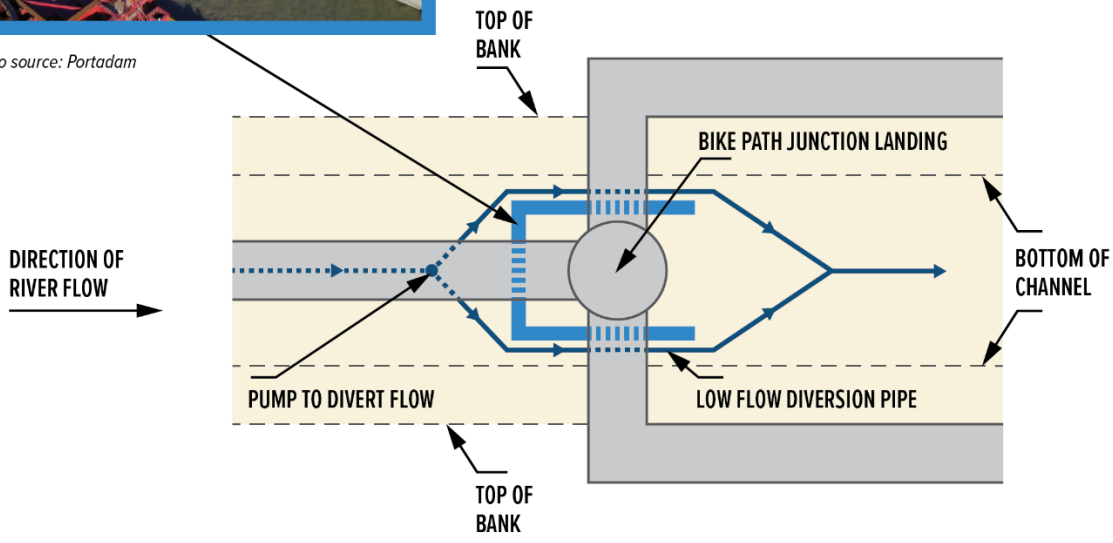




Photo source: Portadam

SHEET-PILING COFFERDAM
Sheet pilings are placed to provide a barrier upstream and around pier columns to keep water away from construction areas.
(See Photo Example)



The LACFCD Water Diversion Manual and Best Management Practices provides appropriate guidance that would be followed, along with USACE requirements from the 408 Permit review. MM-HWQ-01, *Temporary Water Diversion Plan*, has been prepared to direct this construction activity such that best practices are followed and water quality is protected. With the implementation of PF-HWQ-01, *Stormwater/Water Quality Management During Construction* and MM-HWQ-01, *Temporary Water Diversion Plan*, the Proposed Project would minimize potential impacts to surface water quality and ensure that the Proposed Project would not violate any water quality standards or WDRs or otherwise substantially degrade surface water quality. Impacts would be **less than significant with mitigation incorporated.**

3.10.5.1.1.1.2 Groundwater Impacts

In general, construction activities such as the staging of equipment and materials, the accumulation of sediment/broken concrete debris, deep excavation for bridge foundations, and site grading, as well as the potential for construction spills, flooding into the construction zone, nonpoint source pollution sources, and similar, could adversely affect groundwater through dewatering that may be needed during construction, especially where columns are constructed within the LA River. Dewatering may also be needed in excavation areas required for foundation construction, utility installation, and demolition. Groundwater removed from the site as a result of dewatering could come in contact with construction-related contaminants (such as fuels, solvents, oils, and grease). Spills from construction materials or equipment could also become contaminant sources for groundwater. Other sources of water pollution that may be associated with site preparation include the handling, storage and disposal of construction materials that contain pollutants (that is, demolition debris) and the maintenance and operation of construction equipment (that is, due to fuel and grease spills). Specifically, the Proposed Project path alignment consists of approximately 4.4 miles of elevated configuration and seven river crossings would be constructed. The bridge columns and piers foundations could be constructed below groundwater table, which would provide a direct path for groundwater exfiltration. Construction of the elevated structures could also provide a path for contaminants to enter groundwater, for example, by exposing disturbed soil and groundwater to construction-related contaminants. PF-HWQ-01, *Stormwater/Water Quality Management During Construction*, described in Section 3.10.3.3 would be implemented to avoid or minimize direct and indirect impacts on groundwater by preventing contamination.

After the path surface is constructed, finishing path elements such as railings, pathway striping, and signage would be installed. These activities could generate dust, settlement, litter, oil, paint, solvents, cleaning agents, and other materials that could temporarily contaminate water runoff if not properly managed.

The Proposed Project would implement PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. Pursuant to this project feature, the Proposed Project would meet relevant regulatory requirements that would minimize potential impacts to groundwater quality and prevent sediment and pollutants from seeping into the groundwater. Implementation of project features and compliance with existing regulatory requirements would ensure that the Proposed Project would not violate any water quality standards or WDRs or otherwise substantially degrade groundwater quality. Impacts would be **less than significant.**

3.10.5.1.1.2 Operations and Maintenance

Less than significant impact. Potential water quality impacts from the Proposed Project operation include but are not limited to sedimentation caused by runoff from newly added impervious surfaces; nitrates from landscape fertilizing; and trash, debris, vehicle-sourced pollutants, and bacteria from increased human presence. However, pursuant to PF-HWQ-02, *Low-Impact Design Requirement,* LID BMPs per regional requirements would be implemented minimizing discharges of stormwater contaminants that would degrade surface water quality. Additional runoff would be collected via new or existing tie-ins to the existing stormwater drainage system. In addition, trash capture devices would be implemented on new and existing catch basins to prevent debris and trash from entering the stormwater drainage system.

In general, the Proposed Project would result in new impervious areas that could contribute nonpoint source stormwater pollution that would be characteristic of operational land uses. The Proposed Project would increase pedestrian and bicyclist traffic and require periodic O&M vehicle traffic. As a result, the bicycle path would generate stormwater contaminants that are characteristic of similar transportation facilities (for example, total suspended solids, oils and grease, trash, and debris, and similar). New landscaped areas could contribute contaminants due to the application of pesticides/herbicides, fertilizers. Water quality impacts of the Proposed Project are directly related to the pollutant-generating new impervious surfaces. The magnitude of these impacts can generally be quantified by length of the Proposed Project's path types and evaluated based on the new impervious areas described below. The construction of new improvements would not include any facilities or new wastewater discharges that would violate the water quality standards or WDRs.

At approximately 9.6 miles long, the Proposed Project path includes 28% top-of-bank, 26% incised, and 46% elevated path types. As presented in Chapter 2, *Project Description*, the Proposed Project crosses the river seven times and has nine access points: four on the west bank and five on the east bank on the river. As summarized in Table 3.10-6, the Proposed Project would convert 13.3 acres from pervious to impervious area. By comparison, approximately 39% of the LA River Watershed, or 207,400 acres, is impervious based on land use (LARWQCB 2021). The Proposed Project path alignment is in a highly urbanized area and largely covered with impervious surfaces associated with areas of asphalt, concrete, buildings, and other land uses that concentrate storm runoff. The increase in impervious area as a result of the Proposed Project would therefore represent a negligible increase of 0.01% in the total impervious area of the LA River Watershed with the corresponding potential for increases in pollutant loads in stormwater runoff.

Table 3.10-6. Change in Impervious Area

Option	Existing Impervious Area (acres)	Proposed Impervious Area (acres)	New Impervious Area (acres)
Proposed Project	6.1	19.4	13.3
Option 1	5.8	20.9	15.1
Option 2	6.0	18.9	12.9

Note:
New impervious area is subject to change pending the final path alignment.

As described in Section 3.10.2.3, and required by PF-HWQ-02, *Low-Impact Design Requirements*, the Proposed Project would be subject to applicable local regulatory requirements, conditions, LID standards, and ordinances. These local LID standards and ordinances require implementation of site design, source control, and treatment control BMPs to the maximum extent practical. Further, operation of the Proposed Project would not create any stockpiles of materials during operations that could pose a high risk for the release of pollutants during flood events. For these reasons, the Proposed Project would not violate any applicable water quality standards or wastewater discharge requirements, or otherwise substantially degrade surface water or groundwater quality, and impacts from the Proposed Project would be **less than significant**.

3.10.5.1.2 Option 1

3.10.5.1.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of soil disturbance during construction due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the total disturbance areas, which were summarized in Table 3.10-5. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 1 would not violate any applicable water quality standards or WDRs or otherwise substantially degrade surface water or groundwater quality. Impacts would be **less than significant with mitigation incorporated.**

3.10.5.1.2.2 Operations and Maintenance

Less than significant impact. The impacts of Option 1 would be similar to those identified for the Proposed Project, with minor differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the new impervious area, which was summarized in Table 3.10-6. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, Option 1 would not violate any applicable water quality standards or WDRs or otherwise substantially degrade surface water or groundwater quality. Impacts would be **less than significant.**

3.10.5.1.3 Option 2

3.10.5.1.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of soil disturbance during construction due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the total disturbance areas, which were summarized in Table 3.10-5. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 2 would not violate any applicable water quality standards or WDRs or otherwise substantially degrade surface water or groundwater quality. Impacts would be **less than significant with mitigation incorporated.**

3.10.5.1.3.2 Operations and Maintenance

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with minor differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the new impervious area, which was summarized in Table 3.10-6. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, Option 2 would not violate any applicable water quality standards or WDRs or otherwise substantially degrade surface water or groundwater quality. Impacts would be **less than significant.**

3.10.5.2 Impact HWQ-2: Groundwater Supply and Recharge

Impact HWQ-2: Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

3.10.5.2.1 Proposed Project

3.10.5.2.1.1 Construction

Less than significant impact. Construction could result in impacts to groundwater supplies where excavations occur in areas of high groundwater. This could occur generally throughout the project where excavation would be required but is most likely to occur where elevated structures with deep foundations would be required within the LA River channel. If excavations encounter high groundwater, temporary dewatering of these excavations could be required to facilitate construction. Spreading grounds or recharge basins within the RSA do not exist; therefore, the Proposed Project would have no impacts on groundwater recharge. Moreover, because the Proposed Project would traverse an engineered concrete-lined channel, it would not obstruct implementation of the *Groundwater Basins Master Plan* (WRD 2016).

Construction could also result in impacts to the existing monitoring wells discussed in Section 3.10.4.2. Construction activities such as equipment and materials, deep excavation, and flooding into the construction zone could adversely affect the structural integrity of the existing monitoring wells. As a result, construction spills, sediment and debris, and nonpoint source pollution sources, and similar, could enter the existing monitoring wells and contaminate the groundwater. Furthermore, if groundwater needs to be dewatered, a significant impact would occur if the groundwater is contaminated. PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*, discussed in Section 3.9.3.3, requires the preparation of a Contaminated Substances and Hazardous Substances Disposal Plan in consultation with LARWQCB. The plan would describe procedures for identifying, excavating, segregating, stockpiling, sampling, analyzing, measuring, transporting, and disposing of contaminated substances and wastes and/or hazardous substances and wastes (soil, groundwater, pavement stripes/markings, paint, Transite pipe, etc.) generated during construction or from known contaminated sites. If contaminated groundwater cannot be avoided during construction, pursuant to PF-HAZ-04, *Disposal of Groundwater*, the contractor would consult with the SWRCB on the NPDES permit and/or WDR permit. This permit would ensure the appropriate treatment and discharge of contaminated groundwater so there would not be any degradation of surface water quality. Implementation of PF-HAZ-03 and PF-HAZ-04 would ensure that the Proposed Project complies with existing regulatory standards, thereby ensuring that impacts associated with the spread of contaminated groundwater are less than significant.

Implementation of PF-HWQ-01, *Stormwater/Water Quality Management During Construction* would be implemented to ensure that all dewatering activities would comply with regulatory requirements and NPDES permits. Through compliance with project features and regulatory requirements, construction would not substantially deplete groundwater supplies, interfere with groundwater recharge, or interfere with sustainable groundwater management. Impacts associated with construction of the Proposed Project would be **less than significant**.

3.10.5.2.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project would not build any facilities that would cause new permanent non-stormwater discharges to groundwater. While O&M activities may result in minor spills that could eventually reach the groundwater table, the implementation of standard stormwater management practices, including spill prevention and cleanup, would minimize the risk to groundwater quality.

Because the Proposed Project would convert unpaved areas to paved areas, it would cause a minor reduction in groundwater infiltration. This reduction would be located outside of active groundwater management areas (for example, established spreading grounds). The unpaved areas expected to be converted to paved areas are within the LA River channel ROWs. These converted areas include access connections from adjacent streets to the path alignment and the new path surfaces within the channel ROW. The magnitude of the impact is estimated by using the net new impervious area. As discussed in Impact HWQ-1, the new impervious area is a small fraction of the LA River Watershed. The increase in impervious area caused by the Proposed Project is negligible with respect to the watershed and the corresponding groundwater recharge areas.

Most recharge to the groundwater supply in Los Angeles County comes from large natural stream systems or constructed groundwater recharge basins. However, there are no spreading grounds or recharge basins within the RSA. Within the Central Basin, the Rio Hondo Coastal Basin Spreading Grounds are located 3 miles east of the path's southern terminus. The Dominguez Gap Spreading Grounds are located approximately 8 miles south of the path's southern terminus. Within the San Fernando Valley Basin, the nearest spreading ground to the path's northern path terminus is the Pacoima Spreading Grounds, which is located about 15 miles to the north. Within the RSA, substantial recharge benefits are expected from the LARER project aquatic restoration area that would convert the UP railyards to a wetland. The Proposed Project would cross a small portion of this area; however, the Proposed Project would not interfere with the recharge benefits provided by the new wetland area. Furthermore, the Proposed Project would not affect any current water supply wells. Therefore, the Proposed Project would have no impacts on groundwater recharge and would not obstruct the implementation of the Central Basin *Groundwater Basins Master Plan* (WRD 2016) or the *San Fernando Valley Groundwater Quality Management Plan* (LADWP 1983).

To minimize the impacts of new impervious areas, the final design of the Proposed Project would comply with applicable local regulatory requirements, conditions, LID standards and ordinances, as discussed in Section 3.10.2.3, and would implement PF-HWQ-02, *Low-Impact Design Requirements*, which includes LID treatment controls, such as landscaping, to help offset the loss of permeable surfaces. Therefore, the Proposed Project would not substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Proposed Project may impede sustainable groundwater management of the Central Basin and the San Fernando Valley Basin, and impacts would be **less than significant**.

3.10.5.2.2 Option 1

3.10.5.2.2.1 Construction

Less than significant impact. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of soil disturbance during construction due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the total disturbance areas, which were summarized in Table 3.10-5. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 1 would not substantially deplete groundwater supplies, interfere with groundwater recharge, or interfere with sustainable groundwater management. Impacts would be **less than significant.**

3.10.5.2.2.2 Operations and Maintenance

Less than significant impact. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 1. These differences are quantified by the total change in impervious areas, which were summarized in Table 3.10-6. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 1 would not substantially deplete groundwater supplies, interfere with groundwater recharge, or interfere with sustainable groundwater management. Impacts would be **less than significant.**

3.10.5.2.3 Option 2

3.10.5.2.3.1 Construction

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of soil disturbance during construction due to the varying Proposed Project geometry and facility locations that are required. These differences are quantified by the total disturbance areas, which were summarized in Table 3.10-5. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 2 would not substantially deplete groundwater supplies, interfere with groundwater recharge, or interfere with sustainable groundwater management. Impacts would be **less than significant.**

3.10.5.2.3.2 Operations and Maintenance

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. These differences are quantified by the total change in impervious areas, which were summarized in Table 3.10-6. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, construction of Option 2 would not substantially deplete groundwater supplies, interfere with groundwater recharge, or interfere with sustainable groundwater management. Impacts would be **less than significant.**

3.10.5.3 Impact HWQ-3: Erosion and Siltation

Impact HWQ-3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation onsite or offsite?

3.10.5.3.1 Proposed Project

3.10.5.3.1.1 Construction

Less than significant impact with mitigation incorporated. Construction of the Proposed Project would require new access roads, staging areas, cofferdams, diversion structures, or other activities that could temporarily alter local drainage patterns on the Proposed Project site. The total disturbed areas that could temporarily disturb drainage patterns are shown in Table 3.10-5. Construction of the Proposed Project would occur at various locations within varied timeframes, so potential temporary alterations to drainage patterns may occur at different locations and at different times. These impacts would be localized and constructed within or adjacent to the LA River, a concrete-lined facility. They would not substantially alter the existing drainage patterns of the RSA or LA River in a manner that results in substantial erosion or siltation because the Proposed Project would implement MM-HWQ-01, *Temporary Water Diversion Plan,* which would prevent exposure of the river to construction materials, equipment, exposed soils, and other water quality contaminants. In addition, the potential for erosion and/or siltation to occur would be minimized through implementation of the SWPPP as discussed in Section 3.10.3.3 and required by PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. The SWPPP would include BMPs for runoff control, sediment control, and housekeeping. As a result, construction of the Proposed Project would not substantially alter the existing drainage pattern of the site or area in a manner that would result in substantial erosion or siltation on- or offsite. Therefore, these impacts would be **less than significant with mitigation incorporated**.

3.10.5.3.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project would require minor alterations of the local drainage patterns due to new facilities; however, it would not alter overall drainage patterns. The existing topography within the RSA would be maintained and existing storm drainage systems would be preserved as much as possible, except for minor modifications as listed in Table 3.10-7. Furthermore, the Proposed Project would build adequate new drainage facilities in accordance with Los Angeles County and local design requirements as specified in PF-HWQ-02, *Low-Impact Design Requirements*, described in Section 3.10.3.3. The new drainage facilities would discharge directly to engineered storm drains or to a concrete-lined channel. Therefore, the Proposed Project would not cause an increase in erosion or siltation.

Where the Proposed Project path alignment traverses the LA River with an incised configuration, it would cross and impact several local and regional storm drainage facilities, which are shown on Figure 3.10-4. Because the incised path type would cut into the channel embankment where these existing storm drainage systems are discharging into the channel, the Proposed Project would modify the outlet structures of these storm drainage systems. Table 3.10-7 lists the affected storm drainage systems.

Table 3.10-7. Proposed Project—Affected Storm Drainage Systems

	Drainage System Name	Location (Approximate River Station)
Proposed Project	Solano Drain (66-inch RCP)	1251+00 (West Bank)
	Unknown	1243+50 (West Bank)
	BI 9910—Line A—Central Los Angeles (96-inch RCP)	1213+00 (West Bank)
	LA City Drain (90-inch RC Arch Pipe)	1180+50 (East Bank)
	LA City Drain (84-inch RCB)	1179+50 (East Bank)
	LA City Drain (66-inch RC Arch)	1175+50 (East Bank)
	LA City Drain (36-inch RCP)	1160+00 (East Bank)
	BI 0067—Unit 2—Line D (63-inch RCP)	1143+50 (East Bank)
	LA City Drain (30-inch RCP)	1134+00 (East Bank)
	LA City Drain (72-inch RCB)	1107+50 (West Bank)
	BI 0588—Line C (96-inch RCP)	150 feet west of Downey Rd Bridge (East Bank)
	BI 5206—Los Angeles (120-inch RCB)	100 feet east of Downey Rd Bridge (East Bank)
	BI 0090 (78-inch RCP)	150 feet east of Downey Rd Bridge (East Bank)
Design Variation (Atlantic Blvd Crossing South)	BI 0014—Unit 3—DDI 0026 (126-inch RCB)	230 feet east of S Atlantic Blvd Bridge (East Bank)

Source: LACDPW 2021a

Note:

RCB = reinforced concrete box
RCP = reinforced concrete pipe

Approximate river stations are based on the LA River control line, as shown in the Conceptual Design Plans (Metro 2019).

Modifications of local storm drain systems would be required to discharge runoff from the Proposed Project site. New drainage systems under top-of-bank and incised path types would collect stormwater and discharge to the concrete-lined channel. Drainage systems within the elevated path type sections and the river crossings would collect and convey the stormwater down the elevated structure columns and discharge to the adjacent storm drainage systems or directly into the concrete-lined channel. These modifications are required and are not expected to adversely affect existing storm drainage systems.

Pursuant to PF-HWQ-02, *Low-Impact Design Requirements*, the Proposed Project would protect surface water quality and maintain pre-development hydrology through compliance with applicable regulatory requirements, conditions, and LID standards. The Proposed Project would comply with applicable local regulatory requirements, conditions, LID standards and ordinances as discussed in Section 3.10.2.3. New or modified storm drainage systems would be designed to meet local City and Los Angeles County standards. Therefore, the impacts would be **less than significant**.

3.10.5.3.2 Option 1

3.10.5.3.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with minor differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 1. These impacts would be localized and would not substantially alter the existing drainage patterns of the Proposed Project area or LA River. The potential for erosion and/or siltation to occur would be minimized through implementation of the SWPPP, as specified in PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. Additionally, MM-HWQ-01, *Temporary Water Diversion Plan* would be implemented during construction of the Option 1 to prevent exposure of the river to construction materials, equipment, exposed soils, and other water quality contaminants, minimizing the potential for erosion and/or siltation due to temporarily altered drainage patterns. Through compliance with existing regulations, as required by PF-HWQ-01, and compliance with the Temporary Water Diversion Plan prepared pursuant to MM-HWQ-01, impacts would be **less than significant with mitigation incorporated**.

3.10.5.3.2.2 Operations and Maintenance

Less than significant impact. The impacts of Option 1 would be similar to those identified for the Proposed Project, with minor differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 1, as shown on Table 3.10-8. Specifically, Option 1 would be required to modify the outlet structures of the existing storm drainage systems as listed in Table 3.10-8.

Table 3.10-8. Option 1—Affected Storm Drainage Systems

	Drainage System Name	River Station/Location (Bank)
Option 1	BI 5203—U2—Los Angeles (90-inch RCP)	1130+50 (West Bank)
	LA City Drain (96-inch VCP)	1126+50 (West Bank)
	LA City Drain (72-inch RCB)	1107+50 (West Bank)
	LA City Drain (36-inch RCP)	1090+50 (West Bank)
	LA City Drain (144-inch RC Arch)	1087+00 (West Bank)
	Unknown	1074+50 (West Bank)
	BI 0588—Line C (96-inch RCP)	150 feet west of Downey Rd Bridge (East Bank)
	BI 5206—Los Angeles (120-inch RCB)	100 feet east of Downey Rd Bridge (East Bank)
	BI 0090 (78-inch RCP)	150 feet east of Downey Rd Bridge (East Bank)
	DDI 0026 (102-inch RCB)	3000 feet east of Downey Rd Bridge (East Bank)

Table 3.10-8. Option 1—Affected Storm Drainage Systems

	Drainage System Name	River Station/Location (Bank)
Design Variation (Atlantic Blvd Crossing South)	BI 0014—Unit 3—DDI 0026 (126-inch RCB)	230 feet east of South Atlantic Blvd Bridge (East Bank)

Source: LACDPW 2021a

Note:

RCB = reinforced concrete box
RCP = reinforced concrete pipe

Approximate river stations are based on the LA River control line, as shown in the Conceptual Design Plans (Metro 2019).

Pursuant to PF-HWQ-02 *Low-Impact Design Requirements*, Option 1 would protect surface water quality and maintain pre-development hydrology through compliance with applicable regulatory requirements, conditions, and LID standards, as discussed in Section 3.10.2.3. New or modified storm drainage systems would be designed to meet local City of Los Angeles and Los Angeles County standards. Therefore, the impacts would be **less than significant**.

3.10.5.3.3 Option 2

3.10.5.3.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with minor differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 2. These impacts would be localized and would not substantially alter the existing drainage patterns of the Proposed Project area or LA River. The potential for erosion and/or siltation to occur would be minimized through implementation of the SWPPP, as required by PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. Additionally, MM-HWQ-01, *Temporary Water Diversion Plan* would be implemented during construction of Option 2 to prevent exposure of the river to construction materials, equipment, exposed soils, and other water quality contaminants, minimizing the potential for erosion and/or siltation due to temporarily altered drainage patterns. Through compliance with existing regulations and with the Temporary Water Diversion Plan prepared in accordance with MM-HWQ-01 impacts would be **less than significant with mitigation incorporated**.

3.10.5.3.3.2 Operations and Maintenance

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with minor differences in magnitude due to the varying Proposed Project geometry and facility locations that are required by Option 2, as shown in Table 3.10-9. Specifically, Option 2 would be required to modify the outlet structures of the existing storm drainage systems as listed in Table 3.10-9.

Table 3.10-9. Option 2—Affected Storm Drainage Systems

	Drainage System Name	Location (Approximate River Station)
Option 2	BI 0059—Unit 1—Line A (144-inch RC Arch)	1151+00 (West Bank)
	BI 5203—Unit 2—Los Angeles (90-inch RCP)	1130+00 (West Bank)
	LA City Drain (96-inch VCP)	1126+50 (West Bank)
	LA City Drain (72-inch RCB)	1107+50 (West Bank)
	LA City Drain (36-inch RCP)	1090+50 (West Bank)
	LA City Drain (144-inch RC Arch)	1087+00 (West Bank)
	Unknown	1074+50 (West Bank)
	BI 0588—Line C (96-inch RCP)	150 feet west of Downey Rd Bridge (East Bank)
	BI 5206—Los Angeles (120-inch RCB)	100 feet east of Downey Rd Bridge (East Bank)
	BI 0090 (78-inch RCP)	150 feet east of Downey Rd Bridge (East Bank)
Design Variation (Atlantic Blvd Crossing South)	BI 0014—Unit 3—DDI 0026. (126-inch RCB)	230 feet east of S Atlantic Blvd Bridge (East Bank)

Source: LACDPW 2021a

Note:

RCB = reinforced concrete box
RCP = reinforced concrete pipe

Approximate river stations are based on the LA River control line, as shown in the Conceptual Design Plans (Metro 2019).

Option 2 would implement PF-HWQ-02, *Low-Impact Design Requirements* the mandatory PFs defined in Section 3.10.3.3, ensuring that pre-development hydrology characteristics are maintained. Option 2 would comply with applicable local regulatory requirements, conditions, LID standards and ordinances, as discussed in Section 3.10.2.3. New or modified storm drainage systems would be designed to meet local City Los Angeles and Los Angeles County standards. Therefore, the impacts would be **less than significant**.

3.10.5.4 Impact HWQ-4: Surface Runoff

Impact HWQ-4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface runoff resulting in flooding onsite or offsite?

3.10.5.4.1 Proposed Project

3.10.5.4.1.1 Construction

Less than significant impact with mitigation incorporated. Construction of the Proposed Project would temporarily increase impervious area around the Proposed Project site (for example, by installing construction access roads, contractor staging areas, or requiring localized changes in drainage patterns to control stormwater on and around the Proposed Project site). These impacts would not

substantially increase the rate or volume of stormwater flows. Because construction would occur in the LA River, activities would comply with all applicable federal and local floodplain regulations, including USACE and NFIP requirements. Furthermore, mandatory implementation of the project features discussed in Section 3.10.3.3 require the contractor to control stormwater runoff from the Proposed Project site. PF-HWQ-01, *Stormwater/Water Quality Management During Construction* requires compliance with the CGP to prepare and implement a SWPPP. The SWPPP would identify BMPs to manage the overall amount and quality of stormwater and non-stormwater runoff, along with other BMPs described in Section 3.10.3.3. Implementation of these project features would minimize or eliminate adverse impacts caused by changes in drainage patterns or new impervious areas. Therefore, the Proposed Project would not substantially increase the rate or amount of runoff from the Proposed Project site that could cause flooding onsite or offsite. The Proposed Project would also implement MM-HWQ-01, *Temporary Water Diversion Plan*. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.4.1.2 Operations and Maintenance

Less than significant impact. As discussed above, the Proposed Project would build 13.3 acres of new impervious surfaces that would be distributed along the river corridor and could cause hydrologic changes by reducing infiltrative capacity and increasing the peak rate or volume of runoff. However, as discussed under Impact HWQ-3, the Proposed Project would modify the existing storm drain systems as needed and build adequate new drainage facilities in accordance with local City and Los Angeles County standards, to convey the additional surface runoff created by the new impervious surface. Also, the Proposed Project would implement the mandatory PFs described in Section 3.10.3.3. PF-HWQ-01, *Stormwater/Water Quality Management During Operation* requires the Proposed Project to maintain pre-development hydrology characteristics as much as possible through compliance with applicable local regulatory requirements, conditions, LID standards and ordinances discussed in Section 3.10.2.3. Therefore, the Proposed Project would not substantially increase the rate or amount of runoff from the Proposed Project site that could cause flooding onsite or offsite. Impacts would be **less than significant**.

3.10.5.4.2 Option 1

3.10.5.4.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1. These impacts would not substantially increase the rate or volume of stormwater flows. All construction activities would comply with all applicable federal and local floodplain regulations, including USACE and NFIP requirements. Furthermore, mandatory implementation of the project features described in Section 3.10.3.3 require the contractor to control stormwater runoff from the Proposed Project site and would avoid and minimize construction-related flooding. PF-HWQ-01, *Stormwater/Water Quality Management During Construction* requires compliance with the CGP to prepare and implement an SWPPP. The SWPPP would identify BMPs to manage the overall amount and quality of stormwater and non-stormwater runoff, along with other BMPs described in Section 3.10.3.3. Implementation of these project features would minimize or eliminate adverse impacts caused by changes in drainage patterns or new impervious areas. Therefore, the Proposed Project would not substantially increase the rate or amount of runoff from the Proposed Project site that could cause flooding onsite or offsite. The Proposed Project would also implement MM-HWQ-01, *Temporary Water Diversion Plan*. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.4.2.2 Operations and Maintenance

Less than significant impact. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 1. These differences are quantified by the new impervious area, which was summarized in Table 3.10-6.

As discussed under the Proposed Project, Option 1 would modify the existing storm drain systems as needed and build adequate new drainage facilities in accordance with local City and Los Angeles County standards, to convey the additional surface runoff created by the new impervious surface. Also, Option 1 would implement the mandatory PFs described in Section 3.10.3.3. PF-HWQ-01, *Stormwater/Water Quality Management During Construction* requires the Proposed Project to maintain pre-development hydrology characteristics as much as possible through compliance with applicable local regulatory requirements, conditions, LID standards and ordinances discussed in Section 3.10.2.3. Therefore, Option 1 would not substantially increase the rate or amount of runoff from the Proposed Project site that could cause flooding onsite or offsite. Impacts would be **less than significant**.

3.10.5.4.3 Option 2

3.10.5.4.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. These impacts would not substantially increase the rate or volume of stormwater flows. All construction activities would be required to comply with all applicable federal and local floodplain regulations, including USACE and NFIP regulations. Furthermore, mandatory implementation of the project features requires the contractor to control stormwater runoff from the Proposed Project site and would avoid and minimize construction-related flooding. PF-HWQ-01, *Stormwater/Water Quality Management During Construction* requires compliance with the CGP to prepare and implement an SWPPP. The SWPPP would identify BMPs to manage the overall amount and quality of stormwater and non-stormwater runoff, along with other BMPs described in Section 3.10.3.3. The Proposed Project would also implement MM-HWQ-01, *Temporary Water Diversion Plan*. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.4.3.2 Operations and Maintenance

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. These differences are quantified by the new impervious area, which was summarized in Table 3.10-6.

As discussed under the Proposed Project, Option 2 would modify the existing storm drain systems as needed and build adequate new drainage facilities in accordance with local City and Los Angeles County standards, to convey the additional surface runoff created by the new impervious surface. Also, Option 2 would implement the mandatory project features described in Section 3.10.3.3. PF-HWQ-01, *Stormwater/Water Quality Management During Construction* requires the Proposed Project to maintain pre-development hydrology characteristics as much as possible through compliance with applicable local regulatory requirements, conditions, LID standards and ordinances discussed in Section 3.10.2.3. Therefore, the Proposed Project would not substantially increase the rate or amount of runoff from the

Proposed Project site that could cause flooding onsite or offsite. Impacts would be **less than significant**.

3.10.5.5 Impact HWQ-5: Stormwater Drainage

Impact HWQ-5: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

3.10.5.5.1 Proposed Project

3.10.5.5.1.1 Construction

Less than significant impact with mitigation incorporated. Construction of the Proposed Project would temporarily increase the impervious area around the Proposed Project site (for example, by installing construction access roads, contractor staging areas, or required localized changes in drainage patterns to control stormwater on and around the Proposed Project site). Placement of construction equipment, materials, and staff in the channel could also interfere with USACE activities, including any releases from upstream reservoirs and flood control facilities. Construction activities would temporarily increase the potential for stormwater to come in contact with construction-related contaminants. To ensure flood protection and compliance with the CGP, the Proposed Project would implement MM-HWQ-01, *Temporary Water Diversion Plan* and PF-HWQ-01, *Stormwater/Water Quality Management During Construction*, as described in Section 3.10.3.3, including implementation of a SWPPP that complies with the CGP. Therefore, with implementation of the project features, impacts of the Proposed Project would be reduced to **less than significant with mitigation incorporated**.

3.10.5.5.1.2 Operations and Maintenance

Less than significant impact. Consistent with PF-HWQ-02, *Low-Impact Design Requirements*, final design of the Proposed Project would comply with regulatory design requirements so as to preserve existing drainage patterns and minimize non-storm water discharges. New storm drains would be installed to extend or replace existing storm drains, to control storm runoff, and direct flows to the LA River, where erosion and sedimentation are minimized by the concrete lining. The O&M activities, as described in Chapter 2, *Project Description*, would not add new impervious areas, modify existing storm drain systems, or require new drainage facilities to convey the additional runoff water created by the new impervious areas. Therefore, Proposed Project O&M would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**.

3.10.5.5.2 Option 1

3.10.5.5.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 related to water runoff would be similar to those identified for the Proposed Project, with differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 1. To ensure flood protection and compliance with the CGP, the Proposed Project would implement project features MM-HWQ-01, *Temporary Water Diversion Plan*, and PF-HWQ-01,

Stormwater/Water Quality Management During Construction; as described in Section 3.10.3.3, including implementation of a SWPPP that complies with the CGP. Therefore, the Proposed Project would not create or contribute runoff water that would provide substantial additional sources of polluted runoff, so impacts would be **less than significant with mitigation incorporated**.

3.10.5.5.2.2 Operations and Maintenance

Less than significant impact. The impacts of Option 1 related to water runoff would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1. Consistent with PF-HWQ-02, *Low-Impact Design Requirements,* final design of Option 1 would comply with regulatory design requirements so as to preserve existing drainage patterns and minimize non-storm water discharges. New storm drains would be installed to extend or replace existing storm drains, to control storm runoff, and direct flows to the LA River, where erosion and sedimentation are minimized by the concrete lining. The O&M activities, as described in Chapter 2, *Project Description*, would not add new impervious areas, modify existing storm drain systems, or require new drainage facilities to convey the additional runoff water created by the new impervious areas. Therefore, Option 1 O&M would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**.

3.10.5.5.3 Option 2

3.10.5.5.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. To ensure flood protection and compliance with the CGP, the Proposed Project would implement the mandatory project features, including MM-HWQ-01, *Temporary Water Diversion Plan* and PF-HWQ-01, *Stormwater/Water Quality Management During Construction*, as described in Section 3.10.3.3, including implementation of an SWPPP that complies with the CGP. Therefore, the Proposed Project would not create or contribute runoff water that would provide substantial additional sources of polluted runoff. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.5.3.2 Operations and Maintenance

Less than significant impact. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in magnitude and location due to the varying Proposed Project geometry and facility locations that are required by Option 2. Consistent with PF-HWQ-02, *Low-Impact Design Requirements*, final design of Option 2 would comply with regulatory design requirements so as to preserve existing drainage patterns and minimize non-storm water discharges. New storm drains would be installed to extend or replace existing storm drains, to control storm runoff, and direct flows to the LA River, where erosion and sedimentation are minimized by the concrete lining. The O&M activities, as described in Chapter 2, *Project Description*, would not add new impervious areas, modify existing storm drain systems, or require new drainage facilities to convey the additional runoff water created by the new impervious areas. Therefore, Option 2 O&M would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Impacts would be **less than significant**.

3.10.5.6 Impact HWQ-6: Flood Flows

Impact HWQ-6: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would impede or redirect flood flows?

3.10.5.6.1 Proposed Project

3.10.5.6.1.1 Construction

Less than significant with mitigation incorporated. Proposed Project construction would generally consist of four major activities: mobilization, site preparation, site work, and ancillary finishes. Contractor mobilization would occur at construction initiation and would involve clearing staging areas, setting up construction trailers, and moving equipment and materials to staging areas. However, no mobilization activities would occur in the river channel. Site preparation would involve clearing the site and preparing the Proposed Project footprint for construction. Site preparation activities related to in-channel construction would include installation of temporary water diversion structures, excavation for forming and placing pier column foundations, demolition of existing channel lining, excavation of material under the existing channel lining, and demolition of existing channel walls. Site work related to incised paths would involve construction of the path retaining walls and placement of asphalt or concrete for path surfaces. Site work for river crossings would involve installation of temporary driven piles to temporarily support river crossing structures. The use of cranes in the river would also be required to place materials on the temporary supports. Finishing activities would take place after the path surface is constructed and would include ancillary path elements outside of the river channel such as railings, pathway striping, signage, seating, drinking fountains, restroom facilities, public art, landscaping, wayfinding signage, bicycle fix-it stations, and shade structures.

The Proposed Project would require a substantial construction footprint below the ordinary high water mark, mostly between North Broadway and US-101. As discussed above, construction equipment and materials would be temporarily stored inside the channel. The presence of this equipment and materials in the channel could cause obstructions that could impede flood flows and could occur wherever the path is within the channel. During extreme storm events, obstructions to flows could reduce the flood control capacity of the channel. To protect the construction zone, pursuant to MM-HWQ-01, *Temporary Water Diversion Plan,* temporary water diversion structures such as cofferdams or other measures would be used to redirect flood flows around the construction zones. MM-HWQ-01, *Temporary Water Diversion Plan*, and examples of temporary water diversion structure location and placement are discussed in further detail in Impact HWQ-1. Due to the Proposed Project's longitudinal encroachment into the LA River, these water diversion structures would need to be placed in multiple locations simultaneously to protect the work zones. The water diversion structures require engineering and design to meet USACE requirements to withstand flood flows during construction. These structures could impede or redirect flood flows or reduce the channel capacity. As discussed in MM-HWQ-01, the design of these in-water features would be consistent with the LACFCD *Water Diversion Manual and Best Management Practices* (LACFCD 2016). The manual provides standard, locally applicable procedures for water diversion within its flood control system, including portions of the LA River, that do not impede or redirect flood flows. These procedures include a four-step planning process and engineering review to ensure that the proposed barrier type is appropriate for the specific location given channel width, flow rate, and flow depth.

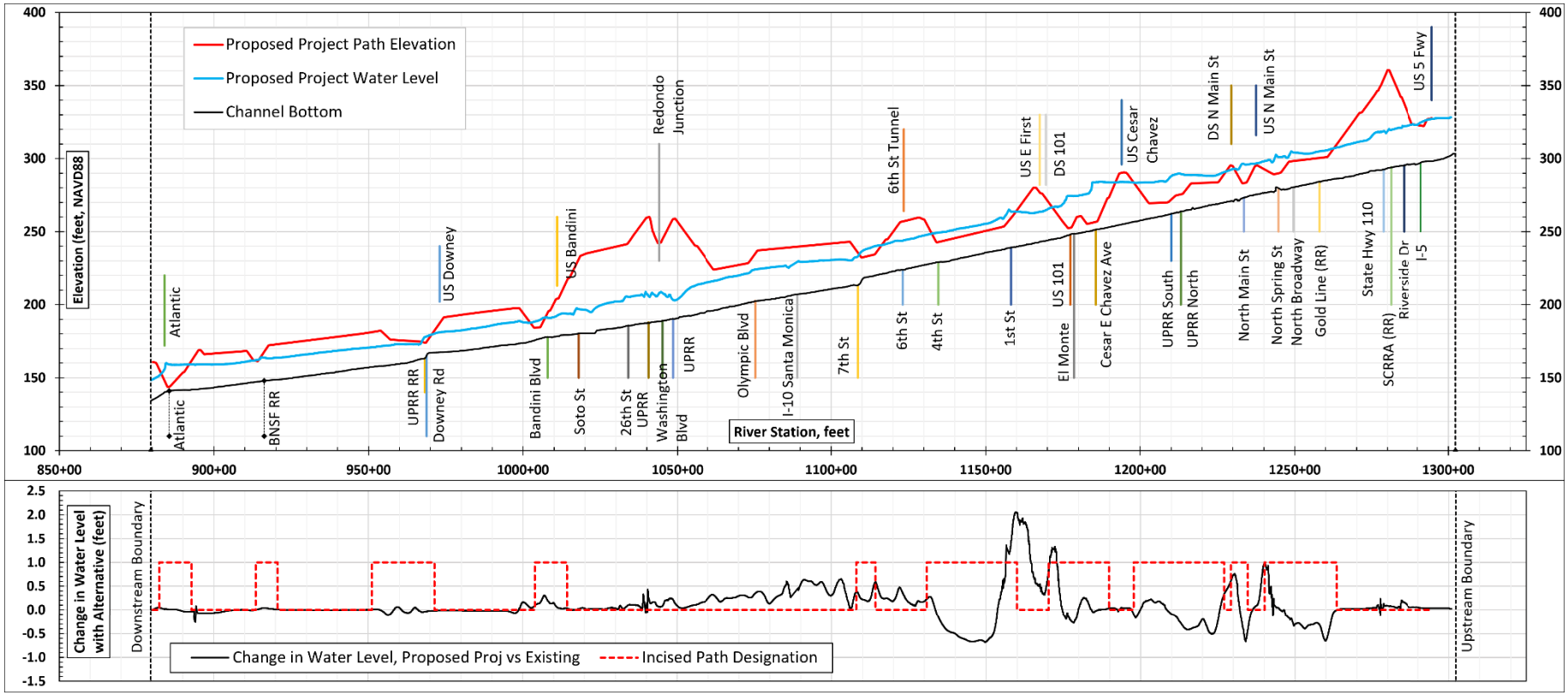
Any reduction in channel capacity, including the diversion structures proposed pursuant to MM-HWQ-01, *Temporary Water Diversion Plan*, also would comply with Section 401, 404, and 408 permits as discussed in Section 3.10.2.1.1. In addition, Proposed Project construction would be subject to USACE review and approval. During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE are reviewing the final design of the Proposed Project to verify that it minimizes potential to cause adverse impacts to the operation or integrity of the LA River.

An additional mitigation measure would also be implemented to reduce impacts to be less than significant. MM-HWQ-02, *Construction Scheduling* would ensure all areas of increased flood risk are identified and a phased construction schedule is established, further minimizing risk of adverse flood impacts during construction. USACE approval of a Section 408 permit would also impose channel improvement construction limitations (USACE 2008), which are included in MM-HWQ-02, *Construction Scheduling*. These channel construction limitations account for the seasonal changes of flood flows that occur in the LA River throughout the year due to wet and dry months. The limitations require implementing a phased construction schedule to avoid impacting the channel flow capacity required to convey flows during the rainy season. Therefore, with the implementation of MM-HWQ-01 and MM-HWQ-02, impacts would be **less than significant with mitigation incorporated.**

3.10.5.6.1.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The Proposed Project would place new structures within the LA River that could impede flood flows. The Proposed Project would be generally aligned with the LA River channel and would have several new crossings. Incised path deck structures, bridges with piers, and columns would be constructed in the flood control channel within FEMA-established floodplains. These structures could cause a diversion of stormwater runoff, or they could adversely affect flood control function either in the river or at other regional flood control facilities. Path construction in the channel would likely result in some changes to water levels as described below. As discussed in the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), construction of incised and elevated-in-channel path types for segments from I-5 to North Broadway and from Fourth Street to Randolph Street would cause a localized increase to the water level in the channel. The increase in water surface elevation resulting from the Proposed Project is anticipated to be below 1 foot (refer to Figure 3.10-8) but would still be contained in the channel. Additionally, the extra space above the water level in the channel (freeboard) would not exceed USACE freeboard guidance except for an isolated location near Riverside Drive, where calculated freeboard was found to be insufficient; flow would overtop the channel similar to the existing condition. Freeboard guidance is based on the USACE *Hydraulic Design of Flood Control Channels* manual (USACE 1994).

Figure 3.10-8. Water Level Impacts in the LA River Channel



Construction of incised and elevated-in-channel path types for the segment from North Broadway to US-101 would cause water levels to increase by 1 foot in the channel segment where the 100-year floodplain already extends outside of the channel in the existing condition as shown in Figure 3.10-6. This increase in water level elevation would cause the 100-year floodplain to extend farther and as a result, could trigger a required revision to the FEMA Special Flood Hazard Area map to indicate an expanded flood hazard area. Furthermore, and similar to the existing conditions, calculated channel freeboard was insufficient on the left bank where flow would overtop, and was below USACE guidance levels on the right bank at an isolated location near Cesar E Chavez Avenue.

Construction of incised and elevated-in-channel path types from US-101 to Fourth Street would cause a substantial increase in water levels, exceeding 2 feet, especially at a location near First Street. At this location, the calculated channel freeboard on the right bank was reduced to approximately 1.7 feet from 3.5 feet and on the left bank was reduced to 0 feet from 2.5 feet. These calculated freeboards were found to be below USACE freeboard guidance of 3 feet. Even though the freeboards are reduced; however, the water level is still below the top of the channel and the flow would still be contained in the channel at this location. Figures 3.10-9 and 3.10-10. show the impacts of the Proposed Project and its options to the freeboard along each side of the LA River channel.

Figure 3.10-9. Freeboard Impacts to the Left Bank of LA River Channel

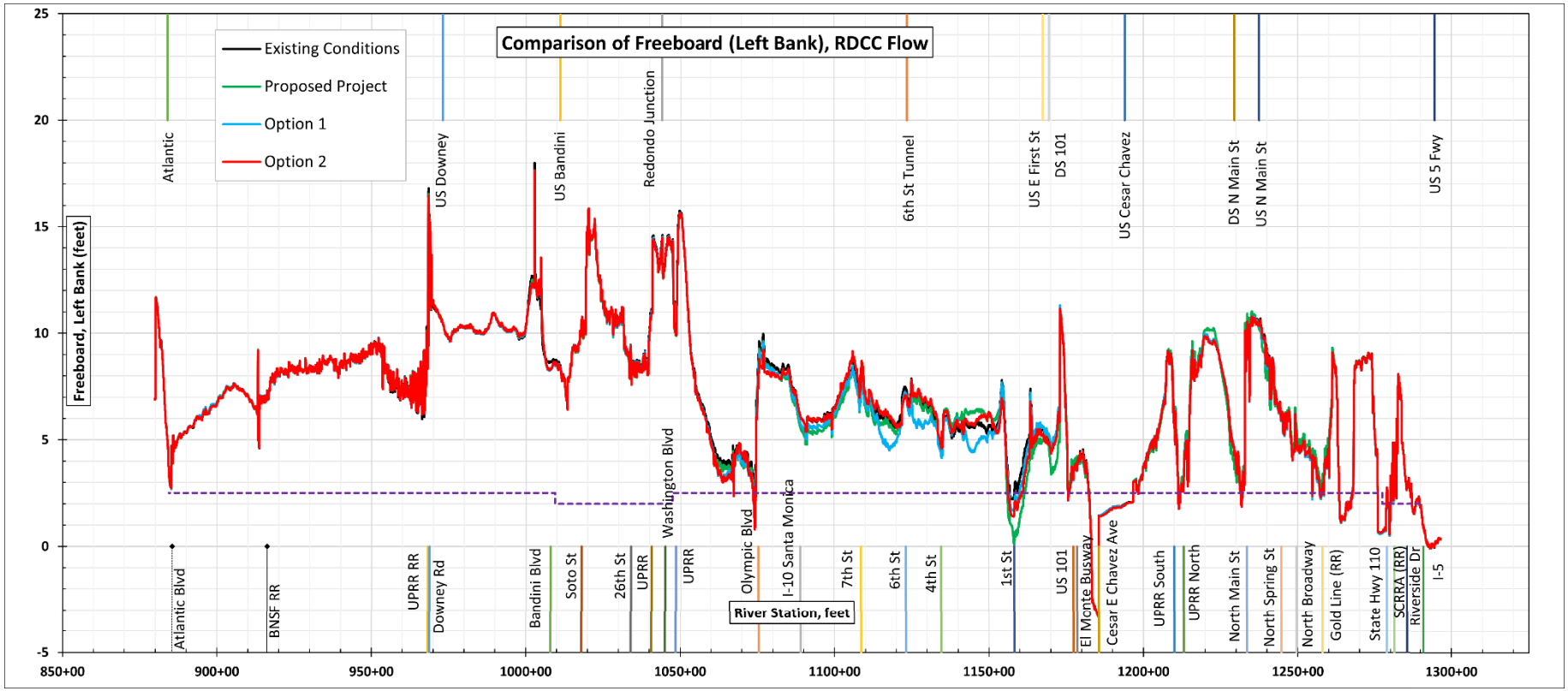
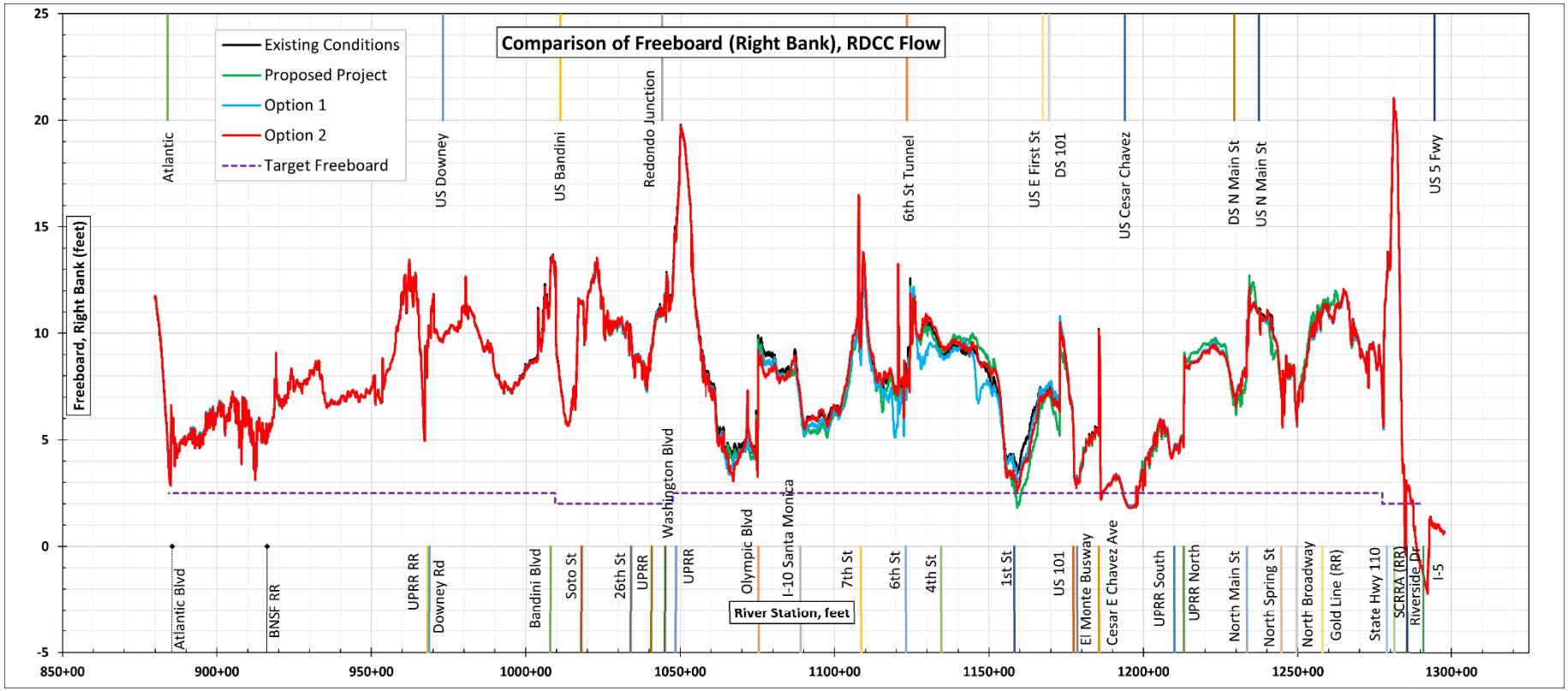


Figure 3.10-10. Freeboard Impacts to the Right Bank of LA River Channel

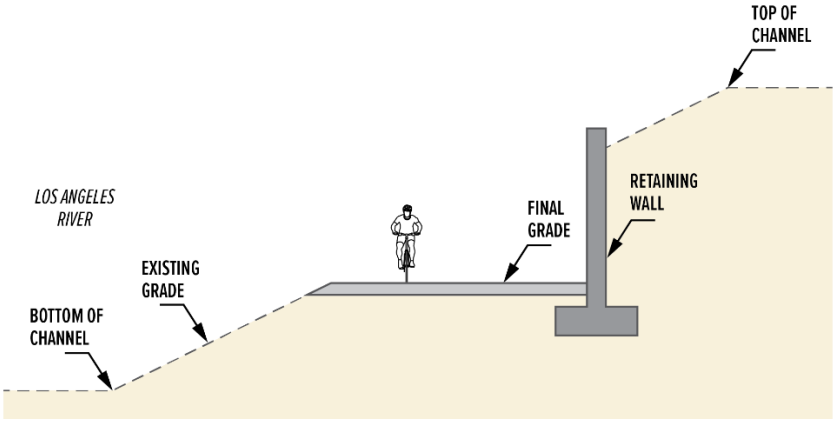


Increased water levels, as discussed above, would occur because flow areas would be reduced in the channel; water would be displaced by path structures constructed in the channel. These structures would impede flood flows and could potentially result in significant flooding impacts during operation and maintenance of the Proposed Project. Therefore, mitigation measures are required.

Four mitigation measures, MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening,* MM-HWQ-06, *Elevated-in-Channel Incised Path,* and MM-HWQ-08*, Streamlined Bridge Piers* are proposed to mitigate potential Proposed Project impacts.

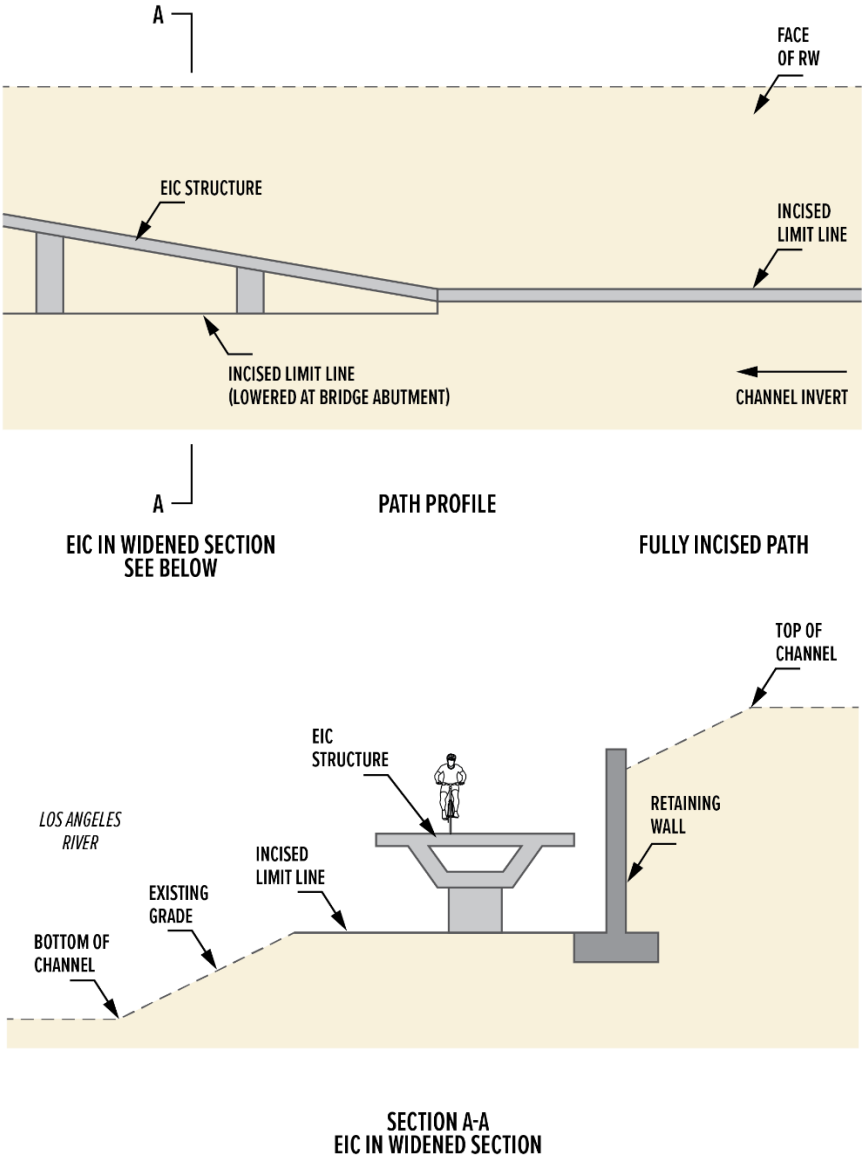
MM-HWQ-04, *Fully Incised Path* would convert incised pathways in the channel to a fully incised path type (Figure 3.10-11). Placing incised high and mid path deck structures within the channel would cause obstructions to the flow areas and these obstructions would lead to increases in water levels; therefore, conversion to a fully incised path type would avoid placement of incised path deck structures in the channel, and as a result the channel's flow area would not be reduced. Furthermore, a fully incised path configuration could enhance channel hydraulic capacity, facilitating water flow while reducing water levels and flood risk.

Figure 3.10-11. Cross Section of a Fully Incised Path



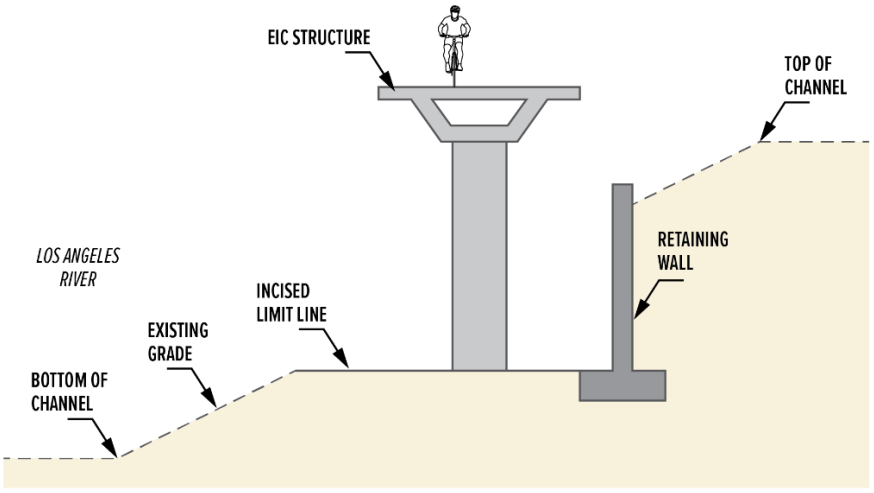
MM-HWQ-05, *Incised/Elevated Transition Widening* would lengthen and widen the transition segment at locations where the path transitions from a fully incised type to an elevated-in-channel type (Figure 3.10-12). This would replace any flow area taken by an elevated path structure in the channel. As a result, MM-HWQ-05, *Incised/Elevation Transition Widening* would maintain pre-Proposed Project flow capacity and minimize impacts to water surface elevation in the channel.

Figure 3.10-12. Incised/Elevated Transition Widening



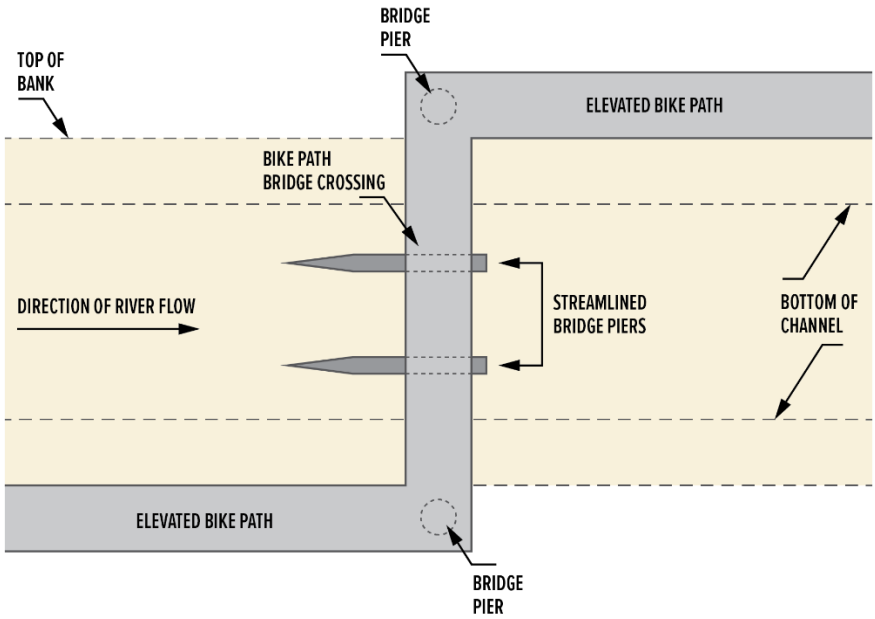
MM-HWQ-06, *Elevated-in-Channel Incised Path* would convert elevated-in-channel pathways with an elevated path structure within a fully incised section (Figure 3.10-13). An elevated-in-channel incised path type would also preserve hydraulic capacity by replacing obstructed flow area taken by the new elevated path structures. An elevated-in-channel incised path would preserve hydraulic capacity by keeping the path elevated in the incised section, minimizing interference with the river channel. Simultaneously, this measure would mitigate impacts on areas designated for restoration, as most of the path footprint would be elevated and not in conflict with the channel improvements.

Figure 3.10-13. Elevated-in-Channel Incised Path



MM-HWQ-08, *Streamlined Bridge Piers* would implement design of bridge piers that would be oriented to river flows, and that would use hydraulically efficient shapes (Figure 3.10-14). This mitigation measure would minimize flow turbulence, debris capture, and minimize a potential rise in water surface elevations. Streamlined piers would ensure the functionality of the river crossing bridges, while mitigating the impacts on the river's hydraulic capacity.

Figure 3.10-14. Streamlined Bridge Piers



These mitigation measures would minimize adverse hydraulic impacts by increasing available flow area, which would compensate for any obstruction or disturbance caused by path facilities. To fully mitigate these effects, minor design refinements could be required during final design, such as increased widening in incised sections. These refinements could slightly increase disturbance to the channel, for example by requiring a larger incised section. MM-HWQ-03, *Advanced Hydraulic Analysis* would be implemented during final design to provide detailed hydraulic modeling of improvements and mitigations. The advanced hydraulic analysis would demonstrate that the aforementioned mitigation measures and design refinements are successful in avoiding adverse impacts to the water level in the channel. Pursuant to USACE requirements as discussed in Section 3.10.2.1.2 for obtaining a Section 408 Permit, these design changes would be reviewed by USACE and would be subject to approval prior to construction.

In addition to the mitigation measures discussed above, during design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE confirm that the Proposed Project's design would minimize the potential to cause adverse impacts to operation or the integrity of the LA River. USACE approval of the Section 408 Permit would also ensure that the design meets USACE standards, guidance, and complies with regulatory requirements. With the implementation of these mitigation measures, project features, and complying with regulatory requirements, impacts of the Proposed Project would be reduced to a level of **less than significant with mitigation incorporated**.

3.10.5.6.2 Option 1

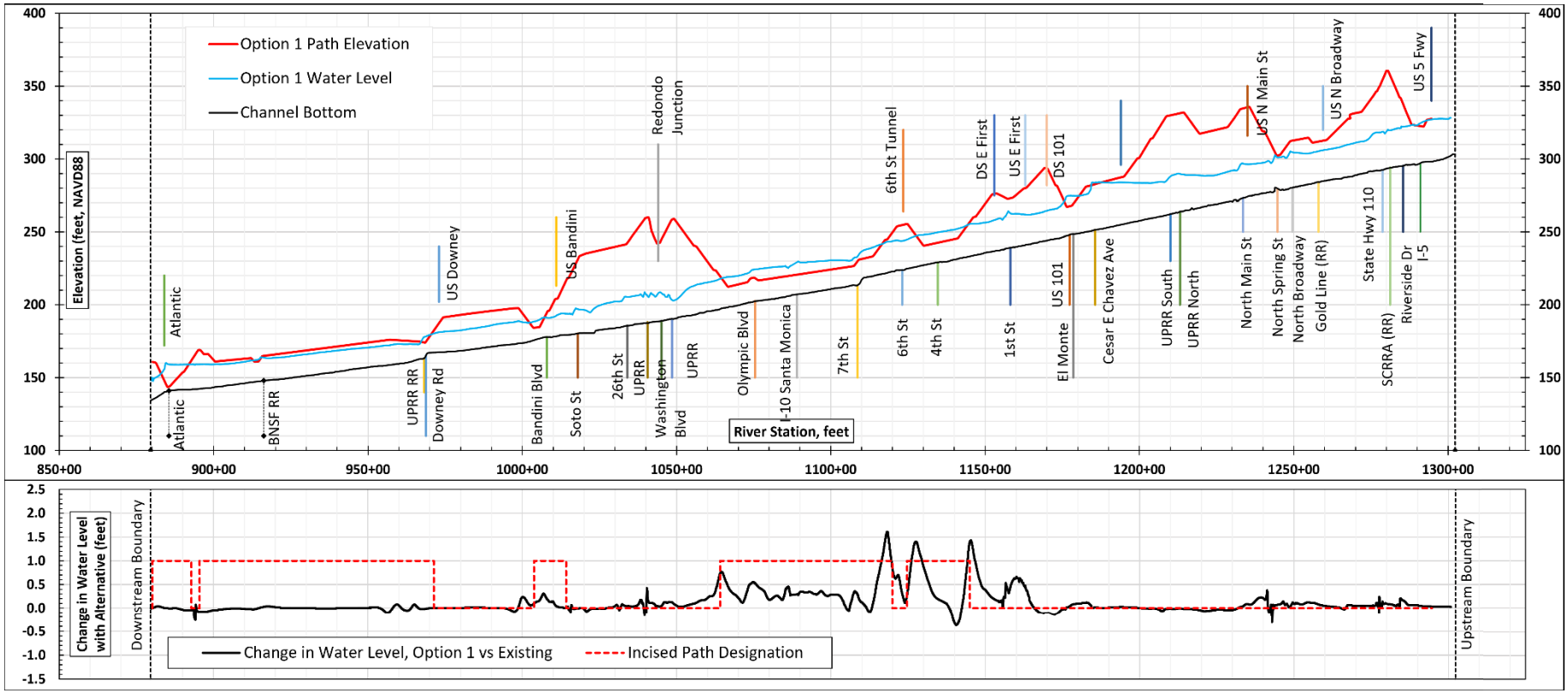
3.10.5.6.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the location of the impacts due to the varying Proposed Project geometry and facility locations required by Option 1. New path structures could impede or redirect flood flows or hinder channel capacity. However, as discussed under the Proposed Project, any reduction in channel capacity would comply with USACE requirements that limit capacity reductions based on construction period. With the implementation of PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, MM-HWQ-01, *Temporary Water Diversion Plan*, and MM-HWQ-02, *Construction Scheduling* construction of Option 1 would not significantly impede or redirect flood flows in the LA River and impacts would be **less than significant with mitigation incorporated**.

3.10.5.6.2.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1. Figure 3.10-15 shows the water level impacts along the LA River associated with Option 1.

Figure 3.10-15. Option 1 Water Level Impacts



Based on the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), Option 1 would cause similar changes in water surface elevations, raising water levels as follows:

- Less than 1 foot between I-5 and North Broadway
- Less than 1 foot between Fourth Street and Atlantic Boulevard
- More than 1 foot between North Broadway and Seventh Street

Water level changes would be localized to the area near the new structures. Flow would still be contained in the channel. USACE freeboard guidance would not be exceeded, except for an isolated location near Riverside Drive and Cesar E Chavez Avenue where calculated freeboards were found to be insufficient; flow would overtop the channel bank similar to existing conditions. Calculated freeboard was also found to be below USACE guidance for a location near First Street.

As discussed under the Proposed Project, the increase in water level discussed above would occur because new structures in the river would displace water in the channel. This would impede flood flows in the channel and could potentially result in significant flooding impacts during O&M of the Proposed Project. Therefore, mitigation measures MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevation Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-08, *Streamlined Bridge Piers* are required.

MM-HWQ-03, *Advanced Hydraulic Analysis* would be implemented during design to provide detailed hydraulic modeling of improvements and mitigations. Pursuant to USACE requirements for obtaining a Section 408 Permit, design changes would be reviewed by USACE and would be subject to approval prior to construction. With implementation of these mitigation measures, impacts of the Proposed Project would be **less than significant with mitigation incorporated**.

3.10.5.6.3 Option 2

3.10.5.6.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the location of the impacts based on varying geometry and facility locations required by Option 2. New path structures could impede or redirect flood flows or hinder the channel capacity. However, as discussed under the Proposed Project, any reduction in channel capacity would comply with USACE requirements that limit capacity reductions. With the implementation ofPF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement*, MM-HWQ-01, *Temporary Water Diversion Plan*, and MM-HWQ-02, *Construction Scheduling*, construction of Option 2 would not significantly impede or redirect flood flows in the LA River and impacts would be **less than significant with mitigation incorporated**.

3.10.5.6.3.2 Operations and Maintenance

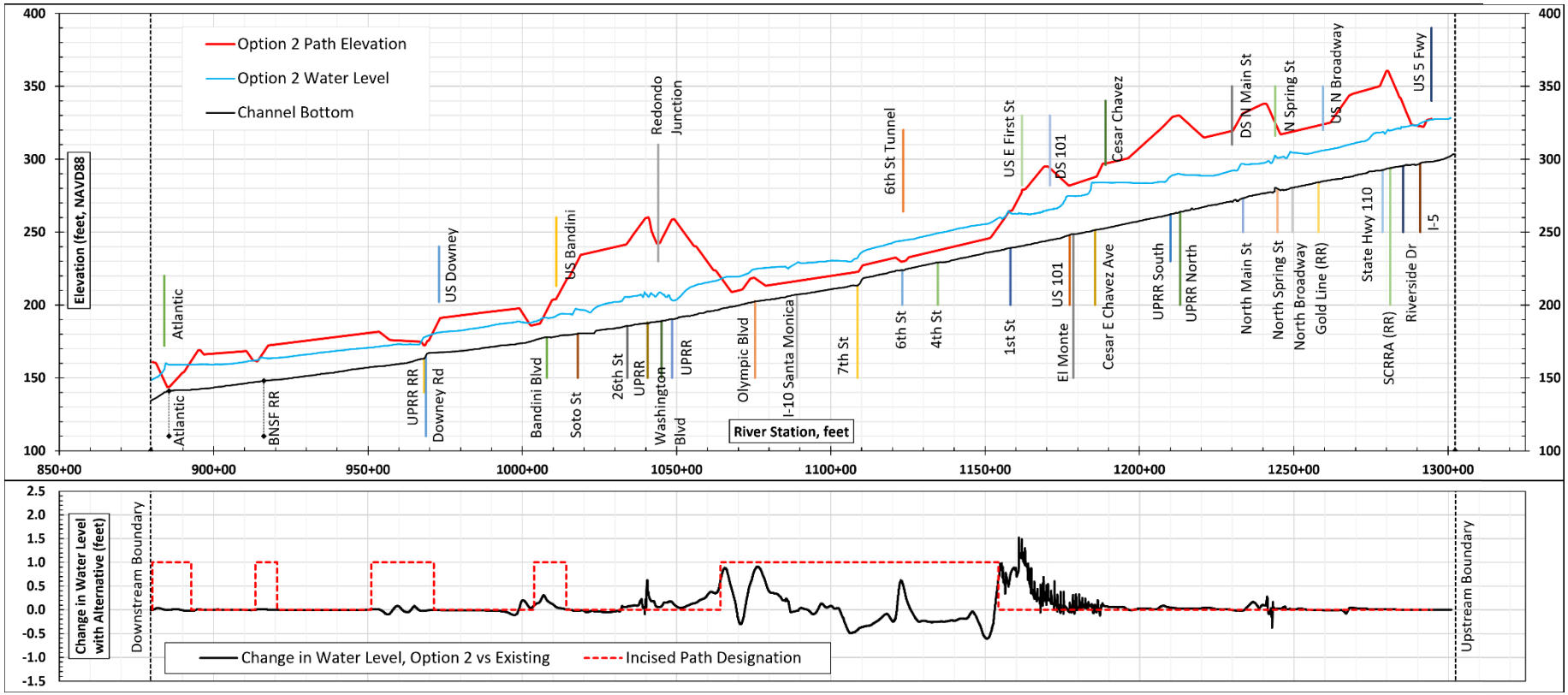
Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in magnitude and location of impacts based on varying Proposed Project geometry and facility locations required by Option 2. Figure 3.10-16 shows the water level impacts along the LA River associated with Option 2.

Based on the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), Option 2 would cause similar changes in water surface elevation, and would raise the water levels as follows:

- Less than 1 foot between I-5 and US 101
- Less than 1 foot between Fourth Street and Atlantic Boulevard
- More than 1 foot between US 101 and Fourth Street (Figure 3.10-16)

Changes would be localized to the area near the new structures. USACE freeboard guidance would not be exceeded, except for an isolated location near Riverside Drive and Cesar E Chavez Avenue where calculated freeboards were found to be insufficient; flow would overtop the channel bank similar to existing conditions. Calculated freeboard was also found to be below USACE guidance for a location near First Street.

Figure 3.10-16. Option 2 Water Level Impacts



As discussed under the Proposed Project, the increase in water level discussed above would occur because new structures in the river would displace water in the channel. This would impede flood flows in the channel and could potentially result in significant flooding impacts during O&M of the Proposed Project. Therefore, mitigation measures MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevation Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-08, *Streamlined Bridge Piers* are required.

MM-HWQ-03, *Advanced Hydraulic Analysis* would be implemented during design to provide detailed hydraulic modeling of improvements and mitigations. Pursuant to USACE requirements for obtaining a Section 408 Permit, design changes would be reviewed by USACE and would be subject to approval prior to construction. With implementation of these mitigation measures, impacts of the Proposed Project would be **less than significant with mitigation incorporated**.

3.10.5.7 Impact HWQ-7: Inundation

Impact HWQ-7: In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

3.10.5.7.1 Proposed Project

3.10.5.7.1.1 Construction

Less than significant impact with mitigation incorporated. Figure 3.10-6 shows the FEMA-established 100-year and 500-year flood zones for the LA River near the RSA. As described in Section 3.10.4.3, the nearby flood zones include "Zone A," "Zone AE," and "Zone X," which represent the 100-year and 500-year flood zones. Since the Proposed Project would require extensive earthwork and demolition, with a substantial construction footprint below the ordinary high water mark, this could potentially result in flood hazard due to water level increase caused by the construction activities, especially for the segment from North Broadway to US-101 where the 100-year floodplain extends outside the channel.

The Proposed Project area would be more than 10 miles from the ocean and approximately 250 feet above msl, which is outside of the Los Angeles County Tsunami Hazard Area (CGS 2009); therefore, the Proposed Project would not be subject to inundation by seiches or tsunamis. Additionally, the Proposed Project's northern limit is approximately 10 miles from the Devils Gate Dam, 15 miles from the Hansen Dam, and 17 miles from the Sepulveda Dam. These dams are functional with no known safety concerns reported by USACE Dam Safety Program (USACE 2021) or LACDPW (LACDPW 2017). MM-HWQ-01, *Temporary Water Diversion Plan* would require implementation of specific design features for the Proposed Project and its options, and an emergency action plan to ensure flood protection in a flood hazard event. Therefore, risk of releasing pollutants during construction due to Proposed Project inundation is **less than significant with mitigation incorporated**.

3.10.5.7.1.2 Operations and Maintenance

Less than significant impact. This portion of the LA River is within FEMA-established 100-year and 500-year flood zones. The Proposed Project area would be more than 10 miles from the ocean and approximately 250 feet above msl; therefore, the Proposed Project would not be subject to inundation by seiches or tsunamis during operation. Additionally, the Proposed Project's northern limit is approximately 10 miles from the Devil's Gate Dam, 15 miles from the Hansen Dam, and 17 miles from the Sepulveda Dam. Because these dams are either in acceptable conditions (LACDPW 2017) or have no known safety concerns reported by USACE Dam Safety Program (USACE 2021), risks due to

dam failures would be considered minimal. Therefore, the risk of releasing pollutants due to Proposed Project inundation during operation would be **less than significant**.

3.10.5.7.2 Option 1

3.10.5.7.2.1 Construction

Less than significant impact with mitigation incorporated. As discussed under the Proposed Project, this portion of the LA River is not subject to inundation by seiche or tsunami. MM-HWQ-01, *Temporary Water Diversion Plan* would require implementation of specific design features for all Proposed Project options to ensure flood protection in a flood hazard event. Therefore, potential construction impacts due to inundation are **less than significant with mitigation incorporated**.

3.10.5.7.2.2 Operations and Maintenance

Less than significant impact. As discussed under the Proposed Project, this portion of the LA River is not subject to inundation by seiche or tsunami. Therefore, potential operational impacts due to inundation are **less than significant**.

3.10.5.7.3 Option 2

3.10.5.7.3.1 Construction

Less than significant impact with mitigation incorporated. As discussed under the Proposed Project, this portion of the LA River is not subject to inundation by seiche or tsunami. MM-HWQ-01, *Temporary Water Diversion Plan* would require implementation of specific design features for all Proposed Project options to ensure flood protection in a flood hazard event. Therefore, potential construction impacts due to inundation are **less than significant with mitigation incorporated**.

3.10.5.7.3.2 Operations and Maintenance

Less than significant impact. As discussed under the Proposed Project, this portion of the LA River is not subject to inundation by seiche or tsunami. Therefore, potential operational impacts due to inundation are **less than significant**.

3.10.5.8 Impact HWQ-8: Conflict with Plans

Impact HWQ-8: Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

3.10.5.8.1 Proposed Project, Option 1, and Option 2

3.10.5.8.1.1 Construction

Less than significant impact with mitigation incorporated. The RSA is within the LARWQCB's Basin Plan's jurisdiction. The Basin Plan designates beneficial uses for surface and groundwater in the Los Angeles Basin area for the LA River Watershed, as described in Section 3.10.4.2. The Proposed Project would implement MM-HWQ-01, *Temporary Water Diversion Plan* and PF-HWQ-01,

Stormwater/Water Quality Management During Construction, as described in Section 3.10.3.3, including an SWPPP that complies with the CGP and other applicable water quality standards. Construction of the Proposed Project would not conflict with or obstruct implementation of the applicable water quality control plan (that is, the Basin Plan) and impacts would be **less than significant with mitigation incorporated**.

As discussed in Impact HWQ-2, construction of the Proposed Project may temporarily increase the impervious area around the Proposed Project site (for example, by installing construction access roads, contractor staging areas, or required localized changes in drainage patterns to control stormwater on and around the Proposed Project site). Spreading grounds or recharge basins do not exist in the RSA, and the Proposed Project would traverse an engineered concrete-lined channel. Therefore, the Proposed Project would not obstruct implementation of the *Groundwater Basins Master Plan* (WRD 2016) or the *San Fernando Valley Groundwater Quality Management Plan* (LADWP 1983), and impacts would be **less than significant**.

3.10.5.8.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project would result in new impervious areas that could increase the concentration and total load of pollutants in stormwater runoff and result in a minor reduction in groundwater infiltration. The reduction in groundwater infiltration would be located outside of active groundwater management areas. Therefore, the Proposed Project would not obstruct implementation of the Central Basin *Groundwater Basins Master Plan* (WRD 2016) or the *San Fernando Valley Groundwater Quality Management Plan* (LADWP 1983), and impacts would be less than significant. Additionally, PF-HWQ-02, *Low-Impact Design Requirements* requires compliance with applicable local regulatory requirements, LID standards and ordinances. Therefore, the Proposed Project would conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan and impacts would be **less than significant**.

3.10.5.9 Impact HWQ-9: Flood Risk and Section 408

Impact HWQ-9: Cause changes to flood risk in sensitive reaches of the LA River or conflict with USACE's obligations under Section 408?

3.10.5.9.1 Proposed Project

3.10.5.9.1.1 Construction

Less than significant impact with mitigation incorporated. As discussed in Impact HWQ-6, the Proposed Project could impact flood risk by causing localized increases in water levels at all locations where the Proposed Project is constructed in the channel due to the presence of equipment, formwork, and materials during construction. To protect the construction zone, and pursuant to MM-HWQ-01, *Temporary Water Diversion Plan,* temporary water diversion structures such as cofferdams or other measures would be used to redirect flood flows. Due to the Proposed Project's longitudinal encroachment into the LA River, these water diversion structures would be placed in multiple locations simultaneously to protect work zones. These would be substantial structures requiring engineering and design to meet USACE requirements to withstand flood flows during construction. These structures could impede flood flows or hinder the channel capacity and increase flood risk.

Prior to construction, any diversion structures proposed pursuant to MM-HWQ-01, *Temporary Water Diversion Plan*, would comply with USACE requirements and would be subject to USACE review and approval. During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE confirm that the Proposed Project minimizes adverse impacts to operation or to the integrity of the public works project. USACE approval of a Section 408 Permit would also impose Channel Improvement Construction Limitations (USACE 2008).

An additional mitigation measure would also be implemented to reduce impacts to be less than significant. MM-HWQ-02, *Construction Scheduling* would be implemented. This measure would ensure all areas of increased flood risk are identified and, where necessary, a phased construction schedule is established to restrict construction activities, thereby further minimizing risk of adverse flood impacts during construction. Impacts would be **less than significant with mitigation incorporated.**

3.10.5.9.1.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. As discussed in Impact HWQ-6, the Proposed Project could impact flood risk by causing localized increases in water levels. These water level changes could conflict with USACE's responsibilities to provide continued public safety, and to provide adequate operation and maintenance of a federal civil work (the LA River Channel), which would be a significant impact. Any impact that could adversely affect USACE's ability to meet these responsibilities would jeopardize the Proposed Project's Section 408 Permit review and approval.

Through consultation with USACE (USACE 2022) during review of the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), these impacts are anticipated in several locations, including:

- Supercritical flow locations generally.
- Along the west bank of the LA River from north of Broadway to Main Street, especially areas where future LARER project improvements are proposed.
- Near the SR-110 bridge where flow is supercritical, and any piers placed in the channel could adversely affect flow at this location.
- Where Proposed Project crosses the following bridges, which could reduce channel capacity:
  - Olympic Boulevard
  - First Street
  - El Monte Busway
  - Cesar E Chavez Avenue
  - UP North
  - North Main Street
  - North Broadway
  - A Line
  - SR-110
  - Metrolink (RR)
  - Riverside Drive
  - I-5 crossing
- Near the Washington Boulevard Bridge, where flow is supercritical, and any piers placed in the channel could adversely affect flow at this location.

During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE confirm that the Proposed Project minimizes adverse impacts to operation or to the integrity of the public works project. Impacts could remain significant after implementation of project features and regulatory requirements if there would be any increase in flood risk in the channel, or if USACE would be hindered from performing their responsibilities for O&M of the channel.

As discussed under Impact HWQ-6, *Flood Flows* various mitigation measures would be implemented to reduce Proposed Project hydraulic impacts, such as MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevation Transition Widening,* MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-08, *Streamlined Bridge Piers*. These mitigations would minimize adverse hydraulic impacts by increasing available flow area and reducing turbulence and debris capture, which would compensate for any obstruction or disturbance caused by the path facilities. Minor design refinements could be required during final design to fully mitigate these impacts. MM-HWQ-03, *Advanced Hydraulic Analysis* would be implemented during the design phase to provide detailed hydraulic modeling of these improvements and mitigations.

Based on correspondence with USACE to date, two locations of concern were identified where the Proposed Project alignment is within the channel at locations of supercritical flows. These locations are near the SR-110 freeway/Arroyo Seco Confluence and Washington Boulevard. MM-HWQ-09, *Compliance with Section 408 Permit* would be implemented at these locations to ensure channel performance standards are maintained. Therefore, the impacts at these locations would be **less than significant with mitigation incorporated**.

3.10.5.9.2 Option 1

3.10.5.9.2.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1. Similar project features and mitigation measures would be implemented as part of Option 1. If through consultation with USACE, the project impacts remain significant after implementation of these project features and regulatory requirements, MM-HWQ-02, *Construction Scheduling* would be implemented as part of Option 1 to ensure that all areas of increased flood risk are identified, and a phased construction schedule required that would restrict construction activities where necessary to minimize risk of adverse flood impacts during construction. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.9.2.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented.

Based on correspondence with USACE up to date, two locations of concern were identified where the Option 1 alignment is within the channel at locations of supercritical flows. These locations are near the SR-110 freeway/Arroyo Seco Confluence and Washington Boulevard. MM-HWQ-09, *Compliance*

with Section 408 Permit would be implemented at these locations to ensure channel performance standards are maintained. Therefore, impacts at these locations would be **less than significant with mitigation incorporated.**

3.10.5.9.3 Option 2

3.10.5.9.3.1 Construction

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. Similar project features and mitigation measures would be implemented as part of Option 2. If through consultation with USACE, the project impacts remain significant after implementation of these project features and regulatory requirements, MM-HWQ-02, *Construction Scheduling* would be implemented as part of Option 2 to ensure that all areas of increased flood risk are identified, and a phased construction schedule required that would restrict construction activities where necessary to minimize risk of adverse flood impacts during construction. Impacts would be **less than significant with mitigation incorporated**.

3.10.5.9.3.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. Through consultation with USACE (USACE 2022) during review of the Proposed Project's *Advanced Hydraulic Analyses* (Metro 2022), these impacts are anticipated in the same locations as the Proposed Project, with one addition: from upstream of Cesar E Chavez Avenue to upstream of First Street where flow is likely to be supercritical, and Option 2 would place an elevated path with piers in the channel. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented.

Based on correspondence with USACE to date, two locations of concern were identified where the Option 2 alignment is within the channel at locations of supercritical flows. These locations are near the SR-110 freeway/Arroyo Seco Confluence and Washington Boulevard. MM-HWQ-09, *Compliance with Section 408 Permit* would be implemented at these locations to ensure channel performance standards are maintained. Therefore, impacts at these locations would be **less than significant with mitigation incorporated.**

3.10.5.10 Impact HWQ-10: Conflict with LARER Project

Impact HWQ-10: Cause water quality or hydraulic conflicts with the ultimate implementation of LARER project?

3.10.5.10.1 Proposed Project

3.10.5.10.1.1 Construction

No impact. Proposed Project construction is expected to occur prior to the LARER project implementation. Therefore, no temporary construction impacts are anticipated that would conflict with the LARER project and **no mitigation measures are required**.

3.10.5.10.1.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. This section describes Proposed Project modifications to the LA River in reaches that are designated for ecosystem restoration improvements as part of USACE's LARER project. The Proposed Project could impact the implementation of the LARER project by constructing improvements that could physically interfere with planned LARER project improvements, or could cause adverse hydraulic impacts at locations near LARER project improvements. Any impact that could adversely affect USACE's ability to construct the LARER project would be a significant impact.

Through consultation with USACE (USACE 2022) during review of the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), the following impacts were identified in portions of the project site between I-5 and First Street, which corresponds to Reaches 7 and 8 of the LARER project.

3.10.5.10.1.2.1 I-5 to Main Street (LARER Project Reach 7)

The Proposed Project could affect LARER project improvements at the following locations:

- Riverside Drive daylight channel and the North Broadway daylight channel[3]
- Arroyo Seco confluence
- Bank terracing, slope layback, and railroad trestle between North Broadway to Spring Street
- Freshwater marsh at the Los Angeles State Historic Park

The overlapping project improvements are shown in Figures 3.10-17, 3.10-18, and 3.10-19.

During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE confirm the Proposed Project minimizes adverse impacts to operation or to the integrity of the public works project, including USACE plans for the LARER project. Impacts could remain significant after implementation of the project features and compliance with regulatory requirements if surface flows would be obstructed or if the Proposed Project would preclude construction of LARER project restoration features. Additional mitigation measures are therefore proposed for the Proposed Project where required to minimize any impacts. Details of these mitigation measures are discussed for each location below.

[3] "Daylighting," as proposed by the LARER project is defined as opening underground pipes and storm drains near their confluence with the LA River to restore them to a natural stream channel. This would include opening and daylighting storm drains and developing riparian and marsh habitat within the new channel (USACE 2015).

Figure 3.10-17. Proposed Project Alignment and LARER Project (I-5 to SR-110)

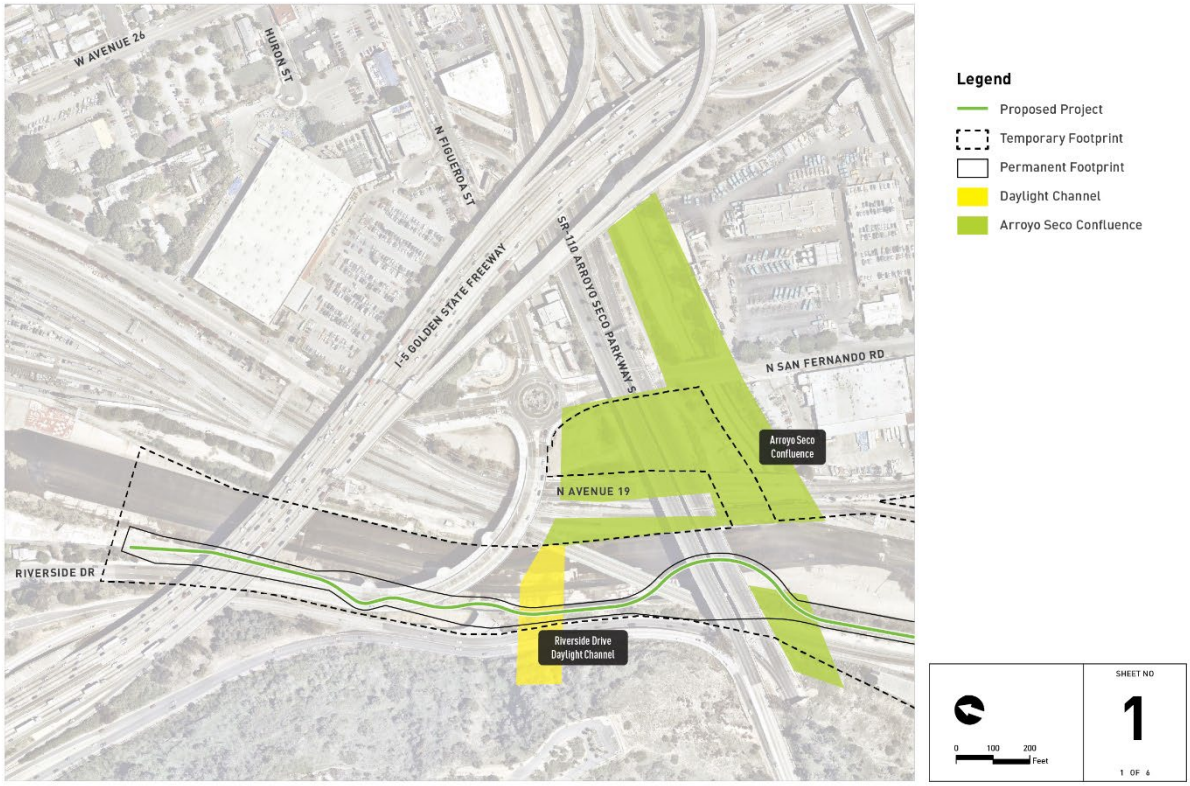


Figure 3.10-18. Proposed Project Alignment and LARER Project (SR-110 to A Line Crossing)

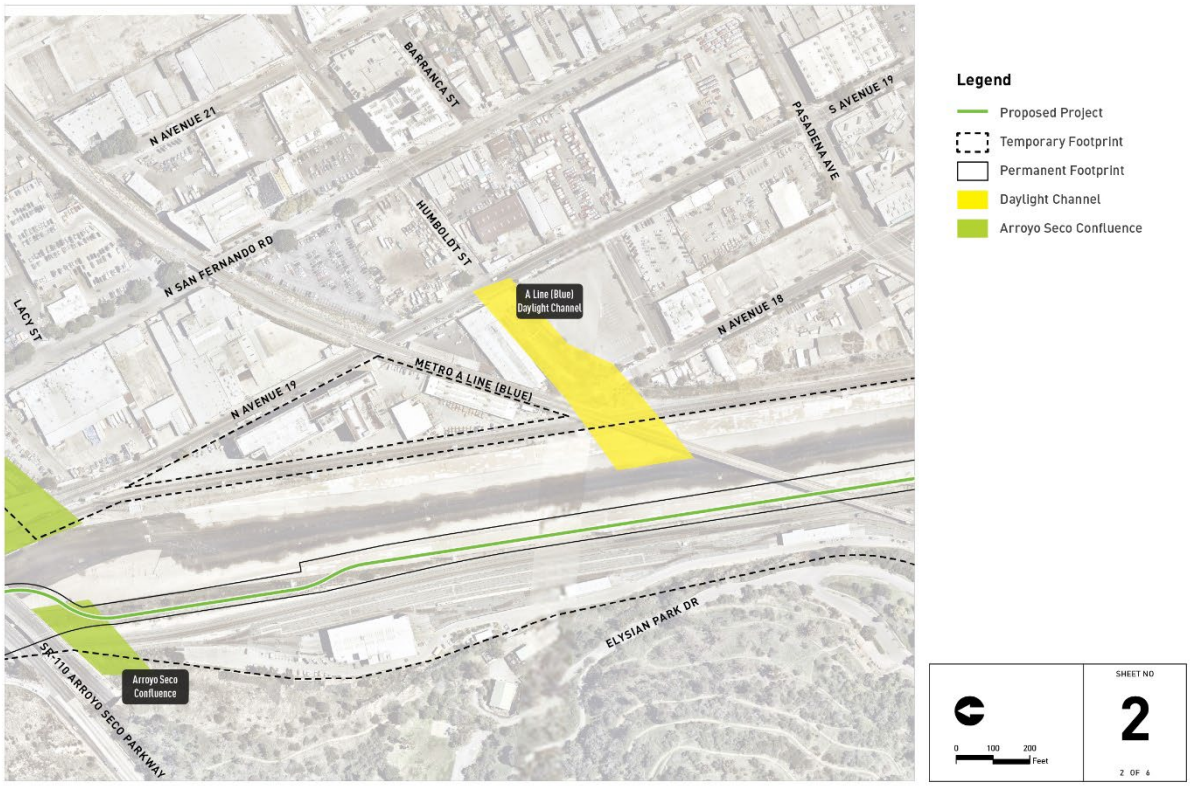
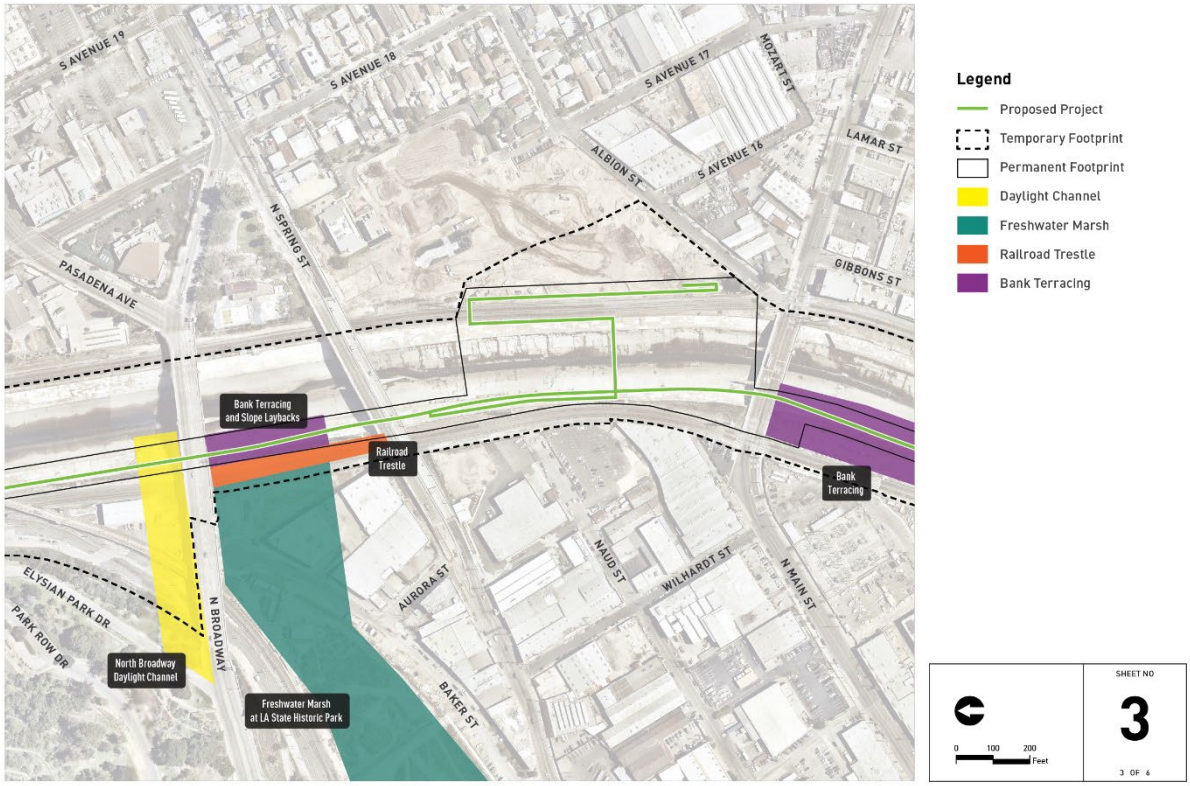


Figure 3.10-19. Proposed Project Alignment and LARER Project (A Line Crossing to Main Street)



3.10.5.10.1.2.1.1 Riverside Drive Daylight Channel, North Broadway Daylight Channel, and Metro A Line Bridge Daylight Channel

The Proposed Project would build an incised path that could interfere with the Riverside Drive daylight channel and the North Broadway daylight channel. The Proposed Project would avoid the Metro A Line Bridge daylight channel. Figures 3.10-17, 3.10-18, and 3.10-19 present the locations of these improvements. As the Proposed Project would be built prior to the LARER project, construction of the incised path could interfere with the LARER project's conceptual design, which proposes to convert the existing storm drains into surface water wetland features using daylight techniques (USACE 2015). Runoff from the new storm drain outlets would flow along the surface through vegetative areas prior to discharging to the river. The Proposed Project could impose a physical barrier to surface flows from the daylight channel. These impacts could remain significant, even after implementation of the project features and compliance with regulatory requirements noted above.

MM-HWQ-07, *Channel Daylight Crossing Structure* would ensure the Proposed Project would accommodate surface flow features and would not preclude implementation of the daylight features proposed by the LARER project. The path would be built on a structure so as to span these daylight channels, creating open space between the structure supports, and providing flow paths across the Proposed Project, which could discharge to the channel. Impacts to these daylight channel areas would be less than significant with mitigation incorporated.

3.10.5.10.1.2.1.2 Arroyo Seco Confluence

The Proposed Project would build a new path on structures that would cross underneath the SR-110 Bridge on a new structure with columns built within the channel. This new structure lies near the confluence with the Arroyo Seco Channel. Figure 3.10-17 presents the location of these improvements.

New bridge supports within the channel could cause adverse hydraulic conditions near the Arroyo Seco confluence, including increased water levels, velocities, and scour conditions. These conditions would occur in a location where there is very fast flow (supercritical flow conditions), which could adversely affect the planned LARER project improvements, for example by increasing flow velocity and scour through planted restoration areas. Through consultation with USACE during review of the Proposed Project's *Advanced Hydraulic Analysis Report* (Metro 2022), USACE has indicated that they would have major concerns with the proposed in-channel alignments and would not approve placing any features in the channel at this location (USACE 2022), which would be a significant impact. These impacts could remain significant, even after implementation of the project features and compliance with regulatory requirements noted above.

The Arroyo Seco Parkway (SR-110) design variation for the Proposed Project would place a single elevated top-of-bank path starting north under the SR-110 bridge to just south of the freeway. This design variation would eliminate new structures in the channel, minimizing potential adverse hydraulic conditions. If this design variation is not included, the project would be required to implement MM-HWQ-09, *Compliance with Section 408 Permit*. Impacts at this location would be less than significant with mitigation incorporated, or with implementation of the Arroyo Seco Parkway (SR.110) design variation.

3.10.5.10.1.2.1.3 Bank Terracing, Slope Layback, and Railroad Trestle Between North Broadway and Spring Street

The Proposed Project would build an incised path between North Broadway and Spring Street that would interfere with the bank terracing and slope layback features proposed by the LARER project. Figure 3.10-19 presents the location of these improvements. As the Proposed Project is expected to be built prior to the LARER project, the construction of the incised path would interfere with the conceptual design of the LARER project, which proposes channel wall reconstruction with plantings. The LARER project would also accommodate existing rail facilities by placing them on new railroad trestles (USACE 2015). Runoff from the LARER project restoration concepts would flow along the surface through vegetative areas prior to discharging to the river. The Proposed Project could impose a physical barrier to surface flows back to the channel. These impacts could remain significant, even after implementation of the project features and compliance with regulatory requirements noted above.

Impacts would be minimized by incorporating three mitigation measures. MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, and MM-HWQ-06, *Elevated-in-Channel Incised Path*. MM-HWQ-04, *Fully Incised Section* would ensure that the path is constructed to maximize additional flow area required to minimize hydraulic impacts. Where the incised path could not be built to accommodate bank terracing, MM-HWQ-06, *Elevated-in-Channel Incised Path* would provide an elevated path design, which would accommodate the LARER project restoration features by spanning them and providing for surface flow paths between structure supports. Transitions between these path types would be built in accordance with MM-HWQ-05, *Incised/Elevated Transition Widening*. Impacts to these bank terracing and slope layback features proposed by the LARER project would be less than significant with mitigation incorporated.

3.10.5.10.1.2.1.4 Freshwater Marsh at the Los Angeles State Historic Park

No impact. The Proposed Project would not preclude implementation of LARER project restoration features at this location because it would not interfere physically or cause adverse hydraulic impacts at this location.

3.10.5.10.1.2.2 Main Street to First Street (LARER Project Reach 8)

The Proposed Project could affect LARER project improvements at the following locations:

- Bank terracing between Main Street and UP Railroad Bridge and between Cesar E Chavez Avenue and First Street
- Aquatic restoration area and railroad trestle north of Cesar E Chavez Avenue

The overlapping project improvements are shown in Figures 3.10-20, 3.10-21, and 3.10-22.

Figure 3.10-20. Proposed Project Alignment and LARER Project (Main Street to UP Bridge)

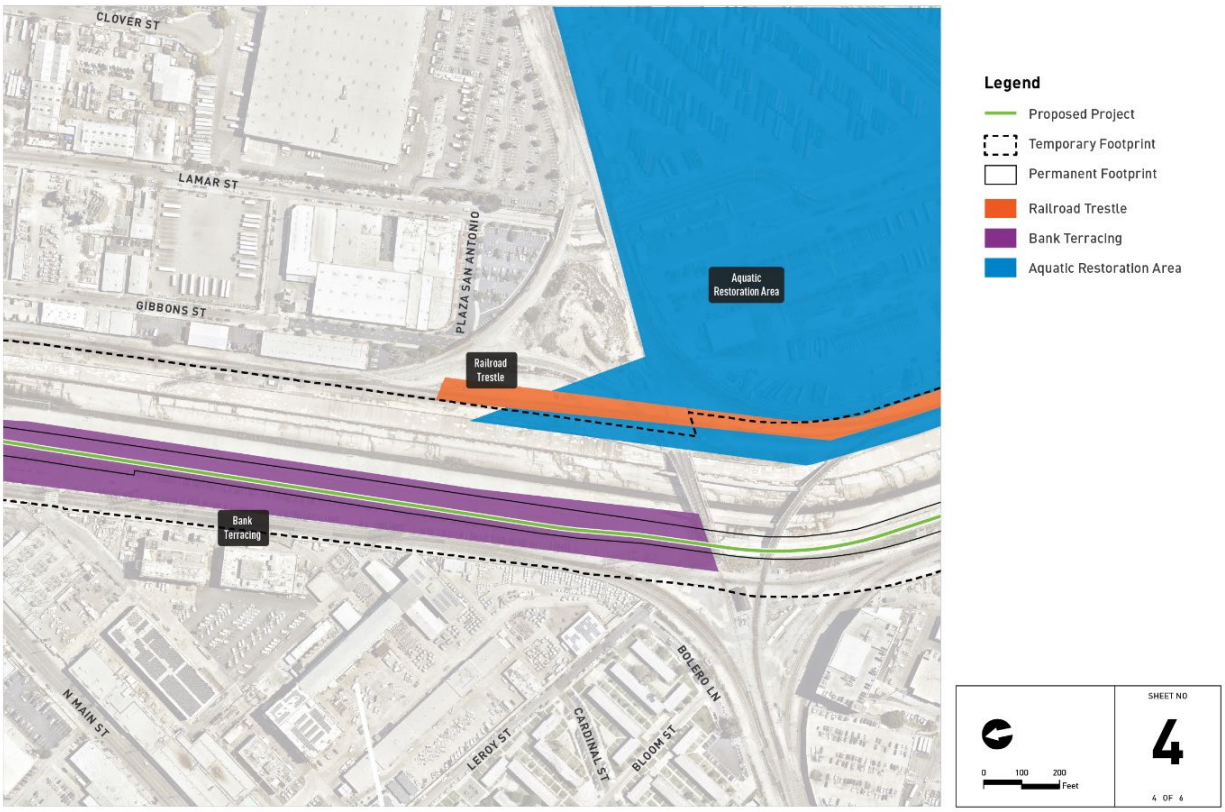


Figure 3.10-21. Proposed Project Alignment and LARER Project (UP Bridge to Cesar E Chavez Avenue)

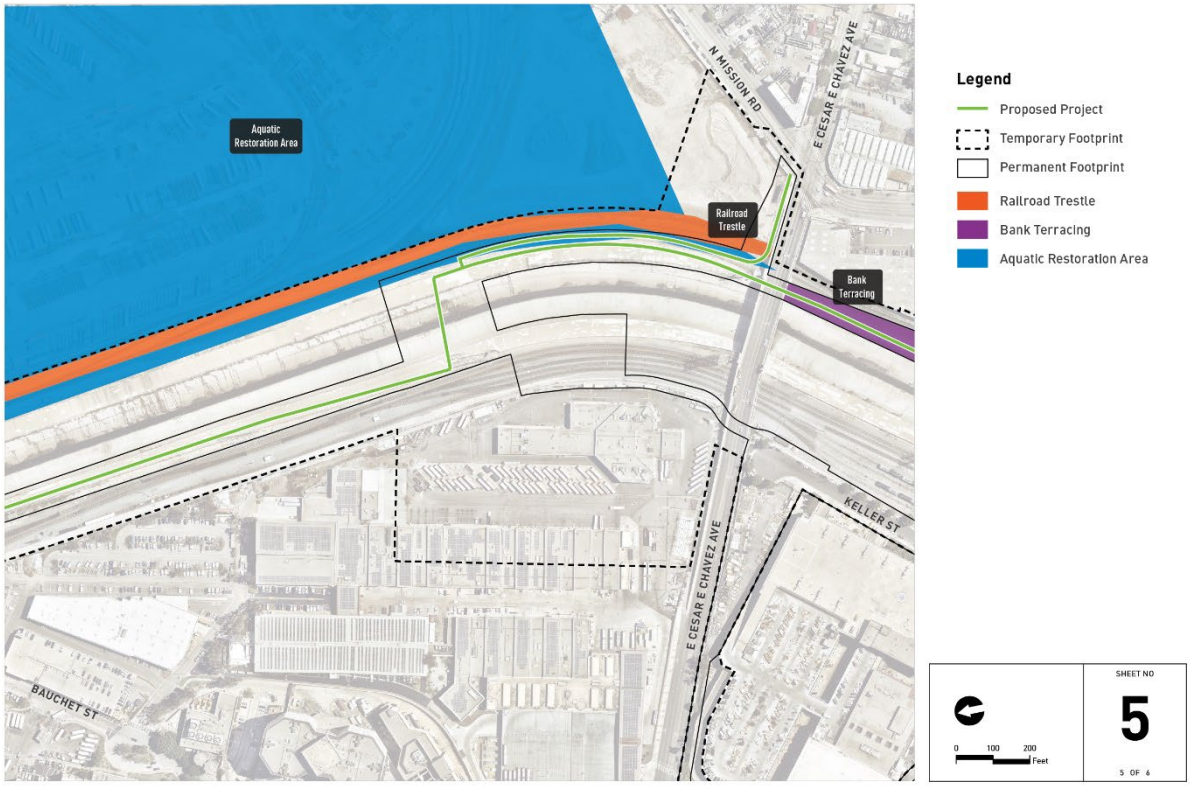
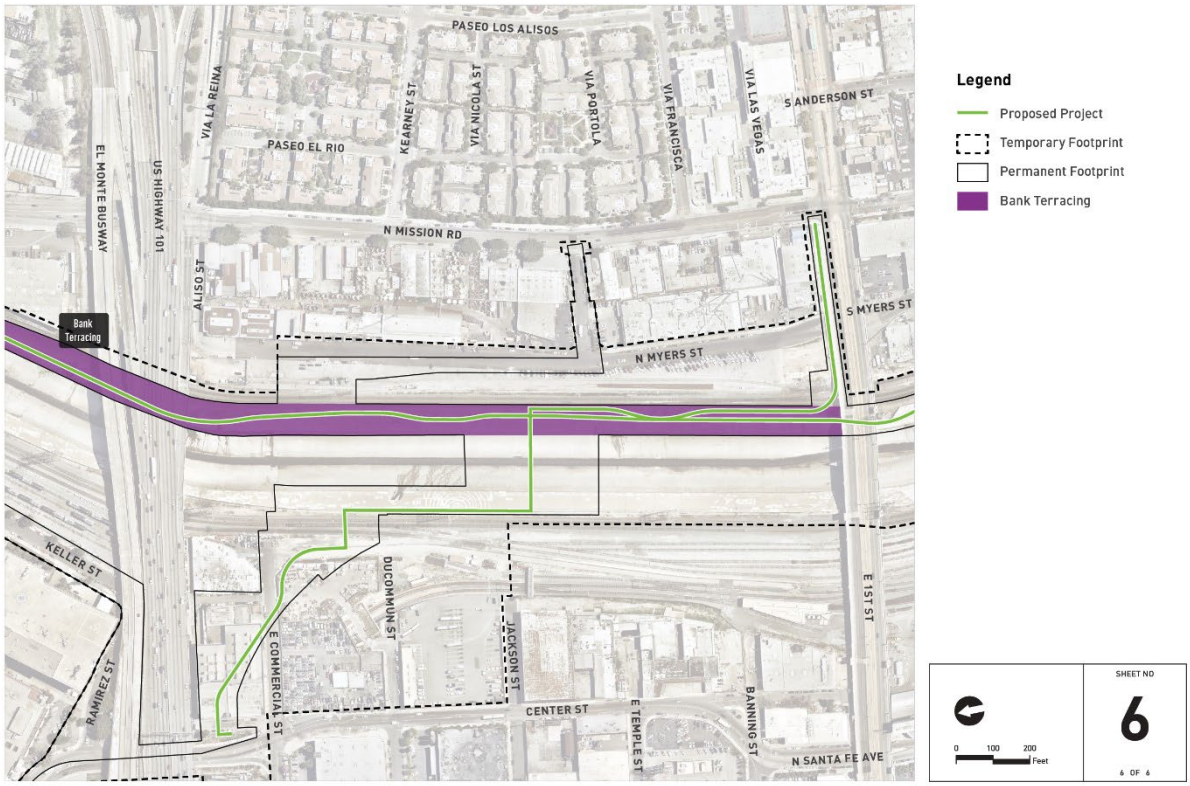


Figure 3.10-22. Proposed Project Alignment and LARER Project (Cesar E Chavez Avenue to First Street)



3.10.5.10.1.2.2.1 Bank Terracing Between Main Street to the UP Railroad Bridge (West Bank), and Between US-101 and First Street (East Bank)

The Proposed Project would build an incised path at these locations that would interfere with the bank terracing and slope layback features proposed by the LARER project. Additional improvements south of US-101 include the crossing bridge and connector to Center Street. Figures 3.10-20 and 3.10-21 present the incised path and LARER project features between Main Street to Cesar E Chavez Avenue. Figure 3.10-22 presents these improvements from Cesar E Chavez Avenue to First Street. As the Proposed Project would be built prior to the LARER project, the construction of the incised path would interfere with the conceptual design of the LARER project, which proposes channel wall reconstruction with plantings. The physical interference of the incised path could hinder or preclude implementation of the LARER project restoration concepts. Further, the Proposed Project could impose a physical barrier to surface flows back to the channel. These impacts could remain significant, even after implementation of project features and compliance with regulatory requirements noted above.

Impacts would be minimized by incorporating three mitigation measures: MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening, and* MM-HWQ-06, *Elevated-in-Channel Incised Path*. MM-HWQ-04, *Fully Incised Path* would ensure that the path is constructed to maximize additional flow area required to minimize hydraulic impacts in the channel. Where the incised path could not be built to accommodate bank terracing, MM-HWQ-06, *Elevated-in-Channel Incised Path* would provide an elevated path design that would accommodate the LARER project restoration features by minimizing the direct physical interference with the bank terracing concept, and providing for surface flow paths between structure supports. Transitions between these path types would be built in accordance with MM-HWQ-05, *Incised/Elevated Transition Widening*. Impacts to these bank terracing and slope layback features proposed by the LARER project would be less than significant with mitigation incorporated.

3.10.5.10.1.2.2.2 Aquatic Restoration Area and Railroad Trestle North of Cesar E Chavez Avenue

The Proposed Project would build a path on new structures that would cross into the aquatic restoration area north of Cesar E Chavez Avenue. The path would transition to an incised path along the east bank that would cross under Cesar E Chavez Avenue. Additional improvements include a new connector that would depart from the channel eastward to the access point at the intersection of Mission Road and Cesar E Chavez Avenue. Figure 3.10-21 presents the path alignment and LARER project features north of Cesar E Chavez Avenue. As the Proposed Project would be built prior to the LARER project, construction of incised path structures would interfere with the LARER project's conceptual design, which proposes levee setbacks that would hydraulically reconnect an upland aquatic restoration area to the channel. The physical interference of the incised path could hinder or preclude implementation of LARER project restoration concepts or replacement of the railroad onto a new trestle structure. Further, the Proposed Project could impose a physical barrier to surface flows back to the channel near Cesar E Chavez Avenue. These impacts could remain significant, even after implementation of project features and compliance with regulatory requirements noted above.

Impacts would be minimized by incorporating three mitigation measures, MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening, and* MM-HWQ-06, *Elevated-in-Channel Incised Path*. MM-HWQ-04, *Fully Incised Path* would ensure that the path is constructed to maximize additional flow area required to minimize hydraulic impacts in the channel. Where the incised path could not be built to accommodate the levee setback, MM-HWQ-06, *Elevated-in-Channel Incised Path* would provide an elevated path design that would accommodate LARER project features by minimizing direct physical interference with the levee setback and restoration concept, and by providing for surface flow paths between structure supports. Transitions between these path types

would be built in accordance with MM-HWQ-05, *Incised/Elevated Transition Widening*. Impacts to these levee setback features proposed by the LARER project would be less than significant with mitigation incorporated.

3.10.5.10.2 Option 1

3.10.5.10.2.1 Construction

No impact. Proposed Project construction is expected to occur prior to the LARER project implementation. Therefore, no temporary construction impacts are anticipated to conflict with the LARER project, and **no mitigation measures are required**.

3.10.5.10.2.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The section below describes Option 1 modifications to the LA River in reaches designated for ecosystem restoration improvements as part of USACE's LARER project. The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in magnitude and location of impacts based on varying Proposed Project geometry and facility locations required by Option 1. Any impact that could adversely affect USACE's ability to construct the LARER project would be a significant impact.

Through consultation with USACE (USACE 2022) during review of the *Advanced Hydraulic Analysis Report* (Metro 2022), these impacts are anticipated in portions of the Proposed Project site between I-5 and First Street, which corresponds to Reaches 7 and 8 of the LARER project.

3.10.5.10.2.2.1 I-5 to Main Street (LARER Project Reach 7)

Option 1 could affect LARER project improvements at the following locations:

- Riverside Drive daylight channel, North Broadway daylight channel, and Metro A Line Bridge daylight channel
- The Arroyo Seco Confluence
- Bank terracing, slope layback, and railroad trestle between North Broadway to Spring Street
- Freshwater marsh at the Los Angeles State Historic Park

Overlapping project improvements are shown in Figures 3.10-23, 3.10-24, and 3.10-25.

During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE confirm Option 1 minimizes adverse impacts to operation or to the integrity of the public works project, including USACE plans for the LARER project. Impacts could remain significant after implementation of project features and compliance with regulatory requirements if surface flows would be obstructed or if Option 1 would preclude construction of LARER project restoration features. Additional mitigation measures would be incorporated into Option 1 where required to minimize impacts. Details for these mitigations are discussed for each location below.

Figure 3.10-23. Option 1 Alignment and LARER Project (I-5 to SR-110)

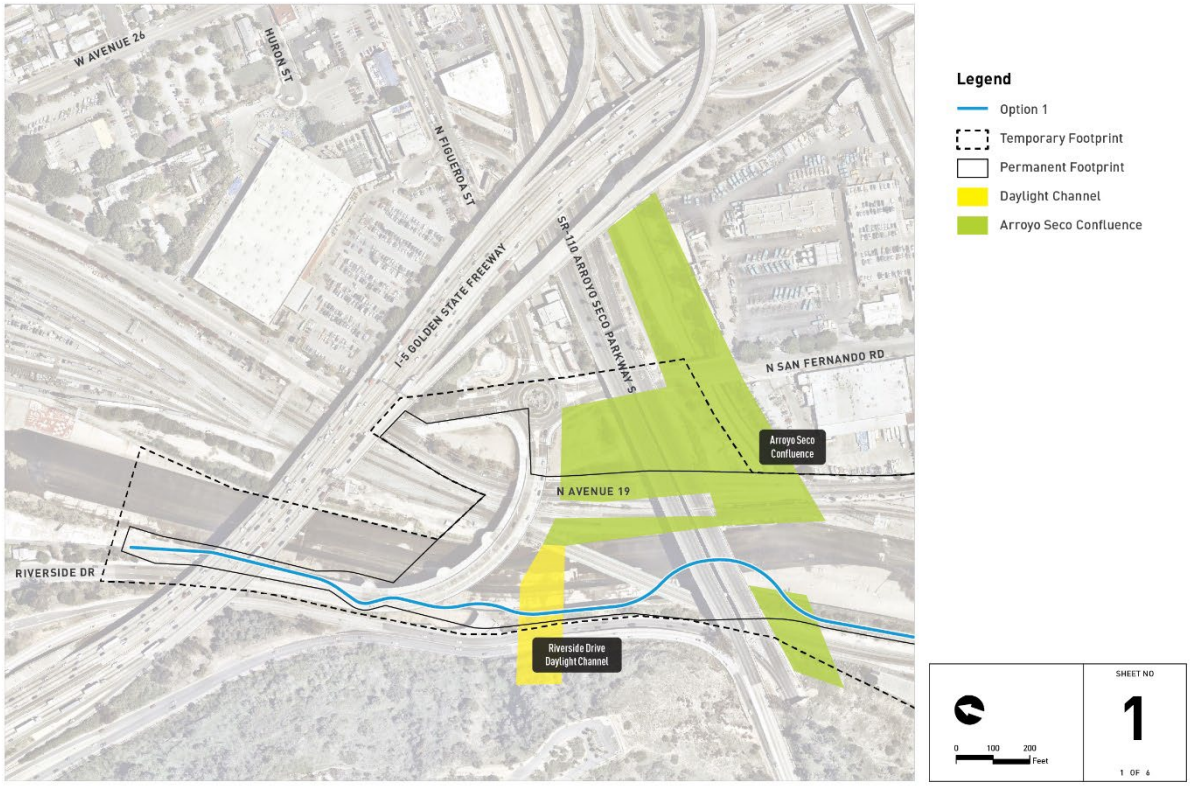


Figure 3.10-24. Option 1 Alignment and LARER Project (SR-110 to A Line Crossing)

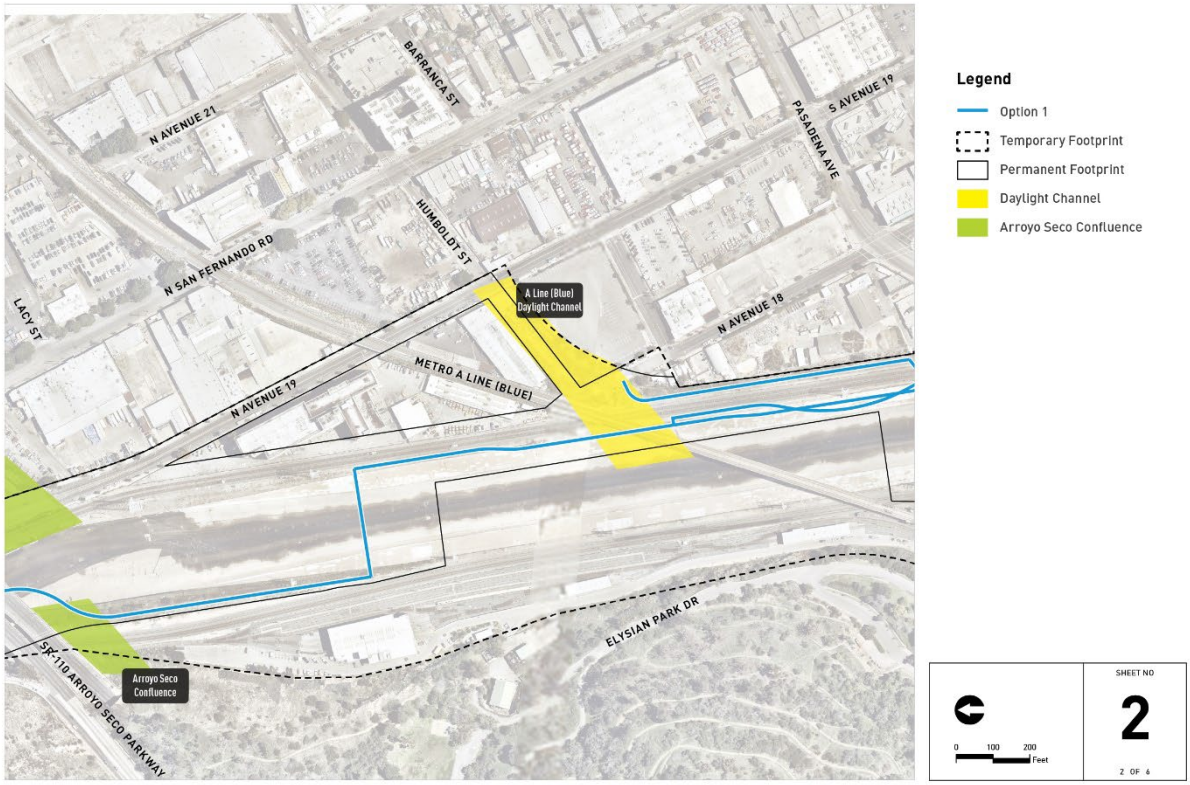
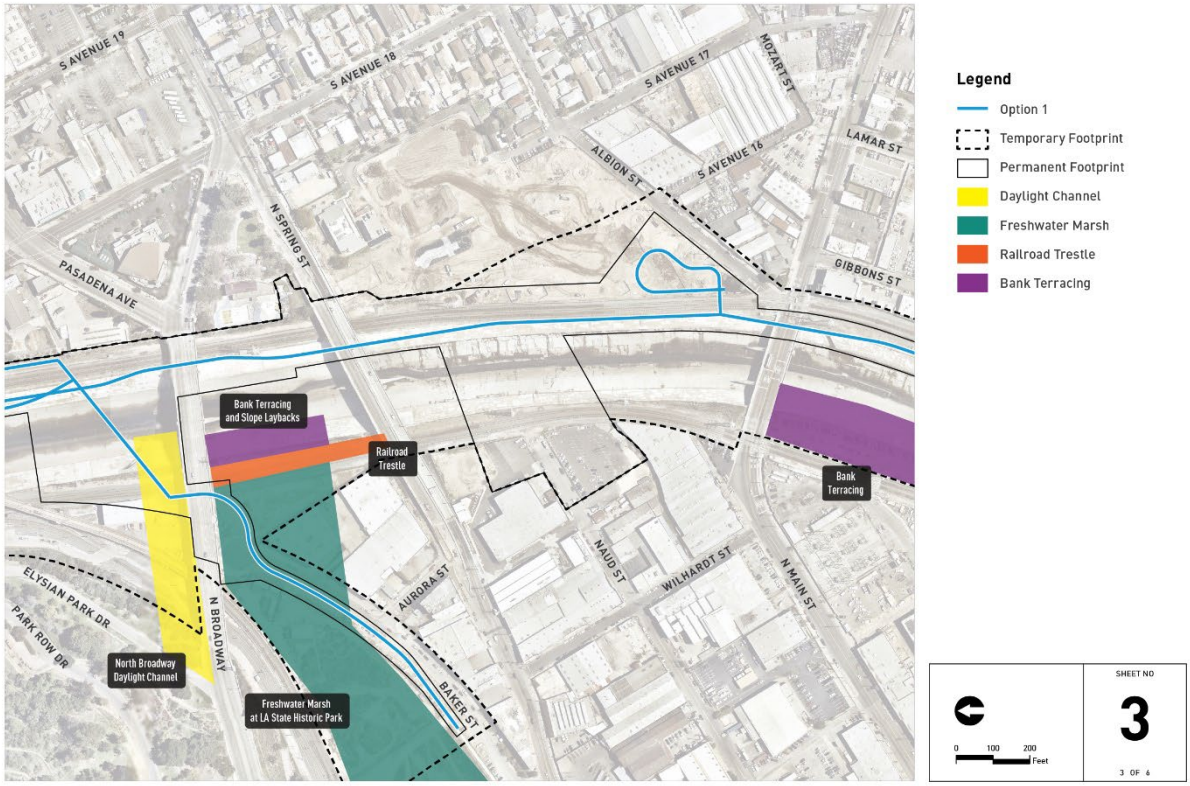


Figure 3.10-25. Option 1 Alignment and LARER Project (A Line Crossing to Main Street)



3.10.5.10.2.2.1.1 Riverside Drive Daylight Channel, North Broadway Daylight Channel, and Metro A Line Bridge Daylight Channel

The impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of impacts due to varying Proposed Project geometry and facility locations required. Option 1 would also impact a new LARER project daylight channel feature near the Metro A Line Bridge, which would connect the Ed P. Reyes Greenway to the LA River. Figures 3.10-23, 3.10-24, and 3.10-25 present the locations of these improvements. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts to these daylight channel areas would be less than significant with mitigation incorporated.

3.10.5.10.2.2.1.2 Arroyo Seco Confluence

The impacts of Option 1 would be similar to those identified for the Proposed Project because the alignment and features are similar to the Proposed Project. Figure 3.10-23 presents the location of these improvements. As the impacts from Option 1 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts to this location would be less than significant with mitigation incorporated, or with implementation of the Arroyo Seco Parkway (SR-110) design variation.

3.10.5.10.2.2.1.3 Bank Terracing, Slope Layback, and Railroad Trestle Between North Broadway and Spring Street

Option 1 would build new structures to provide a connector to the path that would span over North Broadway and the railroad trestle, and then descend southwest on embankment to touch down

at the Baker Street access point. Option 1 would avoid interfering with the bank terracing and slope layback features. Figures 3.10-24 and 3.10-25 present the location of these improvements. As Option 1 would be built prior to the LARER project, it would not interfere with LARER project conceptual design improvements at these locations. Locations where support columns would be required could interfere with the proposed railroad trestle. Potential impacts due to interference of the Option 1 Support columns and the railroad trestle would be avoided by implementing design refinements that would shift the columns away from the railroad. Impacts to these LARER project features would be **less than significant.**

3.10.5.10.2.2.1.4 Freshwater Marsh at the Los Angeles State Historic Park

Option 1 would build a new connector structure to span over the channel and existing rail lines, and touch down to provide access at Baker Street. Figure 3.10-25 presents the location of these improvements. As the connector approaches Baker Street, the structure would transition to an embankment or retained fill. The location of this touchdown point lies in the footprint for the LARER projects' freshwater marsh feature at Los Angeles State Historic Park. Physical interference of the connector path structures, or embankment could hinder or preclude implementation of the LARER project restoration concepts. Further, Option 1 could impose a physical barrier to surface flows back to the channel. Potential impacts due to interference of Option 1 connector structures and embankment would be avoided by implementing design refinements that would minimize the required footprint for these structures and locate them as close as possible to Baker Street. Impacts to these LARER project features would be **less than significant.**

3.10.5.10.2.2.2 Main Street to First Street (LARER Project Reach 8)

Option 1 could affect LARER project improvements at the aquatic restoration area and railroad trestle north of Cesar E Chavez Avenue. The overlapping project improvements are shown in Figures 3.10-26 and 3.10-27.

Figure 3.10-26. Option 1 Alignment and LARER Project (Main Street to UP Bridge)

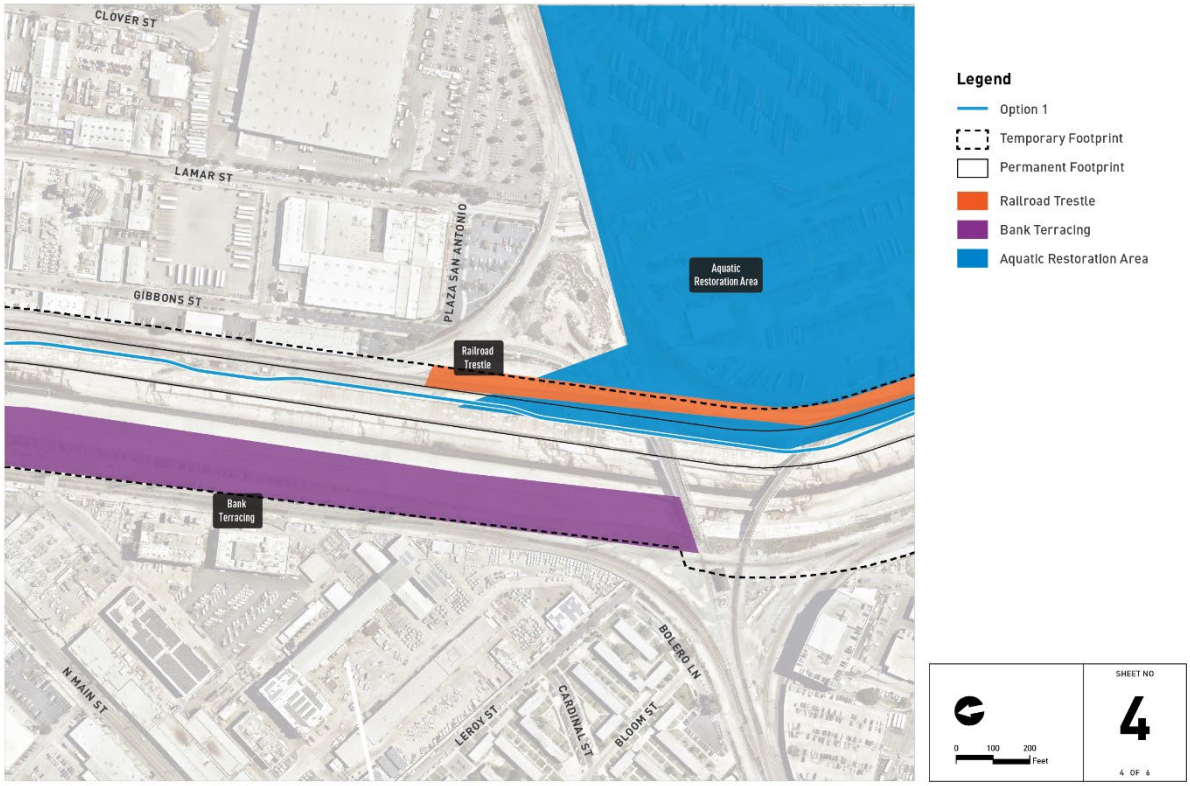
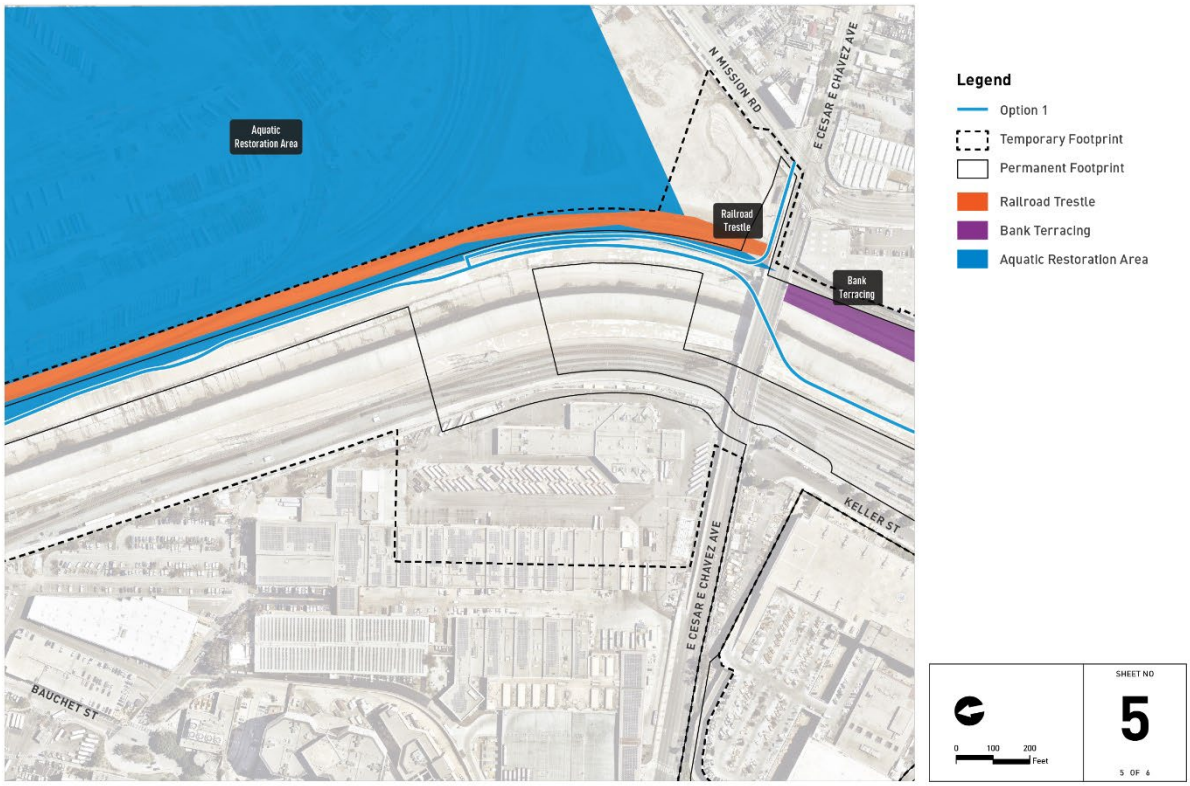


Figure 3.10-27. Option 1 Alignment and LARER Project (UP Bridge to Cesar E Chavez Avenue)



3.10.5.10.2.2.2.1 Aquatic Restoration Area and Railroad Trestle North of Cesar E Chavez Avenue

Option 1 would build a path on new structures that would cross through these LARER project features north of Cesar E Chavez Avenue. Additional improvements include a new connector structure that would depart from the channel eastward to the access point at the intersection of Mission Road and Cesar E Chavez Avenue. Figures 3.10-26 and 3.10-27 present the path alignment and LARER project features north of Cesar E Chavez Avenue. As Option 1 would be built prior to the LARER project, construction of structures could interfere with the LARER project's conceptual design, which proposes levee setbacks that would hydraulically reconnect an upland aquatic restoration area to the channel. The physical interference of the Option 1 support columns could hinder or preclude implementation of LARER project restoration concepts or replacement of the railroad onto a new trestle structure. These impacts could remain significant, even after implementation of project features and compliance with regulatory requirements noted above.

MM-HWQ-06, *Elevated-in-Channel Incised Path* would be implemented as part of Option 1 to minimize hydraulic impacts and accommodate future LARER project features. It would minimize hydraulic impacts in the channel by adding flow area within the incised section to replace flow area lost at the column supports. It would also minimize structural interference within the area needed for the LARER project features. Impacts to these LARER project features would be less than significant with mitigation incorporated.

3.10.5.10.3 Option 2

3.10.5.10.3.1 Construction

No impact. Proposed Project construction is expected to occur prior to the LARER project implementation. Therefore, no temporary construction impacts are anticipated to conflict with the LARER project, and **no mitigation measures are required**.

3.10.5.10.3.2 Operations and Maintenance

Less than significant impact with mitigation incorporated. The section below describes Option 2 modifications to the LA River within reaches that are designated for ecosystem restoration improvements as part of USACE's LARER project. The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 2. Any impact that could adversely affect USACE's ability to construct the LARER project would be a significant impact.

Through consultation with USACE (USACE 2022) during review of the *Advanced Hydraulic Analysis Report* (Metro 2022), these impacts are anticipated in portions of the project site between I-5 and First Street, which corresponds to Reaches 7 and 8 of the LARER project. Details are described below.

3.10.5.10.3.2.1 I-5 to Main Street (LARER Project Reach 7)

Option 2 could affect LARER project improvements at the following locations:

- Riverside Drive daylight channel and Metro A Line Bridge daylight channel
- Arroyo Seco Confluence
- Bank terracing, slope layback, and railroad trestle between North Broadway to Spring Street
- Freshwater marsh at the Los Angeles State Historic Park

The overlapping project improvements are shown in Figures 3.10-28, 3.10-29, and 3.10-30.

During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE review the final design of Option 2 to verify that it minimizes potential adverse impacts to the operation or integrity of the public works project, including USACE plans for the LARER project. Impacts could remain significant after implementation of the project features and compliance with regulatory requirements if surface flows would be obstructed or if Option 2 would preclude construction of LARER project restoration features. Additional mitigation measures would be incorporated into Option 2 where required to minimize impacts. Details for each location are discussed below.

Figure 3.10-28. Option 2 Alignment and LARER Project (I-5 to SR-110)

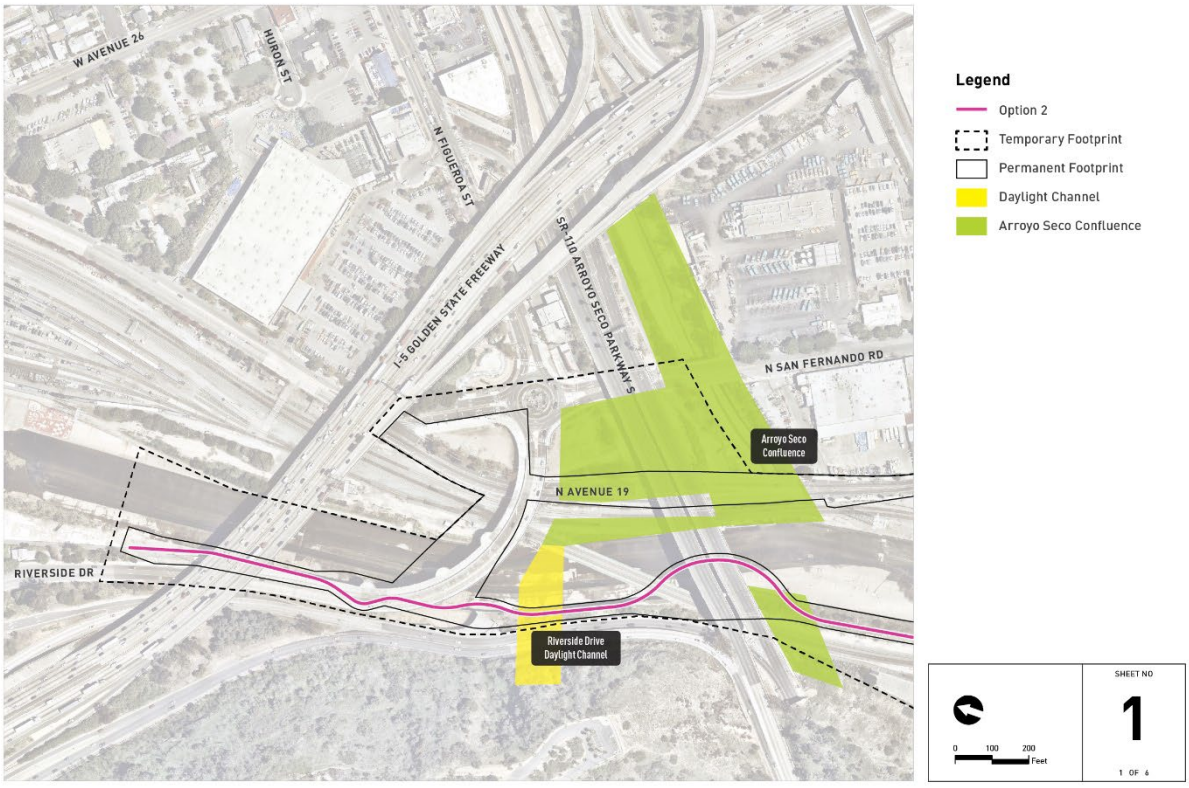


Figure 3.10-29. Option 2 Alignment and LARER Project (SR-110 Freeway to A Line Crossing)

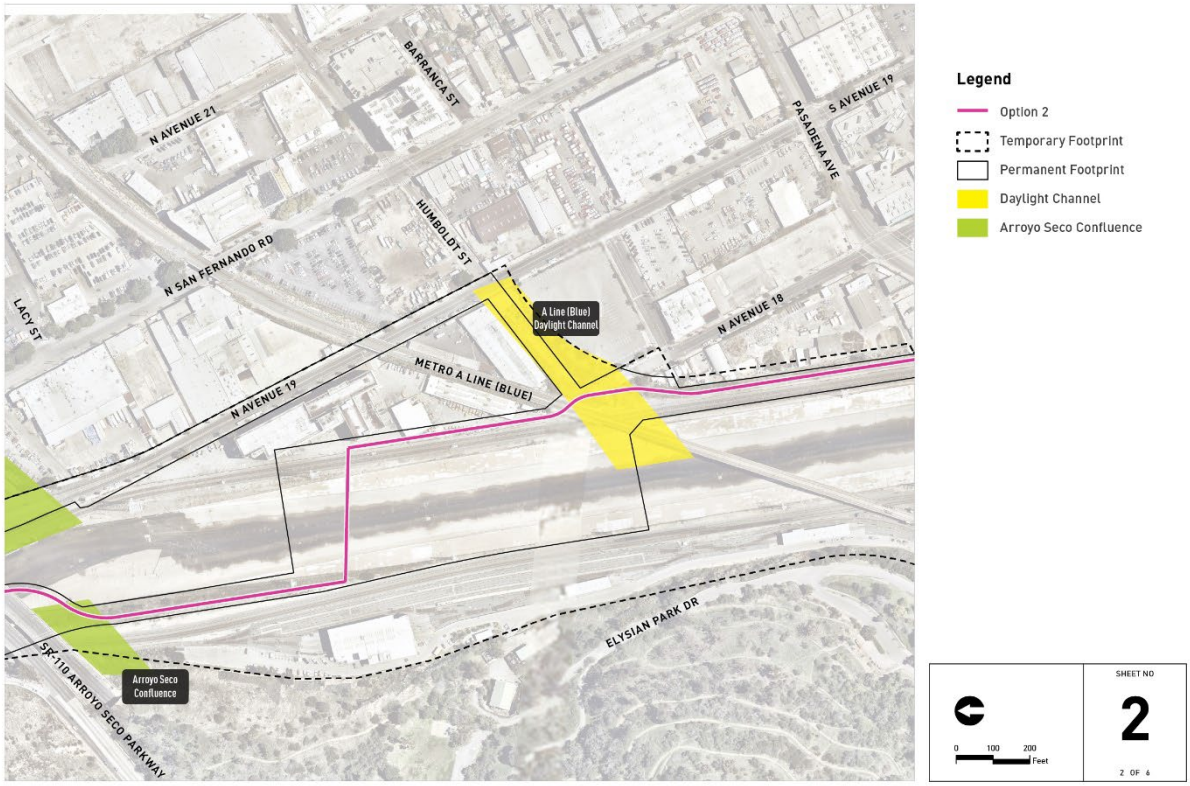
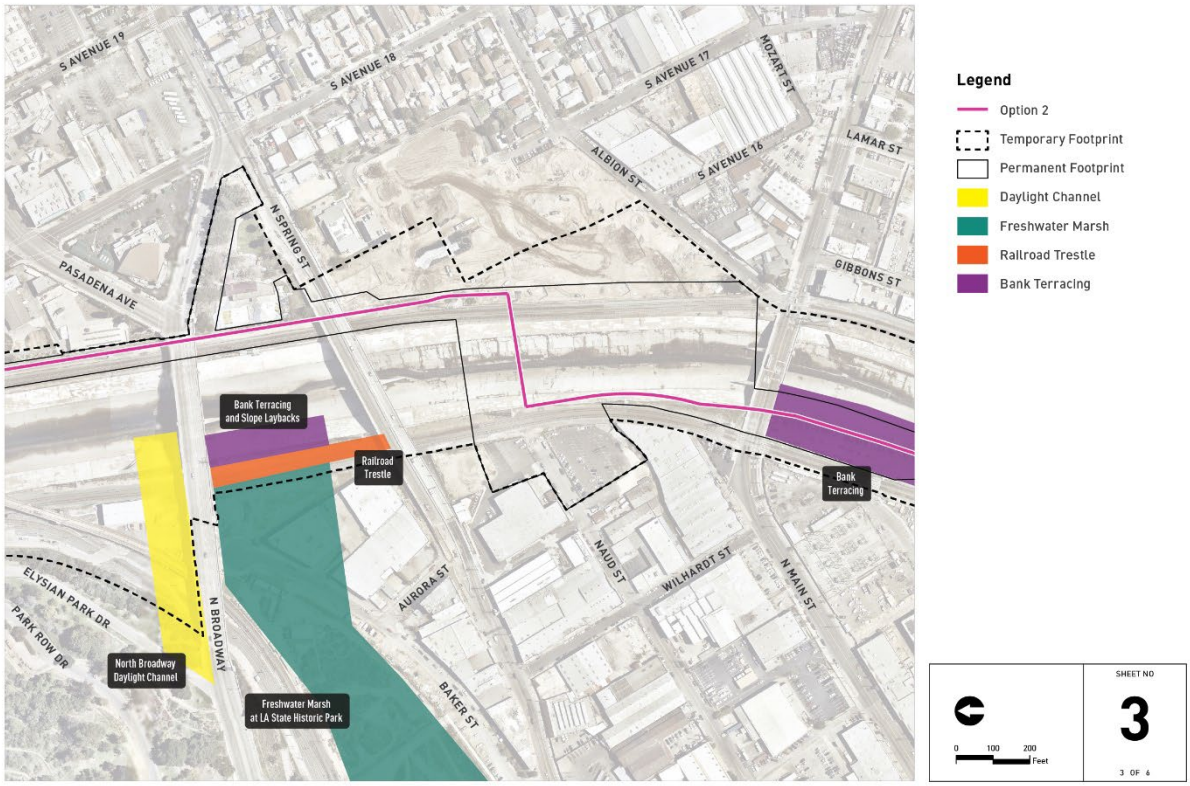


Figure 3.10-30. Option 2 Alignment and LARER Project (A Line Crossing to Main Street)



3.10.5.10.3.2.1.1 Riverside Drive Daylight Channel, North Broadway Daylight Channel, and Metro A Line Bridge Daylight Channel

The impacts of Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required. Option 2 would impact the LARER daylight channel feature near the Metro A Line Bridge but would avoid the daylight feature near Broadway. Figures 3.10-28, 3.10-29, and 3.10-30 present the locations of these improvements. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts to these daylight channel areas would be less than significant with mitigation incorporated.

3.10.5.10.3.2.1.2 Arroyo Seco Confluence

The impacts of Option 2 would be similar to those identified for the Proposed Project because the project alignment and features are similar to the Proposed Project. Figure 3.10-28 presents the location of these improvements. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts to this location would be less than significant with mitigation incorporated, or with implementation of the Arroyo Seco Parkway (SR-110) design variation.

3.10.5.10.3.2.1.3 Bank Terracing, Slope Layback, Railroad Trestle, and Freshwater Marsh at the Los Angeles State Historic Park Between North Broadway and Spring Street

No impact. Option 2 would be located on the east bank of the LAR near these LARER project features. It would not preclude implementation of the LARER restoration features at these locations because it would not interfere physically or cause adverse hydraulic impacts at this location.

3.10.5.10.3.2.2 Main Street to First Street (LARER Project Reach 8)

Option 2 could affect LARER project improvements at the following locations:

- Bank terracing between Main Street to UP Bridge and between Cesar E Chavez Avenue and First Street
- Aquatic restoration area and railroad trestle north of Cesar E Chavez Avenue

The overlapping project improvements are shown in Figures 3.10-31, 3.10-32, and 3.10-33.

Figure 3.10-31. Option 2 Alignment and LARER Project (Main Street to UP Bridge)

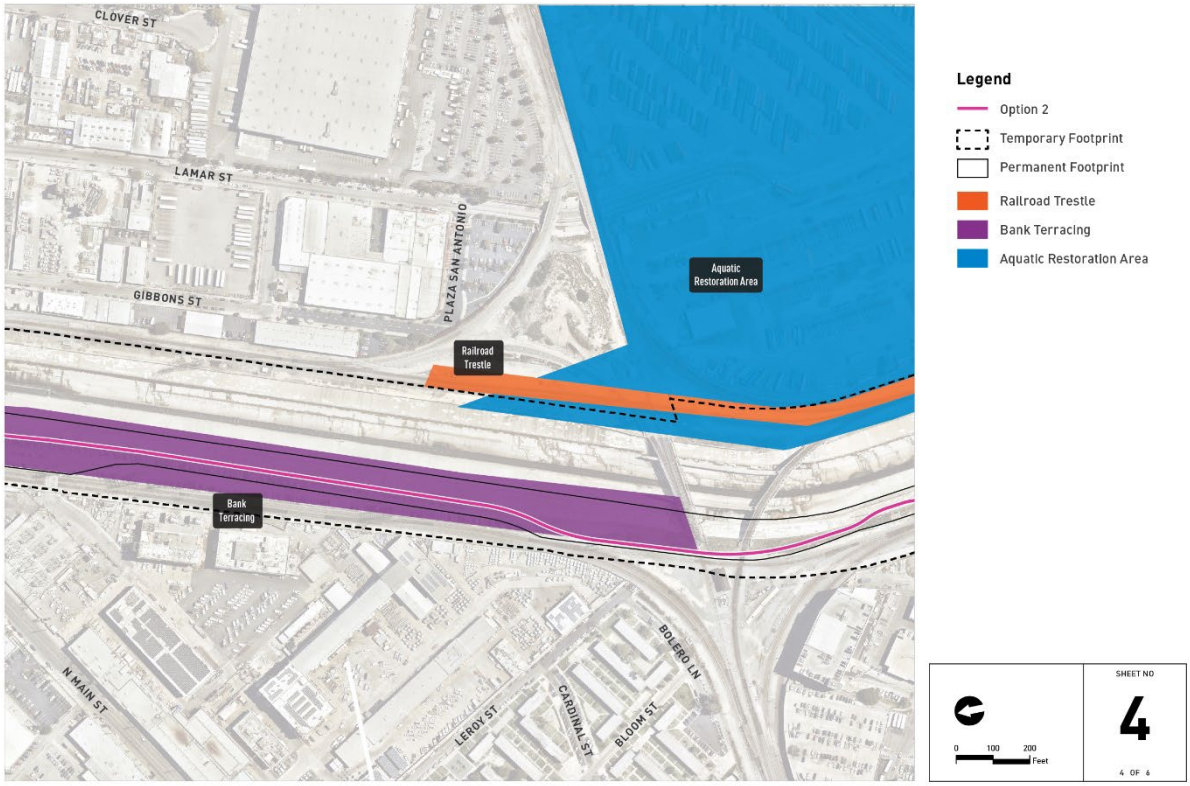


Figure 3.10-32. Option 2 Alignment and LARER Project (UP Bridge to Cesar E Chavez Avenue)

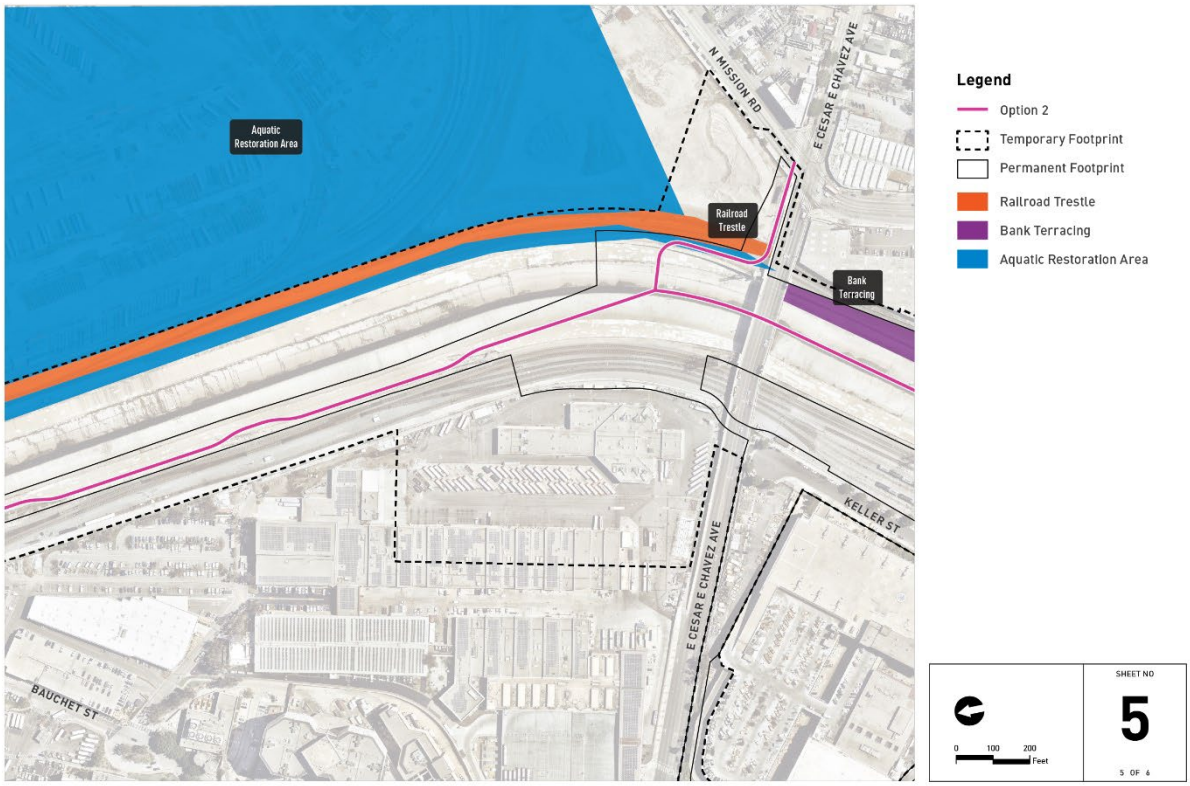
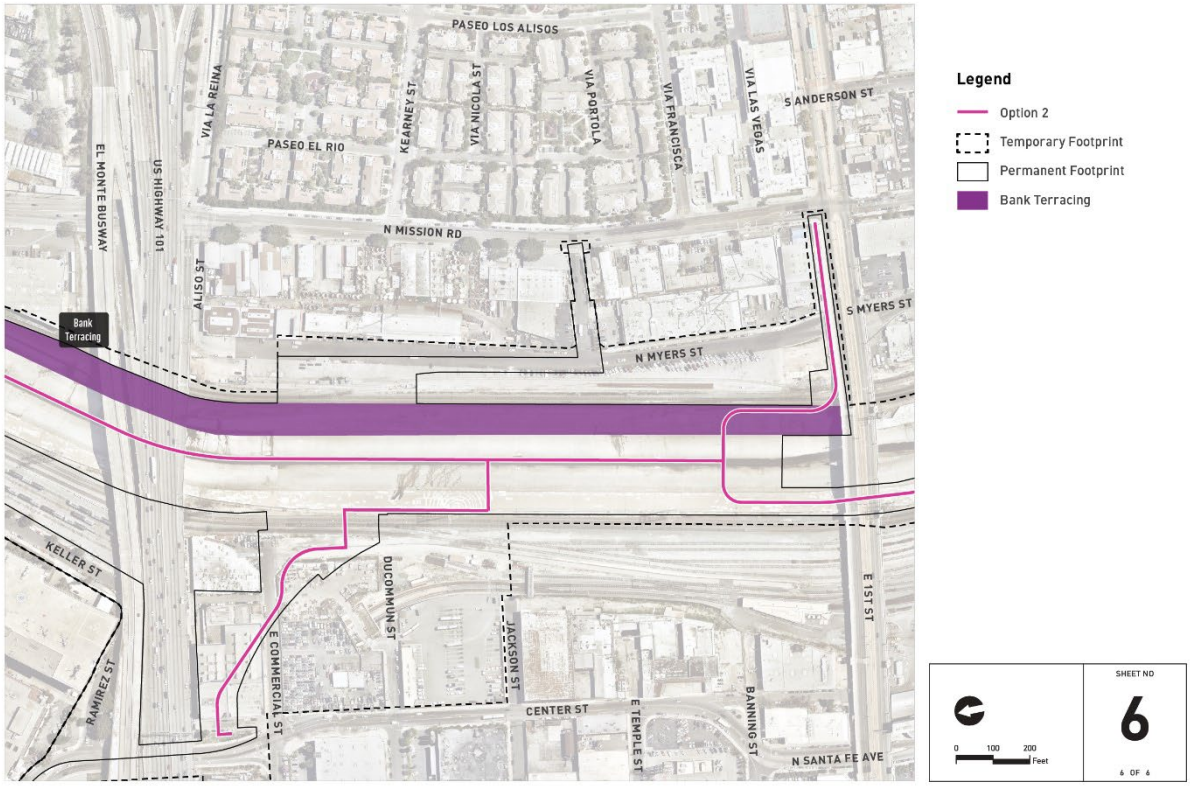


Figure 3.10-33. Option 2 Alignment and LARER Project (Cesar E Chavez Avenue to First Street)



3.10.5.10.3.2.2.1 Bank Terracing Between Main Street to the UP Bridge (West Bank), and Between US-101 and First Street (East Bank)

Option 2 would build a path on new structures that would cross through bank terracing LARER project features north of the UP Bridge. Figures 3.10-31 and 3.10-32 present the Option 2 alignment and LARER project features between Main Street to Cesar E Chavez Avenue. Figure 3.10-33 presents bank terracing improvements from Cesar E Chavez Avenue to First Street. As Option 2 would be built prior to the LARER project, it could interfere with the conceptual design of the LARER project, which proposes channel wall reconstruction with plantings. The physical interference of the new structure support columns could hinder or preclude implementation of the LARER project restoration concepts. These impacts could remain significant, even after implementation of the project features and compliance with regulatory requirements noted above.

MM-HWQ-06, *Elevated-in-Channel Incised Path* would be implemented as part of Option 2 to minimize hydraulic impacts and accommodate future LARER project features. It would minimize hydraulic impacts in the channel by adding flow area within the incised section to replace flow area lost at column supports. It would also minimize structural interference in the area needed for the LARER project features. Impacts to these LARER project features would be less than significant with mitigation incorporated.

3.10.5.10.3.2.2.2 Aquatic Restoration Area and Railroad Trestle North of Cesar E Chavez Avenue

The impacts of Option 2 would be similar to or less than those for the Proposed Project because the footprint of overlapping project elements is less than the Proposed Project. Figure 3.10-32 presents the location of these improvements. As the impacts from Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts to these LARER project features would be less than significant with mitigation incorporated.

3.10.6 Mitigation Measures

As identified in Section 3.10.5, the Proposed Project and its options would result in less than significant impacts on hydrology and water quality under Impact HWQ-2. Mitigation measures are not required for this topic area. Mitigation measures would be required for construction under Impact HWQ-1, Impact HWQ-3, Impact HWQ-4, Impact HWQ-5, Impact HWQ-7, and Impact HWQ-8; construction and operation and maintenance under Impact HWQ-6 and Impact HWQ-9; and for operation under Impact HWQ-10.

3.10.6.1 Construction

The following mitigation measures would be incorporated into the Proposed Project and its options to mitigate construction impacts under Impact HWQ-1, Impact HWQ-3, Impact HWQ-4, Impact HWQ-5, Impact HWQ-6, Impact HWQ-7, Impact HWQ-8, and Impact HWQ-9. With implementation of the following mitigation measures, Impacts HWQ-1, HWQ-3, HWQ-4, HWQ-5, HWQ-6, HWQ-7, HWQ-8, and HWQ-9 would be reduced to a level that is less than significant.

MM-HWQ-01, *Temporary Water Diversion Plan*

Prior to construction activities, the construction contractor shall develop a Temporary Water Diversion Plan that specifies measures to divert LA River flows around the work zone and to do so in the manner required to protect water quality by preventing exposure of the river to construction materials, equipment, exposed soils, and other water quality contaminants. The plan shall require the construction contractor to maintain the work sites as dry as possible for the duration of in-channel work and maintain compliance with state water quality standards to obtain permit approval for Clean Water Act (CWA) Section 401, *Water Quality Certification*; CWA Section 402, *National Pollutant Discharge Elimination System (NPDES)*; and CWA Section 404, *Permitting Discharges of Dredge or Fill Material*. Additionally, the construction contractor will maintain LA River performance standards consistent with the Rivers and Harbors Appropriation Act of 1899 (RHA) Section 14 to obtain 408 Permit approval for the Project. The Temporary Water Diversion Plan shall be submitted to the USACE for review and approval. The Temporary Water Diversion Plan shall:

- Implement the standard procedures and recommendations for planning, selecting, and implementing water diversion methods provided by the Los Angeles County Flood Control District (LACFCD) *Water Diversion Manual and Best Management Practices* (LACFCD 2016).
- Include all working drawings signed and stamped by a qualified registered engineer in California, showing the means and methods of construction.
- Include, but not be limited to, identification of the locations and sizes of temporary diversion structure(s) (for example, cofferdams), the materials to be used for the temporary diversion structure(s), and any gravel, plastic, pipes, and pumps required for the diversion(s).
- Include the locations of storm drain outfalls in the work areas.

- Include an emergency action plan, as a precaution, for rapidly removing equipment and materials with potential to contribute pollutants to runoff from the river in advance of imminent runoff with the potential to exceed diversion capacity.
- Include requirements for dissipators, requirements for inspection, sampling and testing, and requirements for removal of the diversion system.

MM-HWQ-02, *Construction Scheduling*

During final design of the Project, the Los Angeles County Metropolitan Transportation Authority (Metro) shall coordinate with the US Army Corps of Engineers (USACE) to develop the recommended construction schedule for improvements. Areas of increased flood risk shall be identified, with restricted construction schedules and activities permitted in accordance with USACE requirements specified in *California Channel Improvement Construction Limitations* (USACE 2008). The following are California channel improvement construction limitations:

- From 15 April to 31 May and 1 September to 15 October, 33.3% of the original channel design capacity must be preserved.
- From 15 October to 15 April, 100% of the original channel design capacity must be maintained; that is, no work in the channel will be allowed unless a waiver is obtained through USACE.
- From 1 June to 31 August, 5% of the original channel design capacity is required.
- In the event that the permit applicant proposes to affect a section of the channel that is downstream of a USACE regulated flood control basin, the applicant must, as a minimum, coordinate their in-channel activities with the USACE Reservoir Regulation Section.

The Project shall incorporate these requirements as construction specifications and shall submit them for review and approval by USACE as part of the Clean Water Act Section 408 permit application. Any proposed deviations from these construction limitations will require a waiver from the USACE, who will consider the request based on the duration of the waiver, weather monitoring, contingency planning, and other best practices.

3.10.6.2 Operations and Maintenance

The following mitigation measures shall be incorporated into the Project to mitigate O&M impacts Impact HWQ-6 and Impact HWQ-10 to a level that is less than significant.

MM-HWQ-03, *Advanced Hydraulic Analysis*

Advanced hydraulic analysis shall be applied to the entire Project with proposed mitigation measures or design changes intended to mitigate Project impacts during final design. The advanced hydraulic analysis shall be in accordance with the US Army Corps of Engineers' (USACE's) *Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3, "Hydraulic Design and Criteria for Underpasses and Access Ramps"* (USACE 2020).

Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3, "Hydraulic Design and Criteria for Underpasses and Access Ramps" states that underpasses are restricted in subcritical flow reaches with a Froude Number greater than 0.9 and in supercritical flow conditions unless demonstrated through modeling that hydraulic impacts can be minimized or easily mitigated. In trapezoidal channels, adherence to hydraulic design criteria included in the *Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3, "Hydraulic Design and Criteria for Underpasses and Access Ramps"* is mandated for

underpasses and access ramps, unless an acceptable revised geometric section is established through hydraulic modeling. In rectangular channels, access ramps in subcritical flow where the Froude Number exceeds 0.9 or in supercritical flow require a 90-degree entrance angle, with the channel wall opening limited to 35 feet. Access ramps in curved reaches should have the entrance positioned on the inside of the curve.

MM-HWQ-04, *Fully Incised Path*

Where the path will be incised type, it shall be constructed as a fully incised path in conformance with US Army Corps of Engineers (USACE) *Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3, "Hydraulic Design and Criteria for Underpasses and Access Ramps"* (USACE 2020). A fully incised path shall avoid obstructing the flow area within the existing LA River, minimizing impacts to channel hydraulics.

MM-HWQ-05, *Incised/Elevated Transition Widening*

At locations where the Project transitions from fully incised paths to elevated-in-channel paths, the transitions could reduce the river's hydraulic capacity. Transition segments shall be widened to compensate for the flow area lost to the elevated structure in channel. The widened transition segments shall preserve pre-Project flow capacity and minimize changes to water surface elevation within the LA River, ensuring no reduction in hydraulic capacity.

MM-HWQ-06, *Elevated-in-Channel Incised Path*

At locations along the LA River where the path will be elevated-in-channel along the channel trapezoidal walls, and bank terracing improvements are anticipated along the channel side slopes, the final Project design shall integrate an elevated incised path. This mitigation measure shall combine the elevated path structure with a fully incised section in the river channel to preserve hydraulic capacity.

MM-HWQ-07, *Channel Daylight Crossing Structure*

The Los Angeles County Metropolitan Transportation Authority (Metro) shall ensure that the Project final design avoids interfering with future channel improvements from lateral hydrologic connections along the LA River near Riverside Drive, the Arroyo Seco confluence, North Broadway, and the Metro A Line crossing. The final Project design shall employ streamlined supports to maintain the hydraulic capacity of the river, allowing for unimpeded water flow beneath the structures.

MM-HWQ-08, *Streamlined Bridge Piers*

Final Project design shall include streamlined bridge piers for the river crossing bridges where necessary to preserve LA River hydraulic capacity and allow unimpeded water flow beneath the structures.

MM-HWQ-09, *Compliance with Section 408 Permit*

Los Angeles County Metropolitan Transportation Authority (Metro) shall ensure that final design is consistent with US Army Corps of Engineers (USACE) channel performance standards to be confirmed during the detailed review associated with Section 408 permitting. USACE will require that the advanced hydraulic analysis (to be performed during final design) demonstrates that the Project does not impair the usefulness of the LA River and is not injurious to the public interest. USACE is expected to review the final design in terms of channel capacity, structural integrity, safety, and maintenance, as follows:

- Channel Capacity. The channel must be able to maintain its existing flood control functions such that water levels do not increase within critical areas.
- Structural Integrity. The channel must maintain its structural integrity to withstand the forces exerted by water flow and debris.
- Safety. The hydraulic design of channel modifications within critical areas must ensure the continued operation of a safe, reliable flood control project.
- Maintenance. Final design must facilitate easy access for maintenance activities to ensure long-term functionality.

3.10.6.3 Impacts of the Mitigation Measures

MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, MM-HWQ-07, *Channel Daylight Crossing Structure*, and MM-HWQ-08, *Streamlined Bridge Piers*, could result in design changes to the Proposed Project and its options. Each of these measures were examined to determine if the potential changes would result in new or substantially different impacts and changes to the determinations of significance.

MM-HWQ-04, *Fully Incised Path*, would not result in any changes to the alignment or Project footprint; however, the path would be more deeply incised in the channel. In general, this measure would result in deeper excavations and larger retaining walls in all areas where this measure applies. Impacts would be similar to the analysis results described in the other sections of this Draft EIR. Some impacts would increase; for example, there would be an expected net increase in construction traffic and related noise and air quality impacts, and additional potential for disturbance of archaeological and tribal resources, hazardous materials, and subsurface conditions associated with increased in-channel excavation. No discernable changes are expected to the other resources evaluated in this Draft EIR. For those areas where this measure applies, the same mitigation measures described elsewhere in this Draft EIR would apply.

MM-HWQ-05, *Incised/Elevated Transition Widening*, supplements MM-HWQ-04, *Fully Incised Path*, and MM-HWQ-06, *Elevated-in-Channel Incised Path* by providing transitions between elevated-in-channel paths and the new areas of fully incised paths required by MM-HWQ-04. For this reason, any potential changes in impacts to other resources would be similar to the changes discussed above.

MM-HWQ-06, *Elevated-in-Channel Incised Path*, does not result in any changes to the alignment or project footprint. In areas where elevated-in-channel improvements are anticipated along channel side slopes, the channel side slopes would be fully incised. In general, adding the structures called for in this measure would require increased construction activity including excavating additional material, installing deep foundations for bridge piers, and increasing import of concrete and other materials. In some areas, designing and constructing the elevated-in-channel structures in a coordinated manner with bank terracing improvements (for example, as part of the LARER project) would avoid duplicating construction activity.

The impacts of MM-HWQ-06, *Elevated-in-Channel Incised Path*, would be similar to the analysis results described in other sections of this Draft EIR; however, construction impacts are expected to increase in the areas affected by this measure. There would be new visual changes associated with elevated structures. Effects associated with pier construction (for example, noise and vibration from pile driving, disturbance of unknown archaeological and paleontological resources and hazardous materials) would increase, and there would be an overall increase in construction traffic and related noise and air quality impacts. However, it is expected that these changes would be offset by avoiding

duplication of construction activities associated with both the Project and bank terracing projects. For those areas where this measure applies, the same mitigation measures described elsewhere in this Draft EIR would apply.

MM-HWQ-07, *Channel Daylight Crossing Structure*, would not result in any changes to the alignment or project footprint. In areas where channel daylight improvements are anticipated, at-grade path sections would change to elevated structures. In general, adding the structures called for in this measure would require increased construction activity including excavating additional material, installing deep foundations for bridge piers, and increased import of concrete and other materials. However, designing and constructing the elevated structures in a coordinated manner with the LARER project channel daylight improvements would avoid duplicating construction activity.

The impacts of MM-HWQ-07, *Channel Daylight Crossing Structure,* would be similar to the analysis results described in other sections of this Draft EIR; however, construction impacts are expected to increase in the areas affected by this measure. There would be new visual changes associated with the elevated structure. Effects associated with pier construction (for example, noise and vibration from pile driving, disturbance of unknown archaeological and paleontological resources and hazardous materials) would increase, and there would be an overall increase in construction traffic and related noise and air quality impacts. However, it is expected that these changes would be offset by avoiding duplication of construction activities associated with both the Project and LARER project channel daylight projects. For those areas where this measure applies, the same mitigation measures described elsewhere in this Draft EIR would apply.

MM-HWQ-08, *Streamlined Bridge Piers*, simply addresses the shape of the bridge piers. There are no changes to the Project alignment or footprint, and there would be no changes to any of the other resources evaluated in this Draft EIR.

The overall net change in impacts is expected to be similar to the impact evaluated elsewhere in this Draft EIR. There would be no changes to any determinations of significance with the implementation of Mitigation Measures MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, MM-HWQ-07, *Channel Daylight Crossing Structure*, and MM-HWQ-08, *Streamlined Bridge Piers*.

3.10.7 Significance After Mitigation

3.10.7.1 Construction

Impacts would be less than significant under Impact HWQ-2. Mitigation is required for the Proposed Project and its options. Construction impacts would be less than significant under Impact HWQ-1, Impact HWQ-3, Impact HWQ-4, Impact HWQ-5, Impact HWQ-6, Impact HWQ-7, Impact HWQ-8, and Impact HWQ-9 after mitigation. There would be no construction impacts under Impact HWQ-10.

3.10.7.2 Operations and Maintenance

Impacts would be less than significant under Impact HWQ-1 through Impact HWQ-5, Impact HWQ-7, and Impact HWQ-8. Mitigation is required for the Proposed Project and its options. Operational impacts would be less than significant under Impact HWQ-6, HWQ-9, and Impact HWQ-10 after mitigation, taking into consideration the potential impacts of the mitigation measures.

3.10.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and lists the related projects within a 1-mile radius of the Project alignment. This radius includes the RSA for hydrology and water quality, and additional distance that encompasses projects that could interact with the Project. The geographic scope for cumulative impacts to hydrology and water quality is defined as the LA River channel between the existing path termini to the north and south, and 500 feet on either side of the top-of-bank of the river channel.

As discussed in Section 3.10.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.10.5, the Proposed Project and its options would result in substantially similar impacts related to hydrology and water quality. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.10.8.1 Proposed Project, Option 1, and Option 2

3.10.8.1.1 Construction

3.10.8.1.1.1 Water Quality

Construction activities related to the Proposed Project and its options would cause soil disturbances and generate dust, settlement, and litter. Additionally, materials like oil, paint, solvents, cleaning agents, metals and other materials associated with construction could impact and degrade water quality at the Proposed Project site. The Proposed Project and its options would implement MM-HWQ-01, *Temporary Water Diversion Plan*, which would specify measures to divert LA River flows around the work zone in a manner to protect water quality, and PF-HWQ-01, *Stormwater/Water Quality Management During Construction*, which would require the Proposed Project and its options to prepare a SWPPP that complies with the CGP to avoid or minimize discharge of contaminants. Constructing the Proposed Project and its options would result in a less than significant impact related to water quality.

Similarly, past, present, and probable future projects within the cumulative RSA may be constructed simultaneously with the Proposed Project and its options that could result in water quality impacts during construction. Of the identified related projects (refer to Section 3.1.2), approximately 20 related projects would be located within 500 feet of the Proposed Project and its options. These projects include urban-infill residential and office developments, the LinkUS project, I-710 Soundwall project, I-710 North Mobility Improvements project, the LARER project, and the Arts District/6th Street Station project, among others.

Runoff generated during construction of the related projects, particularly projects occurring within the LA River channel, could potentially combine with runoff generated by the Proposed Project that would result in a degradation of water quality. Some of the project sites, such as for the LinkUS Project and Arts District/6th Street Station Project, are in industrial areas that may contain industrial contaminants that could run off into the LA River or contaminate groundwater supplies. However, similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with applicable CGP requirements, local regulatory standards and LID ordinances, and would implement BMPs to avoid or minimize potential construction effects that would degrade water quality. Therefore, the Proposed Project and its options, in combination with the past, present,

and probable future projects, would not result in significant cumulative water quality impacts during construction.

3.10.8.1.1.2 Groundwater Recharge and Groundwater Supplies

Construction of the Proposed Project and its options could result in impacts to groundwater supplies where excavations occur in areas of high groundwater. However, no spreading grounds or recharge basins are located within the RSA; therefore, no impacts on groundwater recharge would occur. Construction activities or groundwater dewatering could result in contamination of dewatered groundwater. Implementation of PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan*, PF-HAZ-04, *Disposal of Groundwater*, and PF-HWQ-01, *Stormwater/Water Quality Management* would ensure the preparation of a disposal plan, that contaminated groundwater is treated and discharged appropriately, and that all dewatering activities would comply with regulatory requirements and NPDES permits. Construction of the Proposed Project would result in a less than significant impact related to groundwater recharge and water supplies.

Similarly, past, present, and probable future projects may be constructed simultaneously with the Proposed Project and its options that could result in groundwater recharge and groundwater supply impacts during construction. As noted above, no spreading grounds or recharge basins are located within the RSA. Therefore, past, present, and probable future projects would also have no impact on groundwater recharge during construction. Past, present, and probable future projects could also potentially result in impacts to existing monitoring wells during construction or if groundwater dewatering is required. However, similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with regulatory requirements, NPDES permits, and would implement BMPs to avoid or minimize potential construction effects that would impact groundwater. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative groundwater recharge and supply impacts during construction.

3.10.8.1.1.3 Alteration of Drainage Patterns, Erosion, and Surface Runoff

Construction of the Proposed Project and its options would require new access roads, staging areas, cofferdams, diversion structures, or other activities that could temporarily alter local drainage patterns and increase impervious areas. This could also result in substantial erosion or siltation, increased surface runoff, increased stormwater runoff that could exceed the capacity of existing stormwater systems and result in increased polluted runoff, and impedance or redirection of flood flows. Potential erosion or siltation impacts would be localized and constructed within or adjacent to the LA River, which is a concrete-lined facility. Furthermore, implementation of MM-HWQ-01, *Temporary Water Diversion Plan,* would prevent exposure of the river to construction materials, equipment, exposed soils, and other water quality contaminants. Because construction would occur in the LA River, activities would comply with all applicable federal and local floodplain regulations, including USACE and NFIP requirements. During design development, PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that Metro and USACE are reviewing the final design of the Proposed Project to verify that it minimizes potential to cause adverse impacts to the operation or integrity of the public works project. In addition, the potential for erosion and/or siltation to occur would be minimized through implementation of a SWPPP as discussed in Section 3.10.3.3 and as required by PF-HWQ-01, *Stormwater/Water Quality Management During Construction*. The SWPPP would include BMPs for runoff control, sediment control, and housekeeping.

Similarly, alteration of drainage patterns during construction of past, present, and probable future projects, particularly projects occurring within the LA River channel, could potentially combine with drainage pattern alternations generated by the Proposed Project that would result in drainage impacts. Similar to the Proposed Project, projects that may alter drainage patterns that result in drainage impacts would be required to implement design features and measures to minimize such impacts and to comply with applicable federal, state and local requirements. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative drainage impacts during construction.

3.10.8.1.1.4 Release of Pollutants in Flood Zones, Tsunami Zones, or Seiche Zones

The Proposed Project and its options would be located in FEMA-established flood zones, increasing the risk for release of pollutants as a result of inundation. However, the Proposed Project and its options would not be subject to inundation by seiches or tsunamis. MM-HWQ-01, *Temporary Water Diversion Plan* would require implementation of specific design features for the Proposed Project and its options, and an emergency action plan to ensure flood protection in a flood hazard event. Similarly, past, present, and probable future projects may be constructed simultaneously with the Proposed Project or its options that could result in increased potential for release of pollutants as a result of flood inundation during construction. Due to the proximity of the past, present, and probable future projects to the Proposed Project and its options, approximately two (Map IDs 5 and 44) would also be located within FEMA-established flood zones increasing the risk for release of pollutants as a result of inundation. However, similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with regulatory requirements, and would implement similar project features to avoid the release of pollutants as a result of inundation. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative impacts related to release of pollutants in flood, tsunami, or seiche zones during construction.

3.10.8.1.1.5 Flood Flow, Flood Risk and Section 408

Construction activities for the Proposed Project and its options and the presence of equipment, formwork, and materials within the flood channel could cause obstructions that could impede flood flows and increase flood risk or hinder the channel capacity by causing localized increases in water levels. MM-HWQ-01, *Temporary Water Diversion Plan* would ensure that the Proposed Project complies with USACE requirements to redirect flood flows around construction zones. PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* would ensure Metro and USACE review the final design of the Proposed Project and verify that it minimizes potential to cause adverse impacts to the operation or integrity of the Proposed Project. USACE approval of a Section 408 Permit would also impose Channel Improvement Construction Limitations. However, impacts to flood flows would remain significant. Implementation of MM-HWQ-02, *Construction Scheduling* would reduce impacts related to flood flows and flood risk to less than significant levels during construction.

Similarly, past, present, and probable future projects may be constructed simultaneously with the Proposed Project or its options that could impede flood flows and increase flood risk. One related project would also be located in the flood channel (Map ID 44, Los Angeles River Ecosystem Restoration Project) that could impede flood flows and increase flood risk during construction. However, similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with regulatory requirements, and would implement similar project

features to avoid and minimize impacts related to flood flows and flood risk. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative impacts related to flood flows and flood risk during construction.

3.10.8.1.1.6 Conflict with Plans

The Proposed Project and its options would be located in the jurisdictions of the Basin Plan, the Central Basin *Groundwater Basins Master Plan* (WRD 2016) and the *San Fernando Valley Groundwater Quality Management Plan* (LADWP 1983). Implementation of MM-HWQ-01, *Temporary Water Diversion Plan* and PF-HWQ-01, *Stormwater/Water Quality Management During Construction* would ensure construction of the Proposed Project and its options would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan and impacts related to conflicts with plans would be less than significant.

Similarly, past, present, and probable future projects may be constructed simultaneously with the Proposed Project and its options that could result in conflicts with water quality plans during construction. Past, present, and probable future projects could conflict with existing water quality plans by creating more impervious surfaces, hampering groundwater recharge, or not complying with water quality standards. However, similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with all applicable federal, state and local regulatory requirements, and would be required to implement design features or measures to avoid or minimize conflicts with water quality plans. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in a significant cumulative impact related to conflicts with a water quality plan during construction.

3.10.8.1.2 Operation and Maintenance

3.10.8.1.2.1 Water Quality

The Proposed Project and its options would result in new impervious areas that could contribute to nonpoint source stormwater pollution that would be characteristic of a bicycle and pedestrian path. New landscaped areas could also contribute contaminants due to the application of pesticides, herbicides, or fertilizers. The Proposed Project and its options would be subject to regulatory standards, conditions, and permitting requirements (for example, CWA, and MS4 permit requirements) that would meet local City and Los Angeles County standards and would minimize impacts to hydrology and water quality. The Proposed Project and its options would implement the project features described in Section 3.10.3.3 above, which would minimize impacts to hydrology and water quality during operation and impacts would be less than significant.

Similarly, past, present, and probable future projects may also result in development that would require modifications to the local drain systems, increase impervious areas, and result in pollutant runoff that could cause impacts to hydrology and water quality. Similar to the Proposed Project and its options, past, present, and probable future projects would be subject to state and regional water quality permit requirements and would be required to comply with all existing regulations and requirements regarding water quality and water resources. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would be required to adhere to similar applicable permit requirements and would not result in significant cumulative water quality impacts during operation.

3.10.8.1.2.2 Groundwater Recharge and Groundwater Supplies

The Proposed Project and its options would result in new impervious areas that would cause a minor reduction in groundwater infiltration outside of active groundwater management areas. However, the increase in impervious area caused by the Proposed Project and its options is negligible with respect to the LA River Watershed and the corresponding groundwater recharge areas. The Proposed Project and its options would not interfere with the recharge benefits of the LARER project, nor would it affect any current water supply wells. The Proposed Project and its options would not obstruct the implementation of any groundwater management plans. The Proposed Project and its options would implement the project features described in Section 3.10.3.3, which would minimize impacts to groundwater recharge and groundwater supplies during operation and impacts would be less than significant.

Similarly, past, present, and probable future projects may also result in increased impervious areas, which could cause impacts to groundwater recharge and groundwater supplies. Similar to the Proposed Project and its options, past, present, and probable future projects would be subject to state and regional water quality permit requirements and would be required to comply with all existing regulations and requirements regarding groundwater management and protection. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would be required to adhere to similar applicable permit requirements and would not result in significant cumulative groundwater recharge and groundwater supplies impacts during operation.

3.10.8.1.2.3 Alteration of Drainage Patterns, Erosion, and Surface Runoff

The Proposed Project and its options would result in new impervious areas that could alter existing drainage patterns. The Proposed Project and its options would place new structures within the LA River, including crossings and supportive infrastructure that could cause a diversion of stormwater runoff. However, the final design of the Proposed Project would comply with regulatory design requirements so as to preserve existing drainage patterns. O&M activities would not add new impervious areas, modify existing storm drain systems, or require new drainage facilities to convey the additional runoff water created by the new impervious areas. The Proposed Project and its options would not substantially increase the rate or amount of runoff from the Proposed Project site that could cause flooding onsite or offsite. The Proposed Project and its options would implement the project features described in Section 3.10.3.3, which would minimize impacts to the alteration of drainage patterns during operation and impacts would be less than significant.

Similarly, past, present, and probable future projects may also alter existing drainage patterns, which could cause impacts to surface runoff and stormwater drainage. Similar to the Proposed Project and its options, past, present, and probable future projects would be subject to state and regional water quality permit requirements and would be required to comply with all existing regulations and requirements regarding the preservation of drainage patterns and the minimization of surface runoff. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would be required to adhere to similar applicable permit requirements and would not result in significant cumulative surface runoff and stormwater drainage impacts during operation.

3.10.8.1.2.4 Release of Pollutants in Flood Zones, Tsunami Zones, or Seiche Zones

The Proposed Project and its options are within FEMA-established 100-year and 500-year flood zones. The Proposed Project and its options would be more than 10 miles from the ocean and approximately 250 feet above msl; therefore, the Proposed Project would not be subject to inundation by seiches or tsunamis during operation. The area is also at least 10 miles away from the nearest dams and the risks due to dam failures would be considered minimal. Therefore, the risk of releasing pollutants due to Proposed Project and its options inundation during operation would be less than significant. Similar to the Proposed Project and its options, past, present, and probable future projects are within FEMA-established 100-year and 500-year flood zones, would be more than 10 miles from the ocean, and at least 10 miles away from the nearest dams. Thus, the past, present, and probable future projects would have similar operational impacts as the Proposed Project and its options and the risk of releasing pollutants due to inundation during operation would be less than significant. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to the release of pollutants in flood zones, tsunami zones, or seiche zones during operation.

3.10.8.1.2.5 Flood Flow, Flood Risk and Section 408

The Proposed Project and its options would place new structures within the LA River that could impede flood flows. These structures could cause a diversion of stormwater runoff, or they could adversely affect flood control function either in the river or at other regional flood control facilities. However, the Proposed Project and its options would implement the project features described in Section 3.10.3.3, including PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* and the mitigation measures described in Section 3.10.6, including MM-HWQ-03, *Advanced Hydraulic Analysis,* MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening,* MM-HWQ-06, *Elevated-in-Channel Incised Path,* MM-HWQ-8*, Streamlined Bridge Piers*, and MM-HWQ-09, *Compliance with Section 408 Permit,* which would reduce hydraulic impacts related to flood flows. With the implementation of these mitigation measures, impacts of the Proposed Project would be reduced to a level of less than significant with mitigation incorporated. Similarly, past, present, and probable future projects may also construct new structures within the LA River or result in new impervious areas that could cause impacts related to flood flows and flood risk. Similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with regulatory requirements, and would implement similar project features or mitigation measures to avoid and minimize impacts related to flood flows. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative impacts related to flood flows during operation.

The Proposed Project and its options could impact flood risk by causing localized increases in water levels. These water level changes could conflict with USACE's responsibilities to provide continued public safety, and to provide adequate operation and maintenance of a federal civil work (the LA River Channel), which would be a significant impact. Any impact that could adversely affect USACE's ability to meet these responsibilities would jeopardize the Proposed Project's Section 408 Permit review and approval. The magnitude and location of the potential impacts vary between the Proposed Project and its options due to varying geometry and facility locations. Nonetheless, the Proposed Project and its options would implement the project features and mitigation measures described in Section 3.10.3.3 and Section 3.10.6 to reduce any hydraulic impacts by increasing available flow area and reducing turbulence and debris capture, which would compensate for any obstruction or disturbance caused by

the path facilities throughout the alignment. These include PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* MM-HWQ-03, *Advanced Hydraulic Analysis,* MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening,* MM-HWQ-06, *Elevated-in-Channel Incised Path,* and MM-HWQ-08*, Streamlined Bridge Piers*. Two locations of concern were identified where the Proposed Project alignment is within the channel at locations of supercritical flows. These locations are near the SR-110 freeway/Arroyo Seco Confluence and Washington Boulevard. MM-HWQ-09, *Compliance with Section 408 Permit* would be implemented at these locations to ensure impacts would be mitigated and maintain channel performance standards consistent with the Section 408 permit. In addition, the Arroyo Seco Parkway (SR-110) design variation for the Proposed Project would place a single at-grade connection from the path starting north of the SR-110 bridge to just south of the freeway. This design variation would eliminate new structures in the channel, minimizing potential adverse hydraulic conditions. Similar to the Proposed Project and its options, past, present, and probable future projects may also construct new structures within the LA River or result in new impervious areas that could cause an increase in flood risks. Similarly, past, present, and probable future projects would be required to comply with applicable regulatory requirements, and would implement similar project features or mitigation measures to avoid and minimize hydrologic impacts that may lead to an increase in flood risks. Therefore, the Proposed Project and its options, in combination with the past, present, and probable future projects, would not result in significant cumulative impacts related to flood risks during operation and impacts would not be considerably considerable.

3.10.8.1.2.6 Conflict with Plans

The Proposed Project and its options would result in new impervious areas that could increase the concentration and total load of pollutants in stormwater runoff and result in a minor reduction in groundwater infiltration outside of active groundwater management areas. However, the increase in new impervious areas is negligible with respect to the LA River Watershed and the corresponding groundwater recharge areas. The Proposed Project and its options would be subject to applicable local regulatory requirements, conditions, LID standards and ordinances which would minimize impacts to hydrology and water quality. The Proposed Project and its options would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan. The Proposed Project and its options would implement the project features described in Section 3.10.3.3 above, which would minimize impacts to water quality plans during operation.

Similarly, past, present, and probable future projects may also result in an increase in impervious areas, thereby resulting in increased pollutant runoff and decreased groundwater infiltration that could cause impacts to hydrology and water quality. Similar to the Proposed Project and its options, past, present, and probable future projects would be subject to state and regional water quality permit requirements and would be required to comply with all existing regulations and requirements regarding water quality and water resources. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would be required to adhere to similar applicable permit requirements and would not result in cumulatively significant impacts to any water quality or groundwater management plans during operation.

3.11 Land Use and Planning

3.11.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to land use and planning. This section also describes the existing setting and current applicable regulatory framework.

3.11.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to land use and planning. A discussion of Project consistency with the applicable goals, objectives, and policies included in the plans and regulations Section 3.11.5.2.

3.11.2.1 Federal

There are no applicable federal regulations related to land use and planning.

3.11.2.2 State

3.11.2.2.1 Sustainable Communities and Climate Protection Act of 2008

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008, requires each of California's 18 Metropolitan Planning Organizations (MPOs) to include a Sustainable Communities Strategy (SCS) as part of each long-range regional transportation plan (RTP). The Southern California Association of Governments (SCAG) is the MPO covering the Southern California region. In the SCS, the MPO, in partnership with local member agencies and the state, identifies strategies to reduce greenhouse gas (GHG) emissions from driving, which can also foster healthier, more equitable, and sustainable communities. It also creates a set of evaluation criteria for the California Air Resources Board to use in reviewing GHG reductions from the Community Steering Committee. The act encourages coordinated regional transportation and land use decisions to reduce motor vehicle trips and decrease GHG emissions.

3.11.2.2.2 Authority for and Scope of General Plans

California Government Code Sections 65300–65303.4, *Authority for and Scope of General Plans* requires that each city adopt a General Plan with eight mandatory elements to guide the city's long-term growth. Mandatory elements dictated in Section 65302 and required for each city's general plan are land use, circulation, housing, conservation, open space, noise, safety, and environmental justice.

3.11.2.3 Regional and Local

3.11.2.3.1 Southern California Association of Governments

3.11.2.3.1.1 Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) (SCAG 2020) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Connect SoCal aims to prepare the region for a changing climate and to support an integrated regional development and transportation network. It also includes an Active Transportation Technical Report that explains SCAG's commitment to active transportation infrastructure and the related community benefits.

3.11.2.3.2 Los Angeles County Metropolitan Transportation Authority

3.11.2.3.2.1 Moving Beyond Sustainability Strategic Plan 2020

The Los Angeles County Metropolitan Transportation Authority's (Metro's) *Moving Beyond Sustainability Strategic Plan 2020* is a 10-year strategic plan that sets goals, targets, strategies, and actions that align with and emanate from other key Metro guidance documents (Metro 2020a). The plan aims to achieve sustainability targets through the provision of greater transportation mode options and improved service, roadway improvements, and pedestrian and bicycle projects to increase neighborhood walkability and connectivity, and development of transit-oriented communities.

3.11.2.3.2.2 Active Transportation Strategic Plan

Metro's *Active Transportation Strategic Plan,* adopted in November 2023*, i*s a countywide effort to identify strategies to increase walking, bicycling, and transit use (Metro 2023). Through the plan, Metro aims to help the region respond to regional and state regulations for the development of the transportation system and for the reduction of GHG emissions. Major components of the plan's strategy include connecting regional destinations in the County and supporting the integration of mobility, land use, and urban design. The *2023 Active Transportation Strategic Plan* furthers Metro's mission of providing a world-class transportation system, focusing specifically on its regional active transportation network and first/last mile connectivity to transit. The revised plan allows Metro to better plan for the most effective active transportation improvements across LA County.

3.11.2.3.2.3 Vision 2028 Strategic Plan

Metro's *Vision 2028 Strategic Plan*, published in April 2018, seeks to provide great mobility to everyone, whether they walk, bicycle, take transit, or drive (Metro 2018). The plan creates the foundation for transforming mobility in Los Angeles County over the next 10 years and sets the mission, vision, performance outcomes, and goals for Metro and puts in motion specific initiatives and performance outcomes. The plan details five goals: (1) provide high-quality mobility options that enable people to

spend less time traveling, (2) deliver outstanding trip experiences for all users of the transportation system, (3) enhance communities and lives through mobility and access to opportunity, (4) transform Los Angeles County through regional collaboration and national leadership; and (5) provide responsive, accountable, and trustworthy governance within the Metro organization. Part of the plan's strategic framework is integrating community development policies with multi-modal transportation infrastructure. This includes reliable, convenient, and safe options for taking transit, walking, bicycling, sharing rides, and carpooling.

3.11.2.3.2.4 2020 Long Range Transportation Plan

Metro's *2020 Long Range Transportation Plan* (LRTP), adopted in September 2020, includes strategies and actions to ensure every resident has affordable, equitable transportation choices that are sustainable for the future (Metro 2020b). The 2020 LRTP commits Metro to increasing access and connectivity for the residents of Los Angeles. This includes coordinated transit and housing development planning that expands community access to jobs, education, health care, and other essential services. The 2020 LRTP encourages efforts to meet current and future connectivity needs.

3.11.2.3.2.5 Connect US Action Plan

Metro's *Connect US Action Plan*, published in May 2015, establishes objectives and implementation strategies that would provide pedestrians and cyclists safe and pleasurable passage to transit between Los Angeles Union Station, First/Central Regional Connector Station, and the adjacent historic/cultural neighborhoods (Metro 2015). These neighborhoods include El Pueblo, Chinatown, Cornfield Arroyo Seco, Boyle Heights, Arts District, Little Tokyo, and Civic Center. The plan goals, objectives, and policies include providing basic pedestrian and bicycle facilities and improving weak linkages to surrounding neighborhoods.

3.11.2.3.2.6 Complete Streets Policy

Metro's Complete Streets Policy, published in October 2014, established standards to improve mobility in the Metro region and ensure that streets form a comprehensive and integrated transportation network. The Complete Streets Policy promotes safe and convenient travel for all users while preserving flexibility, recognizing community context, and using design guidelines and standards that support best practices (Metro 2014). The Complete Streets Policy's goals and principles include fostering healthy, equitable, and economically vibrant communities where residents have greater mobility choices and improving connectivity for pedestrians and bicyclists.

3.11.2.3.2.7 First/Last Mile Guidelines

Metro's *First/Last Mile Guidelines* (Metro 2021) describes the process by which Metro and local jurisdictions partner in the planning, design, and construction of first/last mile (FLM) improvements for new rail transit and bus rapid transit) corridor projects. The Guidelines intend to fulfill the Metro Board of Directors' vision for safe, connected FLM pathways to new transit stations. It builds upon Metro's FLM policies and past experience: the First/Last Mile Strategic Plan (2014) presented methodology for FLM planning; and Board Motions 14.1 and 14.2 (2016) directed activities to facilitate and implement FLM networks around transit stations and stops throughout the County. The goal of the First/Last Mile Guidelines is to ensure the comprehensive integration of FLM improvements into existing and future transit capital projects.

3.11.2.3.3 Los Angeles County

3.11.2.3.3.1 Los Angeles County General Plan 2035

The *General Plan 2035* provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of the County will grow (County of Los Angeles Department of Regional Planning 2022). The *County of Los Angeles Bicycle Master Plan* (County of Los Angeles Public Works 2012) is a component of the Mobility Element of *General Plan 2035*. It provides direction for improving mobility of bicyclists and encouraging more bicycle ridership within the County by expanding the existing bikeway network, connecting gaps, addressing constrained areas, providing for greater local and regional connectivity, and encouraging residents to bicycle more often.

3.11.2.3.3.2 LA River Master Plan 2022

The *LA River Master Plan* (LARMP) (LACDPW 2022) was first created in 1996 and recognized the river as a body of resources of regional importance that must be protected and enhanced by implementing efforts identified by the Master Plan. These included goals to improve the appearance of the river and the pride of local communities in it, provide a safe environment and a variety of recreational opportunities along the river, and ensure safe access to and compatibility between the river and other activity streams. On June 14, 2022, the County adopted an update to the LARMP. The update builds on planning and implementation efforts from the LA River including efforts by the County, City of Los Angeles, LA River Ecosystem Restoration Feasibility Study Lower LA River Working Group, and the Upper LA River and Tributaries Working Group. The current LARMP includes a vision for the LA River to become a continuous 51-mile trail with improved and increased access points to help the river serve as an active and alternative transit mode for communities adjacent to the river and throughout the County.

3.11.2.3.4 City of Los Angeles

3.11.2.3.4.1 City of Los Angeles General Plan

The City's *General Plan* establishes the long-term vision for how Los Angeles will evolve and prescribes policy goals and objectives to shape City physical development (City of Los Angeles 2001). The *General Plan* is composed of 11 elements: land use, air quality, conservation, health, safety, mobility, infrastructure systems, open space, public facilities and services, noise, and housing. The Land Use Element of the *General Plan* (City of Los Angeles 1973) is made up of 35 Community Plans, which establish community-specific goals and implementation strategies in accordance with the Framework Element. Table 3.11-1 lists the City of Los Angeles Community Plans and Specific Plans applicable to the Project.

Table 3.11-1. City of Los Angeles Community Plans

Community Plan	Community Plan Areas	Community Plan Updates
Boyle Heights Community Plan	Boyle Heights	Last updated in 2023.
Central City North Community Plan	Arts District, Chinatown, Little Tokyo, and Victor Heights	DTLA 2040 is a combined update to the Central City North Community Plan and Central City Community Plan. In September 2021, the City Planning Commission has recommended approval of DTLA 2040 and new zoning code. To date, the DTLA 2040 is not yet adopted.
Central City Community Plan	Civic Center, Bunker Hill, Financial Core, Convention Center/Arena, South Park, Center City/Historic Core, Little Tokyo, Central City East, and South Markets	--
Northeast Los Angeles Community Plan	Atwater Village, Cypress Park, Eagle Rock, El Serreno, Garvanza, Glassell Park, Highland Park, Hermon, Lincoln Heights, Montecito Heights, Monterey Hills, and Mount Washington	Last updated in 1999.
Silver Lake – Echo Park – Elysian Valley Community Plan	Angelino Heights, Echo Park, Elysian Heights, Elysian Park, Elysian Valley, Historic Filipinotown, and Silver Lake	Last updated in 2004.
Redevelopment Plan for the Adelante Eastside Redevelopment Project	For the redevelopment of areas in the *Central City Community Plan* area and *Central City North Community Plan* area lying directly east of the LA River	Adopted in 1999, amended June 2009.
Cornfield Arroyo Seco Specific Plan	For portions of the Central City North, Northeast LA, and Silver Lake–Echo Park–Elysian Valley Community Plan areas, which include parts of the LA River	Ordinance No. 182617 establishes the Specific Plan; adopted June 2013.

Sources: City of Los Angeles 1999, 2003; City of Los Angeles Department of City Planning 1999, 2000, 2004, 2021, 2023

DTLA = Downtown Community Plan

3.11.2.3.4.2 General Plan Framework: An Element of the City of Los Angeles General Plan

The City's *General Plan* Framework Element organizes the plan and contains a strategy for long-term growth that sets a citywide context to guide subsequent amendments to the City's community plans, zoning ordinances, and other pertinent programs (City of Los Angeles 2001). Chapter 3 of the Framework Element, Land Use, includes goals, objectives, and policies applicable to protecting the City's important neighborhoods and districts, reducing vehicular trips and air emissions, and encouraging economic opportunities, affordable housing, and an improved quality of life.

3.11.2.3.4.3 2010 Bicycle Plan

The City of Los Angeles' *2010 Bicycle Plan* is a component of the *General Plan* Transportation Element (City of Los Angeles Department of City Planning 2011). It designates a 1,684-mile bikeway system and introduces a comprehensive collection of programs and policies, including a citywide bikeway system with three bikeway networks throughout the City, bicycle friendly streets, the bundling of programs and policies, and a multi-pronged implementation strategy. The *2010 Bicycle Plan* promotes connections between neighborhoods, services, and schools.

3.11.2.3.4.4 Mobility Plan 2035

The City's *Mobility Plan 2035* lays out the policy foundation for achieving a transportation system that balances the needs of all road users in the City (City of Los Angeles Department of City Planning 2016). *Mobility Plan 2035* establishes a foundation for a network of complete streets that will provide safe and efficient transportation for pedestrians, bicyclists, transit riders, and car and truck drivers, and more.

3.11.2.3.4.5 LA's Green New Deal Sustainable City pLAn 2019

The City of Los Angeles' *LA's Green New Deal Sustainable City pLAn 2019* (pLAn 2019) expands the City of Los Angeles' vision for a sustainable future and tackles the climate emergency with accelerated targets and more aggressive goals (City of Los Angeles 2019). pLAn 2019 includes targets and initiatives pertaining to recreational facilities, including expanding bicycle lane network by 20 lane-miles per year and increasing the bicycle-supportive infrastructure. pLAn 2019 identifies the need to create a fully connected LA RiverWay public access system that includes 32 miles of bicycle paths and trails that prioritize native habitat, stormwater capture, and shading by 2028. It aims to increase access to adjacent neighborhoods through the completion of three active transport bridges and support the expansion of recreational opportunities compatible with the LA River.

3.11.2.3.4.6 Los Angeles River Revitalization Master Plan

The *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) provides a long-term vision for transforming the City of Los Angeles' 32-mile stretch of the LA River into a network of parks, walkways, and bicycle paths, as well as providing better connections to the neighboring communities, protecting wildlife, promoting the health of the river, and leveraging economic reinvestment. The plan includes a broader mission to enhance connections and linkages between communities in the study area.

3.11.2.3.4.7 Great Streets for Los Angeles 2018–2020 Strategic Plan

The City of Los Angeles Department of Transportation's (LADOT's) *Great Streets for Los Angeles 2018--2020 Strategic Plan* (Great Streets) establishes a vision to deliver great streets for Los Angeles that will support economic vitality and enhance quality of life (LADOT 2018). Great Streets encapsulates the vision for the City's 21st century transportation system that provides better multi-modal choices, a system that can be sustained economically and ecologically, and a system that supports the City's economy by connecting places and creating public spaces. Great Streets seeks to expand the bicycle network and fill key gaps in the City's bicycle network by improving bicycle network connectivity in high-demand areas, such as transit stations, schools, and the LA River.

3.11.2.3.5 City of Maywood General Plan

The *City of Maywood General Plan* includes goals and policies for enhancing and preserving the character and quality of residential neighborhoods in the City of Maywood (City of Maywood 2007). Policies provided in the Circulation Element of the plan address the importance of accommodating transportation needs through an integrated system of streets, public transportation, and pedestrian and bicycle networks throughout the community.

3.11.2.3.6 City of Vernon

3.11.2.3.6.1 City of Vernon General Plan

Goals and policies provided in the Circulation and Infrastructure Element of the *General Plan* include strategies to allow limited residential growth and the associated support services, including recreation and transit (City of Vernon 2015). Policies provided in the Land Use Element of the *General Plan* address the use of properties with the overarching goal of maintain Vernon as an industrial city.

3.11.2.3.6.2 City of Vernon Bicycle Master Plan

The *City of Vernon Bicycle Master Plan* (City of Vernon 2017) is the guiding document for the development of a safe and comfortable network of bicycle facilities linking working centers and community destinations within the City, as well as to the larger regional network. The *City of Vernon Bicycle Master Plan* summarizes the planning process, and describes the current bicycling conditions in Vernon, recommends policies and tools for the City to use in implementing programs and infrastructure improvements, and provides implementation strategies to create better connectivity throughout Vernon and the surrounding region.

3.11.2.3.7 City of Bell

3.11.2.3.7.1 City of Bell 2030 General Plan

The City of Bell *2030 General Plan* (City of Bell 2018) includes the Land Use and Sustainability, Resource Management, Health and Safety, Mobility and Circulation, and Housing Elements. The Plan includes policies that promote and improve alternative transportation and circulation in the City, such as pedestrian-friendly streets, a comprehensive bicycle system, and expanded use of public transit.

3.11.2.3.7.2 City of Bell Bicycle Master Plan

The City of Bell *Bicycle Master Plan* (City of Bell 2016) provides detailed recommendations for infrastructure, policies and programs that promote safe bicycling in the City of Bell. The Plan also establishes City priorities, directs allocation of infrastructure and program resources, and guides implementation of a sustainable bikeway network. The Plan identifies improvements to the bicycling environment in the City and provides recommendations for bikeway and bicycle support facilities, as well as education, encouragement, enforcement and evaluation programs.

3.11.3 Methodology

Construction and operations of the Proposed Project and its options may directly or indirectly affect land use and planning within areas adjacent to the resource study area (RSA). These activities may affect land use and planning through temporary use (such as temporary construction easements during construction) or permanent use (such as required land acquisitions and operations). Potential impacts on land use are qualitatively assessed based on the information gathered on the existing land uses and whether the Proposed Project and its options would be compatible with those land uses or disrupt the physical arrangement of an established community. In addition, the land use impact analysis evaluates whether the Proposed Project and its options would conflict with land use plans, goals, and policies adopted by the regional and local jurisdictions within the RSA for the purpose of avoid or mitigating an

environmental effect. Where this section discusses plans, policies, or regulations not adopted for the purpose of mitigating or avoiding an environmental impact, it is done for informational purposes.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.11.3.1 Resource Study Area

For purposes of evaluating land use and planning impacts, the RSA is defined as a 0.25-mile radius from the temporary and permanent footprints (including construction staging areas and design variations) of the Proposed Project and its options, and 0.5-mile radius at each proposed access point to the Proposed Project and its options. Figures 3.11-1 through 3.11-3 show the RSA for the land use and planning analysis for the Proposed Project, Option 1, and Option 2.

Figure 3.11-1. Land Use and Planning Resource Study Area from Riverside Drive to Fourth Street

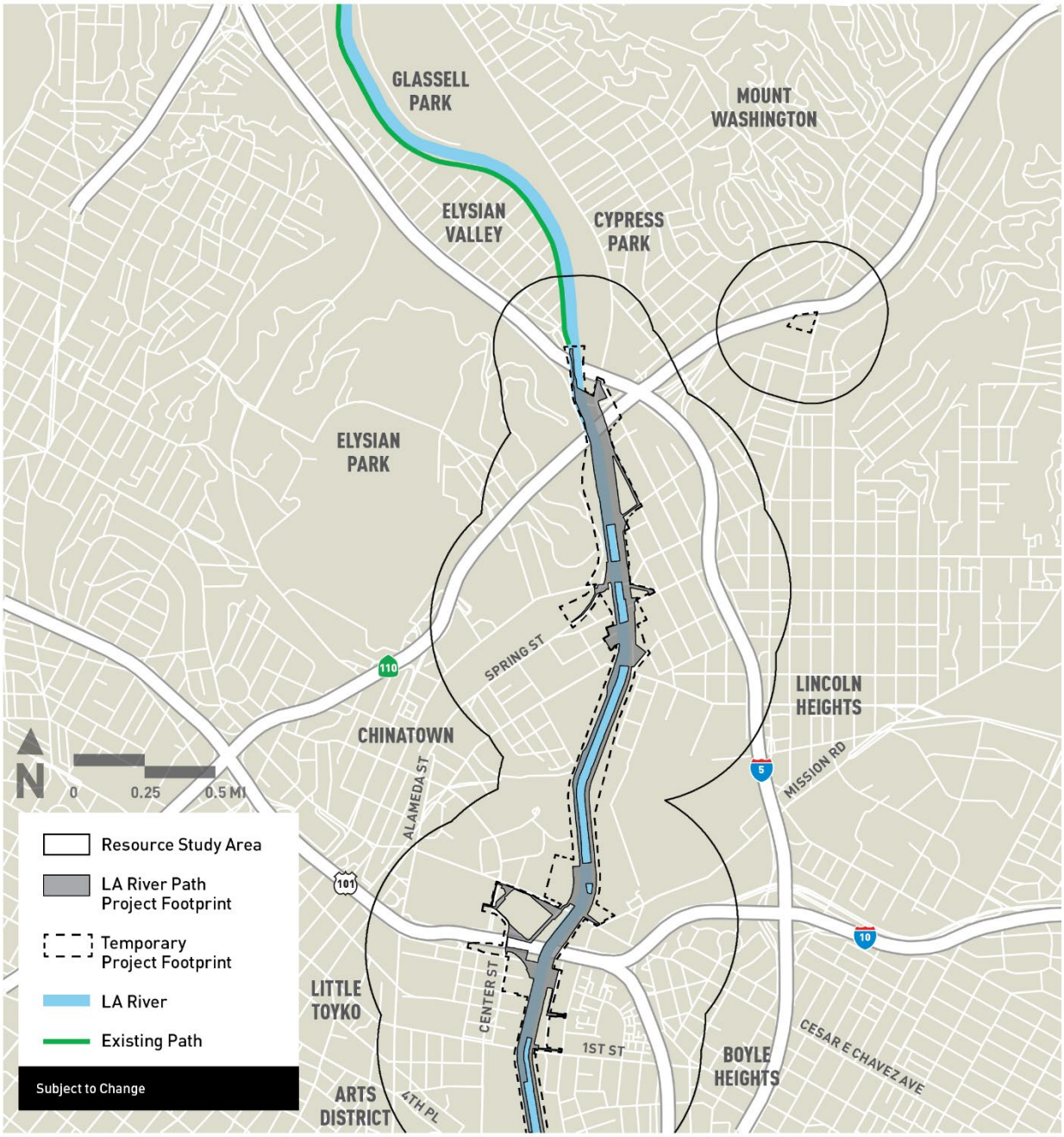


Figure 3.11-2. Land Use and Planning Resource Study Area from Fourth Street to Downey Road

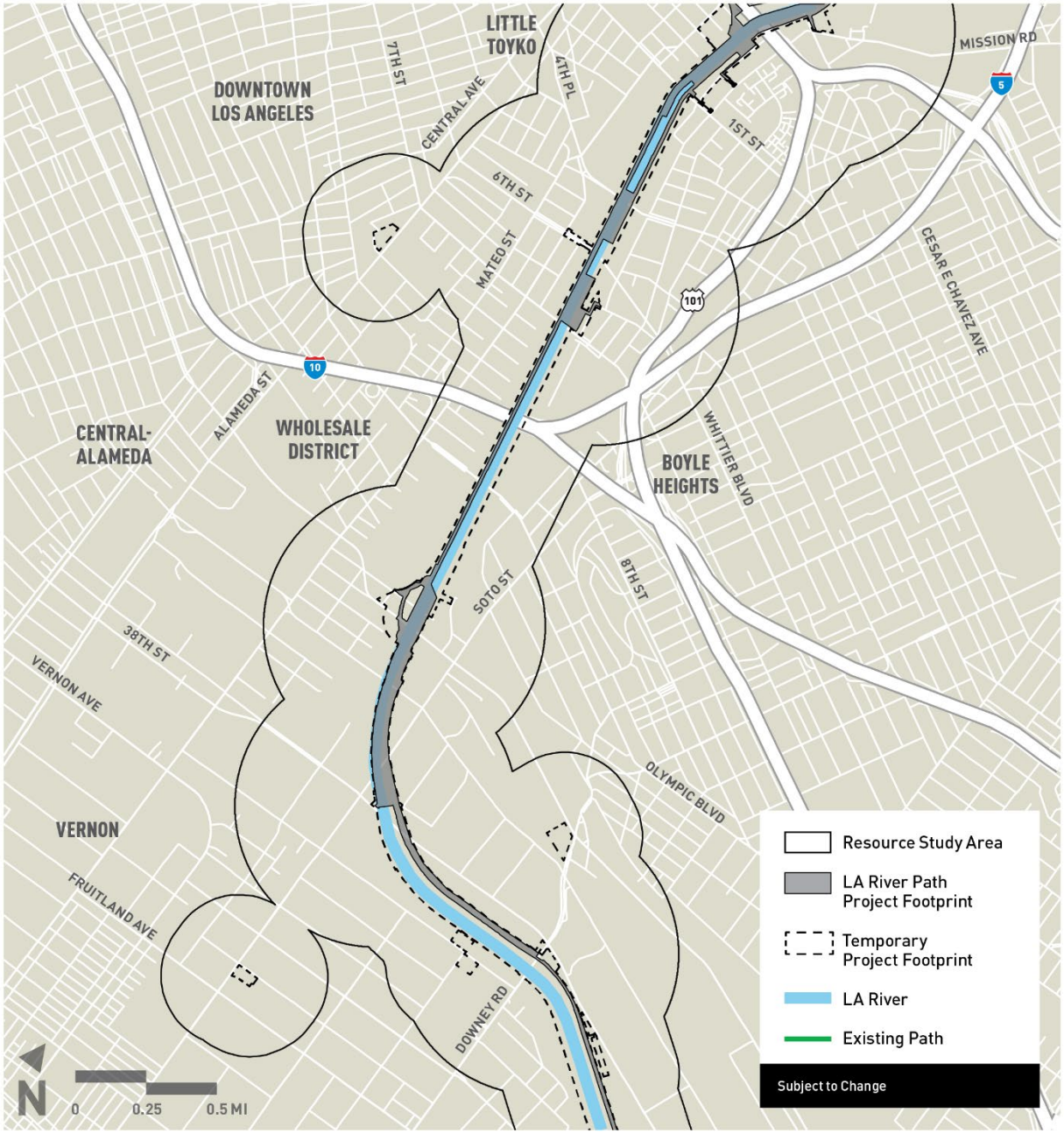
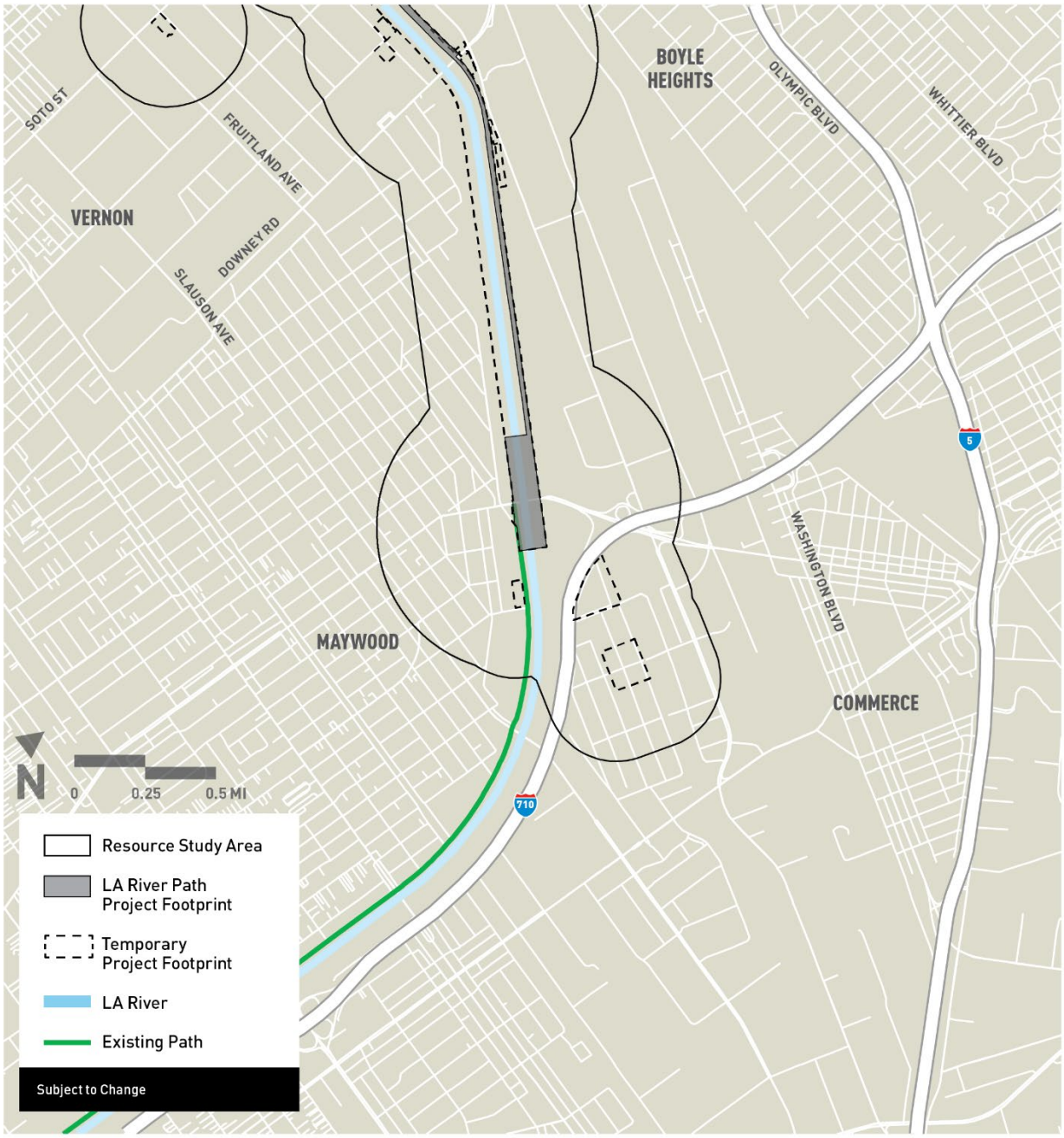


Figure 3.11-3. Land Use and Planning Resource Study Area from Downey Road to Atlantic Boulevard



3.11.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with land use and planning are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to land use and planning would occur if the Project would do any of the following:

- **Impact LU-1:** Physically divide an established community?
- **Impact LU-2:** Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

3.11.3.3 Project Features

As described in Appendix C*, Project Features,* a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. No project features have been developed specifically for land use and planning. However, project features related to land use and planning include the following. Refer to Section 3.4, *Biological Resources* and Section 3.16, *Transportation* for additional detail:

- PF-BIO-03, *Los Angeles River Ecosystem Restoration Project Coordination During Design Process*
- PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*

3.11.4 Existing Setting

The following section describes the existing conditions for land use and planning.

The Project connect the City of Los Angeles at its northern terminus to the City of Vernon at its southern terminus, which also connects to the neighboring City of Maywood, in Los Angeles County. Specifically, the City of Los Angeles neighborhoods located adjacent to the Proposed Project and its options include Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights; the City of Bell also contains temporary construction areas. Table 3.11-2 summarizes the existing land use distribution in the RSA. The land use distribution in the RSA is illustrated in Figures 3.11-4 through 3.11-6.

Table 3.11-2. Land Use Distribution within the Resource Study Area

Land Uses	Acres [a]	Percent Distribution [a]
Residential	418.3	9.3%
Commercial	187.0	4.2%
Industrial	2,130.0	47.3%
Institutional/Public Facilities	241.5	5.4%
Open Space/Recreation	234.2	5.2%
Transportation/Communications/Utilities	1,234.8	27.4%
Vacant/Under Construction/Unknown	59.2	1.3%
Total	**4,505.0**	**100.1%**

Source: Metro 2023; SCAG 2020.

[a] Total acreage and percent distribution may not equal 100 percent due to rounding.

Figure 3.11-4. Land Use Distribution from Riverside Drive to Fourth Street

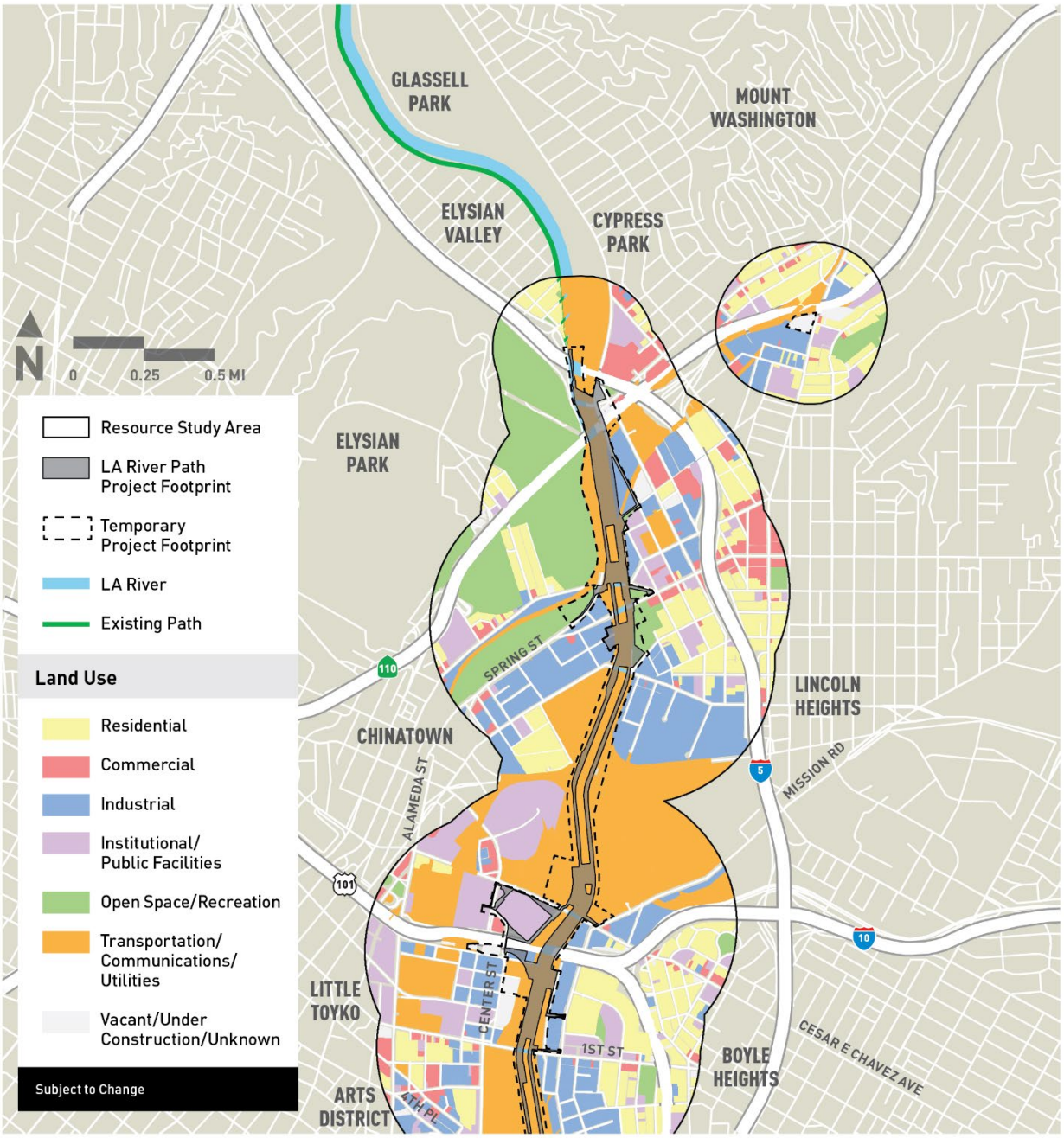


Figure 3.11-5. Land Use Distribution from Fourth Street to Downey Road

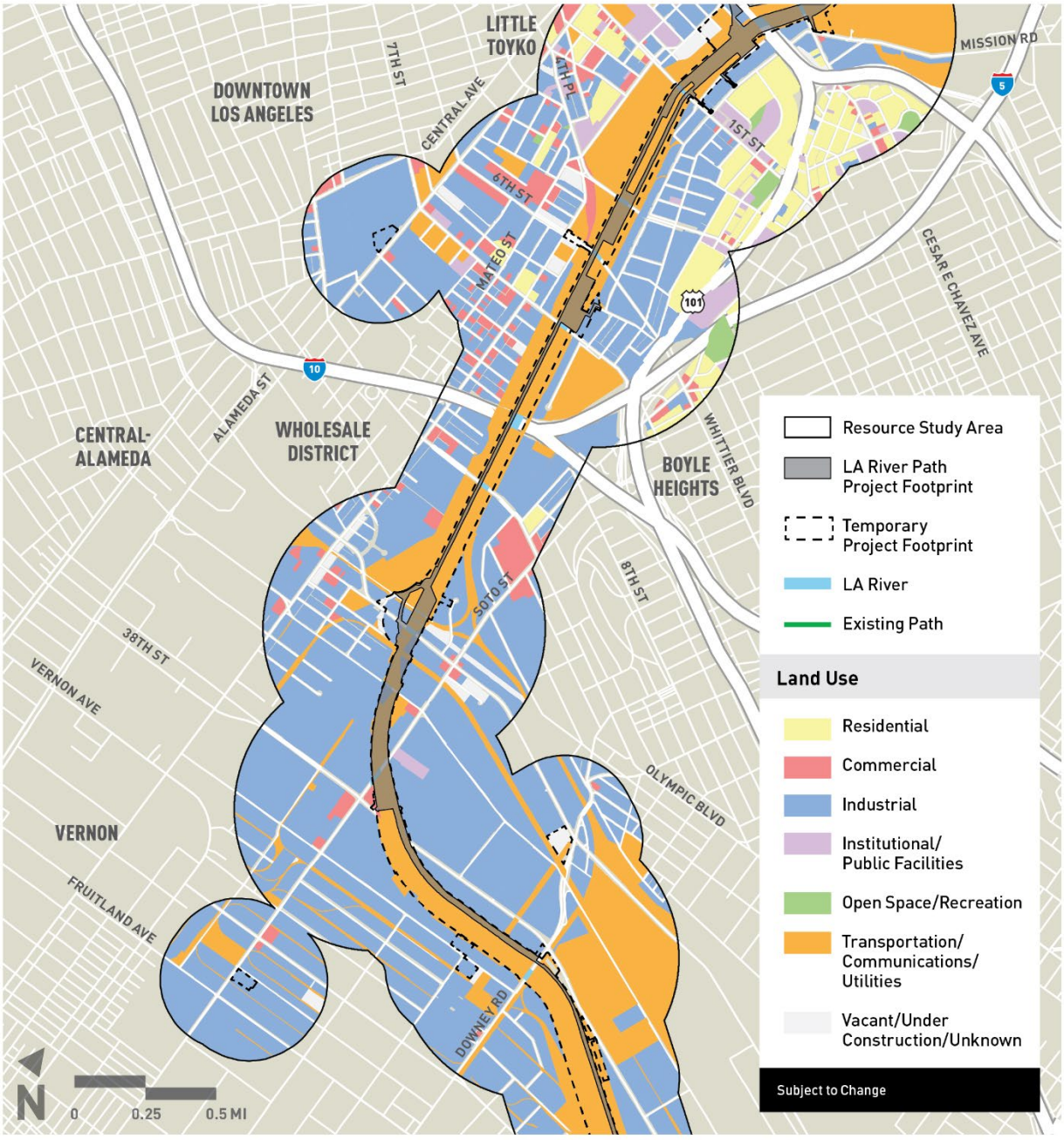
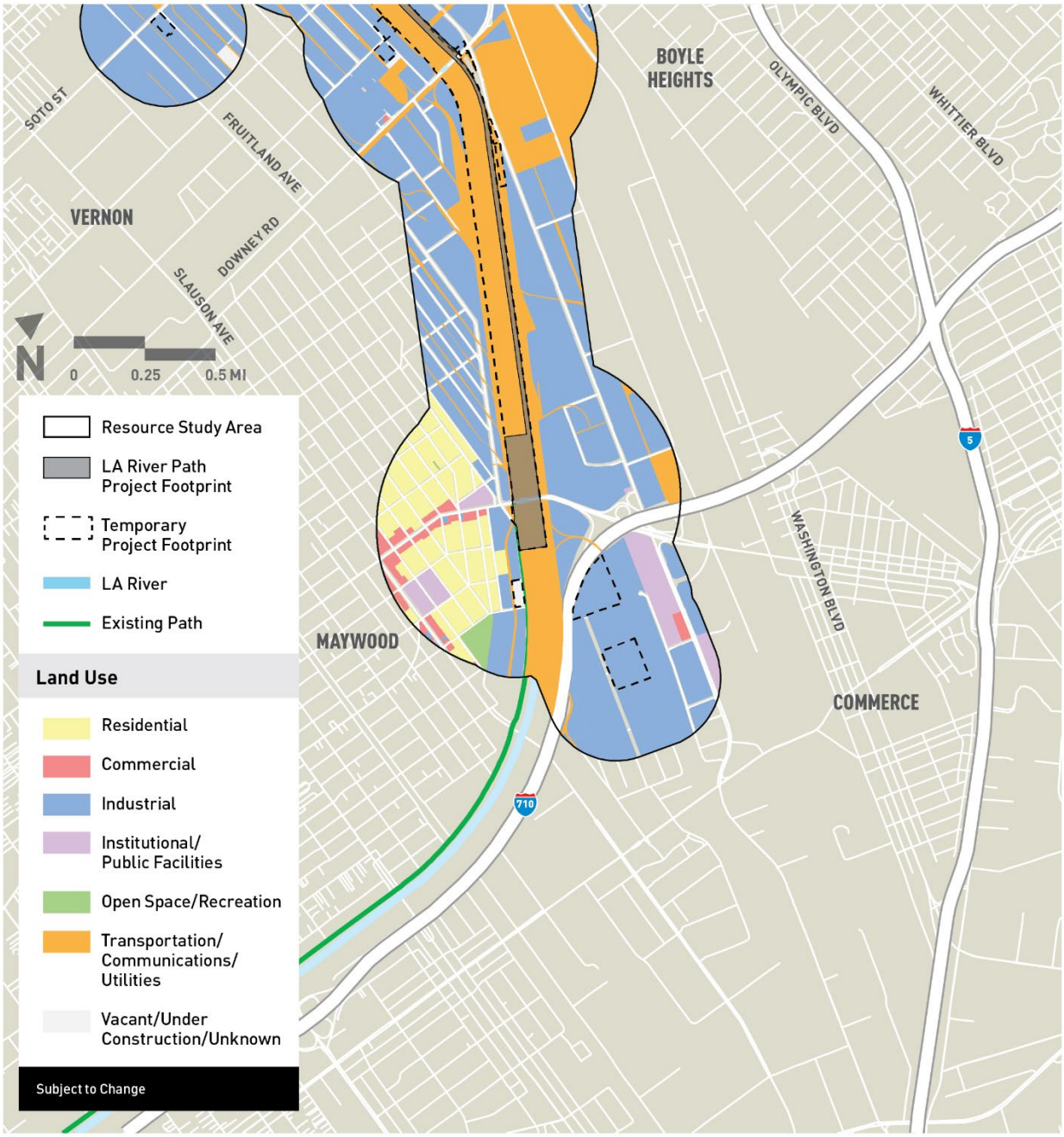


Figure 3.11-6. Land Use Distribution from Downey Road to Atlantic Boulevard



3.11.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to land use and planning are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.11.5.1 Impact LU-1: Dividing an Established Community

Impact LU-1: Physically divide an established community?

3.11.5.1.1 Proposed Project, Option 1, and Option 2

3.11.5.1.1.1 Construction

Less than significant impact. The LA River currently provides a physical barrier along the length of the Project area that shapes several of the adjacent residential communities. These adjacent residential communities are in Lincoln Heights east of the LA River, Chinatown to the west, and in Maywood at the southern end of the path. Construction of the Proposed Project and its options would not further physically divide established communities. As described in Section 2.6.2, *Construction Activities*, construction activities for the Proposed Project and its options would be temporary and would be located within the temporary footprint, which comprises of all areas of ground disturbances associated with construction activities and access (including in-channel access), proposed temporary construction easements (TCEs), and construction staging areas. The Proposed Project and its options would require property acquisitions.

Construction laydown areas and support sites would be located on sites that would need to be acquired by the Proposed Project and its options. The sites are characterized as industrial, commercial, or vacant, and in the LA River. For construction use, the Proposed Project would temporarily affect 158 parcels, Option 1 would temporarily affect 183 parcels, and Option 2 would temporarily affect 192 parcels. However, site acquisitions would be temporary and would primarily consist of slivers of property aside from sites used for the construction laydown. The temporary use of the sites would not present new barriers that would divide an established community as the community is highly urbanized. Construction activities within the temporary footprint would not require the demolition of any existing structures on the properties and would not require the relocation of existing businesses. Loss of parking spaces during the construction phase would occur; however, additional parking is still available within the affected properties for business operation and would not affect the function of the business (refer to Section 2.6.9, *Right-of-Way Acquisitions and Temporary Construction Easements* and Section 3.13, *Population and Housing)*. Short-term partial or full roadway and lane closures may occur to allow for certain construction activities, deliver materials, and maintain public safety. Under these circumstances, traffic controls, flaggers, and other traffic safety measures would be implemented to maintain proper traffic flow during temporary construction activities as discussed in PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* in Section 3.16, *Transportation*. Long-term road closures are not expected. Temporary construction-related street/lane detours and closures would be returned to preconstruction conditions once construction is

completed. Further discussed in Section 3.12, *Noise and Vibration*, construction activities would also implement temporary noise barriers as appropriate to minimize construction noise. Because construction is temporary, construction staging and noise would not present barriers, and proper traffic flow would be maintained, the construction activities are not expected to divide an established community. Therefore, construction-related impacts would be **less than significant**.

3.11.5.1.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities along the LA River to connect with the existing LA River Greenway Trail near Egret Park in the City of Los Angeles and the LA River Bicycle Path near Atlantic Boulevard in the City of Vernon. The existing communities and City boundaries were developed along and around the LA River, which serves as a natural physical boundary. As such, the Proposed Project and its options would be located entirely in or along the banks of the LA River and would not physically divide an established community. The Proposed Project and its options would incorporate access points as the entry points to the LA River Path for the communities surrounding it. Access points would be located along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E Line and A Line Stations. The access points would also provide greater accessibility and connectivity to community facilities such as schools, businesses, places of employment, health services, and parks and recreation facilities (including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park). As such, operations and maintenance (O&M) activities of the Proposed Project and its options would not result in activities that would physically divide an established community. Therefore, impacts related to the physical division of a community would be **less than significant**.

3.11.5.2 Impact LU-2: Plans, Policies, and Regulations

Impact LU-2: Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

3.11.5.2.1 Proposed Project, Option 1, and Option 2

3.11.5.2.1.1 Construction

Less than significant impact. No incompatibilities with adjacent land uses or inconsistencies with applicable land use plans, policies, or regulations adopted for the purpose of avoiding an environmental impact would result from construction with respect to land use. Construction activities for the Proposed Project and its options would further the goals, objectives, and policies of Connect SoCal and local land use plans related to alternative and efficient multi-modal transportation; improve mobility and connections with community facilities destinations; reduce vehicle miles traveled; provide a safe, healthy, and equitable environment and for all ages; and coordinate efforts to achieve a "complete" and connected integrated transportation system. Therefore, construction activities would not cause significant environmental impacts due to conflicts with land use plans, policies, and regulations adopted for purpose of avoiding or mitigating an environmental effect.

The USACE Los Angeles District and City of Los Angeles are planning to restore the aquatic riparian ecosystem native to and along an approximately 11-mile stretch of the LA River. The improvements for the Los Angeles River Ecosystem Restoration (LARER) project would provide ecosystem benefits while

maintaining existing levels of flood risk management in the LA River. Although the LARER project is not a plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect, for purposes of evaluation in this Draft EIR, the LARER project is treated as such.

The Proposed Project and its options would interact with the LARER project in the LA River and nearby areas between I-5 and First Street. USACE and the City of Los Angeles plan to convert several existing storms drains into surface water wetland features in Reaches 7 and 8 and to construct a freshwater marsh at the Los Angeles State Historic Park in locations that may overlap with portions of the Proposed Project or its options.

The LARER project is a planned project currently with limited design information to be considered as baseline conditions for this evaluation of Project conflicts with the LARER project. Metro and USACE have consulted on the Project during the preparation of the Draft EIR, including early input from USACE on the design of the Project. USACE reviewed the conceptual engineering and technical studies for the Project and provided comments based on the interaction between the LARER project and the Project. Both Metro and USACE agree that continuous consultation and coordination will be beneficial and essential to these two projects so that the designs are compatible. The Proposed Project and its options support the implementation of the LARER project planning objective to include recreation compatible with the restored environment in the area of Reaches 7 and 8.

The Proposed Project and its options would not preclude the implementation of the planned improvements associated with the development of a freshwater marsh at the Los Angeles State Historic Park and the concrete removal, channel widening, and creation of a wetland in Reaches 7 and 8. The term "not preclude" is defined for the Draft EIR as the Project would not stop, interfere, or prevent the implementation of the LARER project. For the purposes of this Draft EIR, the Project would "not preclude" the LARER project based on the following commitments during final design and construction:

- The Project would not significantly affect the costs associated with the implementation of the LARER project.
- The Project would not incur delays or negatively affect the schedule associated with the implementation of the LARER project.
- The Project would not impose permanent physical restrictions that would affect the design and implementation of the LARER project.
- PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that the coordination between Metro, USACE, and the City of Los Angeles continues into the final design phase of the two projects. Continuing this consultation would allow these agencies to identify opportunities where the Proposed Project and its options and the LARER project can reach their project goals and provide the active transportation corridor and ecosystem restoration to the local and regional communities. Impacts would be less than significant.

3.11.5.2.1.2 Operations and Maintenance

Less than significant impact. The following analysis presented in Tables 3.11-3 through 3.11-11 contain a consistency analysis of applicable goals, objectives, and policies for identified regulatory plans.

The Proposed Project and its options would be consistent with overall goals of Connect SoCal, which was adopted to prepare the Southern California region for a changing climate and to support an integrated regional development and transportation network. Based on the consistency analysis presented in Table 3.11-3, the Proposed Project and its options would be consistent with applicable goals of Connect SoCal and no conflicts would occur.

Table 3.11-3. Project Consistency with Connect SoCal

Goals	Consistency Analysis
Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.	**Consistent.** The Proposed Project and its options would provide an active transportation path along the LA River between Elysian Valley in the City of Los Angeles and the Cities of Vernon and Maywood that would enhance and provide recreational opportunities, livability, regional and local connectivity and provide an outstanding user experience, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. By providing an increase in access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services; and improving access to opportunity for historically under-invested communities, especially in low-income and minority communities, the Project would increase goods movement and travel choices within the transportation system. The Proposed Project and its options would create a path that meets the needs of both recreational and utilitarian users.
Goal 4: Increase person and goods movement and travel choices within the transportation system.	
Goal 7: Adapt to a changing climate and support an integrated regional development pattern and transportation network.	**Consistent.** The Proposed Project and its options would reduce vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths, and expanding travel choices. Overall, implementation of the Proposed Project and its options would reduce vehicle trips along roadways in the vicinity of the path. An increase in vehicle demand at the access points due to recreational path users driving to an access point to use the path would be minimal and is not expected to exceed the corresponding reduction in vehicle trips on other roadways. Refer to Section 3.16, *Transportation* for more information required reduction in vehicle miles travelled.

Source: SCAG 2020

The Proposed Project and its options would be consistent with applicable goals and policies of the *Los Angeles County General Plan 2035* Mobility Element (County of Los Angeles Department of Regional Planning 2022) and the *County of Los Angeles Bicycle Master Plan* (County of Los Angeles Public Works 2012). Consistent with the *Los Angeles County General Plan 2035* Mobility Element and *Bicycle Master Plan*, the Proposed Project and its options would provide interconnected and safe pedestrian and bicycle paths; connect paths to community facilities, businesses, places of employment, and destinations; provide transportation options and access to underserved communities; and include coordination efforts with adjacent jurisdictions to ensure connectivity and the creation of an integrated network. Based on the consistency analysis presented in Table 3.11-4, the Proposed Project and its options would be consistent with applicable goals and policies of the *Los Angeles County General Plan 2035* Mobility Element and *Bicycle Master Plan* and impacts would be less than significant.

Based on the consistency analysis presented in Table 3.11-5, the Proposed Project and its options would be consistent with applicable goals and actions of the LARMP, and impacts would be less than significant. The Proposed Project and its options would improve the aesthetics of the LA River through pathway elements, such as landscaping/vegetation and shade structures, and would provide a safe environment and safe connections between the LA River and other community facilities and transportation network.

Table 3.11-4. Project Consistency with the Los Angeles County General Plan 2035 Mobility Element and Los Angeles County Bicycle Master Plan

Goals/Policies	Consistency Analysis
Mobility Element	
Goal M 2: Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use.	**Consistent.** The Proposed Project and its options would provide an active transportation path that would close an approximately 8-mile gap along the LA River between Elysian Valley in the City of Los Angeles, through downtown Los Angeles, and southerly to the City of Vernon and City of Maywood. The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. The Proposed Project and its options would provide access points to the LA River Path that would provide greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities. In addition, access points would be located along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Policy M 2.8: Connect trails and pedestrian and bicycle paths to schools, public transportation, major employment centers, shopping centers, government buildings, residential neighborhoods, and other destinations.	
Goal M4: An efficient multi-modal transportation system that serves the needs of all residents.	
Policy M4.1: Expand transportation options that reduce automobile dependence.	**Consistent.** The Proposed Project and its options would expand transportation options by providing first- and last-mile connections to Metro bus, rail, and other pedestrian and bicycle trails in the RSA, including access to Union Station and the Metro E and A Line Stations.
Policy M4.4: Ensure expanded mobility and increase transit access for underserved transit users, such as seniors, students, low-income households, and persons with disabilities.	**Consistent.** The Proposed Project and its options would improve access to opportunity for historically under-invested communities, especially in low-income and minority communities located directly along the LA River area. The proposed active transportation path, designed for all abilities and ages, would provide access to and between downtown Los Angeles; the surrounding communities of Elysian Valley, Cypress Park, Elysian Park, Lincoln Heights, Chinatown, the Arts District, Little Tokyo, the Industrial District, Boyle Heights, and East Los Angeles; and the Cities of Vernon and Maywood.
Policy M4.9: Support the linkage of regional and community-level transportation systems, including multi-modal networks.	**Consistent.** Refer to Policy M4.1.
Policy M 4.12: Work with adjacent jurisdictions to ensure connectivity and the creation of an integrated regional network.	**Consistent.** Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro maintains Project coordination efforts with Los Angeles County, City of Los Angeles, USACE, City of Vernon, and City of Maywood.
Bicycle Master Plan	
Goal 1: Expanded, improved, and interconnected system of county bikeways and bikeway support facilities to provide a viable transportation alternative for all levels of bicycling abilities, particularly for trips of less than 5 miles.	**Consistent.** Refer to Mobility Element Goal 2, Policy M4.1, and Policy M4.4.

Sources: Metro 2012, 2015

USACE = US Army Corps of Engineers

Table 3.11-5. Project Consistency with the Los Angeles County *LA River Master Plan*

Goals	Consistency Analysis
Goal 2: Provide Equitable, Inclusive, and Safe Parks, Open Space, and Trails	**Consistent.** The Proposed Project and its options would close an approximately 8-mile gap along the LA River between Elysian Valley in the City of Los Angeles, through downtown Los Angeles, and southerly to the City of Vernon and City of Maywood. The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. The Proposed Project and its options would provide access points to the LA River Path that would provide greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities. Access points would be located along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Actions 2.1. Create 51 miles of connected open space along the river	
Action 2.2. Complete the LA River Trail so that there is a continuous route along the entire river, and encourage future routes on both sides where feasible	
Action 2.3. Provide support facilities at a regular cadence along the length of the river, on both sides where feasible	
Action 2.4. Ensure design excellence within and along the river corridor	**Consistent.** The primary objective of the Project is to create a safe and world-class active transportation path. The design and building materials would complement the architectural themes and visual character of the surrounding area. To provide comfort, safety, security, and an enjoyable user experience, the Proposed Project and its options would include pathway striping; lighting; drought-tolerant and low-maintenance landscaping/vegetation; protective railings and bollards; and signage providing informational, educational, and wayfinding information, as described in Chapter 2.0, *Project Description*. The Project O&M Plan would also consider hours of operations, security and public safety, police patrol, and emergency response. Refer to Chapter 2, *Project Description* for additional information regarding design elements.
Action 2.5. Encourage compatibility of the river and adjacent land uses	
Action 2.7. Promote life safety along the river	
Action 2.8. Promote public safety along the river	
Goal 3: Support Healthy, Connected Ecosystems	**Consistent.** The Proposed Project and its options would align with this goal with the installation of landscaping/vegetation into the design where feasible. Landscaping/vegetation would include local, drought-tolerant, native plants. The O&M activities along the proposed path would be consistent with those conducted along the existing LA River bicycle paths and would utilize environmentally responsible practices. The Project O&M Plan would establish the O&M activities and best management practices for the LA River Path.
Action 3.2. Increase plant species biodiversity, and focus on the use of local California native plants in and around the river corridor	
Action 3.5. Use environmentally responsible practices for operations and maintenance of the river channel and adjacent lands	
Goal 4: Enhance Opportunities for Equitable Access to the River Corridor	**Consistent.** The Proposed Project and its options would provide access points to the LA River Path that would provide greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities. Access points would be located along and adjacent to both sides of the river to reach communities on both sides of the river. The access points would also connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to LA Union Station and the Metro E and A Line Stations. The O&M Plan would include hours of operations, security and public safety, police patrol, and emergency response.
Action 4.1 Create welcoming access points and gateways to the LA River and LA River Trail to optimize physical access along its length, on both sides	
Action 4.2 Increase safe transportation routes to the river.	

Source: LACDPW 2022

Based on the consistency analysis presented in Table 3.11-6, the Proposed Project and its options would be consistent with applicable goals, objectives, and policies of Metro's planning documents, including *Countywide Sustainability Planning Policy and Implementation Plan, Active Transportation Strategic Plan, Vision 2028 Strategic Plan, Connect US Action Plan, Complete Streets Policy,* and *First Last Mile Strategic Plan & Planning Guidelines*, and impacts would be less than significant. The Proposed Project and its options would reduce trip lengths and increase travel choices; promote clean mobility options; improve public health through active transportation; include coordination efforts with adjacent jurisdictions to ensure connectivity and the creation of an integrated network; provide greater access to opportunities and to community facilities; and provide a safe pedestrian and facility for use by all people.

Table 3.11-6. Project Consistency with Metro Planning Goals, Objectives, and Policies

Goals/Objectives/Policies	Consistency Analysis
Metro Countywide Sustainability Planning Policy & Implementation Plan	
Access: Better integrate land use and transportation planning to reduce trip lengths and increase travel choices.	**Consistent.** The Proposed Project and its options would reduce vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths, and expanding travel choices. The Proposed Project and its options would provide countywide mobility and much needed low-cost transportation options. The Proposed Project and its options would also integrate land use planning and reduce trip lengths by providing first- and last-mile transportation connections to Metro's bus and rail network and greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities.
Green Modes: Promote clean mobility options to reduce criteria pollutants, GHG emissions, and dependence on foreign oil.	**Consistent.** The Proposed Project and its options would promote clean mobility options by providing an alternative mode of transportation and by providing first- and last-mile transportation connections to Metro bus, rail, and other bicycle and pedestrian trails RSA, including access to Union Station and the Metro E and A Line Stations.
Healthy Neighborhoods: Improve public health through traffic safety, reduced exposure to pollutants, and design and infrastructure for active transportation.	**Consistent.** As an active transportation path, the Proposed Project and its options would improve public health by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would create a path that feels safe, comfortable, and open to people of all ages and abilities.
Community Development: Design and build transportation facilities that promote in-fill development, build community identity, and support social and economic activity.	**Consistent.** The Proposed Project and its options would promote community identity and support social and economic activity through increased access and connections from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services. In addition, the Proposed Project and its options would provide more active lifestyle choices to largely disadvantaged communities and would complement projects that have already been built or are underway by closing critical gaps in the bicycle network, and by integrating and synchronizing plans for the path.

Table 3.11-6. Project Consistency with Metro Planning Goals, Objectives, and Policies

Goals/Objectives/Policies	Consistency Analysis
Active Transportation Strategic Plan	
Goal: Establish active transportation modes as integral elements of the Countywide transportation system.	**Consistent.** The Proposed Project and its options would provide access points and connections along and adjacent to both sides of the river to connect the path with existing and proposed future first- and last-mile connections to on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Goal: Promote multiple clean transportation options to reduce criteria pollutants and GHG emissions and improve air quality.	**Consistent.** As an active transportation path, the Proposed Project and its options would inherently promote clean transportation options. In addition, the Proposed Project and its options would reduce vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths, and expanding travel choices.
Goal: Improve public health through traffic safety, reduced exposure to pollutants, and design and infrastructure that encourage residents to use active transportation as a way to integrate physical activity into their daily lives.	**Consistent.** As an active transportation path, the Proposed Project and its options would improve public health by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities. The Proposed Project and its options would provide more active lifestyle choices to largely disadvantaged communities.
Goal: Foster healthy, equitable, and economically vibrant communities where all residents have greater transportation choices and access to key destinations, such as jobs, medical facilities, schools, and recreation.	
Objective: Work with partners to create a regional active transportation network.	**Consistent.** The Proposed Project and its options would provide connectivity to Metro bus, rail, and other bicycle and pedestrian trails in the RSA, including access to Union Station and the Metro E and A Line Stations.
Metro Vision 2028 Strategic Plan	
Goal 1: Provide high-quality mobility options that enable people to spend less time traveling.	**Consistent.** The Proposed Project and its options would provide high-quality mobility options that would enable people to spend less time traveling by providing first- and last-mile transportation connections to Metro's bus and rail network and greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities.
Goal 3: Enhance communities and lives through mobility and access to opportunity.	
Objective: Work with partners to create a regional active transportation network.	**Consistent.** Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.
Connect US Action Plan	
Policy 2: Transform the environment to benefit people on foot and people on wheels.	**Consistent.** The Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities.
Policy 3: Provide basic pedestrian and bicycle facilities to allow people to safely walk, bicycle, and use transit in the study area.	

Table 3.11-6. Project Consistency with Metro Planning Goals, Objectives, and Policies

Goals/Objectives/Policies	Consistency Analysis
Policy 5: Improve weak linkages to surrounding neighborhoods.	**Consistent.** The Proposed Project and its options would improve weak linkages to surrounding neighborhoods through increased access and connections from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services. In addition, the Proposed Project and its options would provide access points and greater accessibility to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Policy 6: Improve access to open spaces, including the Los Angeles River, parks, plazas, and public spaces in the study area.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. Access points in the City of Maywood would also provide greater access to the surrounding Maywood Park and Pine Avenue Park.
Policy 10: Contribute to a more environmentally sustainable Los Angeles.	**Consistent.** The Proposed Project and its options would be an alternative mode of transportation with first- and last-mile connections to on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Metro Complete Streets Policy	
Goal: Maximize multi-modal benefits and efficiencies.	**Consistent.** As an active transportation path, the Proposed Project and its options would maximize multi-modal benefits and efficiencies by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would enable people to spend less time traveling by providing first- and last-mile transportation connections to Metro's bus and rail network including access to Union Station and the Metro E and A Line Stations, and street and walking networks.
Goal: Facilitate multi-jurisdictional coordination and leverage partnerships and incentive programs to achieve a "complete" and integrated transportation system that serves all users.	**Consistent.** Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.
Goal: Establish active transportation improvements as integral elements of the countywide transportation system.	

Table 3.11-6. Project Consistency with Metro Planning Goals, Objectives, and Policies

Goals/Objectives/Policies	Consistency Analysis
Goal: Foster healthy, equitable, and economically vibrant communities where all residents have greater mobility choices.	**Consistent.** As an active transportation path, the Proposed Project and its options would improve public health by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities. The Proposed Project and its options would provide more active lifestyle choices to largely disadvantaged communities.
First Last Mile Strategic Plan & Planning Guidelines	
Goal 2: Maximize multi-modal benefits and efficiencies.	**Consistent.** Refer to Metro Complete Street Policy, Goal: Maximize multi-modal benefits and efficiencies.
Goal 3: Build on the RTP/SCS and Countywide Sustainable Planning Policy (multi-modal, green, equitable, and smart).	**Consistent.** The Proposed Project and its options is consistent with Connect SoCal and Metro Countywide Sustainable Planning Policy as it relates to reducing trip lengths, promoting clean mobility options, and providing multi-modal transportation options. As an active transportation path, the Proposed Project and its options would enhance and provide recreational opportunities, livability, regional and local connectivity, and access to economic opportunity for the surrounding communities.

Sources: Metro 2012, 2014, 2015, 2018, 2021, 2023

Based on the consistency analysis presented in Table 3.11-7, the Proposed Project and its options would be consistent with applicable goals, objectives, and policies of the *City of Los Angeles General Plan Framework Element*, *2010 Bicycle Plan* (Transportation Element), and *Mobility Plan 2035*, and impacts would be less than significant. The Proposed Project and its options would reduce traffic congestion and improve air quality through the enhancement of recreation and open space; emphasizes pedestrian/bicycle access at community-centered access points; creates a segment of the LA River bike path that provides connections to the existing LA River bike paths; creates a safe and comfortable area for people of all ages and abilities with greater accessibility to community resources and facilities; and supports first-mile, last-mile solutions.

Table 3.11-7. Project Consistency with the City of Los Angeles General Plan

Goals	Consistency Analysis
Framework Element	
Goal 3A: A physically balanced distribution of land uses that contributes toward and facilitates the reduction of traffic congestion and improvement of air quality; enhancement of recreation and open space opportunities.	**Consistent.** The Proposed Project and its options would reduce vehicle miles traveled, reduce traffic congestion, and improve air quality by providing an alternative mode of transportation on a dedicated, vehicle-separated path through and within Los Angeles County for walking, bicycling, and rolling. The Proposed Project and its options would provide connectivity to Metro bus, rail, and other bicycle and pedestrian trails in the RSA, including access to Union Station and the Metro E and A Line Stations. Improved access and connections would also be created from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services.

Table 3.11-7. Project Consistency with the City of Los Angeles General Plan

Goals	Consistency Analysis
Policy 3.1.3: Identify areas for the establishment of new open space opportunities to serve the needs of existing and future residents. These opportunities may include a citywide linear network of parklands and trails, neighborhood parks, and urban open spaces.	**Consistent.** The Proposed Project and its options is an active transportation path that would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.
Policy 3.2.3: Provide for the development of land use patterns that emphasize pedestrian/bicycle access and use in appropriate locations.	**Consistent.** Refer to Goal 3A.
Objective 6.2: Maximize the use of the City's existing open space network and recreation facilities by enhancing those facilities and providing connections, particularly from targeted growth areas, to the existing regional and community open space system.	**Consistent.** Refer to Policy 3.1.3.
2010 Bicycle Plan (Transportation Element)	
Objective 1.1: Develop a comprehensive transportation and recreation bikeway system for the City of Los Angeles.	**Consistent.** The Proposed Project and its options is an active transportation path that would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. Access points and connections along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations. Improved access and connections would also be created from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services.
Policy 3.3.1: Provide a connected network of Class I Bikeways facilities linking bicyclists to recreational, transportation, and community facilities.	
Policy 3.3.4: Promote bicycle connectivity to community serving uses such as schools, libraries, retail, and parks.	
Mobility Plan 2035	
Policy 2.6: Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities.	**Consistent.** As an active transportation path, the Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities. The Proposed Project and its options would increase access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services. In addition, the Proposed Project and its options would provide access points and greater accessibility to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.
Policy 3.3: Promote equitable land use decisions that result in fewer vehicle trips by providing greater proximity and access to jobs, destinations, and other neighborhood services.	

Table 3.11-7. Project Consistency with the City of Los Angeles General Plan

Goals	Consistency Analysis
Policy 3.5: Support first-mile, last-mile solutions such as multi-modal transportation services, organizations, and activities in the area around transit stations and major bus stops (transit stops) to maximize multi-modal connectivity and access for transit riders.	**Consistent.** The Proposed Project and its options would support first-mile, last-mile solutions by providing first- and last-mile transportation connections to Metro's bus and rail network; and greater accessibility to employment, entertainment, commercial, education, and recreational centers to the surrounding communities.
Policy 3.7: Improve transit access and service to major regional destinations, job centers, and inter-modal facilities.	**Consistent.** Refer to Policy 2.6 and 3.3.
Policy 4.11: Communicate and partner with SCAG, Metro, and adjacent cities and local transit operators to plan and operate a cohesive regional mobility system.	**Consistent.** Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.

Sources: City of Los Angeles 2001; City of Los Angeles Department of City Planning 2011, 2016

As discussed in Table 3.11-8, the Proposed Project and its options would be consistent with applicable goals, objectives, and policies of applicable City of Los Angeles community, redevelopment, specific, and master plans (such as Boyle Heights, Central City North, Central City, Northeast Los Angeles, Silver Lake – Echo Park – Elysian Valley Community Plans; *Redevelopment Plan for the Adelante Eastside Redevelopment Project*, the *Cornfield Arroyo Seco Specific Plan*, and the *LA River Revitalization Master Plan*), and impacts would be less than significant. The Proposed Project and its options would create a safe bicycle system that would link residents to other bikeway systems, community resources, and recreational facilities; connect with facilities of neighboring areas; encourage alternative modes of transportation; and reduce vehicle emissions.

Table 3.11-8. Project Consistency with City of Los Angeles Community Plans

Goals/Objectives/Policies	Consistency Analysis
Boyle Heights Community Plan	
Circulation Policy 4: That a bikeway system should be developed within the Community to permit safe bicycle use and to link residents to other bikeway systems which provide access to recreational facilities.	**Consistent.** As an active transportation path, the Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities. The Proposed Project and its options would increase access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services. In addition, the Proposed Project and its options would provide access points and greater accessibility to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including access to Union Station and the Metro E and A Line Stations.

Table 3.11-8. Project Consistency with City of Los Angeles Community Plans

Goals/Objectives/Policies	Consistency Analysis
Silver Lake – Echo Park – Elysian Valley Community Plan	
Goal 4: Adequate recreation and park facilities which meet the needs of the residents in the plan area and create links to existing facilities to expand recreational opportunities citywide.	**Consistent.** Refer to Circulation Policy 4.
Objective 5-2: Provide/ensure access to new recreational resources and open space developed throughout the Plan area, including trails and facilities along the Los Angeles River, and new parks.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.
Policy 14-1.1: Assure that local bicycle routes are identified and linked with facilities of neighboring areas of the City.	**Consistent.** Refer to Circulation Policy 4 and Objective 5-2.
Central City North Community Plan	
Goal 12: Encourage alternative modes of transportation to the use of single occupant vehicles in order to reduce vehicle trips.	**Consistent.** As an active transportation path, the Proposed Project and its options would maximize multi-modal benefits and efficiencies by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would enable people to spend less time traveling by providing first- and last-mile transportation connections to Metro's bus and rail network including access to Union Station and the Metro E and A Line Stations, and street and walking networks. The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.
Objective 13-1: To promote an adequate system of bikeways for commuter, school, and recreational use.	
Policy 13-1.1: Plan for and encourage funding and construction of bicycle facilities connecting residential neighborhoods to schools, open space areas, and employment centers.	
Policy 13-1.3: Assure that local bicycle facilities are linked with the facilities of neighboring areas of the City.	
Central City Community Plan	
Objective 4-4: To encourage traditional and non-traditional sources of open space by recognizing and capitalizing on linkages with transit, parking, historic resources, cultural facilities, and social services programs.	**Consistent.** Refer *Central City North Community Plan* Goal 12, Objective 13-1, Policy 13-1.1, and Policy 13-1.3.

Table 3.11-8. Project Consistency with City of Los Angeles Community Plans

Goals/Objectives/Policies	Consistency Analysis
Goal 12: Encourage alternative modes of transportation to the use of single occupant vehicles in order to reduce vehicle trips.	**Consistent.** As an active transportation path, the Proposed Project and its options would encourage alternative modes of transportation by providing first- and last-mile transportation connections to Metro's bus and rail network including access to Union Station and the Metro E and A Line Stations, and street and walking networks.
Northeast Los Angeles Community Plan	
***Northeast Los Angeles Community Plan*, Policy 5-1.2:** Increase accessibility to park land along the Arroyo Seco and potential parkland along the Los Angeles River.	**Consistent.** Refer *Central City North Community Plan* Goal 12, Objective 13-1, Policy 13-1.1, and Policy 13-1.3.
Redevelopment Plan for the Adelante Eastside Redevelopment Project	
Objective 1: Improve the quality of life for those who live and work in and visit the project area through enhanced business, employment, housing, shopping, entertainment, recreational, and educational opportunities.	**Consistent.** Refer *Central City North Community Plan* Goal 12, Objective 13-1, Policy 13-1.1, and Policy 13-1.3.
Objective 10: Support and encourage a circulation system that will improve the quality of life in the project area, including pedestrian, automobile, parking, and mass transit systems, with emphasis on serving existing facilities and meeting future needs.	
Objective 14: Promote the development of sound residential neighborhoods through mechanisms such as: land use, density, and design standards; public improvements; property rehabilitation; sensitive mixed-use and in-fill housing rehabilitation and development; traffic and circulation programming; and development of open spaces and other services necessary to enable residents to live and work in or adjacent to the project area.	
Cornfield Arroyo Seco Specific Plan	
Purpose 9: Facilitate pedestrian mobility, encourage bicycle use, provide shared and unbundled parking spaces, provide access to a variety of transit options including frequent light rail and bus connections, shared vehicles and bicycles, and taxis.	**Consistent.** Refer *Central City North Community Plan* Goal 12, Objective 13-1, Policy 13-1.1, and Policy 13-1.3.
Purpose 10: Lessen dependence on automobiles, and thereby reduce vehicle emissions, while enhancing the personal health of residents, employees, and visitors.	**Consistent.** As an active transportation path, the Proposed Project and its options would improve public health by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would create a dedicated walking, bicycling, and rolling path on a dedicated, vehicle-separated path that feels safe, comfortable, and is open to people of all ages and abilities. The Proposed Project and its options would provide more active lifestyle choices to largely disadvantaged communities.

Table 3.11-8. Project Consistency with City of Los Angeles Community Plans

Goals/Objectives/Policies	Consistency Analysis
Purpose 13: Reduce the use of energy and potable water, improve the ecology surrounding the Watershed and Arroyo Seco, create connections from the community to the River and Arroyo Seco, and support the *Los Angeles River Revitalization Master Plan*.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.
Los Angeles River Revitalization Master Plan	
Objective 2: Enhance Connections, and Linkages: River projects should not be done in isolation, but should connect well with nearby communities. Planning for river projects should not consider merely the river channel itself, but communities in a wider corridor. Planning and projects should include open and natural space, transportation, housing, jobs, business, community development, art, and other amenities.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.
Objective 3: Increase access: Residents who visit and enjoy river amenities will care about the long-term health of the river. River projects should be welcoming to the public. Public access should be enhanced through environmentally sensitive design and planning.	**Consistent.** The Proposed Project and its options are located along the LA River in an area that is currently underutilized and is not developed with an active transportation path. The Proposed Project and its options would close the longest remaining gap between existing trails along the LA River to serve existing communities, meet future demand, and improve regional connectivity. The Proposed Project and its options would include path elements such as railings, pathway striping, and signage and other potential pathway elements such as seating, drinking fountains, restroom facilities, public art, landscaping/vegetation, informational/educational/wayfinding signage, bicycle fix-it stations, and shade structures.

Sources: City of Los Angeles 1999; City of Los Angeles Department of City Planning 1999, 2000, 2003, 2004, 2007, 2021, 2023,

Based on the consistency analysis presented in Table 3.11-9, the Proposed Project and its options would be consistent with applicable goals of the City of Los Angeles Department of Transportation *Great Streets for Los Angeles 2018-2020 Strategic Plan*, and impacts would be less than significant. The Proposed Project and its options would improve bicycle network connectivity; improve access to the LA River from downtown Los Angeles; and would increase access to community destinations and transit services through first/last mile connections.

Table 3.11-9. Project Consistency with the Great Streets for Los Angeles 2018–2020 Strategic Plan

Goals	Consistency Analysis
A Livable and Sustainable City Goal 6: Expand the bicycle network. We will continue to fill key gaps in the bicycle network. LADOT will increase bicycle connectivity by focusing on bicycle infrastructure around transit stations, schools, and other high-demand areas, such as the LA River. A. Improve bicycle network connectivity in high-value locations, such as first- and last-mile connections to transit and gaps in the network. C. Initiate plan to improve access to the LA River from downtown. D. Establish low-stress neighborhood greenways to increase access to destinations and transit services.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.

Source: LADOT 2018

Based on the consistency analysis presented in Table 3.11-10, the Proposed Project and its options would be consistent with applicable goals, objectives, and policies of the *City of Vernon General Plan* and *Bicycle Master Plan*, and impacts would be less than significant. The Proposed Project and its options would provide greater access to homes and places of employment in Vernon for people of all ages and abilities; and is currently in coordination with other local agencies to create a "complete" bicycle path that would connect with adjacent jurisdictions.

Table 3.11-10. Project Consistency with the City of Vernon General Plan

Goals	Consistency Analysis
Circulation and Infrastructure Element	
Policy CI-1.6: Encourage the continued improvement of services provided by the Los Angeles County Metropolitan Transit Authority to Vernon and adjacent cities to provide good access from home to job and job to home for persons employed in Vernon.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. Several regional and local plans have a common goal for a continuous path along the LA River as a priority active transportation infrastructure project for Los Angeles County. Metro continues to coordinate with numerous other studies and planning efforts. Refer to Section 2.1.3, *Regional and Local Plans Related to the Project* for more detail.
Policy CI-1.12: Cooperate with the Metropolitan Transportation Authority and other local agencies in their efforts to complete a bicycle path along the levee of the Los Angeles River connecting to adjacent jurisdictions.	
City of Vernon Bicycle Master Plan	
Goal 1: Increase bicycling access to businesses and community destinations for people of all ages and abilities.	**Consistent.** As an active transportation path, the Proposed Project and its options would improve public health by enhancing and providing recreational opportunities, livability, regional and local connectivity, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The Proposed Project and its options would create a path that feels safe, comfortable, and open to people of all ages and abilities. The Proposed Project and its options would promote community identity and support social and economic activity through increased access and connections from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services. In addition, the Proposed Project and its options would provide more active lifestyle choices to largely disadvantaged communities and would complement projects that have already been built or are underway by closing critical gaps in the bicycle network, and by integrating and synchronizing plans for the path.
Objective 1.B: Eliminate barriers and gaps in the bikeway network.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to existing parks and recreation facilities, including Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.

Sources: City of Vernon 2015, 2017

Based on the consistency analysis presented in Table 3.11-11, the Proposed Project and its options would be consistent with the applicable goal of the *City of Maywood General Plan* because they would create an integrated and safe bicycle and pedestrian network that would serve the Maywood community. Impacts would be less than significant.

Table 3.11-11. Project Consistency with the City of Maywood General Plan

Goals	Consistency Analysis
Circulation Element	
Goal: Provide for an extensive, integrated, and safe bicycle and pedestrian network throughout the community, and make Maywood a pedestrian-friendly community.	**Consistent.** The Proposed Project and its options would directly connect with the existing LA River Greenway Trail near Egret Park in Los Angeles in the north and with the existing LA River Bicycle Path near Atlantic Boulevard in the City of Vernon in the south, allowing for a continuous 32-mile corridor extending from Griffith Park through downtown Los Angeles to the City of Vernon and connecting to Long Beach along the LA River. In addition, the Proposed Project and its options would provide access points and connectivity to surrounding Maywood community facilities, including Pine Avenue Park, Maywood Elementary School, and Maywood Park.

Source: City of Maywood 2007

The Proposed Project and its options would be consistent with the *City of Bell General Plan* and *City of Bell Bicycle Master Plan* goal of promoting the use of alternative forms of transportation in the City as the Proposed Project and its options would connect with the existing LA River path at Atlantic Boulevard. The Proposed Project and its options would create an integrated and safe bicycle and pedestrian network that would connect with the Bell community. Impacts would be less than significant.

In summary, the Proposed Project and its options, Option 1 and Option 2, would be consistent applicable land use plan goals, objectives, and policies in relation to active transportation paths and bicycle paths. Therefore, impacts would be **less than significant**.

3.11.6 Mitigation Measures

As identified in Section 3.11.5, the Proposed Project and its options, Option 1 and Option 2, would result in less than significant impacts on to land use and planning under Impact LU-1 and Impact LU-2. No mitigation measures would be required for operation or construction.

3.11.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options, Option 1 and Option 2. The impacts would be less than significant under Impact LU-1 and Impact LU-2.

3.11.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for land use and planning, and extends further to include other projects that, due to the area's topography and existing built environment,

may interact with the Project elements. The geographic scope for cumulative impacts to land use and planning is 0.25-mile radius from the permanent and temporary footprints and 0.5-mile radius from each proposed access point of the Proposed Project and its options.

As discussed in Section 3.11.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.11.5, the Proposed Project and its options would result in substantially similar impacts related to land use and planning. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.11.8.1 Proposed Project, Option 1, and Option 2

3.11.8.1.1 Construction

As discussed with respect to Impact LU-1, LA River currently provides a physical barrier along the length of the Project that shapes several of the adjacent residential communities. Construction activities would be temporary, located within the temporary footprint, and would require TCEs and construction staging areas. Construction activities within the temporary footprint would not require the demolition of any existing structures on the properties, would not require the relocation of existing businesses, and would not permanently impact the functions of the impacted businesses. To maintain proper traffic flow during the temporary construction phase, PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* (refer to Section 3.16, *Transportation*) would be implemented as part of the Proposed Project and its options. Construction activities are not expected to result in a significant impact regarding the division of an established community. In addition, as discussed with respect to Impact LU-2, proposed temporary construction activities would not directly conflict with applicable regional and local land use plans, policies, and regulations. As feasible, Metro would coordinate with other ongoing construction projects to minimize temporary construction issues. The Proposed Project and its options would have a less than significant impact related to land use during construction.

Similarly, past, present, and probable future projects within the cumulative study area may be constructed simultaneously with the Proposed Project and its options and could result in temporary construction impacts. These related projects are also anticipated to implement construction plans to minimize temporary construction impacts. Given the temporary nature of construction activities and the highly urbanized surrounding area, construction of the Proposed Project and its options in combination with past, present, and probable future projects would not permanently divide an established community and would not conflict with applicable land use plans, policies, and regulations of local agencies. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant impacts related to land use during construction.

3.11.8.1.2 Operations and Maintenance

As discussed with respect to Impact LU-1, the existing communities and City boundaries were developed along and around the LA River, which serves as a natural physical boundary. The Proposed Project and its options would be located entirely in or along the banks of the LA River and would incorporate access points as the entry points to the LA River Path for the communities surrounding it. The Proposed Project and its options would not physically divide an established community.

As discussed with respect to Impact LU-2, the Proposed Project and its options would be consistent with applicable goals, objectives, and policies related to alternative transportation, mobility, pedestrian

and bicycle paths, and connections between the LA River and other community facilities and transportation networks identified in the general plans, community plans, specific plans, master plans, and bicycle master plans of the affected cities.

Similarly, past, present, and probable future projects would include new development, infrastructure, redevelopment, or expansions. These projects are located in highly urbanized areas and potential future development opportunities are likely to occur within existing parcels as urban infill and are not expected to physically divide an established community. In addition, past, present, and probable future projects within the cumulative study area would be required to comply with applicable land use plans, policies, and regulations of the affected jurisdictions and would be subject to independent review related to land use consistency. Therefore, the Proposed Project and its options, Option 1 and Option 2, in combination with past, present, and probable future projects, would not result in a cumulatively significant impact on land uses and planning.

3.12 Noise and Vibration

3.12.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to noise and vibration. This section also describes the existing setting and current applicable regulatory framework.

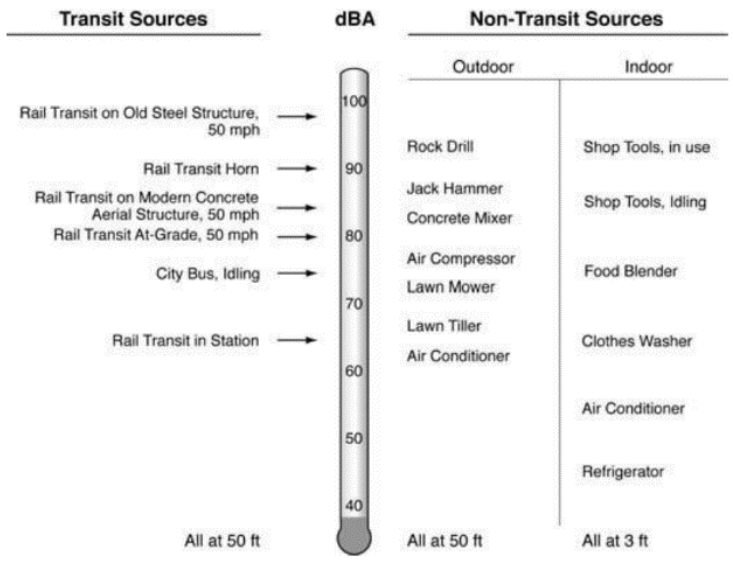
3.12.1.1 Noise and Vibration Definitions and Background

The following background information is summarized from the 2018 Federal Transit Administration (FTA) *Transit Noise and Vibration Impact Assessment Manual* (FTA manual) (FTA 2018) and the California Department of Transportation's (Caltrans') *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020). Noise is defined as unwanted sound (FTA 2018). Airborne sound is a rapid fluctuation of air pressure above and below atmospheric pressure. To assess the potential for the impact of noise on the environment, the nature and level of activities that generate the noise, the pathway through which the noise travels, the sensitivity of the receptor, and the period of exposure are all considered. Noise can be measured in several ways, depending on the source of the noise, the receiver, and the reason for the noise measurement. Common technical terms are summarized as follows (FTA 2018):

- **Ambient noise level:** The composite of noise from all sources near and far. The normal or existing level of environmental noise or sound at a given location. The ambient noise level is typically defined by the equivalent noise level (as defined in the Equivalent Noise Level bullet, below.).
- **Sound pressure (noise) level (decibel [dB]):** A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
- **A-weighted sound pressure (noise) level (A-weighted decibel [dBA]):** The sound level in dB as measured on a sound-level meter using the dBA filter network. The A-weighted filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. Although environmental noise is measured in dB, people are less sensitive to low frequency sounds; therefore, to better approximate the normal hearing sensitivity range, dBA is used.
- **Equivalent Noise Level (L_{eq}):** The average noise level for a specific time period, expressed in units of dBA.
- **Day-Night Noise Level (L_{dn}):** A 24-hour L_{eq} with an adjustment to reflect the greater sensitivity of most people to nighttime noise. The adjustment is 10 dBA for all sound that occurs in the nighttime hours of 10 pm to 7 am.
- **Community Noise Equivalent Level (CNEL):** A 24-hour L_{eq} with an adjustment to reflect the greater sensitivity of most people to evening and nighttime noise. The adjustment is 4.77 dBA for the evening hours of 7 pm to 10 pm and 10 dBA for all sound that occurs in the nighttime hours of 10 pm to 7 am.

Example noise levels in dBA for common outdoor and indoor noise sources are shown in Figure 3.12-1 and Table 3.12-1 below.

Figure 3.12-1. Summary of Typical Sound Levels



Source: FTA 2018

Table 3.12-1. Summary of Typical Sound Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly-over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower, 100 feet	**— 70 —**	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	**— 60 —**	
		Large business office
Quiet urban daytime	**— 50 —**	Dishwasher next room
Quiet urban nighttime	**— 40 —**	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	— 20 —	
		Broadcast or recording studio
	— 10 —	
Lowest threshold of human hearing	**— 0 —**	Lowest threshold of human hearing

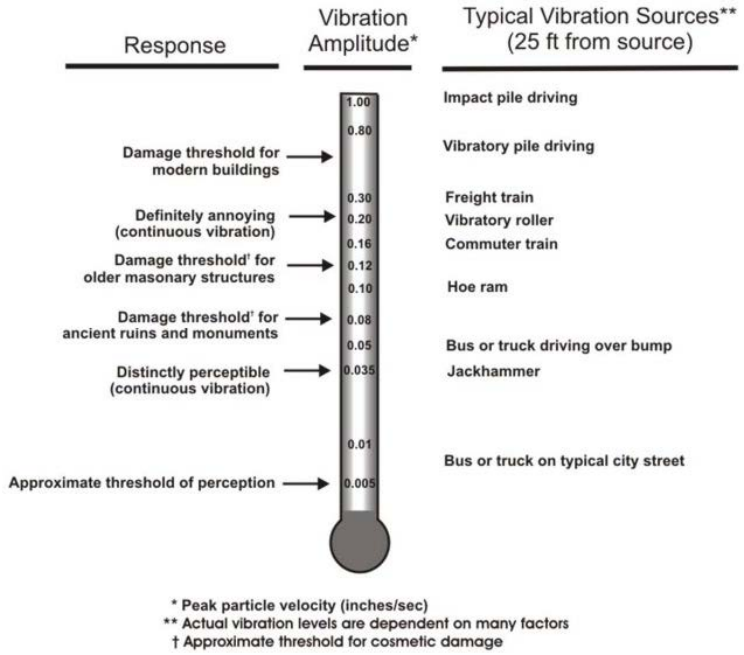
Source: Caltrans 2013

Decibels cannot be directly added arithmetically (for example, 50 dBA plus 50 dBA does not equal 100 dBA). When two sources of equal level are added together the result will always be 3 dB greater (for example, 50 dBA plus 50 dBA equals 53 dBA, and 70 dBA plus 70 dBA equals 73 dBA). If the difference between the two sources is 10 dBA, the level (when rounded to the nearest whole dB) will not increase (for example: 40 dBA plus 50 dBA equals 50 dBA, and 60 dBA plus 70 dBA equals 70 dBA).

The decrease in noise level caused by distance from any single noise source normally follows the inverse square law; that is, the sound pressure level changes in inverse proportion to the square of the distance from the noise source. In a large open area without obstructive or reflective surfaces, a general rule indicates that at distances greater than approximately the largest dimension of the noise-emitting surface, the sound pressure level from a single source of noise drops off at a rate of 6 dB with each doubling of the distance from the source. Sound energy is absorbed in the air as a function of temperature, humidity, and sound frequency; this attenuation can be up to 2 dB over 1,000 feet. The drop-off rate will also vary based on terrain conditions and the presence of obstructions in the sound's propagation path.

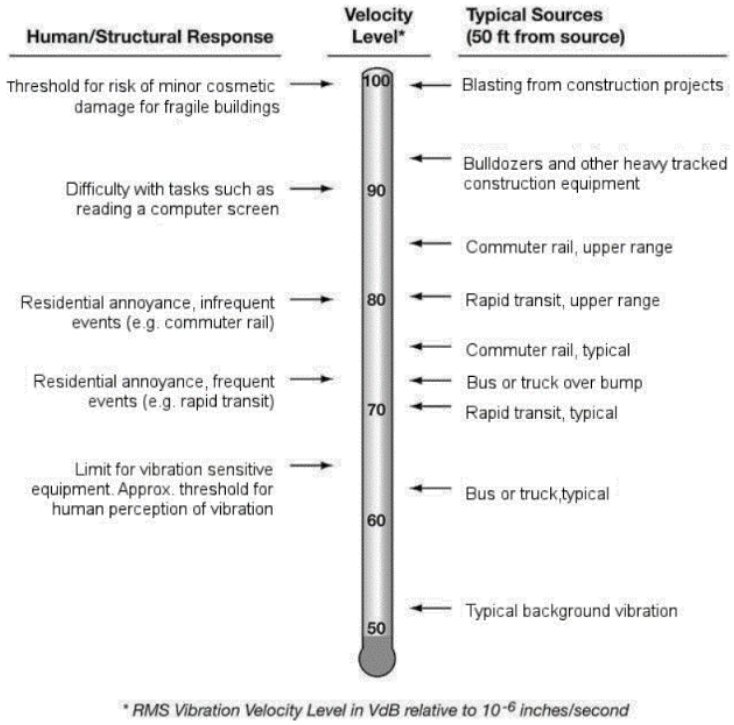
Vibration is the periodic oscillation of a medium or object, which may be directly felt or in some cases heard if the vibration induces rattling (Caltrans 2020). Sources of ground-borne vibrations include natural phenomena (such as earthquakes, volcanic eruptions, sea waves, landslides) or human-made sources (such as explosions, machinery, traffic, trains, and construction equipment). Figure 3.12-2 illustrates common ground-borne vibration peak particle velocity sources as well as the human and structural response. Annoyance caused by ground-borne vibration is typically evaluated using vibration velocity levels (L_v) measured in units of vibration decibels (VdB). Figure 3.12-3 presents common ground-borne vibration sources and the human and structural response ranging from approximately 50 VdB (typical background vibration) to 100 VdB (threshold of risk of minor potential cosmetic damage for fragile buildings). According to FTA, the "threshold of perception for humans is approximately 65 VdB" and "vibration level of 85 VdB in a residence can result in strong annoyance." Figure 3.12-3 identifies that difficulty completing tasks, noted as reading on a computer screen, occurs at 90 VdB.

Figure 3.12-2. Typical Levels of Ground-Borne Vibration Measured by Vibration Amplitude



Source: FTA 2018

Figure 3.12-3. Typical Levels of Ground-Borne Vibration Measured by Velocity Level



Source: FTA 2018

3.12.1.2 Effects of Noise on Humans

The effects of noise on people can be summarized in three general categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction
- Interference with activities such as speech, sleep, and learning
- Physiological effects such as starting hearing loss

Human response to noise is subjective and can vary greatly from person to person. Factors that influence individual response include the intensity, frequency, and pattern of noise as well as the nature of work or human activity that is exposed to the noise source. The health effects of noise-induced hearing loss are largely an occupational hazard and are not relevant to this analysis as it is assumed that workers on-site would follow safety protocols to mitigate their risk of hearing loss.

3.12.2 Regulatory Framework

Regulations at the federal, state, regional, and local levels are described in the following sections. In addition, a summary of the applicable construction noise standards, time constraints for performing work, and potentially available noise variances is presented in the following sections.

3.12.2.1 Federal

3.12.2.1.1 Federal Transit Administration

3.12.2.1.1.1 Transit Noise and Vibration Assessment Manual

FTA developed the FTA manual to guide assessment of noise and vibration impacts for federally funded transit projects consistent with the requirements of National Environmental Policy Act (NEPA). The Project does not meet the criteria for a transit project defined by the FTA; however, construction activities and equipment associated with the Project are similar to those addressed in the FTA manual. The FTA manual establishes a uniform guideline for assessing construction noise, particularly when local criteria are not well defined. The detailed assessment construction noise impact criteria are shown in Table 3.12-2.

Table 3.12-2. Detailed Construction Noise Impact Evaluated Compared to Land Use

Land Use	$L_{eq.equip}$(8hr) (dBA)		$L_{dn\ equip}$(30day) (dBA)
	Day	Night	30-day Average
Residential	80	70	75
Commercial	85	85	80*
Industrial	90	90	85*

Source: FTA 2018

Notes:
*Uses a 24-hour L_{eq}(24hr) instead of $L_{dn.equip}$(30day).
$L_{dn.equip}$ = cumulative sound exposure for a receiver from equipment over a specified time period, in this case noise levels are provided for 8 hours and 30 days.

For most projects, the highest levels of vibration occur during construction that has the potential to result in potential damage to nearby buildings or annoyance of occupants. The FTA manual establishes construction damage criteria in terms of peak particle velocity (PPV). These criteria are presented in Table 3.12-3 and range from a threshold of 0.12 inches per second for "buildings extremely susceptible to vibration damage" to 0.5 inches per second for "reinforced concrete, steel or timber (no plaster)" (FTA 2018).

Table 3-12-3. Federal Transit Administration Construction Vibration Damage Criteria

Building Category	Description	PPV (in/sec)	Single Event PPV (in/sec)
1	Reinforced concrete, steel, or timber (no plaster): Buildings in steel or reinforced concrete, such as factories, retaining walls, bridges, steel towers, open channels, underground chambers, and tunnels with and without concrete alignment.	0.5	1.2
2	Engineered concrete and masonry (no plaster): Buildings with foundation walls and floors in concrete, walls in concrete or masonry, stone masonry retaining walls, underground chambers and tunnels with masonry alignments, and conduits in loose material.	0.3	0.7
3	Non-engineered timber and masonry buildings: Buildings as mentioned previously but with wooden ceilings and walls in masonry.	0.2	0.5
4	Buildings extremely susceptible to vibration damage: Construction very sensitive to vibration; objects of historical interest.	0.12	0.3

Source: FTA 2018

Note: The limits and building categories are consistent with Caltrans' *Transportation and Construction Vibration Guidance Manual* (Caltrans 2020).

in/sec = inch(es) per second

The annoyance criteria from ground-borne vibration are established by the FTA manual in terms of velocity levels expressed in VdB. The criteria are based on acceptable indoor ground-borne vibration by building type and the frequency of the vibration-causing event (Table 3-12-4). Annoyance from ground-borne vibration is generally only considered for people who are inside buildings. While ground-borne vibration may be perceptible, it rarely generates complaints from people who are outdoors.

Table 3-12-4. Federal Transit Administration Construction Ground-borne Vibration Annoyance Criteria

Land Use Category	Description	Impact Level		
		Frequent Events	Occasional Events	Infrequent Events
1	Buildings where vibration would interfere with interior operations.	65 VdB[a]	65 VdB[a]	65 VdB[a]
2	Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
3	Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: FTA 2018

[a] Based on use of optical microscopes

VdB = vibration level decibels

While the above FTA annoyance criteria are not specific to construction, the FTA does not establish criteria that consider the number of days events occur. FTA assesses the frequency of events as follows:

- Frequent events are defined as more than 70 events per day.
- Occasional events are defined as between 30 and 70 events per day.
- Infrequent events are defined as fewer than 30 events per day.

The ground-borne vibration annoyance criteria range between 65 VdB "buildings where vibration would interfere with interior operations" to 83 VdB for "institutional land uses with primarily daytime land uses" coupled with infrequent vibration-causing events (FTA 2018). According to FTA, the "threshold of perception for humans is approximately 65 VdB" and "vibration level of 85 VdB in a residence can result in strong annoyance."

3.12.2.2 State

3.12.2.2.1 California Planning and Zoning Law

California requires each county and city to develop a general plan for physical development within the county or city per *California Government Code* Section 65302(f). Noise is one of the seven required elements to be included in a general plan. The Governor's Office of Planning and Research has issued *General Plan Guidelines* (Governor's Office of Planning and Research 2017) to assist planners in crafting general plans. The Noise Element of the *General Plan Guidelines* provides a basis for comprehensive local programs, guides the control and abatement environmental noise, and offers guidance about protecting residents from excessive exposure to noise. The content for local general plans is provided by *California Government Code* Section 65040.2.

3.12.2.2.2 California Department of Transportation

3.12.2.2.2.1 Standard Specifications Section 14-8.02, Noise Control

Caltrans' *Standard Specifications* Noise Control section (Caltrans 2018) states the following: "Do not exceed 86 dBA L_{max} at 50 feet from the job site activities from 9 pm to 6 am. Equip an internal combustion engine with the manufacturer recommended muffler. Do not operate an internal combustion engine on the job site without the appropriate muffler." In addition, Caltrans generally notes that "No adverse noise impacts from construction are anticipated because construction would be conducted in accordance with *Standard Specifications* Section 14.8-02. Construction noise would be short-term, intermittent, and overshadowed by local traffic noise."

3.12.2.2.2.2 Construction Vibration Guidance Manual

With respect to vibration, the *Caltrans Transportation and Construction Vibration Guidance Manual* (Caltrans 2020) Caltrans notes "There are no Caltrans or Federal Highway Administration standards for vibration and it is not the purpose of this manual to set standards." Rather, agencies such as Caltrans provide "a synthesis of these criteria that can be used to evaluate the potential for damage and annoyance from vibration-generating activities." In addition, Caltrans notes that "in most cases, vibration induced by typical construction equipment does not result in adverse effects on people or

structures. Noise from the equipment typically overshadows any meaningful ground vibration effects on people."

3.12.2.3 Regional

3.12.2.3.1 Los Angeles County

3.12.2.3.1.1 General Plan 2035

Los Angeles County's *General Plan 2035*, adopted in October 2015 (County of Los Angeles Department of Regional Planning 2022), includes a Noise Element that reduces and limits exposure of the general public to excessive noise levels by setting goals and policy direction to manage noise. *General Plan 2035* is intended to guide growth countywide and includes guidance for unincorporated areas of the County.

3.12.2.3.1.2 Code of Ordinances

Chapter 12.08 of the Los Angeles *County Code of Ordinances* establishes the County's Noise Control Ordinance to regulate intrusive noise in the County by controlling "unnecessary, excessive, and annoying noise and vibration."

Los Angeles County noise thresholds apply to unincorporated portions of the County; a short portion of the Project traverses through an unincorporated portion (Figure 3.12-4). The land use in this unincorporated area is primarily industrial or otherwise not noise sensitive. Tables 3.12-5 and 3.12-6 summarize thresholds that apply to mobile and stationary equipment used during construction in unincorporated portions of Los Angeles County (Los Angeles County Code Section 12.08.440). In addition to the thresholds listed in Tables 3.12-5 and 3.12-6, a further threshold of a maximum of 85 dBA for nonscheduled, intermittent, short-term operation of mobile equipment at business structures is also established (Los Angeles County Code Section 12.08.440).

Table 3.12-5. Maximum Noise Levels for Nonscheduled, Intermittent, Short-term Operation (Less Than 10 Days) of Mobile Equipment

Interval	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7 am to 8 pm	75 dBA	80 dBA	85 dBA
Daily, 8 pm to 7 am, all day Sunday, and legal holidays	60 dBA	64 dBA	70 dBA

Source: Los Angeles County Code 2024.

Table 3.12-6. Maximum Noise Level for Repetitively Scheduled and Relatively Long-term Operation (Periods of 10 Days or More) of Stationary Equipment

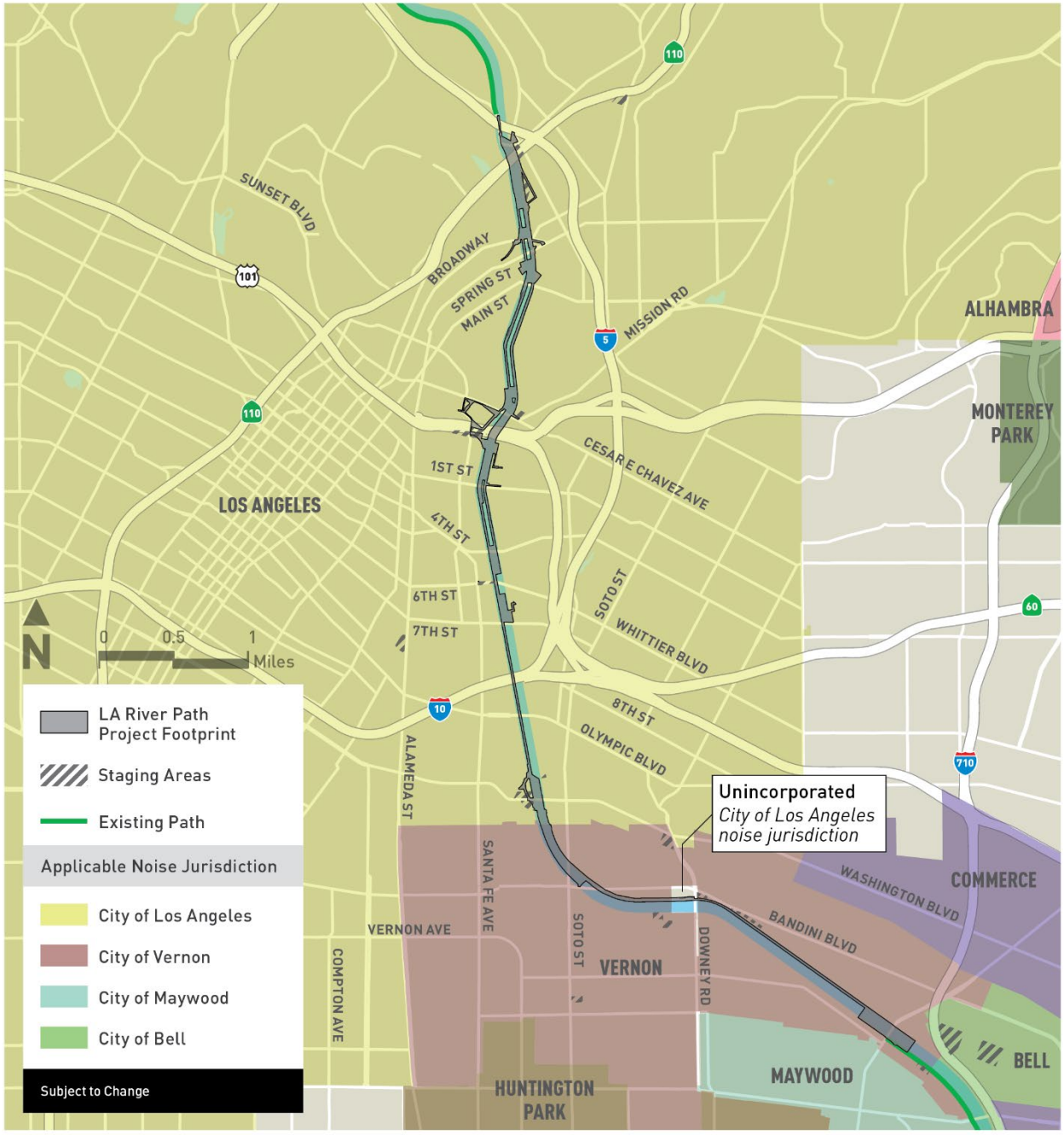
Interval	Single-family Residential	Multi-family Residential	Semiresidential/ Commercial
Daily, except Sundays and legal holidays, 7 am to 8 pm	60 dBA	65 dBA	70 dBA
Daily, 8 pm to 7 am, all day Sunday, and legal holidays	50 dBA	55 dBA	60 dBA

Source: Los Angeles County Code 2024.

3.12.2.4 Local

The Project alignment is located within the Cities of Los Angeles and Vernon (Figure 3.12-4). Project staging areas are also located in the City of Bell. Although no parts of the Project are within the City of Maywood limits, its noise regulations were also considered given Maywood's proximity to the Project alignment and the potential for noise to affect sensitive receptors within the City of Maywood.

Figure 3.12-4. Noise Jurisdictions Relevant to the Project Footprint



3.12.2.4.1 City of Los Angeles

3.12.2.4.1.1 City of Los Angeles General Plan, Noise Element

The Noise Element of the *City of Los Angeles General Plan* is implemented through a variety of City regulations (City of Los Angeles 1998). The City's General Plan Noise Element addresses noise mitigation regulations, strategies, and programs and identifies federal, state, and city jurisdictions for rail, automotive, aircraft, and nuisance noise. The *City of Los Angeles General Plan* also references the City's noise standards, which are specified in the *Los Angeles Municipal Code* (LAMC) (City of Los Angeles 2021).

3.12.2.4.1.2 City of Los Angeles Municipal Code

City of Los Angeles noise ordinances established by the LAMC that apply to construction activities are as follows (City of Los Angeles 2021):

- Section 41.40(a): "The use of a power-driven drill, riveting machine excavator, or other machine, tool, device, or equipment, which makes loud noises to the disturbance of persons occupying sleeping quarters in any dwelling hotel or apartment or other place of residence between the hours of 9 pm and 7 am, is not allowed. This also applies to the operations, repair, or service of construction equipment and jobsite construction materials delivery."
- Section 41.40(b): "Conditional noise variances may be granted."
- Section 41.40(c): "Construction may not be performed within 500 feet of residential land before 8am or after 6pm on a Saturday or national holiday nor at any time on a Sunday."
- Section 112.05: "Between the hours of 7 am and 10 pm, in any residential zone of the City or within 500 feet of a residential zone, no person shall operate or cause to be operated any powered equipment or powered hand tool that produces a maximum noise level exceeding the following noise limits at a distance of 50 feet therefrom:
  - 75 dBA for construction, industrial, and agricultural machinery including crawler-tractors, dozers, rotary drills and augers, loaders, power shovels, cranes, derricks, motor graders, paving machines, off-highway trucks, ditchers, trenchers, compactors, scrapers, wagons, pavement breakers, compressors and pneumatic or other powered equipment.
  - 75 dBA for powered equipment of 20 horsepower or less intended for infrequent use in residential areas, including chain saws, log chippers and powered hand tools.
  - 65 dBA for powered equipment intended for repetitive use in residential areas, including lawn mowers, backpack blowers, small lawn and garden tools and riding tractors (per Sections 112.05(a), (b), and (c)).
  - Noise limitations in Sections 112.05(a), (b), and (c) shall not apply where compliance is technically infeasible. Technical infeasibility shall mean that said noise limitations cannot be complied with despite the use of mufflers, shields, sound barriers and/or other noise reduction device or techniques during the operation of the equipment. The burden of proving that compliance is technically infeasible is upon those who would be in violation of this section."

3.12.2.4.2 City of Vernon

3.12.2.4.2.1 Municipal Code

The City of Vernon nearly exclusively includes industrial uses, with potential new housing limited to a few specific sites and zoning prohibiting community facilities, such as schools, daycare centers, and hospitals. Permissible noise levels are higher for businesses than for residential neighborhoods, mixed-use urban areas, schools, parks, and hospitals. Noise standards are codified in Sections 17.24.010 to 17.52.040 of the City of Vernon *Municipal Code* (City of Vernon 2022). Acceptable dBA ranges have not been designated for construction.

3.12.2.4.2.2 General Plan Noise Element

The City of Vernon's *General Plan* Noise Element uses the City of Vernon Municipal Code standards to help guide land use decisions and protect sensitive receptors from excessive noise levels (City of Vernon 2015). The Plan focuses on identifying significant sources of noise in the City and identifying measures to protect sensitive receptors from excessive noise levels. The Plan's Noise Element identifies noise sources from freeways and street systems, railroad and industrial operations, and other noise sources contributing to the community noise environment. Noise thresholds have not been designated for construction.

3.12.2.4.3 City of Maywood

Although the City of Maywood is outside the Project footprint for construction, noise-sensitive receptors within the City of Maywood are within 600 feet of Project alignment and could potentially affected by construction noise. Therefore, noise regulations for the City are considered in this evaluation.

3.12.2.4.3.1 Maywood General Plan Environmental Impact Report, Land Use and Circulation Elements

The *Maywood General Plan Noise Element* (2007) presents goals and policies for protecting residents from excessive noise sources. The Plan identifies noise-sensitive land uses and noise sources and proposes strategies for controlling point-source noise through the implementation of the City of Maywood's noise ordinance.

The primary noise sources in the City of Maywood are traffic and other transportation sources, but also include recreational areas, commercial areas, active construction sites, and industrial development around the perimeter of the City of Maywood. The City of Maywood uses land use compatibility standards to minimize the exposure of residents to excessive noise levels. The general plan includes results of noise impacts from cumulative traffic along selected roadways (City of Maywood 2007).

3.12.2.4.3.2 Municipal Code

The City of Maywood's *Municipal Code* Section 5-23.11(g) establishes that the noise standards set by the code shall not preclude the construction, operation, maintenance, and repair of equipment, apparatus, or facilities of park and recreation departments, public works projects, and public utilities subject to the regulatory jurisdiction of the Public Utilities Commission of the State (City of

Maywood 2021). Furthermore, Section 5-23.04(d) defines "construction" as site preparation, demolition, assembly, erection, substantial repair, alteration, or similar action performed on private (but not public) property. Based on this, the City of Maywood's noise standards do not apply to the Project.

3.12.2.4.4 City of Bell

3.12.2.4.4.1 2030 General Plan Health and Safety Element

The Noise Element in the City of Bell's *2030 General Plan Health and Safety Element* includes the analysis of the current noise environment within the City as well as mitigation measures for future noise (City of Bell 2018).

The most recent community noise survey was conducted in 1996. Per the survey, the primary source of noise in the City of Bell is due to traffic on the Long Beach Freeway (I-710) and major arterial roadways; rail traffic is the secondary noise source. Industrial and commercial noise sources are generally separated from the City of Bell's residential areas. Noise-sensitive land uses are generally located away from the City of Bell's noise sources.

Short-term strategies for noise reduction, as outlined in the general plan, include the enforcement of noise control guidelines and design measures to protect noise-sensitive receptors (City of Bell 2018). According to the general plan, "Noise emanating from residential, commercial and industrial uses is regulated by the City's municipal code. However, acceptable dBA ranges have not been designated for these uses."

3.12.2.4.4.2 Municipal Code

The City of Bell's *Municipal Code* further limits noise between the hours of 10 pm and 7 am on property located in residential zones (City of Bell 1998).

3.12.3 Methodology

This section presents the methods used to analyze noise impacts from the construction and operational activities of the Proposed Project and its options. The methodology to evaluate potential impacts included a review of the existing setting and predictions of noise and vibrations associated with Project construction as well as operations and maintenance. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.12.3.1 Existing Setting Approach

Ambient noise along the Project alignment was determined from noise measurements conducted for the *LA River Master Plan* (LACDPW 2022) as well as typical sound levels for various land uses. Noise levels are shown in Table 3.12-8 (page 3.12-25). Annex C of the American National Standards Institute (ANSI) Standard S12.9 Part 3-2013, *Quantities and Procedures for Description and Measurement of Environmental Sound--Part 3: Short-term Measurements with an Observer Present*, (Annex C ANSI Standard S12.9 Part 3) (ANSI 2013), which provides estimated day-night, day, and night sound levels based on land use category, is summarized in Table 3.12-9 (page 3.12-26), as well as the presumed ambient noise levels based on land use zone included in the LAMC.

3.12.3.2 Sensitive Receptor Identification

Sensitive receptors were identified using aerial and street-view imagery and zoning maps. Sensitive receptors include areas of frequent human use that are typically within approximately 600 feet of the footprints of the Proposed Project and its options, Option 1 and Option 2. Identified noise-sensitive uses include:

- Long- and short-term housing
- Senior housing or nursing facilities
- Schools
- Libraries
- Public assembly locations (such as religious facilities)
- Lodging
- Community centers
- Auditoriums
- Hospitals
- Playgrounds
- Parks

3.12.3.3 Construction Noise and Vibration Modeling

Construction noise and vibration generated by the Proposed Project, Option 1, and Option 2, may result in detrimental effects at sensitive receptors in the resource study area (RSA). Construction impacts are expected to be limited in extent and duration. The potential for noise and vibration impacts from the Project's construction was evaluated in the following manner:

- Types of construction equipment to be used for the Project were identified with consultation with engineering team.
- Reference construction noise and vibration levels were obtained from the Federal Highway Administration (FHWA) Roadway Construction Noise Model (FHWA 2006) and the FTA manual.
- A typical construction scenario was developed based on anticipated construction equipment that may be used simultaneously. The scenario includes five pieces of construction equipment operating in close vicinity to each other. This typical construction scenario was used to predict noise and vibration levels at sensitive receptors.
- Noise and vibration levels were calculated based on distance of sensitive receptor and attenuation over distance.
- Predicted noise levels at adjacent sensitive receptors were assessed against the FTA 8-hour L_{eq} noise criteria. Because the Project spans multiple jurisdictions, the FTA criteria were used in this analysis so that the potential for construction noise impacts is assessed similarly throughout the alignment.

For areas or activities where nighttime construction may be necessary, for example to minimize traffic impacts, the Project would comply with applicable requirements. A variance allowing nighttime construction may impose additional restrictions.

The typical construction scenario discussed above does not include potentially concurrent noise from pile driving. Pile driving, a daytime activity, may be required for specific path types along the study area. Where pile driving is required, it is typically the dominant noise source. Pile-driving noise and ground-borne vibration were analyzed for potential impacts on receptors adjacent to the relevant path types using the following methods:

- Areas where pile driving may occur were identified (for example, bridge or elevated path foundations). These areas are currently expected to be limited to bridges/river crossing, elevated, or cantilevered portions of the path.
- Estimates of pile-driving noise were developed based on standard reference values (for example, FHWA, FTA).
- Analysis of pile-driving noise was prepared based on the distance to residential properties and other sensitive receptors. An analysis was performed and mitigation measures identified for sensitive receptors within 250 feet or less of potential pile-driving activities.

For analysis purposes, impact pile driving was assumed for path types requiring piles. Of pile installation methods, impact pile driving is the noisiest construction method, thereby resulting in the most conservative impact analysis for noise-sensitive receptors. However, only a small subset of the piles is anticipated to be installed using the impact pile-driving method. The majority of the Project is expected to employ quieter foundation installation methods. Pre-drilling piles or use of micro-piles can result in lower noise and vibration levels should the geotechnical, structural, or other detailed constructability constraints allow alternative methods when working near sensitive areas.

A combined analysis integrating pile driving in addition to general construction noise was not performed as the sound level at the sensitive receiver will be dominated by the loudest source, which depends in part on the distance to both activity areas. For example, if both activity areas (pile driving and other equipment area) are both 400 feet away from the sensitive receiver pile driving would be the dominant source with a sound level of 76 dBA, while the other equipment would have a sound level of 73 dBA. The cumulative level from both activity areas would be 78 dBA, yielding an increase of 2 dBA over the dominant source, pile driving alone. If pile driving is 400 feet away (76 dBA) and the other equipment area is 800 feet away (67 dBA), the cumulative sound level would be 76.5 dBA, an increase less than 1 dBA over pile driving alone. If pile driving is 400 feet away (76 dBA) and the other equipment area is 200 feet away (78 dBA), the cumulative sound level would be 80 dBA, an increase over the dominant other equipment sound level of 2 dBA. For context, the most precise sound-level meters are generally considered to be accurate within +/- 1 dBA, and, when considering similar sounds, a difference of 3 dBA is considered the threshold of a perceivable difference. Therefore, the analysis of a combined pile driving, and general construction noise scenario would be speculative.

3.12.3.4 Operations and Maintenance

Project operations would include both noise and vibration generated by maintenance activities and noise generated by pedestrians and bicyclists. Vibration would not be generated by pedestrians and bicyclists that would be felt at off-path receptors. Noise generated by pedestrians and bicyclists would be primarily associated with conversational noise. The reference noise level for conversational noise is 65 dBA at 3 feet based on a normal person speaking (Caltrans 2013) and would attenuate at rate of 6 decibels per doubling of distance.

Path maintenance activities are anticipated to include sweeping; pavement and pothole repair; graffiti removal; trash disposal; fence, sign, and lighting replacement and repair; weed control; and storm drain cleaning. Maintenance activities are not anticipated to require multiple pieces of heavy construction equipment working in one area simultaneously and are expected to be very limited in duration (less than a day in any particular area). Path sweeping and marking would be a regular occurrence but would not utilize heavy construction equipment that would generate significant noise or vibration. Path maintenance activities that would require heavy construction equipment such as path pavement sealing, repaving, or pothole repair would occur in limited areas and only when a repair is needed. Maintenance activity is assessed assuming two pieces of equipment would be operating at one time.

3.12.3.5 Resource Study Area

The RSA for noise and vibration, shown on Figure 3.12-5, is the area in which reasonably foreseeable direct or indirect impacts of the Proposed Project and its options may occur. Sensitive noise and vibration receptors and areas of frequent human use were evaluated within approximately 600 feet for noise and 500 feet for vibration of the temporary and permanent footprints of the Proposed Project and its options, which comprise all components including access points and design variations. Noise and vibration impacts beyond the footprint depend on the construction activity and path type and are discussed separately for the Proposed Project, Option 1, and Option 2 in the following sections.

Figure 3.12-5. Noise and Vibration Resource Study Area



3.12.3.6 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with noise and vibration are based on the sample initial study questions set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines, as modified to reflect the use of FTA construction noise and vibration criteria. In particular, a significant impact related to noise or vibration would occur if the Project would do any of the following:

- **Impact NOI-1:** Generate a substantial temporary or permanent increase in ambient noise levels near the project at noise-sensitive land uses in excess of standards established by the FTA, in the local general plan, noise ordinance, or applicable agency standards?
- **Impact NOI-2:** Generate excessive ground-borne vibration or ground-borne noise levels?
- **Impact NOI-3:** Expose people residing or working in the RSA to excessive noise levels if the project is located near a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport?

3.12.3.7 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. No project features have been developed specifically for noise and vibration.

3.12.4 Existing Setting

To assess the noise receptors and characterize the existing conditions, land uses (such as commercial, industrial, residential), sensitive noise receptors, and areas of frequent human use within the RSA were identified. Noise-sensitive uses include residences (long- and short-term housing), senior housing or nursing facility, schools, libraries, public assembly locations (such as religious facilities), lodging, community centers, auditoriums, hospitals, playgrounds, and parks.

Figures 3.12-6 through 3.12-10 present existing land uses along the Project alignment, as well as the closest noise-sensitive receptors to the project alignment identified based on a review of publicly available imagery and zoning data. Locations of these sensitive receptors in the map are provided in Table 3.12-7. Land uses identified by zoning maps along the route includes industrial, commercial, government, green space, institutional, and residential uses. The highest percentage of zoned land use along the Project is industrial, followed by open space, as the Project alignment follows the LA River. Aerial and street-view imagery were used to identify the closest sensitive noise receptors to the Project alignment. These included single-family homes, apartments, schools, parks, and places of worship. The closest residences are approximately 130 feet away from the temporary Project footprint (Figures 3.12-6 through 3.12-10).

Table 3.12-7. List of Sensitive Receptors Closest to Project Alignment in Resource Study Area

Map ID	Receptor	Jurisdiction
1	Residence near northern beginning of the path	City of Los Angeles
2	Egret Park	City of Los Angeles
3	Elysian Park, Grand View Drive picnic area	City of Los Angeles
4	Elysian Park, Buena Vista Meadow	City of Los Angeles
5	Confluence Park	City of Los Angeles
6	Ed P. Reyes River Greenway	City of Los Angeles
7	Young Nak English College Ministry	City of Los Angeles
8	Residences	City of Los Angeles
9	Los Angeles State Historic Park	City of Los Angeles
10	Youngnak Presbyterian Church	City of Los Angeles
11	Downey Swimming Pool	City of Los Angeles
12	Residences near South Ave 18 and North Broadway	City of Los Angeles
13	Albion Riverside Park/Downey Recreation Area	City of Los Angeles
14	Residences	City of Los Angeles
15	Templo Gethsemani	City of Los Angeles
16	William Mead Homes (apartments)	City of Los Angeles
17	Pueblo del Sol Apartments	City of Los Angeles
18	Felicitas and Gonzalo Mendez High School	City of Los Angeles
19	Residences near First Street and South Anderson Street	City of Los Angeles
20	One Santa Fe Apartments	City of Los Angeles
21	Apartments north and south of Seventh Street	City of Los Angeles
22	Maywood Elementary School	City of Maywood
23	Closest residence	City of Maywood

Figure 3.12-6. Land Use and Noise-sensitive Receptors near the Proposed Project Footprint, View 1 of 5

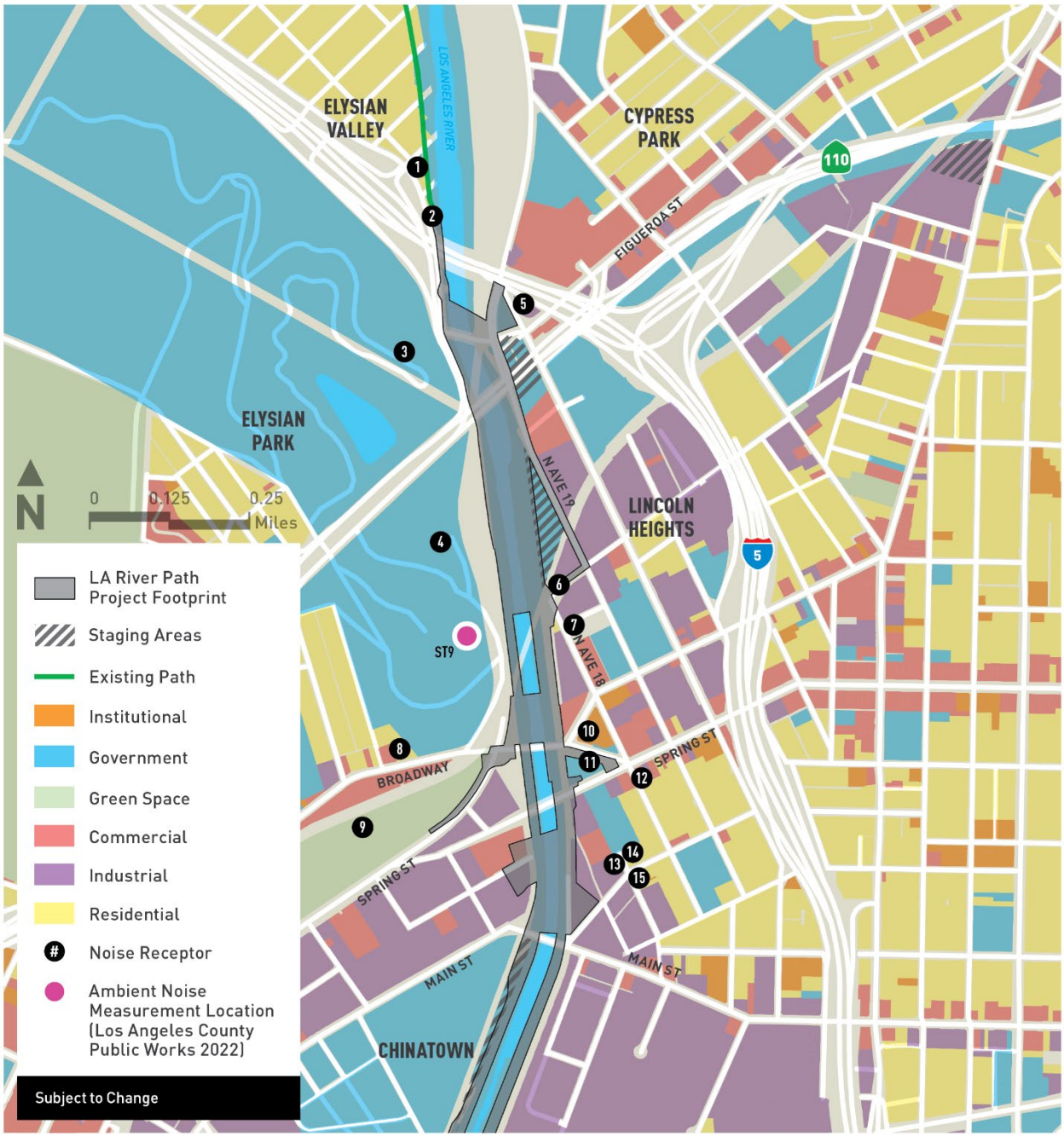


Figure 3.12-7. Land Use and Noise-sensitive Receptors near the Proposed Project Footprint, View 2 of 5

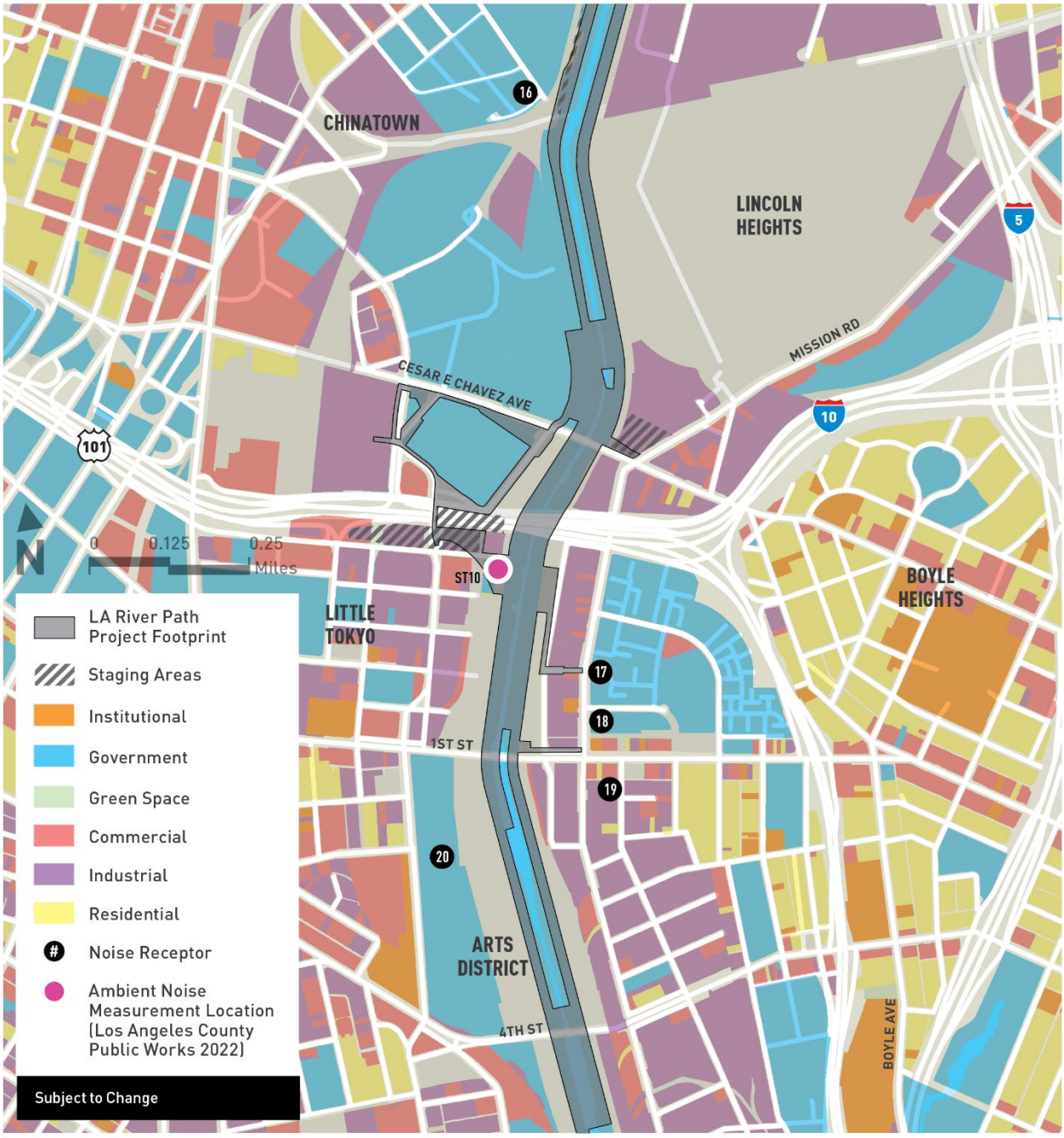


Figure 3.12-8. Land Use and Noise-sensitive Receptors near the Proposed Project Footprint, View 3 of 5

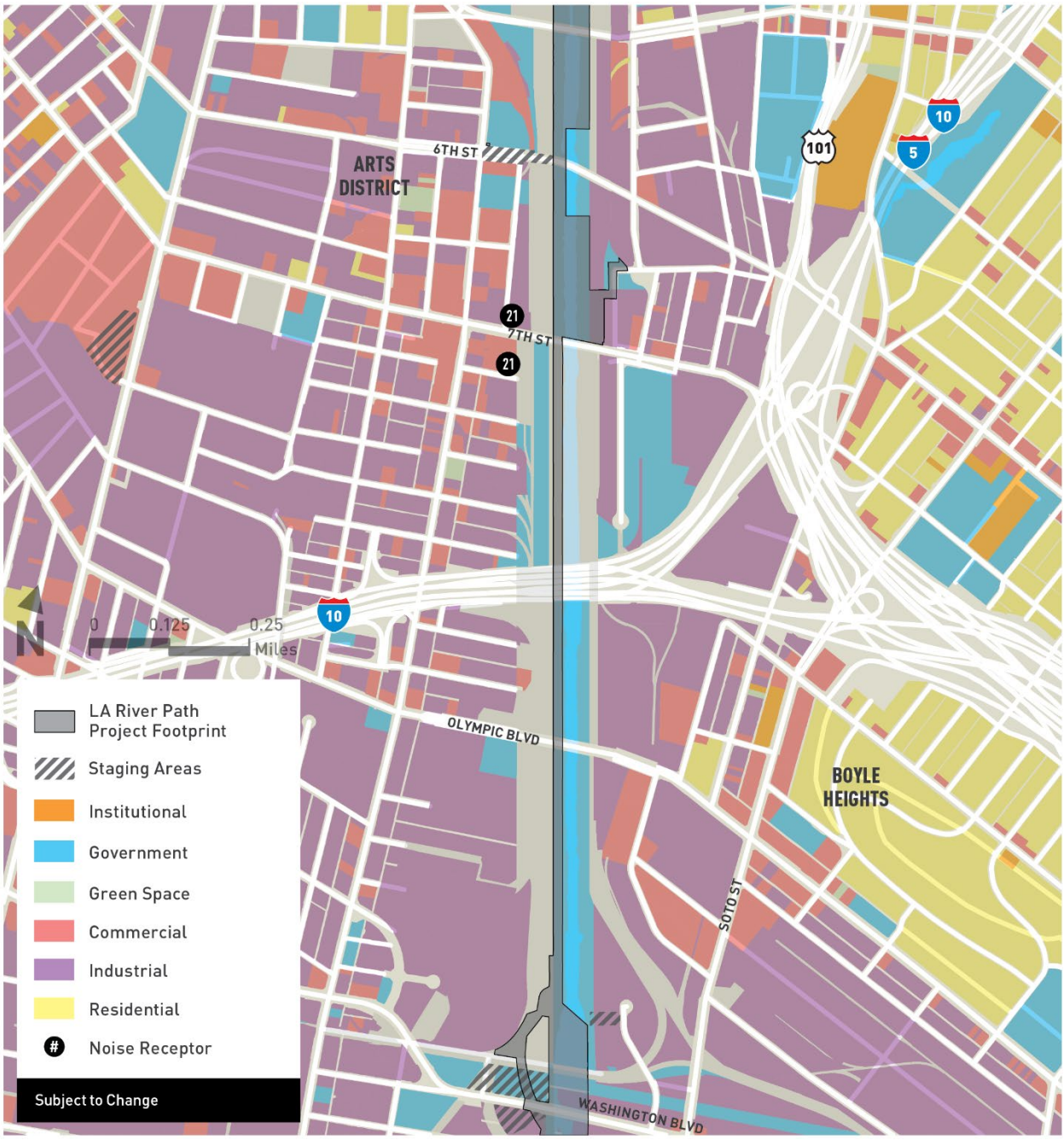


Figure 3.12-9. Land Use and Noise-sensitive Receptors near the Proposed Project Footprint, View 4 of 5

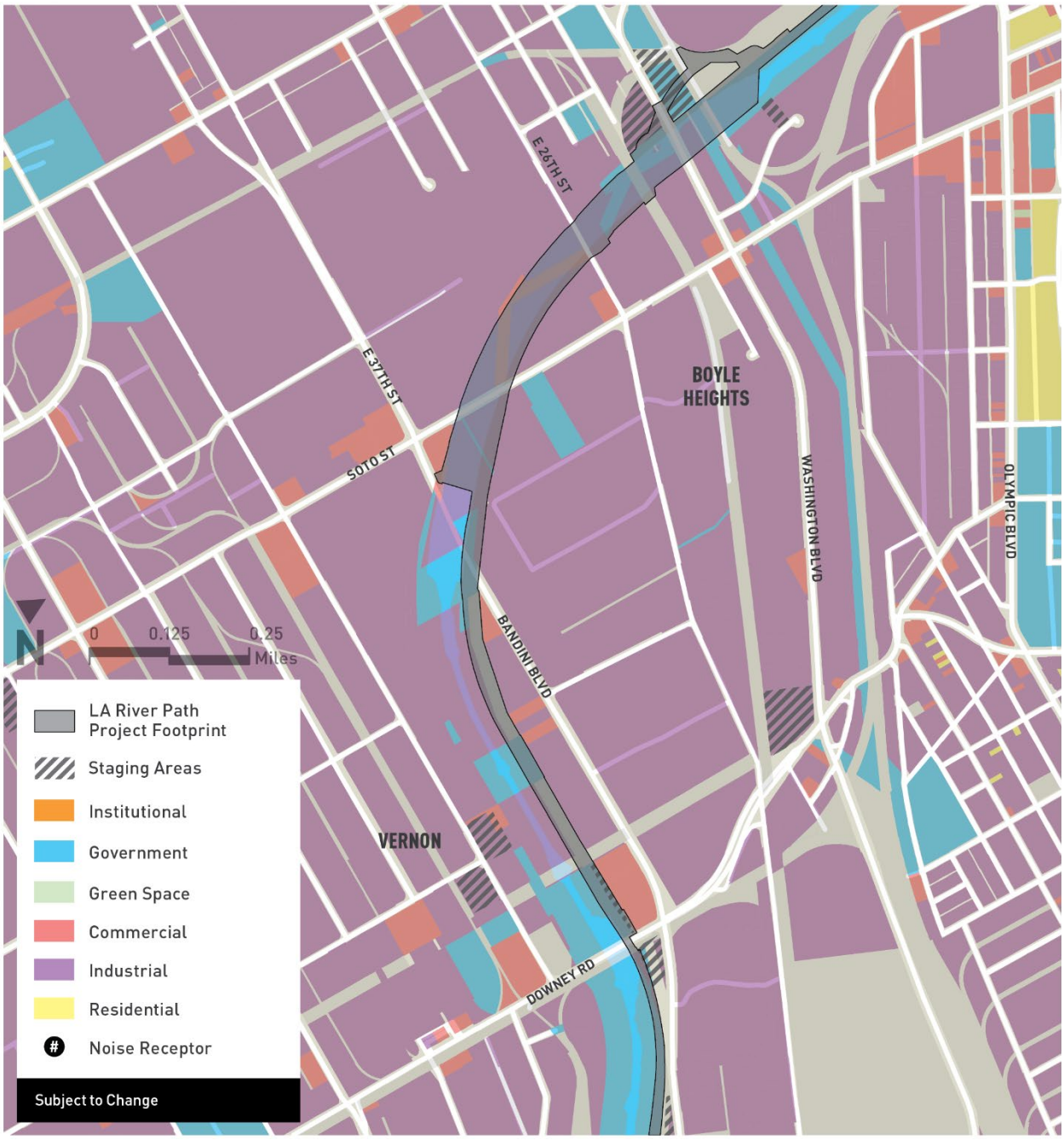
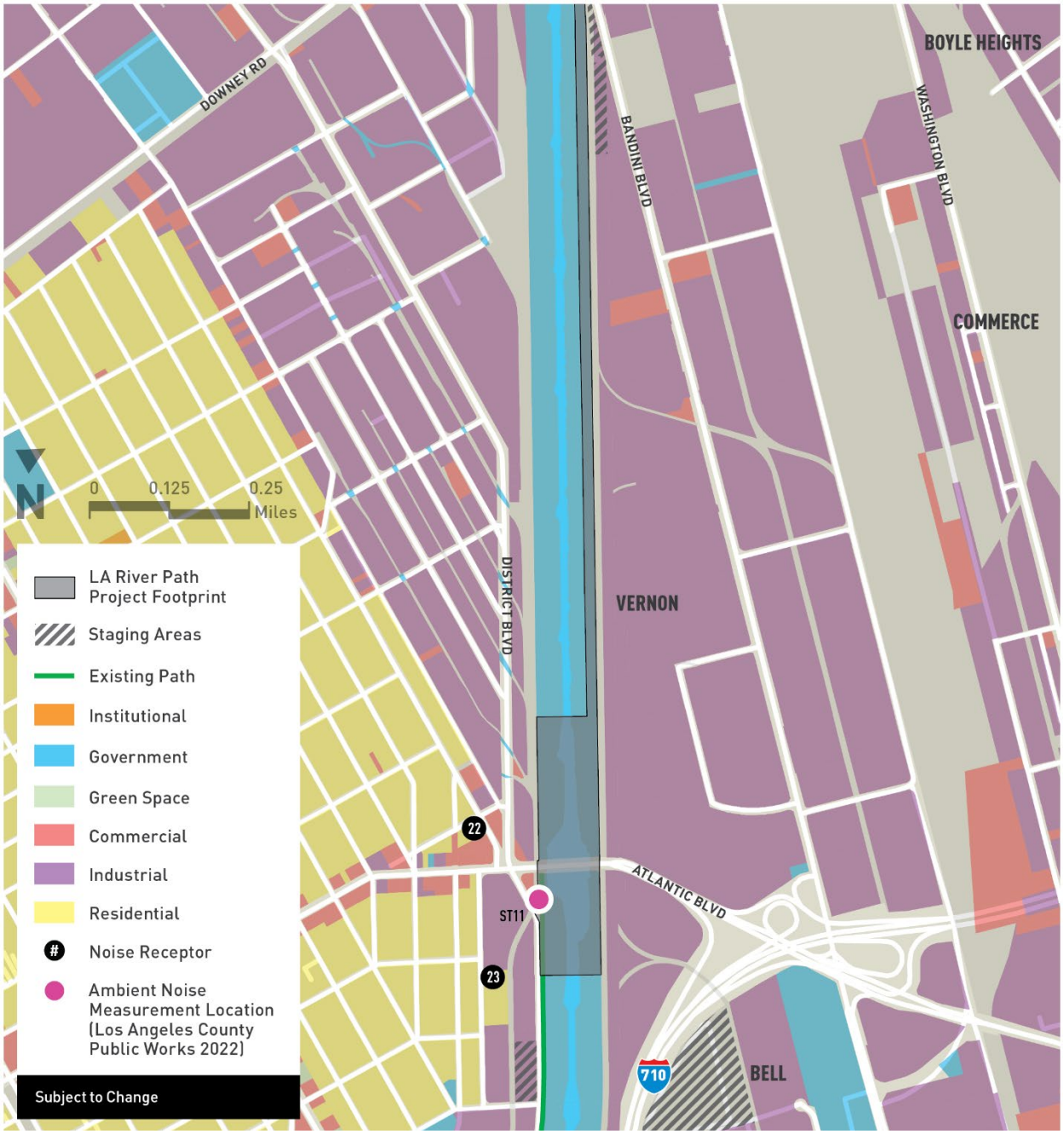


Figure 3.12-10. Land Use and Noise-sensitive Receptors near the Proposed Project Footprint, View 5 of 5



3.12.4.1 Existing Ambient Noise Levels

Ambient noise along the RSA was obtained from noise monitoring conducted for the *LA River Master Plan* (LACDPW 2022) and was compared to noise levels corresponding to various land use categories prepared by ANSI and the City of Los Angeles.

The *LA River Master Plan* included two long-term noise monitoring sites and three short-term noise monitoring sites near the RSA. Long-term ambient noise measurements were conducted between May 13 and 15, 2020, using Type 2 sound-level meters (LACDPW 2022). Short-term measurements near the RSA were conducted May 14, 2020, using a Larson Davis Model 831 Type 1 sound-level meter (LACDPW 2022). A summary of the measurements from these sites is presented in Table 3.12-8. Hourly ambient noise levels in the RSA were found to range between 56 dBA, L_{eq} and 75 dBA, L_{eq}. Noise levels over the 24-hours range from 66 to 76 dBA, CNEL. These measurements could potentially be lower than typical conditions as Executive Order N-33-20, *COVID-19 Stay-at-Home Order* was in effect throughout Los Angeles County at the time. The lower ambient noise levels result in a more conservative analysis as construction noise may be more noticeable in quieter environments.

Table 3.12-8. Summary of Ambient Noise Measurement Results Near Proposed Resource Study Area

Site	Long-Term Monitoring Location	Date	Range of Hourly L_{eq} Values (average), dBA	Range CNEL (dBA)	Range of Hourly L_{max} Values, dBA
LT2	Bike path off Riverdale Ave/6	05/13/20 to 5/15/20	56–69	66	54–93
LT3	Maywood Riverfront Park/4	05/13/20 to 5/15/20	61–75	74–76	52–103
Site	**Short-Term Monitoring Location**	**Date and Time**	**Average Hourly L_{eq} Value, dBA**	**L_{max} Values, dBA**	**--**
ST9	Elysian Park/6	05/14/20 at 15:25	59	72	--
ST10	837 Commercial Street/5	05/14/20 at 16:06	56	71	--
ST11	5119 South Atlantic Boulevard/4	05/14/20 at 16:52	64	73	--

Source: LACDPW 2022

Note that field measurements were conducted during the time frame when the COVID-19 Stay-at-Home Order (Executive Order N-33-20) was in effect throughout Los Angeles County. Therefore, traffic volumes along local roadways may have been depressed.

Annex C of the ANSI Standard S12.9 Part 3 (ANSI 2013) provides estimated day-night, day, and night noise levels based on land use category, and provides a table of approximate background noise levels based on land use and population density. This ANSI standard divides land uses into six distinct categories. Descriptions of these land use categories, along with the typical day and night levels, are provided in Table 3.12-9. Of the six categories, the RSA includes Categories 1, 2, and 3, where noise levels are expected to range between and L_{eq} of 49 and 66 dBA, similar to the ambient measurements conducted along the RSA. At times, louder or quieter periods than the levels stated could reasonably be assumed to occur, and furthermore, the ANSI standard estimated noise levels may vary by plus or minus 10 dB.

Table 3.12-9. A-weighted Sound Levels Corresponding to Land Use and Population Density (Leq, dBA)

Category	Land Use	Description	People per Square Mile	Day (dBA)	Night (dBA)
1	Noisy commercial and industrial areas and very noisy residential areas	Very heavy traffic conditions, such as in busy downtown commercial areas; at intersections for mass transportation or for other vehicles, including elevated trains, heavy motor trucks, and other heavy traffic; and at street corners where many motor buses and heavy trucks accelerate.	63,840	66	58
2	Moderate commercial and industrial areas and noisy residential areas	Heavy traffic areas with conditions similar to Category 1 but with somewhat less traffic; routes of relatively heavy or fast automobile traffic, but where heavy truck traffic is not extremely dense.	20,000	61	54
3	Quiet commercial, industrial areas, and normal urban and noisy suburban residential areas	Light traffic conditions where no mass transportation vehicles and relatively few automobiles and trucks pass, and where these vehicles generally travel at moderate speeds. Residential areas and commercial streets and intersections with little traffic comprise this category.	6,384	55	49
4	Quiet urban and normal suburban residential areas	These areas are similar to Category 3, but for this group the background is either distant traffic or is unidentifiable. Typically, the population density is one-third the density of Category 3.	2,000	50	44
5	Quiet residential areas	These areas are isolated, far from significant sources of sound, and may be situated in shielded areas such as a small wooded valley.	638	45	39
6	Very quiet, sparse suburban, or rural residential areas	These areas are similar to Category 4, but are usually in sparse suburban or rural areas and for this group, few if any near sources of sound exist.	200	40	34

Source: ANSI 2013

The LAMC has also established presumed ambient noise levels based on land use zone, which are provided in Table 3.12-10. The majority of the RSA would most closely align with the light and heavy industrial zone as shown in Figures 3.12-6 through 3.12-10.

Table 3.12-10. Presumed Ambient Noise Level by Zone within Los Angeles as Established by the Los Angeles Municipal Code

Zone	Day (dBA)	Night (dBA)
Agricultural, suburban, residential including single- and multi-family homes (A1, A2, RA, RE, RS, RD, RW1, RW2, R1, R2, R3, R4, and R5)	50	40
Parking areas and commercial (P, PB, CR, C1, C1.5, C2, C4, C5, and CM)	60	55
Limited and restricted light industrial (M1, MR1, and MR2)	60	55
Light and heavy industrial (M2 and M3)	65	65

Source: City of Los Angeles 2017

Existing noise sources within the RSA include: traffic noise associated with freeways and local streets, MetroLink commuter rail noise, intermittent noise associated with freight along railroad corridors, and noise associated with industrial uses. These types of noise sources and their associated noise levels are represented by the ANSI standard and LAMC ambient noise levels. The ambient noise levels based on land use or zone, identified in the ANSI standard and LAMC, are generally in agreement with the noise levels measured near the RSA summarized in Table 3.12-8 for the *2020 LA River Master Plan Final Program Environmental Impact Report* (LACDPW 2022). The range in values is expected as existing ambient noise levels may vary both temporally and spatially along the RSA. For example, wind may result in rustling vegetation noise on one day whereas calm conditions on another day would result in different sound levels, even at the same location. Changes in traffic patterns, MetroLink noise, intermittent noise associated with freight along railroad corridors, and seasonal activities can also result in different sound levels.

3.12.5 General Construction Noise Evaluation

Project construction activities are similar for all options and generally include four major activities: mobilization, site preparation, site work, and finishes. Contractor mobilization would occur at construction initiation and would involve clearing staging areas, setting up construction trailers, and mobilizing equipment and materials to staging areas. Site preparation involves clearing the site and preparing the Project footprint for construction, which generally involves clearing, grubbing, grading, and demolition activities in support of the upcoming construction activities. In addition, site preparation would include redirecting the channel flow as required away from work zones. Site work varies depending on the path type and Project characteristic being constructed. After the path surface is constructed, finishing path elements, such as railings, pathway striping, and signage, would be installed.

Project construction would use heavy equipment such as bulldozers, compactors, and scrapers. Noise levels from heavy equipment operations were estimated based on data and methods derived from the FHWA's *Roadway Construction Noise Model* (FHWA 2006) and the FTA manual. The data represent the most recent and comprehensive tabulation of noise from common pieces of heavy equipment. Construction equipment noise levels are presented in Table 3.12-11.

Table 3.12-11. Construction Equipment Noise Levels from the Roadway Construction Noise Model User's Guide

Equipment Description	Acoustical Usage Factor (%)	L_{max} at 50 feet (dBA)
All other equipment greater than 5 hp	50	85
Auger drill rig	20	85
Backhoe	40	80
Bar bender	20	80
Blasting	N/A	94
Boring jack power unit	50	83
Bulldozer	40	85
Chain saw	20	85
Clam shovel (dropping)	20	93
Compactor (ground)	20	83

Table 3.12-11. Construction Equipment Noise Levels from the Roadway Construction Noise Model User's Guide

Equipment Description	Acoustical Usage Factor (%)	L_{max} at 50 feet (dBA)
Compressor (air)	40	80
Concrete batch plant	15	83
Concrete mixer truck	40	85
Concrete pump truck	20	82
Concrete saw	20	90
Crane	16	85
Drill rig truck	20	84
Drum mixer	50	80
Dump truck	40	84
Excavator	40	85
Flatbed truck	40	84
Front end loader	40	80
Generator	50	82
Generator (less than 25 kVA, VMS signs)	50	73
Gradall	40	85
Grader	40	85
Grapple (on backhoe)	40	87
Horizontal boring hydraulic jack	25	82
Hydra break ram	10	90
Impact pile driver	20	101
Jackhammer	20	89
Man lift	20	85
Mounted impact hammer (hoe ram)	20	90
Pavement scarifier	20	90
Paver	50	85
Pickup truck	40	75
Pneumatic tools	50	85
Pumps	50	81
Refrigerator unit	100	82
Rivet buster/chipping gun	20	85
Rock drill	20	85
Roller	20	85
Sand blasting (single nozzle)	20	96
Scraper	40	85
Shears (on backhoe)	40	96
Slurry plant	100	78
Slurry trenching machine	50	82

Table 3.12-11. Construction Equipment Noise Levels from the Roadway Construction Noise Model User's Guide

Equipment Description	Acoustical Usage Factor (%)	L_{max} at 50 feet (dBA)
Soil mix drill rig	50	80
Tractor	40	84
Vacuum excavator (vac-truck)	40	85
Vacuum street sweeper	10	82
Ventilation fan	100	85
Vibrating hopper	50	87
Vibratory concrete mixer	20	80
Vibratory pile driver	20	101
Warning horn	5	85
Welder/torch	40	74

Source: FHWA 2006

Note:

hp = horsepower
kVA = kilovolt ampere
Lmax = maximum sound level
N/A = not applicable
VMS = variable message sign

As shown in Table 3.12-11 the loudest equipment anticipated to be utilized for the Proposed Project and options during general construction activities emits noise in the range of 80 to 90 dBA at 50 feet. Noise at any specific receptor is dominated by the closest and loudest equipment. The types, numbers, and duration of equipment anticipated to be used near any specific receptor location would vary over time. Therefore, a typical noise estimate was developed based on the general assumption of multiple pieces of loud equipment operating near each other, with the exception of impact pile driving, which is addressed separately. Specifically, the scenario evaluated assumes five pieces of general construction equipment working near each other, as follows:

- One piece of equipment generating a reference noise level of 85 dBA at 50 feet at the edge of the construction or work area.
- Two pieces of equipment generating 85 dBA reference noise levels located 50 feet farther away from the edge of construction or work area.
- Two more pieces of equipment generating 85 dBA reference noise levels located 100 feet farther away the edge of construction or work area.

The combined reference noise level of the five pieces of construction equipment operating at the noted distances from each other would be 87 dBA at 50 feet (refer to Appendix L, *Noise and Vibration*).

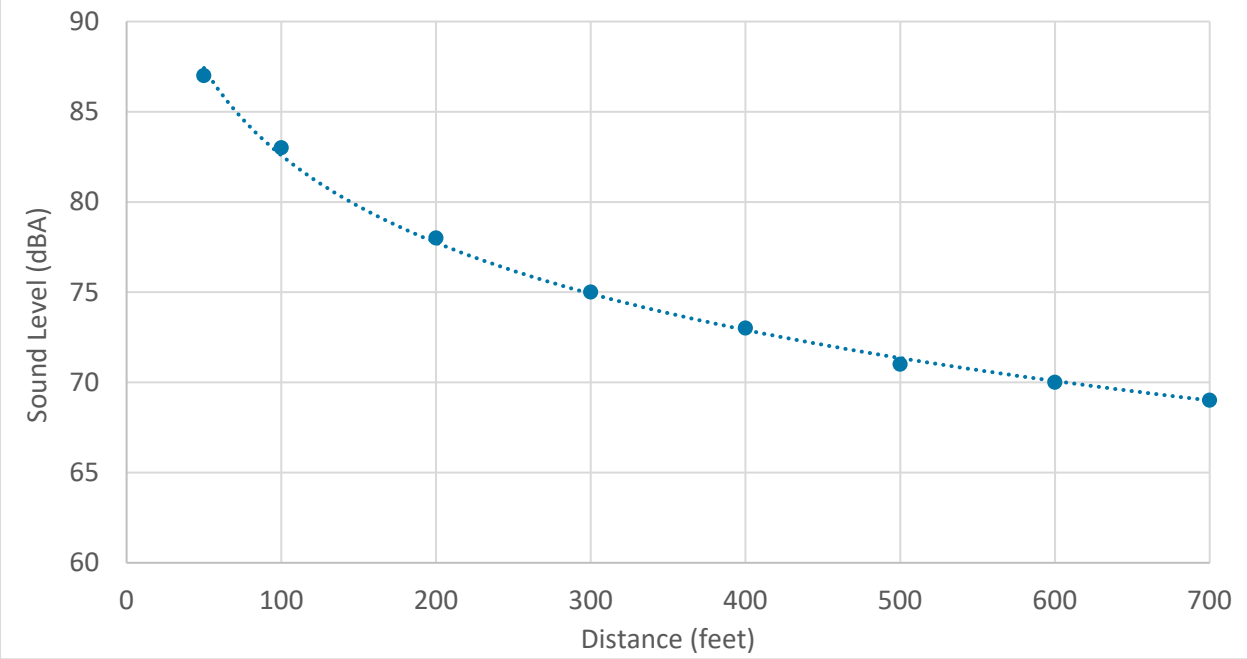
Table 3.12-12 lists predicted average equipment noise levels at distances up to 700 feet based on this scenario. A plot of noise level versus distance is provided in Figure 3.12-11.

Table 3.12-12. Average Equipment Noise Levels Versus Distance

Distance from Activity (feet)	Average Noise Level (dBA)
50	87
100	83
200	78
300	75
400	73
500	71
600	70
700	69

Source: Jacobs Alta 2021

Figure 3.12-11. Plot of Noise Level Versus Distance



The impact of typical construction noise based on the scenario of five pieces of general construction equipment operating near each other is evaluated first by the Proposed Project and then by option in the following impact evaluation (Section 3.12.9). The evaluation considers the Project's centerline, where work is most likely to occur, as well as the edge of the Project footprint. Figures 3.12-12 through 3.12-16 in Section 3.12.9 show the Proposed Project, and option alignments, the Project centerline, and the Project footprint near noise-sensitive receptors.

3.12.6 Staging Area Noise Evaluation

Staging area activities have been conservatively assumed to result in a similar noise level as general construction activities. The expected noise levels modeled in Section 3.12.5 were, therefore, applied to distances from staging areas to residences to evaluate impacts.

3.12.7 Pile-driving Noise Evaluation

As shown in Table 3.12-11, driven piles may result in a noise level of 101 dBA at 50 feet from the equipment and have a usage factor of 20 percent. Incorporating the 20 percent usage factor into consideration yields an average noise level of 94 dBA at 50 feet. Pile driving noise levels would be expected to decrease at a rate of 6 dBA per doubling of distance. Pile driving, if required, is typically a limited duration activity and is scheduled to occur during daytime hours. Table 3.12-13 presents the predicted noise level from impact pile driving at various distances. The FTA 8-hour daytime residential criteria of 80 dBA would be reached at a distance of 250 feet, the daytime commercial criteria of 85 dBA would be reached at a distance of 140 feet, and the daytime industrial criteria of 90 dBA would be reached at a distance of 80 feet.

Piles would be required for three of the five potential path types: cantilever, elevated in-channel, and elevated top-of-bank. As discussed in Section 3.12.3, pile driving was assumed for all path types requiring piles, thereby resulting in the most conservative impact analysis for noise-sensitive receptors. However, the majority of the foundations are anticipated to be drilled shafts, which are installed using quieter methods.

Table 3.12-13. Potential Pile Driving Noise Impacts at Sensitive Receptors

Distance from Pile Driver (feet)	Noise Level (dBA)
50	94
100	88
200	82
400	76
800	70

3.12.8 Offsite Construction Vehicle Traffic

Construction activities may also result in short-term increases in vehicle traffic along area roadways. Construction noise associated with worker vehicles and haul routes would be focused near staging areas and construction access points to the river. Due to construction activity limitations at the river channel, it is anticipated that the potential staging areas would be used for material and equipment storage and worker rally points. Four construction access points to the river are anticipated: (1) San Fernando Road River Access south of SR-110, (2) 6th Street River Access, (3) Perrino Place River Access (north of Washington Blvd, east riverbank), and (4) Downey Road River Access.

Haul trucks for imported and exported soils and concrete trucks are assumed to originate outside the construction area (offsite) and enter the river channel via planned access points, pick-up and drop-off at the construction site, and exit the using the same route. Haul trucks are assumed not to use the staging areas. In addition to trips generated by construction workers and haul trips, due to the limitations at the channel, a separate set of offsite trips are anticipated related to the daily mobilization of material and equipment in and out of the construction sites.

To evaluate noise associated with truck traffic, the total number of round trips per day for peak daily construction traffic by activity were estimated and compared to existing traffic volumes along roadways within the RSA. The result was evaluated against the Caltrans determination that a doubling of vehicle traffic is required for a noticeable increase (3 dBA) in traffic noise levels.

3.12.9 Impact Evaluation

The CEQA Guidelines do not provide a definition for "substantial increase in excess of standards" in noise and do not provide a quantitative threshold of significance for potential noise or vibration. The local jurisdictions do not identify numeric noise limits at receiver locations from construction activities. The City of Los Angeles has established an equipment noise specification of 75 dBA, L_{eq} at 50 feet when equipment would be located within 500 feet of residences which is intended to reduce noise at residences. To ensure that potential noise impacts are assessed similarly throughout the alignment, the FTA 8-hour guidance is used as a general threshold for identifying potential impacts at noise-sensitive uses (Table 3.12-2). The residential threshold is used for comparison for not only the residences along the alignment, but also other potentially noise-sensitive receptors, including places of worship, recreation areas, and schools. Local jurisdictions have not established thresholds for construction noise at commercial and industrial areas, because these land uses are typically not considered noise sensitive. This analysis, therefore, uses the FTA 8-hour criteria for commercial and industrial land uses (Table 3.12-2). The FTA manual further establishes construction damage criteria from vibration in terms of PPV, as presented in Table 3.12-3, and annoyance criteria for ground-borne vibration in terms of VdB, as presented in Table 3.12-4. This analysis relies on FTA's noise and vibration criteria for residential or other noise-sensitive land uses.

For the purposes of this Draft EIR, a substantial temporary or permanent increase in ambient noise levels is deemed to occur if construction activities lasting more than one day would exceed existing ambient exterior noise levels by 10 dBA or more at a noise-sensitive receptor. Ambient noise levels in the RSA were determined to be variable with measured levels as low as 56 dBA (refer to Section 3.12.4). Thus, compliance with FTA's 70 dBA nighttime or 80 dBA daytime criteria could still result in an increase of 10 dBA and noise impacts could still be significant.

3.12.9.1 Impact NOI-1: Exceedance of Noise Standards

Impact NOI-1: Generate a substantial temporary or permanent increase in ambient noise levels near the project at noise-sensitive land uses in excess of standards established by the FTA, in the local general plan, noise ordinance, or applicable agency standards?

3.12.9.1.1 Proposed Project

3.12.9.1.1.1 Construction

Significant and unavoidable as described below.

3.12.9.1.1.1.1 General Construction Activities

As previously noted, the FTA 8-hour guidance is used as a general threshold for identifying potential impacts at noise-sensitive uses (Table 3.12-2). The residential thresholds are used not only for the residences along the alignment, but also other potentially noise-sensitive receptors, including places of worship, recreation areas, and schools. Local jurisdictions have not established thresholds for construction noise at commercial and industrial areas, because these land uses are typically not considered noise sensitive. The FTA 8-hour daytime and nighttime criteria for commercial and industrial uses are 85 dBA and 90 dBA, respectively (Table 3.12-2), but these uses have not been assessed because they are not noise sensitive.

General construction noise has the potential to occur along the path alignment regardless of the type of path construction. For residential areas, the general FTA 8-hour criteria is 80 dBA for daytime work and 70 dBA for nighttime work. The 80 dBA, 8-hour L_{eq} noise level would occur at approximately 150 feet from the construction activity (Table 3.12-12 and Figure 3.12-11). The 70 dBA, 8-hour L_{eq} noise level would occur at approximately 600 feet from the construction activity (Table 3.12-12 and Figure 3.12-11). For areas or activities where nighttime construction may be necessary, for example to minimize potential traffic impacts, the Proposed Project would comply with applicable requirements, such as a noise variance from local municipal codes. A noise variance allowing nighttime construction may impose additional restrictions.

What follows is a discussion of expected typical construction noise levels at noise-sensitive areas. As one purpose of the Proposed Project is to ensure it is accessible to the public, there are multiple access points proposed near parks, residential areas, schools, and similar uses. Thus, some portion of the Proposed Project requires construction in proximity to noise--sensitive areas. As it is possible for Proposed Project construction activities to exceed the applicable criteria, the noise level impact is identified as significant and unavoidable. A summary of the distance from the Proposed Project footprint and the Proposed Project centerline to noise-sensitive receptors is presented in Table 3.12-14 and receptors are shown on Figures 3.12-12 through 3.12-16.

Table 3.12-14. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for the Proposed Project

Jurisdiction	Receptor	Proposed Project	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	1. Residence near northern beginning of the path	330 feet — 74 dBA (400 feet — 73 dBA)	Nighttime
	2. Egret Park	In Footprint — >87 dBA (In Centerline — >87 dBA)	Daytime
	3. Elysian Park, Grand View Drive picnic area	350 feet — 73 dBA (400 feet — 73 dBA)	None
	4. Elysian Park, Buena Vista Meadow	470 feet — 71 dBA (180 feet — 78 dBA)	None
	5. Confluence Park	260 feet — 76 dBA (640 feet — 69 dBA)	None
	6. Ed P. Reyes River Greenway	130 feet — 81 dBA (460 feet — 71 dBA)	Daytime

Table 3.12-14. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for the Proposed Project

Jurisdiction	Receptor	Proposed Project	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
	7. Young Nak English College Ministry	270 feet — 75 dBA (540 feet — 70 dBA)	Nighttime
	8. Residences	550 feet — 70 dBA (1,000 feet — 65 dBA)	None
	9. Los Angeles State Historic Park	770 feet — 67 dBA (870 feet — 67 dBA)	None
	10. Youngnak Presbyterian Church	280 feet — 75 dBA (540 feet — 70 dBA)	Nighttime
	11. Downey Swimming Pool	180 feet — 78 dBA (390 feet — 72 dBA)	None
	12. Residences near South Ave 18 and North Broadway	670 feet — 68 dBA (930 feet — 66 dBA)	None
	13. Albion Riverside Park/ Downey Recreation Area	10 feet — >87 dBA (20 feet — >87 dBA)	Daytime
	14. Residences	350 feet — 73 dBA (500 feet — 71 dBA)	Nighttime
	15. Templo Gethsemani	340 feet — 74 dBA (560 feet — 70 dBA)	Nighttime
	16. William Mead Homes (apartments)	140 feet — 80 dBA (260 feet — 76 dBA)	Daytime Nighttime
	17. Pueblo del Sol Apartments	130 feet — 81 dBA (590 feet — 69 dBA)	Daytime Nighttime
	18. Felicitas and Gonzalo Mendez High School	70 feet — 85 dBA (90 feet — 84 dBA)	Daytime
	19. Residences near First Street and South Anderson Street	370 feet — 74 dBA (400 feet — 73 dBA)	Nighttime
	20. One Santa Fe Apartments	450 feet — 72 dBA (750 feet — 68 dBA)	Nighttime
	21. Apartments north and south of Seventh Street	330 feet — 74 dBA (380 feet — 73 dBA)	Nighttime
City of Vernon	--	No receptors	--
Unincorporated Los Angeles	--	No receptors	--
City of Vernon	--	No receptors	--
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	None
	23. Closest residence	380 feet — 73 dBA (560 feet — 70 dBA)	Nighttime

Figure 3.12-12. Comparison of Proposed Project, Option 1 and Option 2 and Closest Noise-sensitive Receptors, View 1 of 5

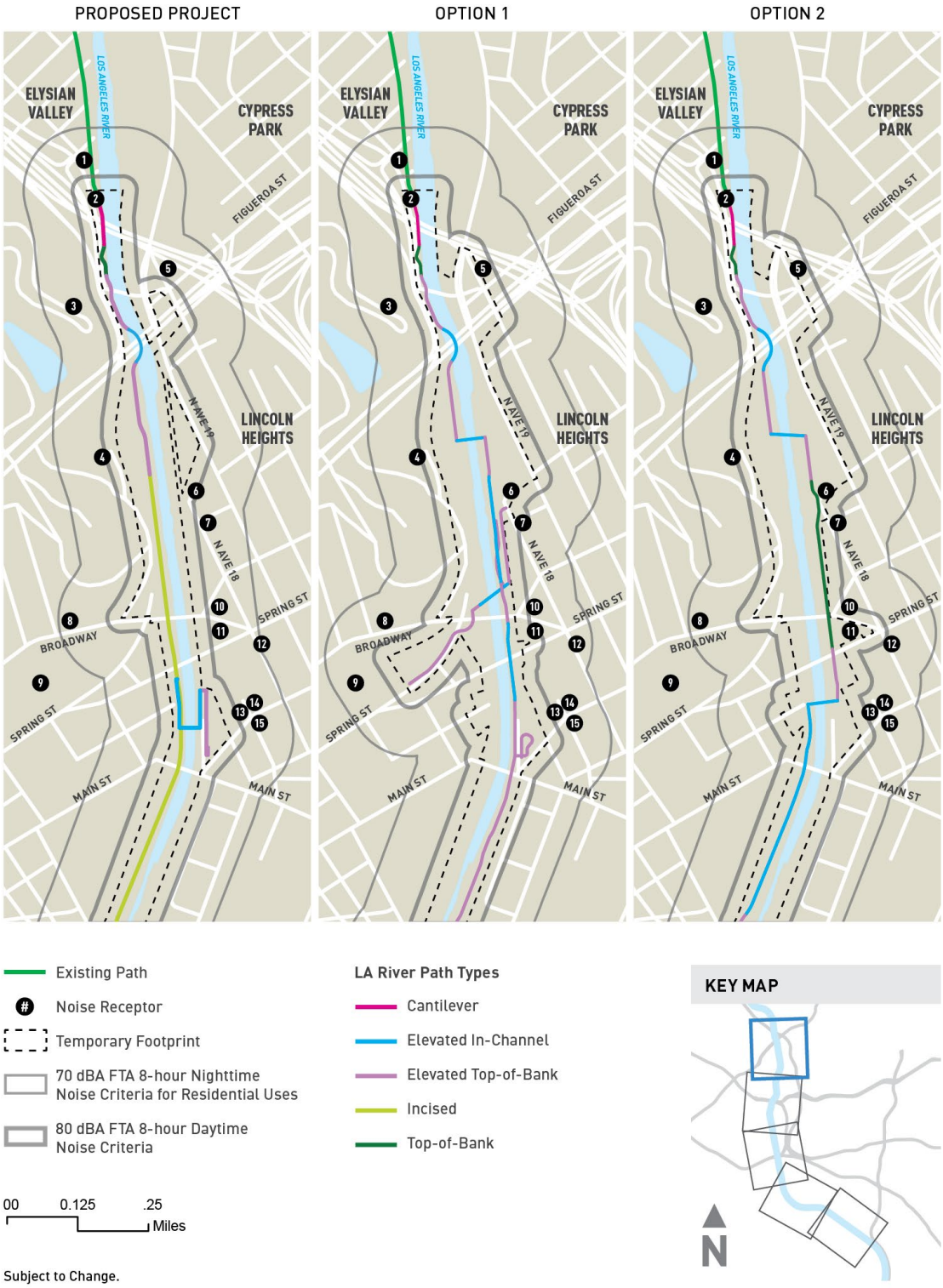


Figure 3.12-13. Comparison of the Proposed Project, Option 1 and Option 2 and Closest Noise-sensitive Receptors, View 2 of 5

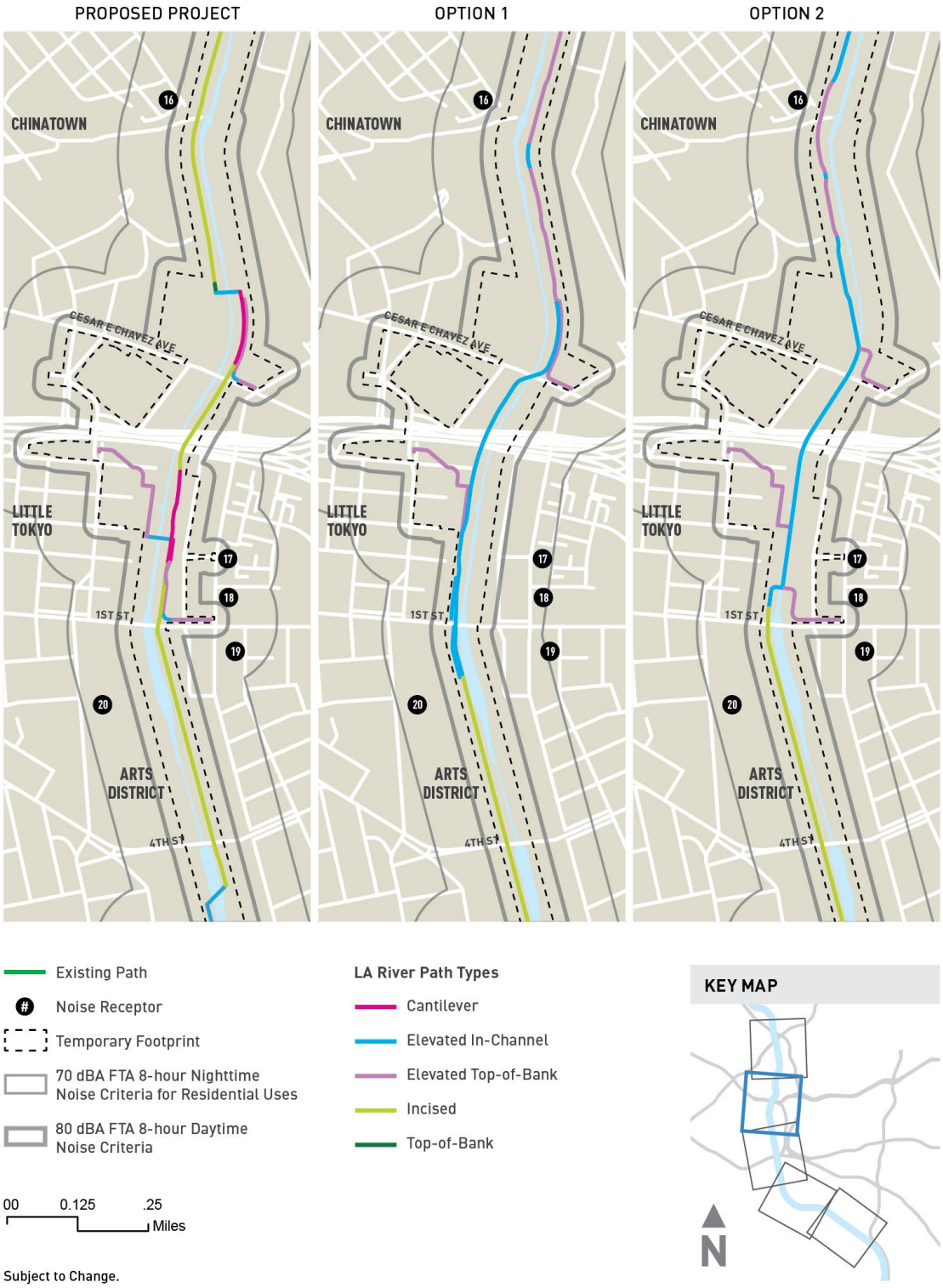


Figure 3.12-14. Comparison of the Proposed Project, Option 1 and Option 2 and Closest Noise-sensitive Receptors, View 3 of 5

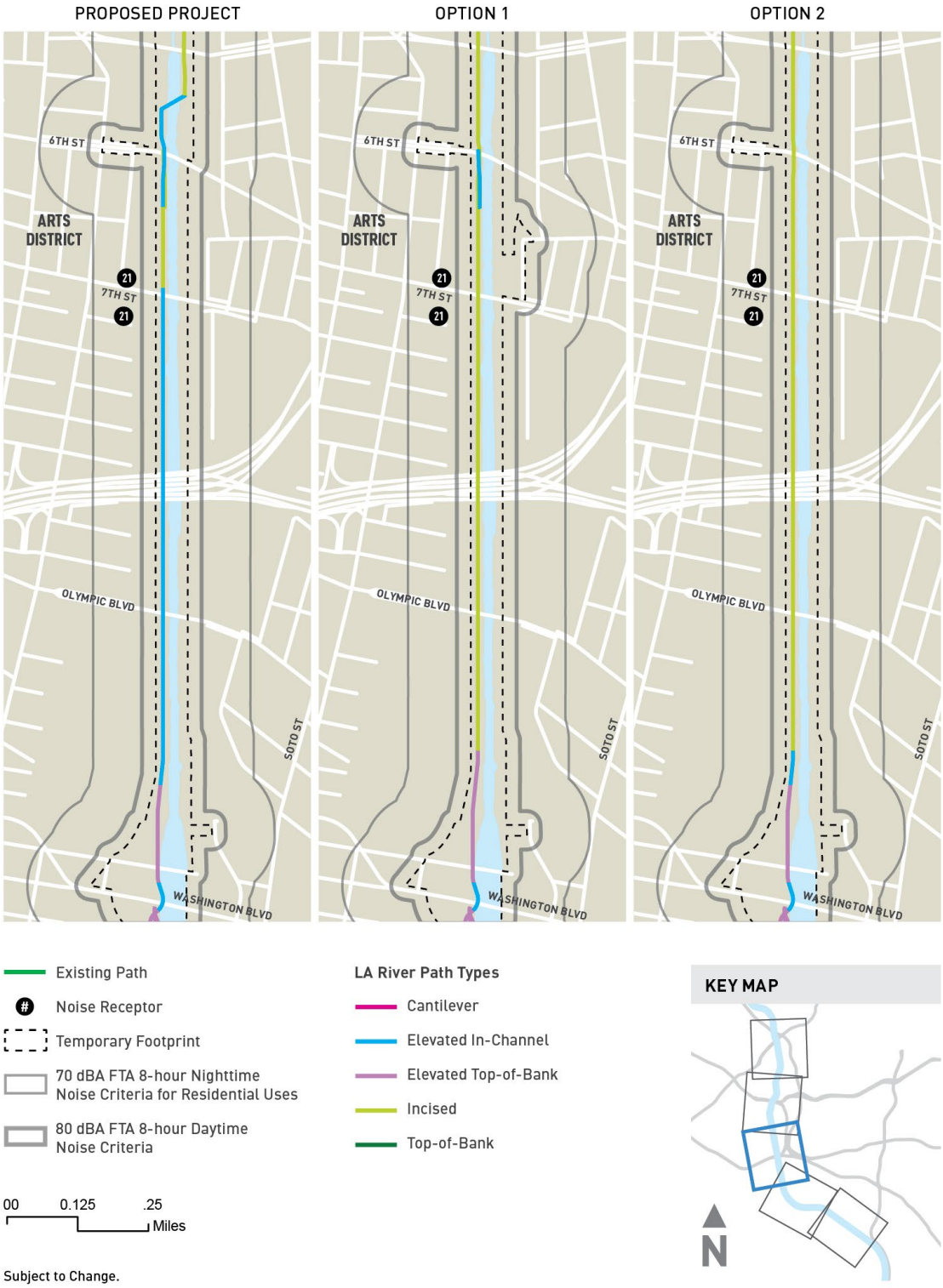


Figure 3.12-15. Comparison of the Proposed Project, Option 1 and Option 2 and Closest Noise-sensitive Receptors, View 4 of 5

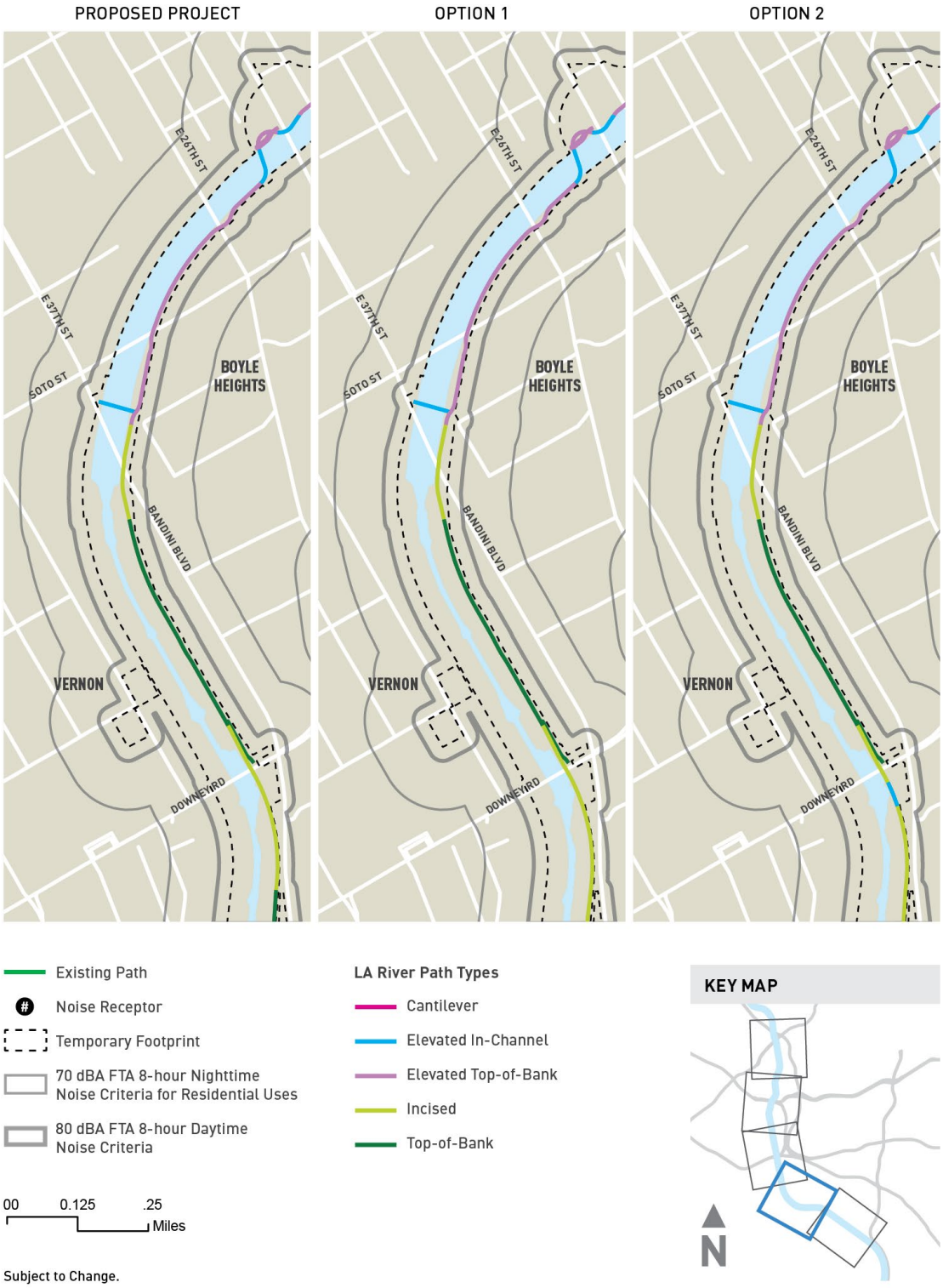
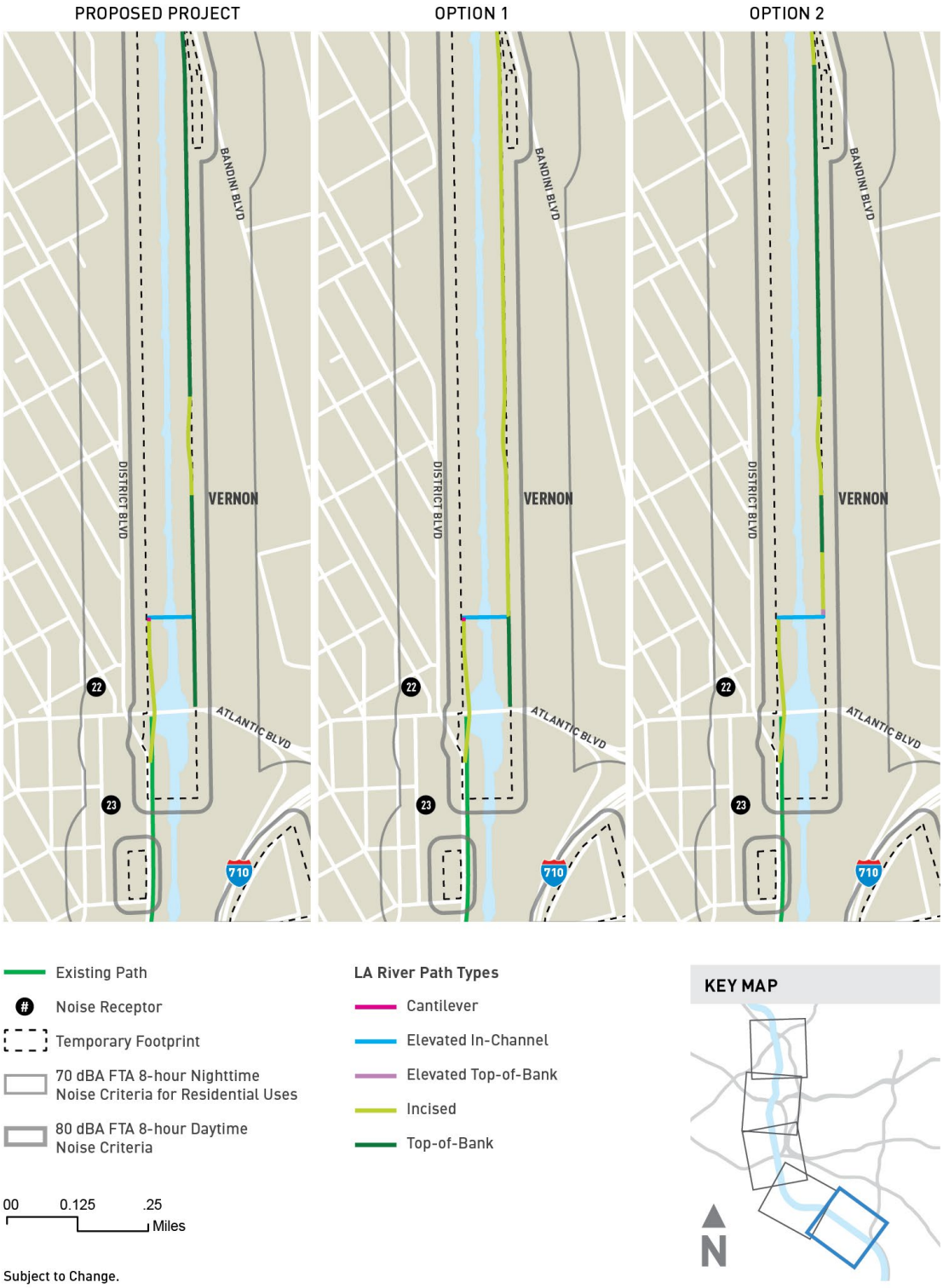


Figure 3.12-16. Comparison of the Proposed Project, Option 1 and Option 2 and Closest Noise-sensitive Receptors, View 5 of 5



Noise-sensitive receptors (#) with potential impacts from construction of the Proposed Project are summarized as follows:

- **Receptor 1**. The northern starting point for all options is the same, as is the distance to the closest residence (1) at that location of approximately 400 feet from the beginning of the path's centerline and 330 feet from the Proposed Project's footprint. From the centerline, the noise level at the residence is predicted to be approximately 73 dBA, and from the edge of the Proposed Project footprint, the noise level at the residence is predicted to be 74 dBA. The maximum noise level of 74 dBA at 330 feet from the construction noise source would not exceed the FTA 80 dBA daytime 8-hour residential criteria. However, construction activities at this location could exceed the 70 dBA FTA nighttime 8-hour residential criteria.
- **Receptor 2**. Egret Park (2) is a small community enhancement at an access point to the Los Angeles River Bike Path where the Proposed Project would interconnect with the bike path. This interconnection point leads to Egret Park (2) being located within the Proposed Project footprint and within the centerline. Construction noise is expected to be greater than 87 dBA, exceeding the 80 dBA FTA daytime noise criteria. Because the park is not generally used at night, the 70 dBA FTA 8-hour nighttime noise criteria is not applicable.
- **Receptor 6.** Ed P. Reyes River Greenway (6) is located approximately 130 feet from the Proposed Project footprint and 460 feet from the centerline for the Proposed Project. The resulting noise level would be approximately 71 dBA for equipment operating at the centerline to 81 dBA for equipment operating at the edge of Proposed Project footprint. Thus, there is a potential for the Proposed Project's construction noise to exceed the 80 dBA FTA daytime noise criteria. Because the greenway is not generally used at night, the 70 dBA FTA 8-hour nighttime noise criteria is not applicable.
- **Receptors 7 and 10.** Two places of worship (Young Nak English College Ministry [7] and Youngnak Presbyterian Church [10]) are located 270 and 280 feet, respectively, from the Proposed Project footprint and 540 feet from the centerline of the Proposed Project. Noise levels for both noise-sensitive receptors would be approximately 70 dBA for equipment operating at the centerline and 75 dBA for general construction equipment operating at the edge of the footprint. Thus, Proposed Project construction noise at this location is not predicted to exceed the 80 dBA FTA 8-hour daytime noise criteria but could exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptors 13, 14, and 15**. The Albion Riverside Park and adjacent Downey Recreation Area (13) have an access point to the bicycle path alignment associated with the Proposed Project. The closest portions of the park and recreation area to the alignment are fields, which could experience noise levels greater than 87 dBA from general construction noise. These noise levels would exceed the 80 dBA FTA 8-hour daytime noise criteria. Due to this access point, a place of worship (Templo Gethsemani [15]) and residences (14) are 340 and 360 feet from the Proposed Project footprint and 560 and 500 feet from the centerline, respectively. As shown in Table 3.12-14, maximum noise levels at Templo Gethsemani (15) and the residences (14) would be 74 dBA and 73 dBA, respectively, which would not exceed the 80 dBA FTA 8-hour daytime noise criteria. However, the 70 dBA FTA 8-hour nighttime criteria would be exceeded.
- **Receptor 16.** William Mead Homes apartments (16) located near Bolero Land and Leroy Street are within 260 feet of the centerline and 140 feet of the footprint of the Proposed Project, resulting in a predicted noise level of ranging from 76 dBA for general construction at the centerline to 80 dBA for construction at the edge of the footprint. Thus, Proposed Project construction noise at this location could exceed the 80 dBA FTA 8-hour daytime and 70 dBA 8-hour nighttime noise criteria for residential uses.

- **Receptor 17.** The Pueblo del Sol complex (17) is located approximately 590 feet from the centerline of the Proposed Project, resulting in a predicted noise level of 69 dBA for general construction at the centerline. Within the footprint of the Proposed Project, an access point is proposed along Kearney Street located within 130 feet of the closest apartments in the Pueblo del Sol complex (17). The Proposed Project footprint is 130 feet from the apartments, resulting in a predicted noise level of 81 dBA. Thus, Proposed Project construction noise at this location could exceed the 80 dBA FTA 8-hour daytime and 70 dBA 8-hour nighttime noise criteria for residential uses.
- **Receptor 18.** The Proposed Project includes an access point to First Street (east river bank), which terminates within 70 feet of Felicitas and Gonzalo Mendez High School (18) from the Proposed Project footprint and 90 feet from the centerline. Predicted noise levels at the closest school buildings would be around 85 dBA from the edge of the Proposed Project footprint to greater than 84 dBA from the Proposed Project centerline. Accordingly, Proposed Project construction at this location has the potential to exceed 80 dBA FTA 8-hour daytime noise criteria. The high school does not operate at night and the FTA nighttime criteria is not applicable.
- **Receptor 19.** A few residences (19) are located on the south side of First Street from the Proposed Project access point. The closest residence is within 370 feet of the footprint and 400 feet of the centerline, resulting in a noise level of 74 and 73 dBA, respectively. Therefore, Proposed Project construction is not predicted to exceed the 80 dBA FTA 8-hour daytime criteria, but may exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 20.** The One Santa Fe Apartments are located on the west side of the river bank within 450 feet of the Proposed Project footprint and 750 feet from the centerline. Noise levels associated with general construction noise are anticipated to be between 68 and 72 dBA. Therefore, there is the potential for the 70 dBA FTA 8-hour nighttime criteria for residential uses to be exceeded.
- **Receptor 21.** While a number of noise-sensitive receptors are located in the Arts District west of the Proposed Project footprint, none of these receptors are close enough to the Proposed Project alignment for general construction noise to exceed the 80 dBA FTA 8-hour daytime residential criteria, although the 70 dBA FTA 8-hour nighttime criteria for residential uses could be exceeded. In particular, the closest noise-sensitive receptors (21) are equidistant for all options and are apartments located near Seventh Street approximately 330 feet from the Proposed Project footprint and 380 feet from the centerline. Noise levels would be between 74 to 73 dBA, respectively. The 80 dBA FTA 8-hour daytime criteria would not be exceeded. However, there is a potential for construction noise to exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.
- **Receptor 22 and 23.** The Proposed Project path ends near a residential area in the City of Maywood. The closest potential noise-sensitive receptors include single-family residences and Maywood Elementary School (22). The school building is the closest to the path at approximately 440 feet from the Proposed Project footprint and 520 feet from the centerline. Noise levels would be 72 dBA from the edge of the Proposed Project footprint and 70 dBA from the centerline. Maywood Elementary School does not operate at night and the 70 dBA FTA 8-hour nighttime criteria is not applicable. Construction noise levels would not meet or exceed the 80 dBA FTA 8-hour daytime noise criteria. The closest residences (23) are approximately 560 feet from the centerline and 380 feet from the Proposed Project footprint; noise levels at these distances would be approximately 70 to 73 dBA, respectively. Construction noise levels would not meet or exceed the 80 dBA FTA 8-hour daytime criteria, but would meet or exceed the 70 dBA FTA 8-hour nighttime noise criteria.

The Proposed Project's alignment is also located near commercial and industrial uses, which are not considered sensitive receptors.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm. Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holidays, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-1 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction. The Proposed Project would not violate the requirements of LAMC Section 41.40 with implementation of MM-NOI-01.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near the Proposed Project's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. If equipment is operating at the edge of the Proposed Project footprint, the nearest noise-sensitive receptor would be Receptor 18, Felicitas and Gonzalo Mendez High School located approximately 70 feet away. The resultant construction noise level would be approximately 85 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 10 to 29 dBA, L_{eq} with the maximum increase of 29 dBA, L_{eq} occurring over the lowest noise level of 56 dBA, L_{eq}.[1] Based on the ANSI Standard S12.9, Part 3 (ANSI) approximate background noise assumptions, nighttime noise levels in the RSA range between 49 to 58 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 26 to 36 dBA, L_{eq} with the maximum increase of 36 dBA, L_{eq} occurring over the lowest noise level of 49 dBA, L_{eq}.

The nearest residences (Receptor 17 Pueblo Del Sol Apartments) are located approximately 130 feet from the Proposed Project footprint and the resultant construction noise level would be approximately 81 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 6 to 25 dBA, L_{eq} with the maximum increase of 25 dBA, L_{eq} occurring over the lowest noise level of 56 dBA, L_{eq}. Based on the ANSI Standard S12.9, Part 3 (ANSI) approximate background noise assumptions, nighttime noise levels in the RSA range between 49 to 58 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 22 to 32 dBA, L_{eq} with the maximum increase of 32 dBA, L_{eq} occurring over the lowest noise level of 49 dBA, L_{eq}.

Incremental increases in noise would be greater than 10 dBA above ambient noise levels. These incremental increases in noise would be temporary and this scenario conservatively considers all equipment operating in the same area for an extended period of time. However, construction equipment generally traverses construction sites in different areas and does not typically present a concentrated noise source emanating from one point. Thus, incremental increases in noise would vary and would likely be less than what has been conservatively described. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.1.1.1.1 Design Variations

Several design variations are proposed along the Proposed Project alignment. These are depicted in Chapter 2, *Project Description*. The design variations are within the temporary footprint of the Proposed

[1] Approximate background noise levels are also included in Annex C of the ANSI Standard S12.9 Part 3 (ANSI 2013), for different land use categories, as shown in Table 3.12-9. The RSA includes Categories 1 (Noisy commercial and industrial areas and very noisy residential areas), 2 (Moderate commercial and industrial areas and noisy residential areas), and 3 (Quiet commercial, industrial areas, and normal urban and noisy suburban residential areas. Daytime noise levels are expected to range between 55 and 66 dBA, L_{eq}, similar to existing ambient noise levels described above.

Project alignment but result in changes to the centerline. Two of the potential design variations impact estimated sound levels to sensitive receptors based on distance to centerline as presented in Table 3.12-15 and described below.

Table 3.12-15. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for the Proposed Project

Jurisdiction	Receptor	Proposed Project		Design Variations		
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded	Design Variation Name	Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	17. Pueblo del Sol Apartments	130 feet — 81 dBA (590 feet — 69 dBA)	Daytime Nighttime	Kearney St	130 feet — 81 dBA (160 feet — 80 dBA)	Daytime Nighttime
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	None	South Atlantic Blvd	440 feet — 72 dBA (930 feet — 67 dBA)	None

- **Receptor 17.** The Kearney Street design variation adds an access point near the Pueblo del Sol complex (17). The distance to the centerline is thus reduced from 590 feet to approximately 160 feet from the centerline of the Proposed Project, resulting in a predicted noise level of 80 dBA for general construction at the centerline. As with the Proposed Project, construction noise associated with the design variation at this location could exceed the 80 dBA FTA 8-hour daytime and 70 dBA FTA 8-hour nighttime noise criteria for residential uses.
- **Receptor 22.** The South Atlantic Boulevard design variation switches the path to the opposite side of the channel resulting in a greater distance from the centerline to Maywood Elementary School. The distance to the centerline increases from 520 feet to 930 feet, resulting in an estimated noise level of 67 dBA. As with the Proposed Project, construction noise levels would not meet or exceed the 80 dBA FTA 8-hour daytime criteria, but would meet or exceed the 70 dBA FTA 8-hour nighttime noise criteria due to distance to the footprint.

3.12.9.1.1.1.2 Staging Area Activity

Staging areas for the Proposed Project are shown in Figure 3.12-4 and also depicted in Figure 3.12-5.[2] Staging area activities have been conservatively assumed to result in a similar noise level as general construction activities. The closest residence would be located approximately 170 feet from Staging Area 1 located near the intersection of Pasadena Avenue and East Avenue 35. At this distance staging area activity noise would be approximately 79 dBA. Two other staging areas are located within 600 feet of residences: Staging Area 4, located in the Proposed Project footprint, would be 210 feet from the William Mead Homes apartments (16), resulting in an approximate noise level of 77 dBA, exceeding the 70 dBA FTA 8-hour residential nighttime criteria, but not the 80 dBA FTA 8-hour daytime criteria. The proposed staging area in the vacant parcel located west of LA River and at the southwest corner of District Boulevard and Heliotrope Avenue, located in the City of Vernon, would be 270 feet from the

[2] The Proposed Project, Option 1, and Option 2 also include potential staging areas located within the City of Bell. These staging areas are located in an area comprised predominantly of industrial and manufacturing land uses, with the closest residence located 850 feet southeast of the staging areas. At this distance noise levels would not exceed the FTA construction noise impact criteria. In addition to the low noise levels due to distance, large warehouses are located between the staging areas and residences, which would serve to further reduce noise from the staging areas. Thus, noise from the staging areas would not impact noise-sensitive receptors in the City of Bell.

nearest residences (23), resulting in an approximate noise level of 76 dBA. Staging area noise levels at nearby residences would be below 80 dBA FTA 8-hour daytime criteria and above the 70 dBA FTA 8-hour nighttime criteria for residential uses. Although the Proposed Project includes potential staging areas in the City of Bell, no sensitive receptors have been identified within 600 feet and noise levels would not be exceed the FTA noise impact criteria at sensitive receptors further away. Activity at staging areas typically results in less noise than general construction as there are fewer equipment operations and equipment is primarily being moved to and from the staging areas. Nonetheless, there is a potential for an exceedance of the FTA 80 dBA 8-hour daytime criteria and 70 dBA 8-hour nighttime criteria.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near the staging areas are similar to the rest of the RSA and range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. The nearest noise-sensitive receptor to staging area activity would be at residences located approximately 170 feet away. The resultant construction noise level would be approximately 79 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 4 to 23 dBA, L_{eq} with the maximum increase of 23 dBA, L_{eq} occurring over the lowest noise level of 56 dBA, L_{eq}. Based on the ANSI Standard S12.9, Part 3 (ANSI) approximate background noise assumptions, nighttime noise levels in the RSA range between 49 to 58 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 20 to 30 dBA, L_{eq} with the maximum increase of 30 dBA, L_{eq} occurring over the lowest noise level of 49 dBA, L_{eq}. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.1.1.3 Pile Driving Activities

In addition to general construction noise, pile driving may occur at various path types as described in Section 3.12.3. The three alignments are shown by path type near noise-sensitive receptors on Figures 3.12-17 through 3.12-21. A 250-foot distance from pile driving at the associated path types is shown for reference. Pile driving activity would be limited to daytime hours and therefore only the 80 dBA FTA 8-hour daytime noise impact criteria is relevant to the analysis as to residential and other sensitive land uses. Impact pile driving would result in an exceedance of the 80 dBA FTA 8-hour daytime residential criteria at 250 feet or less from the equipment. An evaluation of pile driving associated with the Proposed Project indicates pile driving may occur within 250 feet of the access point to First Street (east river bank), which terminates within 80 feet of Felicitas and Gonzalo Mendez High School (18). The centerline of the Proposed Project is within 40 feet of the high school. Pile driving may also occur within 250 feet from the Ed P. Reyes River Greenway (6) and the Pueblo del Sol Apartments (17). These uses may experience noise levels that would exceed the 80 dBA FTA 8-hour daytime residential criteria.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near the Proposed Project's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. Pile driving activity would occur at the location of the path, which is represented by the centerline of the alignment. The nearest noise-sensitive receptor would be Receptor 18, Felicitas and Gonzalo Mendez High School located approximately 40 feet away from the centerline. The resultant construction noise level would be approximately 94 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 19 to 38 dBA, L_{eq} with the maximum increase of 38 dBA, L_{eq} occurring over the lowest noise level of 56 dBA, L_{eq}. Pile driving would be a daytime activity and would not result in incremental increases in noise over ambient nighttime noise levels. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. The increase in ambient daytime noise levels above existing conditions is conservatively deemed a significant impact.

Figure 3.12-17. Pile Driving Activity for the Proposed Project, Options, Associated Path Types, and Noise-sensitive Receptors, View 1 of 5

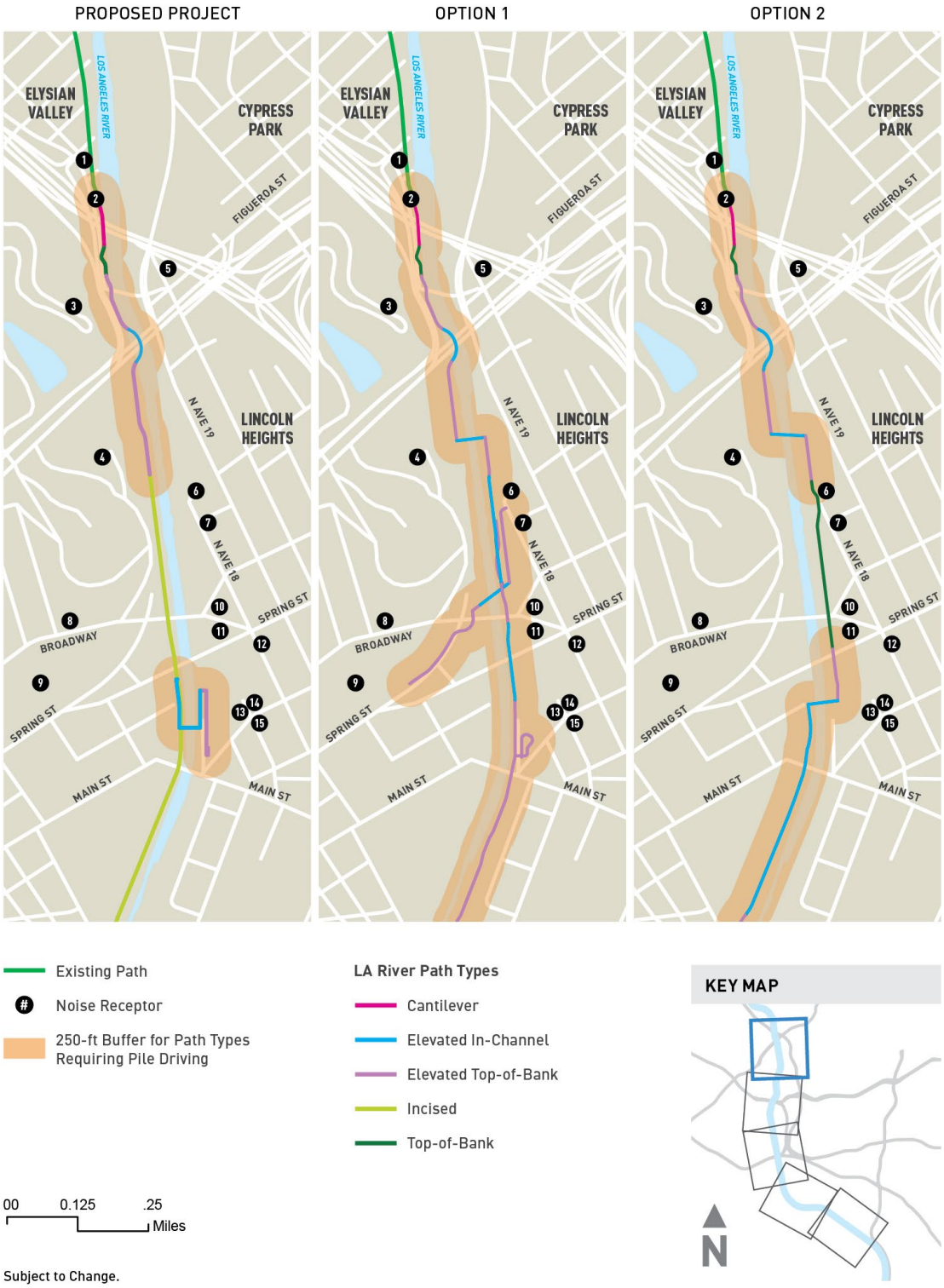


Figure 3.12-18. Pile Driving Activity for the Proposed Project, Options, Associated Path Types, and Noise-sensitive Receptors, View 2 of 5

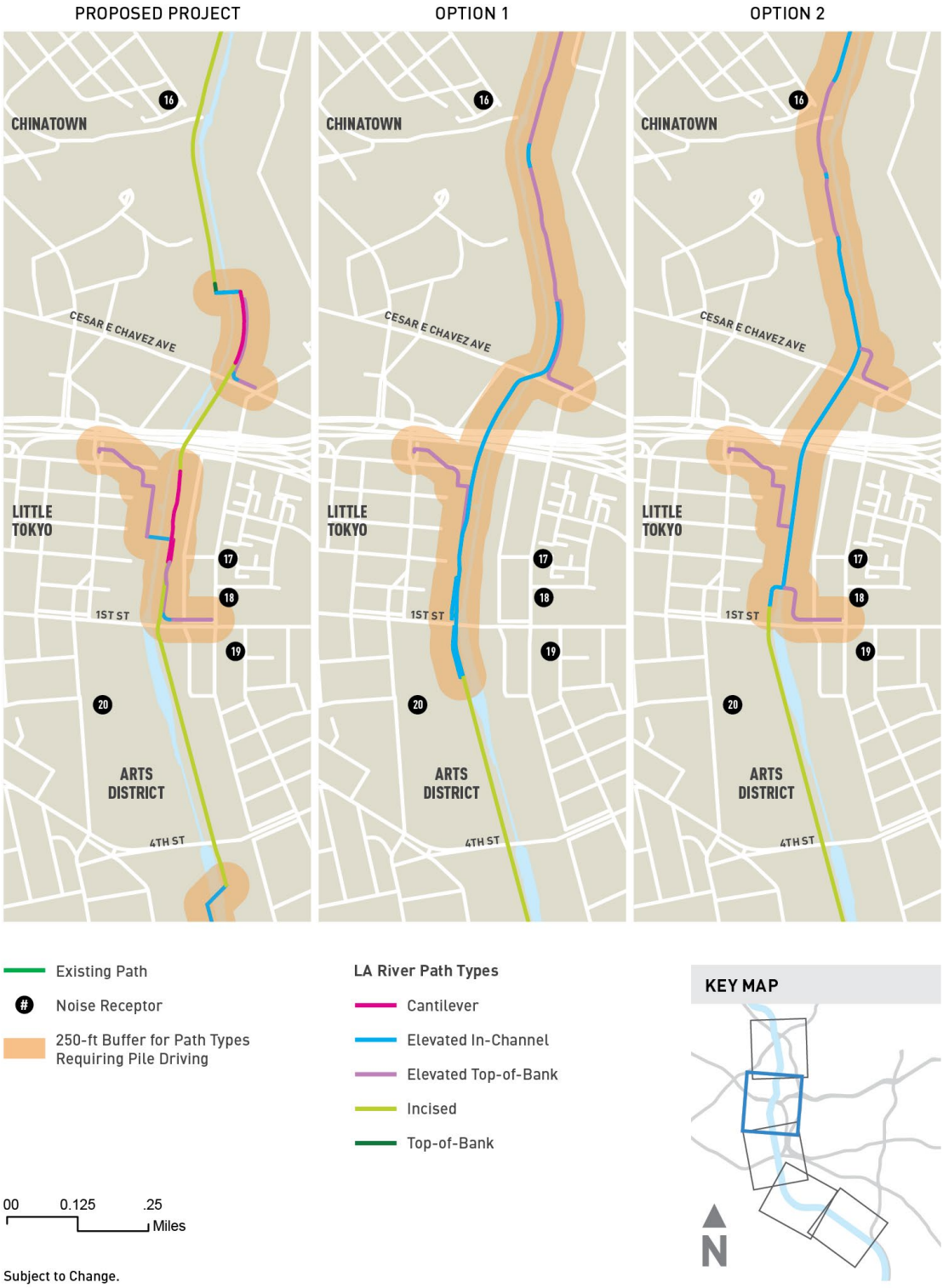


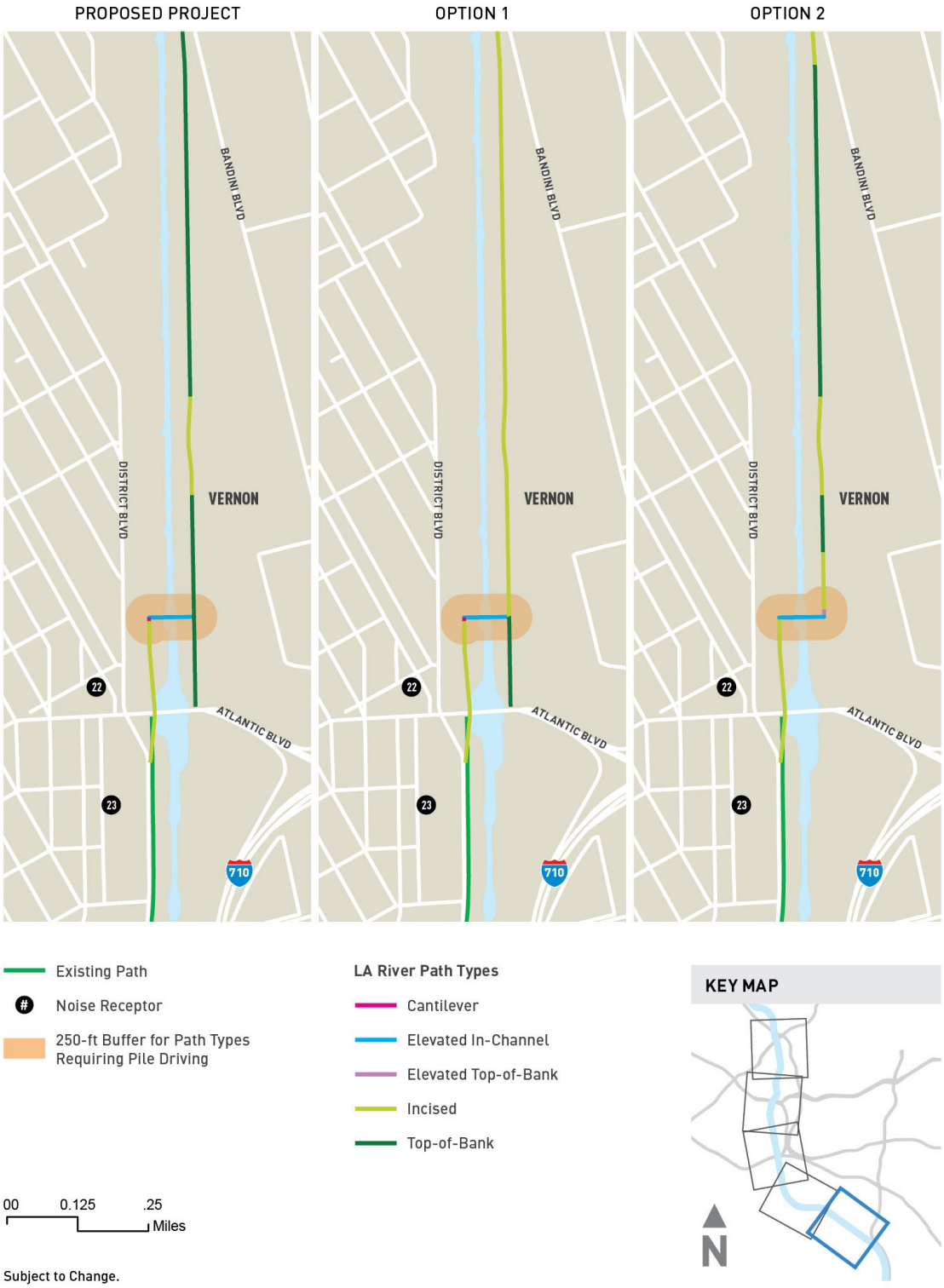
Figure 3.12-19. Pile Driving Activity for the Proposed Project, Options, Associated Path Types, and Noise-sensitive Receptors, View 3 of 5



Figure 3.12-20. Pile Driving Activity for Proposed Project, Options, Associated Path Types, and Noise-sensitive Receptors, View 4 of 5



Figure 3.12-21. Pile Driving Activity for Proposed Project, Options, Associated Path Types, and Noise-sensitive Receptors, View 5 of 5



3.12.9.1.1.1.4 Offsite Construction Vehicle Traffic

Construction activities may also result in short-term increases in vehicle traffic along area roadways. Construction noise associated with worker vehicles and haul routes would be focused near staging areas and river access points. Due to construction activity limitations at the river channel, it is anticipated that the potential staging areas would be used for material and equipment storage and worker rally points. Four river access points are planned (1) San Fernando Road River Access south of SR-110, (2) 6th Street River Access, (3) Perrino Place River Access (north of Washington Blvd, east riverbank), and (4) Downey Road River Access. The closest sensitive receptors to these access points are residences located over 900 feet from the 6th Street River Access.

During the peak of construction, it is anticipated that as many as 30 to 35 concurrent construction activities would occur over a single month with 207 to 281 workers in multiple construction areas along the Proposed Project's proposed alignment. Depending on the construction activity and specific construction segment, the daily workers would be distributed in different configurations throughout multiple sites. The daily employees (workers) would arrive and park their personal vehicles in their assigned staging area and then would be transported (workers transport) to their designated work area via one of the planned river access points. At the end of the workday, the employees would be transported back to the staging areas.

Haul trucks for imported and exported soils and concrete trucks are assumed to originate outside the construction area (offsite) and enter the river channel via planned access points, pick-up and drop-off at the construction site, and exit the using the same route. Haul trucks are assumed not to use the staging areas.

Due to the limitations at the channel, a separate set of offsite trips are anticipated related to the daily mobilization of material and equipment in and out of the construction sites. The mobilization trips are likely to occur between the river access points and the closest staging areas to minimize daily material and equipment mobilization. Table 3.12-16 summarizes the number of round trips per day for peak daily construction traffic by activity.

Table 3.12-16. Summary of Peak Daily Construction Traffic for the Proposed Project

Construction Traffic Activity	Proposed Project: Number of Round Trips per Day
Mobilization	320
Workers	230
Worker Transport	59
Haul Trucks	16
Concrete Trucks	27
Total	**652**

According to Caltrans, a doubling of vehicle traffic would typically be required before a noticeable increase (3 dBA) in traffic noise levels would occur. Traffic volumes along roadways within the RSA typically average several thousand vehicle trips per day. In addition, construction-generated traffic would be dispersed over multiple roadways and routed away from local residential streets and/or sensitive receivers to the extent feasible. Construction of the Proposed Project is not anticipated to result in a doubling of traffic along area roadways and thus would not cause a substantial increase in

traffic noise levels that would adversely impact noise-sensitive land uses. Impacts related to offsite construction vehicle traffic would be less than significant.

3.12.9.1.1.1.5 Proposed Project Construction Noise Impacts Summary

As discussed above and shown in Table 3.12-14, several noise-sensitive receptors are located close enough to the alignments that the predicted noise levels may at times exceed the 80 dBA FTA 8-hour daytime and 70 dBA nighttime residential criteria. While pile driving would be conducted only during daytime hours it could also exceed the 80 dBA daytime noise criteria. Pursuant to MM-NOI-01, *Noise Control and Monitoring Plan,* the Proposed Project contractor would develop a Noise Control and Monitoring Plan that demonstrates how noise criteria would be achieved during construction. The plan would include measurements of existing noise, a list of major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receptors. Where construction cannot be performed in accordance with the applicable noise standards (the FTA 8-hour L_{eq} criteria), the contractor would investigate alternative construction measures that would result in lower noise levels. Noise-reducing methods that could be used include acoustically attenuating shields around construction equipment, high-performance noise-reducing mufflers, temporary noise barriers, and substitution of diesel power equipment for quieter electric equipment. However, in some instances the FTA impact criteria may still be exceeded. There are no additional feasible mitigation measures that could be implemented to reduce construction noise levels. The Proposed Project would have a significant and unavoidable impact during construction related to noise.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holiday, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-01 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction.

Incremental increases in noise levels over existing conditions would range from approximately 1 dBA to 38 dBA over measured existing ambient noise levels. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. Incremental increases in noise would vary dependent on the location of equipment and would likely be less than what has been conservatively described. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

Regarding health effects of noise, it is unlikely for construction noise to result in noise-induced hearing loss for persons residing or working near construction zones, as this is an occupational hazard related to working over long periods of time (years) in high noise environments. However, construction noise would increase stress and the potential for stress-related diseases at affected sensitive land uses. Health effects related to noise would be the same for the Proposed Project and its options where noise impacts would occur.

3.12.9.1.1.2 Operations and Maintenance

Less than significant impact. Proposed Project operations would include both noise generated by users of the path such as pedestrians and bicyclists, as well as periodic maintenance activities. The path would prohibit the use of internal combustion engines (mopeds, motorcycles, etc.) and amplified

music. Noise generated by pedestrians and bicyclists would be primarily associated with conversational noise. A person speaking in a normal conversational voice generates a noise level of approximately 65 dBA at 3 feet (Table 3.12-1). Reductions due to distance alone would reduce the sound level at a rate of 6 decibels for doubling of distance (for example, 59 dBA at 6 feet, 53 dBA at 12 feet, 47 dBA at 24 feet, and 41 dBA at 48 feet). Additional reductions would be realized when the line of sight between the sound source (path users) and sound receiver (residence) is blocked by the geometry of the path or other features. The closest residential use to the path is over 100 feet away; thus, the predicted sound level would be less than 35 dBA, which is consistent with the interior background sound level of a theater or conference room as well as quiet nighttime sound levels depicted in Table 3.12-1. As described in Section 3.12.4.1, existing measured hourly noise levels range from 56 to 75 dBA, L_{eq} in the RSA. Noise generated by the bike path would be overshadowed by or similar to existing noise sources and noise levels. Impacts would be **less than significant** related to path user noise.

Proposed Project maintenance activities are expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Activities are anticipated to include periodic path maintenance, such as sweeping; pavement and pothole repair; graffiti removal; trash disposal; fence, sign, and lighting replacement and repair; weed control; and storm drain cleaning. Maintenance activities are not anticipated to require multiple pieces of heavy construction equipment working in one area simultaneously and would typically be completed within a day in any particular area. Path maintenance activities that would require heavy construction equipment such as path pavement sealing, repaving, or pothole repair would occur in limited areas and only when a repair is needed. Path sweeping and marking would be a regular occurrence, but would not utilize heavy construction equipment that would generate significant noise.

Path repair activities would typically require two pieces of equipment in one area. Maintenance activities would occur within the confines of the bike path and the closest residential use would be over 100 feet away. Using the noise levels depicted in Table 3.12-11, the combination of a paver and a pickup truck would be approximately 76 dBA 8-hour L_{eq} at 100 feet. Noise would only be generated when periodic maintenance activities are occurring and would not take place throughout the entirety of the alignment simultaneously. Maintenance activity noise levels would be similar to existing construction, rail, industrial and traffic noise. Impacts would be **less than significant** related to maintenance noise.

3.12.9.1.2 Option 1

3.12.9.1.2.1 Construction

Significant and unavoidable as described below.

3.12.9.1.2.1.1 General Construction Activities

As previously noted, the FTA 8-hour guidance is used as a general threshold for identifying potential impacts at noise-sensitive uses (Table 3.12-2). The residential thresholds are not only applied to residences along the alignment, but also other noise-sensitive receptors, including places of worship, recreation areas, and schools. Local jurisdictions have not established thresholds for construction noise at commercial and industrial areas, because these land uses are typically not considered noise sensitive. The FTA 8-hour daytime and nighttime criteria for commercial and industrial uses are 85 dBA and 90 dBA, respectively (Table 3.12-2), but these uses have not been assessed because they are not noise sensitive.

General construction noise has the potential to occur along the path alignment regardless of the type of path construction. For residential areas, the general FTA 8-hour criteria is 80 dBA for daytime work and 70 dBA for nighttime work. The 80 dBA FTA daytime criteria would be exceeded at approximately 150 feet from the construction activity (Table 3.12-12). The 70 dBA FTA nighttime criteria would be exceeded at approximately 600 feet from the construction activity (Table 3.12-12). For areas or activities where nighttime construction may be necessary, for example to minimize traffic impacts, the Proposed Project would comply with applicable requirements. A variance allowing nighttime construction may impose additional restrictions.

What follows is a discussion of expected typical construction noise levels at noise-sensitive areas. As one purpose of the Proposed Project is to ensure it is accessible to the public, multiple access points are proposed near parks, residential areas, schools, and similar uses. Thus, some portions of the Proposed Project require construction in proximity to noise-sensitive areas. As it is possible for Proposed Project activities to exceed the applicable criteria, the noise level impact is identified as significant and unavoidable. A summary of the distance from the Option 1 footprint and centerline to noise-sensitive receptors is presented in Table 3.12-17 and receptors are shown on Figures 3.12-12 through 3.12-16. A discussion of the impacts to noise-sensitive receptors follows.

Table 3.12-17. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 1

Jurisdiction	Receptor	Option 1	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	1. Residence near northern beginning of the path	330 feet — 74 dBA (400 feet — 73 dBA)	Nighttime
	2. Egret Park	In Footprint — >87 dBA (In Centerline — >87 dBA)	Daytime
	3. Elysian Park, Grand View Drive picnic area	350 feet — 73 dBA (400 feet — 73 dBA)	None
	4. Elysian Park, Buena Vista Meadow	440 feet — 72 dBA (180 feet — 78 dBA)	None
	5. Confluence Park	10 feet — >87 dBA (640 feet — 69 dBA)	Daytime
	6. Ed P. Reyes River Greenway	In Footprint — >87 dBA (170 feet — 79 dBA)	Daytime
	7. Young Nak English College Ministry	100 feet — 83 dBA (220 feet — 77 dBA)	Daytime Nighttime
	8. Residences	340 feet — 74 dBA (670 feet — 68 dBA)	Nighttime
	9. Los Angeles State Historic Park	10 feet — >87 dBA (30 feet — >87 dBA)	Daytime
	10. Youngnak Presbyterian Church	200 feet — 78 dBA (290 feet — 75 dBA)	Nighttime

Table 3.12-17. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 1

Jurisdiction	Receptor	Option 1	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
	11. Downey Swimming Pool	120 feet — 81 dBA (160 feet — 79 dBA)	Daytime
	12. Residences near South Ave 18 and North Broadway	620 feet — 69 dBA (700 feet — 68 dBA)	None
	13. Albion Riverside Park/ Downey Recreation Area	10 feet — >87 dBA (20 feet — >87 dBA)	Daytime
	14. Residences	350 feet — 73 dBA (570 feet — 70 dBA)	Nighttime
	15. Templo Gethsemani	340 feet — 74 dBA (470 feet — 71 dBA)	Nighttime
	16. William Mead Homes (apartments)	200 feet — 78 dBA (500 feet — 71 dBA)	Nighttime
	17. Pueblo del Sol Apartments	760 feet — 67 dBA (860 feet — 67 dBA)	None
	18. Felicitas and Gonzalo Mendez High School	810 feet — 67 dBA (840 feet — 67 dBA)	None
	19. Residences near First Street and South Anderson Street	680 feet — 68 dBA (940 feet — 66 dBA)	None
	20. One Santa Fe Apartments	450 feet — 72 dBA (530 feet — 71 dBA)	Nighttime
	21. Apartments north and south of Seventh Street	330 feet — 74 dBA (380 feet — 73 dBA)	Nighttime
City of Vernon	--	No receptors	--
Unincorporated Los Angeles	--	No receptors	--
City of Vernon	--	No receptors	--
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	Nighttime
	23. Closest residence	380 feet — 73 dBA (560 feet — 70 dBA)	Nighttime

Noise-sensitive receptors (#) with potential impacts from Option 1 are summarized as follows:

- **Receptor 1**. The northern starting point for all options is the same; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria.

- **Receptor 2**. Impacts to Egret Park (2) are the same for all options; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would be exceeded, and the nighttime criteria is not considered applicable to this location.
- **Receptor 5**. Confluence Park (5) is located adjacent to the Option 1 footprint, at approximately 10 feet from the footprint of Option 1 and approximately 640 feet from the centerline of Option 1. Expected noise levels at the park would be greater than 87 dBA for general construction at the edge of the Option 1 footprint, and 69 dBA for construction occurring at the centerline. Construction activities thus have the potential to exceed the 80 dBA FTA 8-hour daytime residential noise criteria. Because the park is generally not used overnight, the 70 dBA FTA 8-hour nighttime criteria is not considered applicable to this location.
- **Receptor 6**. Ed P. Reyes River Greenway (6) is located within the Option 1 footprint and approximately 170 feet from the centerline for Option 1. General construction occurring within 150 feet of the park would result in a noise level of 87 dBA or greater, exceeding the 80 dBA FTA 8-hour daytime residential noise. At the centerline, the expected noise level would be 79 dBA. Because the greenway is generally not used at night, the 70 dBA FTA 8-hour nighttime criteria is not considered applicable to this location.
- **Receptor 7 and Receptor 10**. Option 1 is located close to two places of worship: Young Nak English College Ministry (7) and Youngnak Presbyterian Church (10). The centerline of the Option 1 alignment passes within approximately 220 to 290 feet of the churches. Noise levels at the churches from equipment operating at the centerline would be approximately 77 dBA and 75 dBA, respectively. The Option 1 footprint is within 100 to 200 feet of the churches. Noise levels at the churches from equipment operating at the edge of the Option 1 footprint would be approximately 83 dBA and 78 dBA, respectively. Therefore, construction noise at the Youngnak Presbyterian Church could exceed the 80 dBA FTA 8-hour daytime noise criteria. Youngnak Presbyterian Church also includes evening services which could occur during the nighttime period of 10 pm to 7 am. The 70 dBA FTA 8-hour nighttime noise criteria would also be exceeded for both churches.
- **Receptors 8 and 9**. Option 1 is the only option to connect to the Los Angeles State Historic Park (9) at the far eastern extent of the park. General construction activities in this portion of the park would result in noise levels greater than 87 dBA, which would exceed the 80 dBA FTA 8-hour daytime residential criteria. Because the park is not open at night, the 70 dBA FTA 8-hour nighttime criteria is not applicable. There are also residences (8) located near this connection point within 340 feet of the Option 1 footprint and 670 feet of the option centerline. These distances do not result in an exceedance of the 80 dBA FTA 8-hour daytime residential criteria, but would result in exceedance of the 70 dBA FTA 8-hour nighttime residential criteria, as noise levels up to 74 dBA (for equipment operating at the edge of the Option 1 footprint) are predicted for these residences.
- **Receptor 11**. Option 1 is located close to a recreation facility, the Downey Swimming Pool (11), near Pasadena Avenue and North Broadway. The footprint is within 120 feet of the recreational facility and centerline of the alignment passes within 160 feet. Noise levels at the swimming pool would be approximately 81 dBA for equipment operating at the edge of the Option 1 footprint and 79 dBA for equipment operating at the centerline. These noise levels would exceed the 80 dBA FTA 8-hour daytime noise criteria. Because the pool does not operate at night, the 70 FTA 8-hour nighttime criteria is not applicable.

- **Receptors 13, 14, and 15**. The Albion Riverside Park and adjacent Downey Recreation Area (13) have an access point to the bicycle path alignment associated with Option 1. The closest portions of the park and recreation area to the alignment are fields, which could experience noise levels greater than 87 dBA from general construction noise. These noise levels would exceed the 80 dBA FTA 8-hour daytime noise criteria. Due to this access point, a place of worship (Templo Gethsemani [15]) and residences (14) are 340 and 350 feet from the Option 1 footprint and 470 and 570 feet from the centerline, respectively. As shown in Table 3.12-17, maximum noise levels at Templo Gethsemani (15) and the residences (14) would be 74 dBA and 73 dBA, respectively, which would not exceed the 80 dBA FTA 8-hour daytime noise criteria. However, the 70 dBA FTA 8-hour nighttime criteria would be exceeded.
- **Receptor 16**. Option 1 is located on the other side of the river from William Mead Homes apartments (16). The closest apartments are approximately 500 feet from the centerline and 200 feet from the footprint of Option 1. Maximum noise levels would be between 71 dBA for equipment operating at the centerline and 78 dBA for equipment operating at the edge of the Option 1 footprint. The 80 dBA FTA 8-hour daytime noise criteria would not be exceeded, but the 70 dBA FTA 8-hour nighttime noise criteria would be exceeded.
- **Receptor 20.** The One Santa Fe Apartments are located on the west side of the river bank within 450 feet of the Option 1 footprint and 530 feet from the centerline. Noise levels associated with general construction noise are anticipated to be between 71 and 72 dBA. Therefore, there is the potential for the 70 dBA FTA 8-hour nighttime criteria for residential uses to be exceeded.
- **Receptor 21.** Impacts near the Arts District are the same for all options. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded at these receptors, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.
- **Receptors 22 and 23.** City of Maywood impacts are the same for all options; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded at these receptors, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.

Option 1's remaining alignment includes commercial and industrial uses which are not considered sensitive receptors.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holiday, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-1 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction. Option 1 would not violate the requirements of LAMC Section 41.40 with implementation of MM-NOI-01.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near Option 1's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. If equipment is operating near the edge of the Option 1 footprint, the nearest noise-sensitive receptors would be located approximately 10 feet away (Receptors 2, 5, 9, and 13) The resultant construction noise level would be approximately 87 dBA, L_{eq} assuming equipment would be operating in the general area near these receptors. The incremental increase in noise over existing noise levels would be approximately 12 to 31 dBA, L_{eq} with the maximum increase of 31 dBA occurring

over the lowest noise level of 56 dBA, L_{eq}. Based on the ANSI Standard S12.9, Part 3 (ANSI) approximate background noise assumptions, nighttime noise levels in the RSA range between 49 to 58 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 28 to 38 dBA with the maximum increase of 38 dBA occurring over the lowest noise level of 49 dBA, L_{eq}.

The nearest residences (Receptor 16 William Mead Homes apartments) are located approximately 200 feet from the Option 1 footprint and the resultant construction noise level would be approximately 78 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 3 to 22 dBA with the maximum increase of 22 dBA occurring over the lowest noise level of 56 dBA, L_{eq}. Based on the ANSI Standard S12.9, Part 3 (ANSI) approximate background noise assumptions, nighttime noise levels in the RSA range between 49 to 58 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 19 to 29 dBA with the maximum increase of 29 dBA occurring over the lowest noise level of 49 dBA, L_{eq}.

Incremental increases in noise would be greater than 10 dBA above ambient noise levels. These incremental increases in noise would be temporary and this scenario conservatively considers all equipment operating in the same area for an extended period of time. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.2.1.1.1 Design Variations

Several design variations are proposed along the Option 1 alignment. These are depicted in Chapter 2, *Project Description*. The design variations are within the temporary footprint of the Option 1 alignment but result in changes to the centerline. Three of the potential design variations impact estimated sound levels to sensitive receptors based on distance to centerline as presented in Table 3.12-18 and described below.

Table 3.12-18. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 1

Jurisdiction	Receptor	Option 1		Design Variations		
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded	Design Variation Name	Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	5. Confluence Park	10 feet — >87 dBA (640 feet — 69 dBA)	Daytime	Egret Park to Ed P. Reyes Greenway	10 feet — >87 dBA (130 feet — 81 dBA)	Daytime
	6. Ed P. Reyes River Greenway	In Footprint — >87 dBA (170 feet — 79 dBA)	Daytime	Egret Park to Ed P. Reyes Greenway	In Footprint — >87 dBA In Centerline — >87 dBA	Daytime
	14. Residences	350 feet — 73 dBA (570 feet — 70 dBA)	Nighttime	Albion Street	350 feet — 73 dBA (510 feet — 71 dBA)	Nighttime

Table 3.12-18. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 1

Jurisdiction	Receptor	Option 1		Design Variations		
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded	Design Variation Name	Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	Nighttime	South Atlantic Boulevard	440 feet — 72 dBA (930 feet — 67 dBA)	None

- **Receptor 5**. Confluence Park (5) is located adjacent to the Option 1 footprint, at approximately 10 feet from the footprint of Option 1. The Egret Park to Ed P. Reyes Greenway Design Variation results in a closer centerline to Confluence Park. The centerline shifts from approximately 640 feet to 130 feet from Confluence Park, resulting in an estimated noise level of 81 dBA. Construction activities thus have the potential to exceed the 80 dBA FTA 8-hour daytime residential noise criteria.
- **Receptor 6**. Ed P. Reyes River Greenway (6) is located within the Option 1 footprint. The Egret Park to Ed P. Reyes Greenway Design Variation connects directly with the greenway. General construction occurring at the park would result in a noise level of 87 dBA or greater, exceeding the 80 dBA FTA 8-hour daytime residential noise.
- **Receptor 14**. The Albion Riverside Park and adjacent Downey Recreation Area (13) have an access point to the bicycle path alignment associated with Option 1. The Albion Street Design Variation includes an additional variation on the access point. Due to this design variation, residences (14) are closer to the centerline. The distance of 570 feet from the centerline reduces to 510 feet, with a corresponding noise level of 71 dBA. As with Option 1, the general construction for the design variation would exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 22.** The South Atlantic Boulevard design variation switches the path to the opposite side of the channel resulting in a greater distance from the centerline to Maywood Elementary School. The distance to the centerline increases from 520 feet to 930 feet, resulting in an estimated noise level of 67 dBA. As with Option 1, construction noise levels would not meet or exceed the 80 dBA FTA 8-hour daytime criteria but would meet or exceed the 70 dBA FTA 8-hour nighttime noise criteria due to distance to the footprint.

3.12.9.1.2.1.2 Staging Area Activity

Staging areas and sensitive receptors near staging areas for Option 1 would be the same as the Proposed Project and are shown in Figure 3.12-4 and also depicted in the Project footprint shown in Figure 3.12-5. Potential incremental increases in noise would also be similar to the Proposed Project. Refer to Section 3.12.9.1.1 for detailed discussion of staging area noise generation. Activity at staging areas typically results in less noise than general construction as there are fewer equipment operations and equipment is primarily being moved to and from the staging areas. Nonetheless, there is a potential for an exceedance of the FTA 80 dBA 8-hour daytime criteria and 70 dBA 8-hour nighttime criteria resulting in a significant construction noise impact.

3.12.9.1.2.1.3 Pile Driving Activity

In addition to general construction noise, pile driving may occur at various path types as described in Section 3.12.3. Impact pile driving would result in an exceedance of the 80 dBA FTA 8-hour daytime residential criteria at a distance up to 250 feet from the equipment. An evaluation of pile driving associated with Option 1 indicates pile driving may occur within 250 feet of Ed P. Reyes River Greenway (6), Young Nak English College Ministry (7), Youngnak Presbyterian Church (10), Los Angeles State Historic Park (9), Downey Swimming Pool (11), and Albion Riverside Park / Downey Recreation Area (13). There is a potential for an exceedance of the FTA 80 dBA 8-hour daytime criteria and 70 dBA 8-hour nighttime criteria, resulting in a significant construction noise impact.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near the Option 1's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. Pile driving activity would occur at the location of the path, which is represented by the centerline of the alignment. The nearest noise-sensitive receptor would be Receptor 13, Albion Riverside Park/Downey Recreation, located approximately 20 feet away from the centerline. The resultant construction noise level would be approximately 94 dBA, L_{eq}. The incremental increase in noise over existing noise levels would be approximately 19 to 38 dBA, L_{eq} with the maximum increase of 38 dBA, L_{eq} occurring over the lowest noise level of 56 dBA, L_{eq}. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. The increase in ambient daytime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.2.1.4 Offsite Construction Vehicle Traffic

Noise from construction traffic and haul routes would be similar to the Proposed Project. The number of round trips per day for peak daily construction traffic by activity specific to Option 1 is presented in Table 3.12-19.

Table 3.12-19. Summary of Peak Daily Construction Traffic for Option 1

Construction Traffic Activity	Option 1: Round Trips per Day
Mobilization	279
Workers	207
Worker Transport	54
Haul Trucks	16
Concrete Trucks	28
TOTAL	**584**

A doubling of vehicle traffic is not anticipated to result from trips associated with Option 1. Furthermore, haul routes and construction-related truck traffic would be routed away from local residential streets and/or sensitive receivers to the extent feasible, as described in Section 3.12.9.1.1.1.4. Thus, a substantial increase in traffic noise levels that would impact noise-sensitive land uses would not occur. Impacts related to offsite construction vehicle traffic would be less than significant.

3.12.9.1.2.1.5 Option 1 Construction Noise Summary

As discussed above and shown in Table 3.12-17, several noise-sensitive receptors are located close enough to the alignments that the predicted noise levels may at times exceed the FTA 8-hour daytime and nighttime residential criteria. While pile driving would be conducted only during daytime hours it could also exceed the daytime noise criteria. Pursuant to MM-NOI-01, *Noise Control and Monitoring Plan,* the Proposed Project contractor would develop a Noise Control and Monitoring Plan that demonstrates how noise criteria would be achieved during construction. The plan would include measurements of existing noise, a list of major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receptors. Where construction cannot be performed in accordance with the applicable noise standards (the FTA 8-hour L_{eq} criteria), the contractor would investigate alternative construction measures that would result in lower noise levels. Noise-reducing methods that could be used include acoustically attenuating shields around construction equipment, high-performance noise-reducing mufflers, temporary noise barriers, and substitution of diesel power equipment for quieter electric equipment. However, in some instances the FTA impact criteria may still be exceeded. There are no additional feasible mitigation measures that could be implemented to reduce construction noise levels. Option 1 would have a significant and unavoidable impact during construction related to noise.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holiday, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-1 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction. Option 1 would not violate the requirements of LAMC Section 41.40 with implementation of MM-NOI-01.

Incremental increases noise levels over existing conditions would range from approximately 1 dBA to 38 dBA over measured existing ambient noise levels. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. Incremental increases in noise would vary dependent on the location of equipment and would likely be less than what has been conservatively described. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

Regarding health effects of noise, it is unlikely for construction noise to result in noise-induced hearing loss for persons residing or working near construction zones, as this is an occupational hazard related to working over long periods of time (years) in high noise environments. However, construction noise would increase stress and the potential for stress-related diseases at affected sensitive land uses. Health effects related to noise would be the same for the Proposed Project and its options where noise impacts would occur.

3.12.9.1.2.2 Operations and Maintenance

Less than significant impact. Option 1 would include both noise generated by users of the path such as pedestrians and bicyclists and maintenance activities. Noise levels would be the same as the Proposed Project. Refer to Section 3.12.9.1.1.2 for a detailed discussion of operations and maintenance noise. Impacts would be **less than significant** related to operations and maintenance.

3.12.9.1.3 Option 2

3.12.9.1.3.1 Construction

Significant and unavoidable as described below.

3.12.9.1.3.1.1 General Construction Activities

As previously noted, the FTA 8-hour guidance is used as a general threshold for identifying potential impacts at noise-sensitive uses (Table 3.12-2). The residential thresholds are not only applied to residences along the alignment, but also other potentially noise-sensitive receptors, including places of worship, recreation areas, and schools. Local jurisdictions have not established thresholds for construction noise at commercial and industrial areas, because these land uses are typically not considered noise sensitive. The FTA 8-hour daytime and nighttime criteria for commercial and industrial uses are 85 dBA and 90 dBA, respectively (Table 3.12-2), but these uses have not been assessed because they are not noise sensitive.

General construction noise has the potential to occur along the path alignment regardless of the type of path construction. For residential areas, the general FTA 8-hour criteria is 80 dBA for daytime work and 70 dBA for nighttime work. The 80 dBA noise level occurs at roughly 150 feet from the construction activity (Table 3.12-12). The 70 dBA noise level occurs at roughly 600 feet from the construction activity (Table 3.12-12 and Figure 3.12-11). For areas or activities where nighttime construction may be necessary, for example to minimize traffic disruption, the Proposed Project would comply with applicable requirements. A variance allowing nighttime construction may impose additional restrictions.

What follows is a discussion of expected typical construction noise levels at noise-sensitive areas based on the analysis present here. As one purpose of the Proposed Project is to ensure it is accessible to the public, there are multiple access points near parks, residential areas, schools, and similar uses. Thus, some portion of the Proposed Project requires construction in proximity to noise-sensitive areas. As it is possible for Proposed Project activities to exceed the applicable criteria, the noise level impact is identified as significant and unavoidable. A summary of the distance from the Option 2 footprint and centerline to noise-sensitive receptors is presented in Table 3.12-20 and receptors are shown on Figures 3.12-12 through 3.12-16. A discussion of the impacts to noise-sensitive receptors follows.

Table 3.12-20. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 2

Jurisdiction	Receptor	Option 2	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	1. Residence near northern beginning of the path	330 feet — 74 dBA (400 feet — 73 dBA)	Nighttime
	2. Egret Park	In Footprint — >87 dBA (In Centerline — >87 dBA)	Daytime
	3. Elysian Park, Grand View Drive picnic area	350 feet — 73 dBA	None

Table 3.12-20. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 2

Jurisdiction	Receptor	Option 2	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
		(400 feet — 73 dBA)	
	4. Elysian Park, Buena Vista Meadow	470 feet — 71 dBA (180 feet — 78 dBA)	None
	5. Confluence Park	10 feet — >87 dBA (640 feet — 69 dBA)	Daytime
	6. Ed P. Reyes River Greenway	In Footprint (100 feet — 83 dBA)	Daytime
	7. Young Nak English College Ministry	100 feet — 83 dBA (220 feet — 77 dBA)	Daytime Nighttime
	8. Residences	570 feet — 70 dBA (1,320 feet — 63 dBA)	None
	9. Los Angeles State Historic Park	730 feet — 68 dBA (880 feet — 66 dBA)	None
	10. Youngnak Presbyterian Church	140 feet — 80 dBA (230 feet — 76 dBA)	Daytime Nighttime
	11. Downey Swimming Pool	In Footprint (70 feet — 85 dBA)	Daytime
	12. Residences near South Ave 18 and North Broadway	230 feet — 76 dBA (610 feet — 67 dBA)	Nighttime
	13. Albion Riverside Park/ Downey Recreation Area	10 feet — >87 dBA (30 feet — >87 dBA)	Daytime
	14. Residences	350 feet — 73 dBA (470 feet — 71 dBA)	Nighttime
	15. Templo Gethsemani	360 feet — 73 dBA (600 feet — 69 dBA)	Nighttime
	16. William Mead Homes (apartments)	130 feet — 81 dBA (190 feet — 78 dBA)	Daytime Nighttime
	17. Pueblo del Sol Apartments	130 feet — 81 dBA (750 feet — 68 dBA)	Daytime Nighttime
	18. Felicitas and Gonzalo Mendez High School	80 feet — 84 dBA (40 feet — >87 dBA)	Daytime
	19. Residences near First Street and South Anderson Street	400 feet — 73 dBA (400 feet — 73 dBA)	Nighttime
	20. One Santa Fe Apartments	450 feet — 72 dBA (530 feet — 71 dBA)	Nighttime
	21. Apartments north and south of Seventh Street	330 feet — 74 dBA (380 feet — 73 dBA)	Nighttime
City of Vernon	--	No receptors	--
Unincorporated Los Angeles	--	No receptors	--
City of Vernon	--	No receptors	--

Table 3.12-20. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 2

Jurisdiction	Receptor	Option 2	
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	Nighttime
	23. Closest residence	380 feet — 73 dBA (560 feet — 70 dBA)	Nighttime

Noise-sensitive receptors (#) with potential impacts from Option 2 are summarized as follows:

- **Receptor 1**. The northern starting point for all options is the same; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 2**. Impacts to Egret Park (2) are the same for all options; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would be exceeded, and the nighttime criteria is not considered applicable to this location.
- **Receptor 5**. The distances and impacts to Confluence Park (5) are the same as Option 1; refer to discussion about Option 1 in Section 3.12.9.1.2 for more information. As discussed with respect to Option 1, construction activities have the potential to exceed the 80 dBA FTA 8-hour daytime residential noise criteria. Because the park is generally not used overnight, the 70 dBA FTA 8-hour nighttime criteria is not considered applicable to this location.
- **Receptor 6**. Ed P. Reyes River Greenway (6) is located within the Option 2 footprint and closest to the centerline of Option 2 at a distance of approximately 100 feet. The resulting noise level would be 83 dBA at this location, which exceeds the 80 dBA FTA 8-hour residential daytime. Because the greenway is generally not used at night, the 70 dBA FTA 8-hour nighttime criteria is not considered applicable to this location.
- **Receptor 7**. Option 2 is a similar distance as Option 1 to the place of worship, Young Nak English College Ministry (7); refer to discussion about Option 1 in Section 3.12.9.1.2 for more information. As with Option 1, noise levels at the church would exceed the 80 dBA FTA 8-hour residential daytime and 70 dBA nighttime noise criteria.
- **Receptors 10, 11, and 12**. The footprint of Option 2 includes access to North Spring Street between the Youngnak Presbyterian Church (10) and the Downey Swimming Pool (11). Option 2 is closest of all the options to these two receptors. The centerline of the alignment passes within approximately 230 feet of the church and the footprint is within about 140 feet of the church. If construction equipment is located close to the edge of the footprint, noise levels at the church would be 80 dBA, which would meet the 80 dBA FTA 8-hour daytime and exceed the 70 dBA FTA 8-hour nighttime residential criteria. The Downey Swimming Pool is a recreation facility for which public access would be improved by Option 2. The footprint of Option 2 encompasses the recreation facility to allow for a temporary construction access road north of the facility. The centerline of the Option 2 alignment is approximately 70 feet from the facility. Noise levels at the facility caused by construction equipment operating at the Option 2 centerline would be approximately 85 dBA, which would exceed the 80 dBA FTA 8-hour daytime residential criteria. The

Option 2 footprint also extends to within approximately 230 feet of residences near South Avenue 18 and North Broadway (12). Noise levels at these residences from general construction at the edge of the footprint would be 76 dBA exceeding the 70 dBA FTA 8-hour nighttime criteria.

- **Receptors 13, 14, and 15**. The Albion Riverside Park and adjacent Downey Recreation Area (13) have an access point to the bicycle path alignment associated with Option 2. The closest portions of the park and recreation area to the alignment are fields, which could have expected noise levels greater than 87 dBA from general construction noise. These noise levels would exceed the 80 dBA FTA 8-hour daytime noise criteria. Because the park is generally not used overnight, the 70 dBA FTA 8-hour nighttime criteria is not considered applicable to this location. Due to this access point, a place of worship (Templo Gethsemani [15]) and residences (14) are 360 and 350 feet from the Option 2 footprint and 600 and 470 feet from the centerline, respectively. As shown in Table 3.12-18, maximum noise levels at Templo Gethsemani (15) and the residences (14) would both be 73 dBA, exceeding the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 16**. Option 2 passes the closest to the William Mead Homes apartments (16) of all the options. The closest apartments are within 130 feet of the Option 2 footprint and 190 feet of its centerline. For construction at the edge of the footprint, the expected noise level at the apartments closest to the alignment would be 81 dBA, exceeding the 80 dBA FTA 8-hour daytime and 70 dBA nighttime residential noise criteria. For construction at the centerline, the expected noise level would be 78 dBA, below the 80 dBA FTA 8-hour daytime criteria, but above the 70 dBA nighttime residential noise criteria.
- **Receptor 17.** The centerline of the alignment is 750 feet from the apartments, resulting in an predicted noise level of 68 dBA for general construction at the centerline. Within the footprint of Option 2, an access point is proposed along Kearney Street located within 130 feet of the closest apartments in the Pueblo del Sol complex (17). The Option 2 footprint is 130 feet from the apartments, resulting in a predicted noise level of 81 dBA, exceeding the 80 dBA FTA 8-hour daytime and 70 dBA 8-hour nighttime noise criteria for residential uses.
- **Receptors 18 and 19**. Option 2, like the Proposed Project, includes an access point to First Street (east river bank) terminating within 80 feet of Felicitas and Gonzalo Mendez High School (18) and 400 feet from residences near Fist Street and South Anderson Street (19). Noise levels at the school (18) would be between approximately 84 dBA and 87 dBA, which would exceed the 80 dBA FTA 8-hour daytime criteria. Because the high school does not operate at night, the 70 dBA FTA nighttime criteria is not applicable to this location. Noise levels at the residences (19) would be 73 dBA, which would be below the 80 dBA FTA 8-hour daytime criteria but would exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 20.** Option 2 is a similar distance as Option 1 to the One Santa Fe Apartments (20); refer to discussion about Option 1 in Section 3.12.9.1.2 for more information. As with Option 1, noise levels at the closest apartments would exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.
- **Receptor 21.** Impacts near the Arts District are the same for all options. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded at these receptors, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.
- **Receptors 22 and 23**. City of Maywood impacts are the same for all options; refer to discussion about the Proposed Project in Section 3.12.9.1.1 for more information. As discussed with respect to the Proposed Project, the 80 dBA FTA 8-hour daytime noise criteria would not be exceeded at

these receptors, but there is a potential for nighttime construction to exceed the 70 dBA FTA 8-hour nighttime criteria for residential uses.

Option 2's remaining alignment includes commercial and industrial uses which are not considered sensitive receptors.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holiday, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-1 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction. Option 2 would not violate the requirements of LAMC Section 41.40 with implementation of MM-NOI-01.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near Option 2's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. If equipment is operating near the edge of the Option 2 footprint, the nearest noise-sensitive receptors would be located approximately 10 feet away (Receptors 2, 5, 6, and 13). The potential incremental increases in noise would be similar to Option 1 as described in Section 3.12.9.1.2.

The nearest residences (Receptors 13 and 14) are located approximately 130 feet from the Option 2 footprint and the resultant construction noise level would be approximately 81 dBA, L_{eq}. The potential incremental increases in noise would be similar to Option 1 as described in Section 3.12.9.1.2. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. These incremental increases in noise would be temporary and this scenario conservatively considers all equipment operating in the same area for an extended period of time. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.3.1.1.1 Design Variations

Several design variations are proposed along the Option 2 alignment. These are depicted in Chapter 2, *Project Description*. The design variations are within the temporary footprint of the Option 2 alignment but result in changes to the centerline. Five of the potential design variations impact estimated sound levels to sensitive receptors based on distance to centerline as presented in Table 3.12-21 and described below.

Table 3.12-21. Summary of Predicted Typical Construction Noise Levels for Closest Noise-sensitive Receptors for Option 2

Jurisdiction	Receptor	Option 2		Design Variations		
		Distance to Footprint (Distance to Centerline)	Criteria Exceeded	Design Variation Name	Distance to Footprint (Distance to Centerline)	Criteria Exceeded
City of Los Angeles	4. Elysian Park, Buena Vista Meadow	470 feet — 71 dBA (180 feet — 78 dBA)	None	North Ave 19	460 feet — 72 dBA (180 feet — 78 dBA)	None
	5. Confluence Park	10 feet — >87 dBA (640 feet — 69 dBA)	Daytime	Egret Park to Ed P. Reyes Greenway	10 feet — >87 dBA (130 feet — 81 dBA)	Daytime
	6. Ed P. Reyes River Greenway	In Footprint (100 feet — 83 dBA)	Daytime	Egret Park to Ed P. Reyes Greenway	In Footprint — >87 dBA (In Centerline — >87 dBA)	Daytime
	10. Youngnak Presbyterian Church	140 feet — 80 dBA (230 feet — 76 dBA)	Daytime Nighttime	North Broadway/ Spring Street	140 feet — 80 dBA (180 feet — 78 dBA)	Daytime Nighttime
	11. Downey Swimming Pool	In Footprint (70 feet — 85 dBA)	Daytime	North Broadway/ Spring Street	In Footprint (30 feet — >87 dBA)	Daytime
	12. Residences near South Ave 18 and North Broadway	230 feet — 76 dBA (610 feet — 67 dBA)	Nighttime	North Broadway/ Spring Street	230 feet — 76 dBA (330 feet — 74 dBA)	Nighttime
	17. Pueblo del Sol Apartments	130 feet — 81 dBA (750 feet — 68 dBA)	Daytime Nighttime	Kearney Street	130 feet — 81 dBA (160 feet — 80 dBA)	Daytime Nighttime
City of Maywood	22. Maywood Elementary School	440 feet — 72 dBA (520 feet — 70 dBA)	Nighttime	South Atlantic Boulevard	440 feet — 72 dBA (930 feet — 67 dBA)	None

- **Receptor 5**. Confluence Park (5) is located adjacent to the Option 2 footprint, at approximately 10 feet from the footprint of Option 2. The Egret Park to Ed P. Reyes Greenway Design Variation results in a closer centerline to Confluence Park. The centerline shifts from approximately 640 feet to 130 feet from Confluence Park, resulting in an estimated noise level of 81 dBA. Construction activities thus have the potential to exceed the 80 dBA FTA 8-hour daytime residential noise criteria.
- **Receptor 6**. Ed P. Reyes River Greenway (6) is located within the Option 2 footprint. and approximately 170 feet from the centerline for Option 2. The Egret Park to Ed P. Reyes Greenway Design Variation connects directly with the greenway. General construction occurring at the park would result in a noise level of 87 dBA or greater, exceeding the 80 dBA FTA 8-hour daytime residential noise.

- **Receptors 10, 11, and 12**. The Broadway/Spring Street Design Variation adds an access point to the north of the Downey Swimming Pool (12). The centerline of the design variation is closer to the Youngnak Presbyterian Church (10), the Downey Swimming Pool (12), and residences near South Avenue 18 and North Broadway (11). The centerline is 180 feet from the Youngnak Presbyterian Church (10), resulting in an estimated noise level of 78 dBA. The centerline is approximately 30 feet from the Downey Swimming Pool (11), resulting in a noise level greater than 87 dBA. The centerline is within 330 feet of the residences near South Avenue 18 and North Broadway (12), resulting in an estimated sound level of 74 dBA. As with Option 2, the distance to the temporary footprint results in exceedance of the 80 dBA FTA 8-hour daytime criteria for the Youngnak Presbyterian Church (10) and the Downey Swimming Pool (11). Noise levels at the residences near South Avenue 18 and North Broadway (12) exceed the 70 dBA FTA 8-hour nighttime criteria.
- **Receptor 17.** The Kearney Street design variation adds an access point near the Pueblo del Sol complex (17). The distance to the centerline is thus reduced from 750 feet to approximately 160 feet from the centerline of the Proposed Project, resulting in a predicted noise level of 80 dBA for general construction at the centerline. As with Option 2, construction noise associated with the design variation at this location could exceed the 80 dBA FTA 8-hour daytime and 70 dBA 8-hour nighttime noise criteria for residential uses.
- **Receptor 22.** The South Atlantic Boulevard design variation switches the path to the opposite side of the channel resulting in a greater distance from the centerline to Maywood Elementary School (22). The distance to the centerline increases from 520 feet to 930 feet, resulting in an estimated noise level of 67 dBA. As with Option 1, construction noise levels would not meet or exceed the 80 dBA FTA 8-hour daytime criteria but would meet or exceed the 70 dBA FTA 8-hour nighttime noise criteria due to distance to the footprint.

3.12.9.1.3.1.2 Staging Area Activity

Staging areas and sensitive receptors near staging areas for Option 2 would be the same as the Proposed Project and are shown in Figure 3.12-4 and also depicted in the project footprint shown in Figure 3.12-5. Potential incremental increases in noise would also be similar to the Proposed Project. Refer to Section 3.12.9.1.1 for detailed discussion of staging area noise generation. Activity at staging areas typically results in less noise than general construction as there are fewer equipment operations and equipment is primarily being moved to and from the staging areas. Nonetheless, there is a potential for an exceedance of the FTA 80 dBA 8-hour daytime criteria and 70 dBA 8-hour nighttime criteria.

3.12.9.1.3.1.3 Pile Driving Activities

In addition to general construction noise, pile driving may occur at various path types as described in Section 3.12.3. Impact pile driving would result in an exceedance of the 80 dBA FTA 8-hour daytime residential criteria at a distance of 250 feet or less from the equipment. Option 2 may require pile driving within 250 feet of the Ed P. Reyes River Greenway (6), Downey Swimming Pool (11) and the Albion Riverside Park/Downey Recreation Area (13). The path type near the William Mead Homes (apartments) (16) may also require pile driving. Similar to the Proposed Project, Option 2 would also require pile driving within 250 feet of Felicitas and Gonzalo Mendez High School (18). There is a potential for an exceedance of the FTA 80 dBA 8-hour daytime criteria and 70 dBA 8-hour nighttime criteria, resulting in a significant construction noise impact.

Regarding incremental increases in noise levels over existing conditions, measured existing ambient noise levels near Option 2's alignment range from approximately 56 to 75 dBA, L_{eq} as shown in Table 3.12-8. Pile driving activity would occur at the location of the path, which is represented by the centerline of the alignment. Similar to Option 1, the nearest noise-sensitive receptor would be Receptor 13, Albion Riverside Park/Downey Recreation, located approximately 20 feet away from the centerline and incremental increases in noise would be greater than 10 dBA above ambient noise levels. The increase in ambient daytime noise levels above existing conditions is conservatively deemed a significant impact.

3.12.9.1.3.1.4 Offsite Construction Vehicle Traffic

Noise from construction traffic and haul routes is similar to the Proposed Project and Option 1. The number of round trips per day for peak daily construction traffic by activity specific to Option 2 is presented in Table 3.12-22.

Table 3.12-22. Summary of Peak Daily Construction Traffic for Option 2

Construction Traffic Activity	Option 2: Round Trips per Day
Mobilization	367
Workers	281
Worker Transport	73
Haul Trucks	16
Concrete Trucks	23
TOTAL	**760**

A doubling of vehicle traffic is not anticipated to result from trips associated with Option 2. Furthermore, haul routes and construction-related truck traffic would be routed away from local residential streets and/or sensitive receivers to the extent feasible, as described in Section 3.12.9.1.1.1.4. Thus, a substantial increase in traffic noise levels that would impact noise-sensitive land uses would not occur. Impacts related to offsite construction vehicle traffic would be less than significant.

3.12.9.1.3.1.5 Option 2 Construction Noise Summary

As discussed above and shown in Table 3.12-20, several noise-sensitive receptors are located close enough to the alignments that the predicted noise levels may at times exceed the 80 dBA FTA 8-hour daytime and 70 dBA 8-hour nighttime residential criteria. While pile driving would be conducted only during daytime hours it could also exceed the daytime noise criteria. Pursuant to MM-NOI-01, *Noise Control and Monitoring Plan,* the Proposed Project contractor would develop a Noise Control and Monitoring Plan that demonstrates how noise criteria would be achieved during construction. The plan would include measurements of existing noise, a list of major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receptors. Where construction cannot be performed in accordance with the applicable noise standards (the FTA 8-hour L_{eq} criteria), the contractor would investigate alternative construction measures that would result in lower noise levels. Noise-reducing methods that could be used include acoustically attenuating shields around construction equipment, high-performance noise-reducing mufflers, temporary noise barriers, and substitution of diesel power equipment for quieter electric equipment. However, in some

instances the FTA impact criteria may still be exceeded. There are no additional feasible mitigation measures that could be implemented to reduce construction noise levels. Option 2 would have a significant and unavoidable impact during construction related to noise.

Construction activity would generally comply with the allowable hours of construction in the LAMC, including 7:00 am to 9:00 pm Monday through Friday, 8:00 am to 6:00 pm on Saturday or federal holiday, and no construction activity on Sundays. However, it is possible that construction activity would be required outside these allowable hours of construction within the City of Los Angeles, which could conflict with LAMC Section 41.40, unless a nighttime variance is obtained. MM-NOI-1 *Noise Control and Monitoring Plan* would require compliance with local ordinances, including obtaining a noise variance for nighttime construction. Option 2 would not violate the requirements of LAMC Section 41.40 with implementation of MM-NOI-01.

Incremental increases noise levels over existing conditions would range from approximately 1 dBA to 38 dBA over measured existing ambient noise levels. Incremental increases in noise would be greater than 10 dBA above ambient noise levels. Incremental increases in noise would vary dependent on the location of equipment and would likely be less than what has been conservatively described. Construction activity and noise associated with it is a common occurrence in urban environments and receptors may not be as sensitive to noise as receptors in a typically quieter rural environment. Nonetheless, the increase in ambient daytime and nighttime noise levels above existing conditions is conservatively deemed a significant impact. Regarding health effects of noise, it is unlikely for construction noise to result in noise-induced hearing loss for persons residing or working near construction zones, as this is an occupational hazard related to working over long periods of time (years) in high noise environments. However, construction noise would increase stress and the potential for stress-related diseases at affected sensitive land uses. Health effects related to noise would be the same for the Proposed Project and its options where noise impacts would occur.

3.12.9.1.3.2 Operations and Maintenance

Less than significant impact. Option 2 would include both noise generated by users of the path such as pedestrians and bicyclists and maintenance activities. Noise levels would be the same as the Proposed Project. Refer to Section 3.12.9.1.1.2 for a detailed discussion of operations and maintenance noise. Impacts would be less than significant related to operations and maintenance.

3.12.9.2 Impact NOI-2: Ground-borne Vibration and Noise

Impact NOI-2: Generate excessive ground-borne vibration or ground-borne noise levels?

3.12.9.2.1 Proposed Project, Option 1, and Option 2

3.12.9.2.1.1 Construction

Significant and unavoidable as described below.

Ground-borne noise is not expected to be a significant source of noise as no underground activities, such as tunneling, are associated with the Proposed Project. However, construction activities have the potential to result in varying degrees of temporary ground-borne vibration, dependent on the specific equipment used and operations involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. Table 3.12-23 displays vibration levels for typical construction equipment.

Table 3.12-23. Typical Construction Equipment Vibration Levels

Equipment	PPV at 25 feet (in/sec)
Pile driver (impact, upper range)	1.518
Pile driver (impact, typical)	0.644
Pile driver (sonic, upper range)	0.734
Pile driver (sonic, typical)	0.170
Large bulldozer	0.089
Caisson drilling	0.089
Trucks	0.076
Jackhammer	0.035
Small bulldozer	0.003

Source: FTA 2018

Bulldozers and other heavy civil construction equipment would regularly be used in the Project's construction. In addition, heavy trucks would be used to deliver and remove material to and from the site. As referenced in Table 3.12-23, the greatest vibration source is an impact pile driver. According to FTA, vibration levels associated with the upper range of an impact pile driver are 1.518 inches per second PPV at 25 feet. Trucks generate lower vibration levels of 0.076 inch per second PPV at 25 feet.

The FTA manual provides impact criteria for building damage caused by vibration. Table 3.12-24 shows the distance at which the FTA construction vibration damage criteria is met for various building categories. Building Category 1 consists of buildings and structures constructed of reinforced concrete, steel, or timber (no plaster); Category 2 consists of buildings constructed of engineered concrete and masonry (no plaster); Category 3 consists of buildings and structures constructed of non-engineered timber and masonry; and Category 4 consists of buildings and structures that are "extremely susceptible to vibration damage" (FTA 2018).

Table 3.12-24. Typical Construction Equipment Vibration Levels in Peak Particle Velocity

Equipment	PPV at 25 feet (in/sec)	Building Category (distance in feet to construction vibration damage criteria)			
		1 (0.5 in/sec)	2 (0.3 in/sec)	3 (0.2 in/sec)	4 (0.12 in/sec)
Pile driver (impact, upper range)	1.518	50	75	100	135
Pile driver (impact, typical)	0.644	30	40	55	75
Pile driver (sonic, upper range)	0.734	30	45	60	85
Pile driver (sonic, typical)	0.170	<25	<25	<25	30
Vibratory Roller	0.210	<25	<25	26	36
Large bulldozer	0.089	<25	<25	<25	<25
Caisson drilling	0.089	<25	<25	<25	<25
Trucks	0.076	<25	<25	<25	<25
Jackhammer	0.035	<25	<25	<25	<25
Small bulldozer	0.003	<25	<25	<25	<25

As shown in Table 3.12-24, for all building categories, general construction equipment (excluding pile driving and vibratory rollers) must be located less than 25 feet from the building in order for the 0.2 inches per second vibration damage criterion to be exceeded. Impact pile driving in the upper range has the greatest potential to cause damage to buildings. The 0.2 inches per second vibration damage criterion for Category 3 buildings could be exceeded at distances within 100 feet. If pile driving occurs within 135 feet of a Category 4 building (the category of buildings "extremely susceptible to vibration damage") (FTA 2018), the 0.12 inches per second vibration damage criterion could be exceeded. Category 4 includes objects or buildings of potential historic interest, but is typically reserved for buildings such as adobe structures, which are extremely sensitive to vibration damage.

3.12.9.2.1.1.1 General Construction Activities

Construction activity would typically occur within the Project footprint and would generally not result in vibration damage at buildings located outside of the footprint. However, general construction equipment, such as a large bulldozer may at times operate at a distance less than 25 feet from buildings located adjacent to or within the Proposed Project footprints. At this distance the 0.2 inches per second vibration damage criteria would be exceeded and impacts would be potentially significant.

3.12.9.2.1.1.2 Pile Driving Activity

As noted above, impact pile driving has the greatest potential to cause damage to buildings. Industrial and commercial buildings are located adjacent to the Proposed Project footprint of the options along the path. However, these buildings are most likely Category 1 buildings (0.5 inches per second vibration damage criterion), constructed of reinforced concrete or steel, and would be the least susceptible to vibration. Distances to closest receptors that are not industrial or commercial, such as houses, apartment complexes, school buildings, and places of worship, are also listed in Table 3.12-14, Table 3.12-17, and Table 3.12-20. These structures are more likely to be Category 2 (0.3 inches per second vibration damage criterion) or Category 3 building types (0.2 inches per second vibration damage criterion), rather than Category 1. Therefore, structures within 100 feet of the Proposed Project and Options are conservatively described as follows.

The only portion of the Proposed Project where pile driving would occur within 100 feet of a potentially sensitive receptor (Category 3 building 0.2 inches per second vibration damage criterion) is associated with the access point to First Street (east river bank), which terminates within 80 feet of Felicitas and Gonzalo Mendez High School (18). The centerline of the Proposed Project extends within 40 feet of the high school. This receptor is the same distance from the Proposed Project and Option 2. At this distance, vibration levels could exceed 0.2 inches per second and building damage could occur if an impact pile driver is used. Impacts related to vibration damage would be potentially significant impact.

Option 1 has path types that would require pile driving within 100 feet of the Albion Riverside Park/Downey Recreation Area (13). The portion of the recreation area closest to the area requiring pile driving is an open field and no park structures are located within 100 feet. Therefore, no vibration impacts would occur at Albion Riverside Park/Downey Recreation Area (13).

Option 2 has path types that may require pile driving within 100 feet of Youngnak Presbyterian Church (10), Downey Swimming Pool (11), and Albion Riverside Park / Downey Recreation Area (13). As with Option 1, the portion of Albion Riverside Park / Downey Recreation Area (13) closest to the area requiring pile driving is an open field and no park structures are located within 100 feet. Therefore, no vibration impacts would occur at Albion Riverside Park/Downey Recreation Area (13). Like the Proposed Project, Option 2 may also require pile driving within 100 feet of Felicitas and Gonzalo Mendez High School (18) which would exceed the 0.2 inches per second vibration damage criterion. Impact pile driving could occur with 100 feet of these receptors and building and structural damage could occur at these locations. Therefore, this impact is considered potentially significant.

3.12.9.2.1.1.3 Historic Property Vibration Analysis

Impacts to historic properties would occur if vibration generated by the Proposed Project and its options would result in vibration levels that would result in vibration damage. Vibration damage is important in the context of historic properties because it has the potential to degrade their historic character. Historic properties that have been identified are all modern construction and the most stringent vibration damage criterion utilized is 0.2 inches per second that applies to Category 3 buildings. Historic properties within 135 feet of construction activities were identified for the Proposed Project and its options because this is the distance at which the most conservative threshold of 0.12 inches per second would be exceeded during pile driving. A total of 42 out of 49 historic properties identified would be located within 135 feet of construction activities. Historic properties that would be potentially exposed to excessive vibration levels and their associated vibration damage criterion are shown in Table 3.12-25. Further information on the historic properties is included in Section 3.5, Cultural Resources, of this EIR. The analysis considers the most likely type of construction to occur near each historic resource. If the historic resource was located near the channel or elevated structure where pile driving would likely occur then the analysis is based on pile driving, whereas if the historic resources was located near staging or roadway work, a large bulldozer was assumed. Vibration generated by the Proposed Project would potentially result in damage at 23 historic structures, Option 1 at 29 historic structures, and Option 2 at 24 historic structures. Therefore, this impact is considered potentially significant.

Table 3.12-25. Historic Property Vibration Analysis for the Proposed Project and Options

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-1: LA River Channel District	-	Historic District	0.5	Yes	Yes	Yes
HR-2: Elysian Park	929 Academy Rd, Los Angeles	Park	Not Sensitive	No	No	No
HR-3: Riverside-Figueroa Bridge Remnants (“Riverside Ruins”)	-	Bridge	0.5	Yes	Yes	Yes
HR-4 Arroyo Seco Parkway (Pasadena Freeway)	-	Freeway	0.5	No	No	No
HR-5: SR-110 Bridge N	Bridge ID 4a	Bridge	0.5	Yes	Yes	Yes
HR-6: SR-110 Bridge S	Bridge ID 4b	Bridge	0.5	Yes	Yes	Yes

Table 3.12-25. Historic Property Vibration Analysis for the Proposed Project and Options

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-7: Arroyo Seco Channel	-	River Channel	0.5	Yes	Yes	Yes
HR-8: Figueroa Street Tunnel No. 3	-	Tunnel	0.5	No	No	No
HR-9: San Fernando Rd/Arroyo Seco Channel Bridge	-	Bridge	0.5	Yes	Yes	Yes
HR-10: Lincoln Heights Jail	401–449 N Ave 19, Los Angeles	Building	0.3	Yes	Yes	Yes
HR-11: Quonset Hut	147 N Ave 18, Los Angeles	Building	0.3	No	Yes	Yes
HR-12: North Broadway Viaduct	Bridge ID 6	Bridge	0.5	Yes	Yes	Yes
HR-13: River Station Area (now Los Angeles State Historic Park)	1231–1251 N Spring St, Los Angeles	Site	Not Sensitive	No	No	No
HR-14: North Spring Street Viaduct	Bridge ID 7	Bridge	0.5	Yes	Yes	Yes
HR-15: Standard Oil Co. Sales Department Building; Woman's Building	1727 N Spring St, Los Angeles	Building	0.2	Not Affected	Yes	Not Affected
HR-16: Raphael Junction Block Building	1635–1637 N Spring St, Los Angeles	Building	0.2	Not Affected	Yes	Not Affected
HR-17: Standard Oil Co. Office, Auto Repair and Machine Shop	1716–1756 N Spring St/ 1715–1749 N Naud St, Los Angeles	Building	0.2	No	Yes	Yes
HR-20: Richard Duardo Printmaking Studio	1714–1736 N Albion St/ 325–339 Ave 16/ 1735–1755 N Main St, Los Angeles	Building	0.2	Yes	Yes	No
HR-21: North Main Street Bridge	Bridge ID 8	Bridge	0.5	Yes	Yes	Yes
HR-22: LADWP, Main Street Yard	1630 N Main St, Los Angeles	Site	0.3	No	No	No
HR-23: Building	1734 N Main St, Los Angeles	Building	0.2	No	Yes	No
HR-24: San Antonio Winery	725–749 S Lamar St/ 700–744 S Gibbons St, Los Angeles	Building	0.3	Not Affected	No	Not Affected
HR-25: William Mead Homes (portion of)	1300 N Cardinal St, Los Angeles	Building	0.2	No	Not Affected	No

Table 3.12-25. Historic Property Vibration Analysis for the Proposed Project and Options

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-26: Mission Tower	1436 Alhambra Ave/ 337 E Cesar E Chavez Ave, Los Angeles	Building	0.2	No	Yes	Yes
HR-28: Cesar E Chavez Ave/Vignes St Street Lights	-	Street	0.5	Yes	Yes	Yes
HR-29: Cesar E Chavez Ave Viaduct	Bridge ID 11	Bridge	0.5	Yes	Yes	Yes
HR-30: Denny's Restaurant	530 Ramirez St, Los Angeles	Building	0.2	Yes	Yes	Yes
HR-31: Kahn-Beck Co./Friedman Bag Co. Building	801 E Commercial St/ 600 Center St, Los Angeles	Building	Not sensitive, to be demolished	No	No	No
HR-33: Walker Foods, Inc./El Pato Salsas	250 N Myers St/233-243 N Mission Rd, Los Angeles	Building	0.2	Yes	Not Affected	No
HR-34: Property	161 N Mission Rd, Los Angeles	Building	0.2	No	Not Affected	No
HR-35: First Street Viaduct	Bridge ID 14	Bridge	0.5	Yes	Yes	Yes
HR-36: Fourth Street Viaduct	Bridge ID 15	Bridge	0.5	Yes	Yes	Yes
HR-38: Los Angeles Furniture Mart Building	2155 E Seventh St, Los Angeles	Building	0.2	Not Affected	Yes	Not Affected
HR-39: Seventh Street Viaduct	Bridge ID 17	Bridge	0.5	Yes	Yes	Yes
HR-42: Olympic Boulevard Viaduct	Bridge ID 19	Bridge	0.5	Yes	Yes	Yes
HR-44: AT&SF Railway Redondo Junction/Butte Street Yard (portion of)	2514–2558 E Butte St/ 2435 E Washington Bl, Los Angeles	Site	Not Sensitive	No	No	No
HR-45: AT&SF Railway Steam Locomotive No. 3751	2514–2558 E Butte St/ 2435 E Washington Bl, Los Angeles	Train/Site	Not Sensitive	No	No	No
HR-46: Washington Boulevard Bridge	Bridge ID 21	Bridge	0.5	Yes	Yes	Yes
HR-47: Hoffy/Bill Bailey's	2731 S Soto St, Vernon	Building	0.3	Yes	Yes	Yes
HR-48: Farmer John	3049 E Vernon Ave, Vernon	Building	0.3	Yes	Yes	Yes

Table 3.12-25. Historic Property Vibration Analysis for the Proposed Project and Options

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-49: Building	5015 District Bl, Vernon	Building	0.3	No	No	No
HR-52: Atlantic Boulevard Bridge	Bridge ID 30	Bridge	0.5	Yes	Yes	Yes

Note: Distance to construction activity is based on nearest structure.

Not affected = historic structure not in screening distance.

Not sensitive = Structure type not sensitive to vibration.

3.12.9.2.1.1.3.1 Design Variations

The Proposed Project, Option 1, and Option 2 include design variations which may affect the location of where pile driving may occur as a result of different path connections. The design variations would affect the distance of construction activity and historic resources for HR-17, HR-20, HR-33, HR-34, HR-35, HR-36, and HR-52. The difference between the standard design and design variation impacts are shown in Table 3.12-26. Vibration generated by the Proposed Project with design variations would potentially result in damage at 24 historic structures, an increase of one impact at HR-34. Option 1 with design variations would potentially result in damage at 28 historic structures, a reduction of one impact at HR-3. Option 2 with design variations would potentially result in damage at 26 historic structures, an increase of two impacts at HR-33 and HR-34. Therefore, this impact is considered potentially significant.

Table 3.12-26. Historic Property Vibration Analysis for the Proposed Project and Options – Design Variations

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-3: Riverside-Figueroa Bridge Remnants ("Riverside Ruins")	-	Bridge	0.5	No Change	No	No Change
HR-10: Lincoln Heights Jail	401–449 N Ave 19, Los Angeles	Building	0.3	No Change	No Change	No Change
HR-17: Standard Oil Co. Office, Auto Repair and Machine Shop	1716–1756 N Spring St/ 1715–1749 N Naud St, Los Angeles	Building	0.2	No Change	No Change	No Change
HR-20: Richard Duardo Printmaking Studio	1714–1736 N Albion St/ 325–339 Ave 16/ 1735–1755 N Main St, Los Angeles	Building	0.2	No Change	No Change	No Change

Table 3.12-26. Historic Property Vibration Analysis for the Proposed Project and Options – Design Variations

Historic Resource	Property Location	Land Use/Structure	Vibration Damage Risk Criteria PPV (in/sec)	Potential Vibration Damage?		
				Proposed Project	Option 1	Option 2
HR-33: Walker Foods, Inc./El Pato Salsas	250 N Myers St/ 233–243 N Mission Rd, Los Angeles	Building	0.2	No Change	No Change	Yes
HR-34: Property	161 N Mission Rd, Los Angeles	Building	0.2	Yes	No Change	Yes
HR-35: First Street Viaduct	Bridge ID 14	Bridge	0.5	No Change	No Change	No Change
HR-36: Fourth Street Viaduct	Bridge ID 15	Bridge	0.5	No Change	No Change	No Change
HR-52: Atlantic Boulevard Bridge	Bridge ID 30	Bridge	0.5	No Change	No Change	No Change

Note: Distance to construction activity is based on nearest structure.

Not affected = historic structure not in screening distance.

Not sensitive = Structure type not sensitive to vibration.

No change = no change in impact from standard design and impact is same as described in Table 3.12-25.

3.12.9.2.1.1.4 Construction Vibration Damage Summary

Buildings and structures are located close enough to the Proposed Project and its options that the use of both general construction equipment and impact pile drivers could cause building damage, given potential exceedances of FTA vibration damage impact criteria. Vibration generated by the Proposed Project would potentially result in damage at 23 historic structures, Option 1 at 29 historic structures, and Option 2 at 24 historic structures. The design variations would alter the number of potentially damaged historic structures by an increase of one structure for the Proposed Project, a decrease of one structure for Option 1, and an increase of two structures for Option 2. However, a decrease or increase in affected structures would not change the conclusions of the historic property vibration damage analysis. Implementation of MM-VIB-01, *Vibration Control Plan* and MM-NOI-02, *Drill Piles Where Feasible* would reduce the potential for permanent damage to buildings and structures to occur. Implementation of MM-VIB-01, *Vibration Control Plan* would reduce vibration levels. Vibration reduction methods include routing equipment away from sensitive receptors, locating stationary vibration-generating equipment away from sensitive receptors, utilizing alternative equipment or methods to reduce overall vibration, and phasing earth-moving and ground-impacting activities during different time periods.

Furthermore, during final design, the construction areas near sensitive receptors would be identified and designated as areas where impact pile driving would not be conducted for Project construction. MM-NOI-02, *Drill Piles Where Feasible* would reduce vibration through the use of drilled piles, which would result in a vibration level of 0.089 inches per second at 25 feet versus impact driven piles which would result in a maximum vibration level of 1.518 inches per second at 25 feet. MM-VIB-02, *Vibration Monitoring Plan* would require vibration monitoring at historic structures when construction activity

would occur within 200 feet of the structure. Vibration levels would be monitored to identify if vibration levels are within 0.1 inches per second PPV of the specified vibration damage criteria for each historic resource and ensure the vibration damage criteria would not be exceeded.

As part of MM-VIB-02, *Vibration Monitoring Plan*, a pre-construction and post-construction survey would be prepared, and any damage noted and restored per the requirements of Secretary of the Interior's (SOI's) *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings* (Standards). With implementation of MM-VIB-01, MM-VIB-02, and MM-NOI-02, construction of the Project or its options would not result in the generation of excessive ground-borne vibration that would cause vibration damage. The impact would be less than significant with mitigation related to vibration damage.

3.12.9.2.1.1.5 Construction Vibration Annoyance

In addition to potentially causing building damage, ground-borne vibration also may cause annoyance to sensitive receptors. For assessing vibration annoyance, the FTA manual presents average vibration source levels for various construction equipment (Table 3.12-27). The FTA manual notes that although the table gives one level for each piece of equipment, there is considerable variation in reported ground vibration levels from construction activities.

Table 3.12-27. Vibration Source Levels for Construction Equipment

Equipment	Approximate VdB at 25 feet	
Pile driver (impact)	Upper range	112
	Typical	104
Pile driver (sonic)	Upper range	105
	Typical	93
Vibratory roller		94
Hoe ram		87
Large bulldozer		87
Caisson Drilling		87
Loaded trucks		86
Jackhammer		79
Small bulldozer		58

Source: FTA 2018, Table 7-4.
VdB = RMS velocity in decibels

As stated above, bulldozers, heavy trucks, and other heavy civil construction equipment would regularly be used in the Project's construction. As referenced in Table 3.12-27, the most significant vibration source is an impact pile driver. According to FTA, vibration levels associated with the upper range of an impact pile driver are 112 VdB at 25 feet. A small bulldozer generates lower vibration levels of 58 VdB at 25 feet.

FTA's ground-borne vibration annoyance impact criteria range from 65 VdB, the approximate threshold of perception for many humans, for any event adjacent to buildings where vibration would interfere with interior operations (for example, interfere with use of an optical microscope), up to 83 VdB for infrequent events, occurring adjacent to institutional land uses with primarily daytime use (Table 3.12-4). The criteria of 75 VdB for residences and buildings where people normally sleep coupled with an occasional event frequency was selected for evaluation of the most-likely ground-

borne vibration impacts for this Project. The maximum distance at which the impact criteria is exceeded for the lowest, highest, and most-likely criteria for each type of equipment presented above is calculated and included in Table 3.12-28.

Table 3.12-28. Maximum Distance From Construction Equipment Exceeding Ground-borne Vibration Annoyance Criteria

Equipment		Distance to Ground-borne Vibration Criteria (feet)		
		65 VdB	75 VdB	83 VdB
Pile driver (impact)	Upper range	922	428	232
	Typical	499	232	125
Pile driver (sonic)	Upper range	539	250	135
	Typical	214	100	54
Vibratory roller		232	107	58
Hoe ram		135	63	34
Large bulldozer		135	63	34
Caisson Drill		135	63	34
Loaded trucks		125	58	31
Jackhammer		73	34	18
Small bulldozer		15	7	4

VdB = RMS velocity in decibels

As shown in Table 3.12-28, the ground-borne vibration annoyance criteria of 75 VdB may be exceeded at 428 feet or less from Proposed Project construction. This upper range is associated with the use of impact pile driving. Loaded trucks, bulldozers, and other heavy construction equipment are more likely to annoy sensitive receptors up to 100 to 200 feet from the equipment. The Proposed Project and its options all have residences within 200 feet of the footprint that would be exposed to vibration that would exceed the 75 VdB ground-borne vibration annoyance criteria (see Table 3.12-14, Table 3.12-17, and Table 3.12-20). Those residences are William Mead Homes (16) (140 feet from the Proposed Project, 200 feet from Option 1, and 130 feet from Option 2) and the Pueblo del Sol Apartments (17) (130 feet from both the Proposed Project and Option 2). Pile driving, both sonic and impact, would result in ground-borne vibration exceeding the annoyance criteria of 75 VdB extending much farther, up to 428 feet for the upper range for impact pile driving. Additional residences are located within the 428-foot envelope and may experience annoyance impacts as a result of impact pile driving.

Implementation of MM-VIB-01, *Vibration Control Plan* and MM-NOI-02, *Drill Piles Where Feasible* would reduce the potential for annoyance to occur at sensitive receptors. Vibration reduction methods include routing equipment away from sensitive receptors, locating stationary vibration-generating equipment away from sensitive receptors, using alternative equipment or methods to reduce overall vibration, and phasing earth-moving and ground-impacting activities during different time periods. MM-NOI-02 would reduce vibration through the use of drilled piles, which would result in a vibration level of 87 VdB at 25 feet versus impact driven piles which would result in a maximum vibration level of 112 VdB at 25 feet. The potential 75 VdB vibration annoyance area would be reduced from 428 feet to 135 feet from construction activity. However, even with implementation of MM-VIB-01 and MM-NOI-02, the Proposed Project and its options would have a significant and unavoidable impact related to vibration annoyance during construction.

3.12.9.2.2 Operations and Maintenance

Less than significant impact. Project operations would include vibration generated by maintenance activities. Vibration would not be generated by pedestrians and bicyclists that would be felt at off-path receptors. Project maintenance activities are expected to be of short duration and limited to daytime hours when near vibration-sensitive uses. Activities are anticipated to include path maintenance, such as sweeping; pavement and pothole repair; graffiti removal; trash disposal; fence, sign, and lighting replacement and repair; weed control; and storm drain cleaning. Maintenance activities are not anticipated to require multiple pieces of heavy construction equipment working in one area simultaneously and would typically be completed within a day in any particular area. Path maintenance activities that would require heavy construction equipment such as path pavement sealing, repaving, or pothole repair would occur in limited areas and only when a repair is needed. Path sweeping and marking would be a regular occurrence, but would not use heavy construction equipment that would generate significant vibration.

Vibration levels generated by maintenance equipment would be most similar to a small bulldozer. As shown in Table 3.12-24, a small bulldozer would generate a vibration level of 0.003 inches per second at 25 feet. Maintenance activities would occur within the confines of the bike path and sensitive structures would typically be located more than 25 feet away. The 0.2 inches per second vibration damage criterion for Category 3 buildings would not be exceeded. As shown in Table 3.12-28, the annoyance criteria would also not be exceeded. Vibration would only be generated when maintenance activities are occurring and would not take place throughout the entirety of the alignment. Maintenance activity vibration levels would be similar to existing construction, rail, industrial, and traffic vibration. Impacts would be **less than significant** related to operations and maintenance.

3.12.9.3 Impact NOI-3: Excessive Noise from Airports

Impact NOI-3: Expose people residing or working in the RSA to excessive noise levels if the project is located near a private airstrip or an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport?

3.12.9.3.1 Proposed Project, Option 1, and Option 2

3.12.9.3.1.1 Construction

No impact. The Proposed Project and its options are not located near a private airstrip or an airport land use plan, or within 2 miles of a public airport or public use airport. **No impact** would occur.

3.12.9.3.1.2 Operations and Maintenance

No impact. The Proposed Project and its options are not located near a private airstrip or an airport land use plan, or within 2 miles of a public airport or public use airport. **No impact** would occur.

3.12.10 Mitigation Measures

3.12.10.1 Construction

The following mitigation measures would be incorporated into the Project to mitigate construction noise and vibration impacts.

3.12.10.2 Noise Mitigation Measures

MM-NOI-01, *Noise Control and Monitoring Plan*

Los Angeles County Metropolitan Transportation Authority (Metro) shall require the contractor to develop a Noise Control and Monitoring Plan demonstrating how noise criteria shall be achieved during construction. The Noise Control and Monitoring Plan shall be designed to follow Metro requirements for construction noise control and monitoring and shall include measurements of existing noise, a list of the major pieces of construction equipment that shall be used, and predictions of the noise levels at the closest noise-sensitive receivers (such as residences, hotels, schools, churches, temples, and similar facilities). The Noise Control and Monitoring Plan shall be approved by Metro prior to initiating noise-generating construction activities and noise-generating equipment. The contractor shall conduct noise monitoring to confirm compliance with the Federal Transit Administration (FTA) 8-hour equivalent noise level (L_{eq}) noise limits. The FTA 8-hour L_{eq} construction noise standards are as follows:

- Residential daytime standard of 80 A-weighted decibels (dBA) L_{eq} and nighttime standard of 70 dBA L_{eq}
- Incremental increase of 10 dBA, L_{eq} or greater in noise over existing conditions

If the FTA 8-hour L_{eq} criteria are exceeded, the contractor shall implement alternative construction measures, such as those listed below, to reduce construction noise as much as feasible. In addition, Metro shall comply with local noise ordinances when applicable, including obtaining a variance(s) from the applicable local jurisdiction if nighttime work is required. When the jurisdiction requires a noise variance for nighttime construction, the application for the variance shall be prepared by the contractor. The contractor shall conduct noise monitoring to demonstrate compliance consistent with variance requirements. The contractor shall establish a public information and complaint system. The contractor shall respond to and provide corrective action for complaints filed within a time period of 24 hours. Noise-reducing methods that may be implemented by the Metro contractor include the following:

- Where construction occurs near noise-sensitive land uses, specialty equipment with enclosed engines, acoustically attenuating shields, and/or high-performance mufflers may be used.
- Limit unnecessary equipment idling.
- Install temporary noise barriers or noise control curtains, where appropriate.
- Reroute construction-related truck traffic away from local residential streets and/or sensitive receivers as feasible and appropriate.
- Limit impact pile driving.
- Use electric (instead of diesel-powered equipment) and hydraulic (instead of pneumatic tools) as feasible.
- Use concrete crushers and pavement saws (instead of impact devices, such as jackhammers and hoe rams) as feasible.

MM-NOI-02, *Drill Piles Where Feasible*

Where pile installation is necessary and where MM-NOI-1, *Noise Control and Monitoring Plan* identifies the potential for exceedance, drilling or alternate foundations systems shall be used instead of driven

piles unless determined to be infeasible based on site-specific geological conditions, such as shallow bedrock or buried objects (for example, large rocks), or other technical or safety factors that favor the use of driven piles.

3.12.10.3 Vibration Mitigation Measures

MM-VIB-01, *Vibration Control Plan*

Prior to construction, the construction contractor shall prepare a Vibration Control Plan demonstrating how the Federal Transit Administration (FTA) building damage risk criteria and the FTA vibration annoyance criteria shall be achieved. The FTA damage risk criteria range from a threshold of 0.12 inch per second for "buildings extremely susceptible to vibration damage," 0.2 inches per second for "non-engineered timber and masonry buildings," 0.3 inches per second for "engineered concrete and masonry with no plaster" and 0.5 inch per second for "reinforced concrete, steel or timber (no plaster)."

The FTA ground-borne vibration annoyance criteria range from a threshold of 65 vibration decibels (VdB) for "buildings where vibration would interfere with interior operations" to 83 VdB for "institutional land uses with primarily daytime land uses" coupled with infrequent vibration-causing events. The Vibration Control Plan shall be approved by Los Angeles County Metropolitan Transportation Authority (Metro) prior to the initiation of vibration-generating construction activities and equipment. The Vibration Control Plan shall include a list of the major pieces of construction equipment that would be used, and the predictions of the vibration levels at the closest sensitive receivers (such as housing, schools, places of worship, and similar facilities). Consistent with MM-VIB-02, *Vibration Monitoring Plan,* the Vibration Control Plan shall address structures identified as "historic" within the meaning of California Environmental Quality Act (CEQA) Guidelines, Section 15064.5(a) and as listed in MM-VIB-02, *Vibration Monitoring Plan*.

Where the construction cannot be performed to meet the FTA vibration criteria, the contractor shall investigate alternative means and methods of construction measures to reduce vibration levels to an acceptable level. This investigation shall include detailed site and structure specific investigation by qualified professionals to ensure construction does not result in damage to buildings. Vibration-reducing methods that may be implemented by the Metro contractor include the following:

- Locate stationary equipment to minimize vibration impact on community
- Conduct truck loading and unloading operations so vibration is kept to a minimum
- Route construction equipment and vehicles carrying soil, concrete or other materials over streets and routes that would cause least disturbance to residents in vicinity of the work
- Use alternative procedures of construction, and select proper combination of techniques that generate least overall vibration
- Grade surface irregularities on construction sites to prevent the generation of impact ground vibrations by passing vehicles
- Phase earth-moving and ground-impacting operations to occur at different time periods
- Minimize the use of impact devices, such as jackhammers and hoe rams, using concrete crushers and pavement saws instead

MM-VIB-02, *Vibration Monitoring Plan*

Prior to construction, the contractor shall design a Vibration Monitoring Plan. Vibration monitoring shall be conducted by a qualified professional who shall provide real-time vibration monitoring for construction work at the Project construction site requiring heavy equipment or ground compaction devices. The contractor shall monitor construction vibration levels when vibration-generating activities are within 200 feet of structures identified as a "historic" resource within the meaning of CEQA Guidelines Section 15064.5(a) to ensure the vibration damage threshold for that building shall not be exceeded. Historic resources where vibration monitoring is required are listed in Table 3.12-29 for the Proposed Project and its options. The monitoring devices shall notify the construction crew if vibration levels are within 0.1 peak particle velocity (PPV), in inches per second (in/sec), of the vibration damage threshold. If limits are exceeded, the activity causing the exceedance must immediately be halted. Work on that activity shall be suspended until such time as alternative construction methods can be used and additional abatement measures can be implemented as specified in the Vibration Control Plan. Vibration monitoring data shall be submitted to the Project Engineer weekly. A pre-construction and post-construction survey of the historic buildings shall be conducted by a qualified structural engineer. Any damage shall be noted. All vibration monitors used for these measurements shall be equipped with an "alarm" feature to provide advanced notification that vibration impact criteria have been approached. Documented damage in the post-construction survey shall be repaired as required by the Secretary of the Interior's (SOI's) *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*.

Table 3.12-29 identifies historic properties that would be potentially exposed to excessive vibration levels, associated vibration damage criterion, and whether vibration monitoring is required.

Table 3.12-29. Historic Property Vibration Analysis and Monitoring Requirements for the Proposed Project and Options

Historic Resource	Property Location	Land Use/ Structure	Vibration Damage Risk Criteria PPV (in/sec)	Vibration Monitoring Required?			
				Proposed Project	Option 1	Option 2	Design Variation[1]
HR-1: LA River Channel District	-	Historic District	0.5	Yes	Yes	Yes	-
HR-3: Riverside-Figueroa Bridge Remnants ("Riverside Ruins")	-	Bridge	0.5	Yes	Yes	Yes	No, Option 1
HR-5: SR-110 Bridge N	Bridge ID 4a	Bridge	0.5	Yes	Yes	Yes	-
HR-6: SR-110 Bridge S	Bridge ID 4b	Bridge	0.5	Yes	Yes	Yes	-
HR-7: Arroyo Seco Channel	-	River Channel	0.5	Yes	Yes	Yes	-
HR-9: San Fernando Rd/Arroyo Seco Channel Bridge	-	Bridge	0.5	Yes	Yes	Yes	-
HR-10: Lincoln Heights Jail	401–449 N Ave 19, Los Angeles	Building	0.3	Yes	Yes	Yes	-

Table 3.12-29. Historic Property Vibration Analysis and Monitoring Requirements for the Proposed Project and Options

Historic Resource	Property Location	Land Use/ Structure	Vibration Damage Risk Criteria PPV (in/sec)	Vibration Monitoring Required?			
				Proposed Project	Option 1	Option 2	Design Variation[1]
HR-11: Quonset Hut	147 N Ave 18, Los Angeles	Building	0.3	No	Yes	Yes	-
HR-12: North Broadway Viaduct	Bridge ID 6	Bridge	0.5	Yes	Yes	Yes	-
HR-14: North Spring Street Viaduct	Bridge ID 7	Bridge	0.5	Yes	Yes	Yes	-
HR-15: Standard Oil Co. Sales Department Building; Woman's Building	1727N Spring St, Los Angeles	Building	0.2	No	Yes	No	-
HR-16: Raphael Junction Block Building	1635–1637 N Spring St, Los Angeles	Building	0.2	No	Yes	No	-
HR-17: Standard Oil Co. Office, Auto Repair and Machine Shop	1716–1756 N Spring St/ 1715–1749 N Naud St, Los Angeles	Building	0.2	No	Yes	Yes	-
HR-20: Richard Duardo Printmaking Studio	1714–1736 N Albion St/ 325–339 Ave 16/ 1735–1755 N Main St, Los Angeles	Building	0.2	Yes	Yes	No	-
HR-21: North Main Street Bridge	Bridge ID 8	Bridge	0.5	Yes	Yes	Yes	-
HR-23: Building	1734 N Main St, Los Angeles	Building	0.2	No	Yes	No	-
HR-26: Mission Tower	1436 Alhambra Ave/ 337 E Cesar E Chavez Ave, Los Angeles	Building	0.2	No	Yes	Yes	-
HR-28: Cesar E Chavez Ave/Vignes St Street Lights	-	Street	0.5	Yes	Yes	Yes	-
HR-29: Cesar E Chavez Ave Viaduct	Bridge ID 11	Bridge	0.5	Yes	Yes	Yes	-
HR-30: Denny's Restaurant	530 Ramirez St, Los Angeles	Building	0.2	Yes	Yes	Yes	-
HR-33: Walker Foods, Inc./El Pato Salsas	250 N Myers St/ 233–243 N Mission	Building	0.2	Yes	No	No	Yes, Option 2

Table 3.12-29. Historic Property Vibration Analysis and Monitoring Requirements for the Proposed Project and Options

Historic Resource	Property Location	Land Use/ Structure	Vibration Damage Risk Criteria PPV (in/sec)	Vibration Monitoring Required?			
				Proposed Project	Option 1	Option 2	Design Variation[1]
	Rd, Los Angeles						
HR-34: Property	161 N Mission Rd, Los Angeles	Building	0.2	No	No	No	Yes, Proposed Project, Option 2
HR-35: First Street Viaduct	Bridge ID 14	Bridge	0.5	Yes	Yes	Yes	-
HR-36: Fourth Street Viaduct	Bridge ID 15	Bridge	0.5	Yes	Yes	Yes	-
HR-38: Los Angeles Furniture Mart Building	2155 E Seventh St, Los Angeles	Building	0.2	No	Yes	No	-
HR-39: Seventh Street Viaduct	Bridge ID 17	Bridge	0.5	Yes	Yes	Yes	-
HR-42: Olympic Boulevard Viaduct	Bridge ID 19	Bridge	0.5	Yes	Yes	Yes	-
HR-46: Washington Boulevard Bridge	Bridge ID 21	Bridge	0.5	Yes	Yes	Yes	-
HR-47: Hoffy/Bill Bailey's	2731 S Soto St, Vernon	Building	0.3	Yes	Yes	Yes	-
HR-48: Farmer John	3049 E Vernon Ave, Vernon	Building	0.3	Yes	Yes	Yes	-
HR-52: Atlantic Boulevard Bridge	Bridge ID 30	Bridge	0.5	Yes	Yes	Yes	-

Note:
"Proposed Project," "Option 1," or "Option 2" in the Design Variation column indicates monitoring required for the design variation associated with noted alternative.

3.12.10.4 Operations and Maintenance

Impacts related to noise and vibration would be less than significant during operations. Mitigation measures are not required.

3.12.11 Significance After Mitigation

Mitigation is required for the Proposed Project and its options. Impacts would remain significant and unavoidable after mitigation for Impact NOI-1 related to construction activities and less than significant related to operations. Impacts would be less than significant with mitigation incorporated for Impact NOI-2 related to vibration damage during construction. However, vibration annoyance

impacts would remain significant and unavoidable during construction. Impacts would be less than significant during operations for Impact NOI-2. No impact would occur under Impact NOI-3 during construction or operations.

3.12.12 Cumulative Impacts

Section 3.1.2 of this Draft EIR lists the related projects identified within a 2-mile radius of the Project that could combine with the Project to produce cumulative impacts. A discussion of the cumulative approach is also provided. The geographic scope for noise and vibration is discussed under each subheading below.

3.12.12.1 Proposed Project

3.12.12.1.1 Construction

3.12.12.1.1.1 Noise

The geographic scope for the cumulative noise analysis is the immediate vicinity (within 600 feet) of the Proposed Project where construction-generated noise could be heard concurrently with noise from other sources.

Table 3.12-30 identifies the 26 related projects located within 600 feet of the Proposed Project's construction footprint. Construction of the Proposed Project would require heavy earth-moving equipment, generators, cranes, pneumatic tools, and other similar machinery. Impact pile driving, which generates noise levels of 94 dBA at 50 feet, would also be required for three of the potential path types. Construction noise levels would exceed the 8-hour FTA construction noise impact criteria of 80 dBA and 70 dBA for daytime and nighttime noise at residential uses, respectively.

Table 3.12-30. Related Projects Located within 600 feet of the Proposed Project and its Options with Potential for Cumulative Construction Noise Impacts

Project ID	Project Name	Description	Project Status
3	I-710 Soundwall Project	Construction of new soundwalls along the I-710, plus redesign of an additional 7 miles of existing walls.	Pending Construction
4	I-710 North Mobility Improvement Projects	A transportation improvement project which aims to improve and transform auto, bus, bicycle, and pedestrian activities along its corridors. Components of the project include Class IV protected bike lanes and Bus Rapid Transit.	Alternatives Analysis and Community Engagement
5	Arts District/Sixth Street Station	New Metro B Line or Metro D Line station in the Arts District between Sixth Street and Seventh Street using the river-adjacent tracks on the west bank. The Project would provide regional and local transit connections to and from Arts District, Boyle Heights, Little Tokyo and surrounding communities.	Undergoing Environmental Review
7	Division 20 Portal Widening & Turnback Facility Project	New turnback facility in the Division 20 yard and a widening of the heavy rail tunnel south.	Under Construction

Table 3.12-30. Related Projects Located within 600 feet of the Proposed Project and its Options with Potential for Cumulative Construction Noise Impacts

Project ID	Project Name	Description	Project Status
9	Link US	The Link Union Station project is designed to meet the long-term regional rail needs at Los Angeles Union Station by allowing the station to function more efficiently and providing a better overall passenger experience.	Undergoing Environmental Review
11	Metro Center Project	New Metro building that will serve as an emergency security operations center.	Under Construction
13	Southeast Gateway Line	Southeast Gateway Line, part of the West Santa Ana Branch Transit Corridor project (WSAB), is a 14.5 mile light rail transit line that will connect the Gateway Cities and Southeast Los Angeles, connecting Artesia, Cerritos, Bellflower, Paramount, Downey, South Gate, Cudahy, Bell, Huntington Park, Vernon, unincorporated Florence-Firestone and Downtown LA.	Undergoing Environmental Review
19	2110 Bay Street Mixed-Use Project	110 live/work units, 113,350-square-foot creative office space, and 50,848-square-foot commercial space.	Pending Construction
20	2143 Violet Street Project	347 live/work units (with 18 affordable units), 187,374-square-foot office space, 21,858-square-foot commercial space.	Pending Construction
21	2159 Bay Street Project	3 buildings up to 8-stories with 202,954-square-foot creative office space, 16,000-square-foot retail and restaurant space, and 3,235-square-foot meeting space.	Undergoing Environmental Review
31	670 Mesquit Project	944,056-square-foot creative office space, 136,152-square-foot retail space, 308 residential units (with 16% affordable units), and 236 hotel rooms.	Undergoing Environmental Review
37	Arroyo Seco Bike Trail Extension	Extension of the existing Arroyo Seco Bike Path to connect to the LA River.	Planned
39	Bending the River Back into the City	Installation of a waterwheel on the west bank of the LA River to irrigate the Los Angeles State Historic Park using water from the LA River.	Under Construction
43	City of Los Angeles Fish Passage and Habitat Structures Design Project	Modify the existing LA River flood-control concrete-lined channel to improve fish passage for steelhead migration to soft-bottom reaches of the LA River from Glendale Narrows to Washington Boulevard.	Pilot project under construction
44	LA River Ecosystem Restoration (LARER) Project	Habitat restoration of 11 miles of the Los Angeles River from Griffith Park to Downtown Los Angeles while maintaining existing levels of flood risk management.	Planned
45	Clean Water Campus	Office and commercial spaces and potentially 85 units of affordable housing.	Undergoing Environmental Review
65	Lincoln Heights Jail Redevelopment (Lincoln Heights Makers District)	Conversion of an abandoned jail on City of Los Angeles property into a riverfront mixed-use private development on the east bank near the Ed P. Reyes River Greenway.	On Hold
73	151 W Ave 34	468 residential units above 16,000-square-foot ground-floor retail space.	Pending Construction
80	Office & Commercial Project	14-story, 184,629-square-foot office space, and 4,325-square-foot retail space.	Undergoing Environmental Review

Table 3.12-30. Related Projects Located within 600 feet of the Proposed Project and its Options with Potential for Cumulative Construction Noise Impacts

Project ID	Project Name	Description	Project Status
90	Sixth Street PARC (Park, Arts, River and Connectivity Improvements) Project	Open and recreational space that would connect Boyle Heights, the Arts District and the Los Angeles River and would be accessible via improved streets, intersections, bike lanes and from the viaduct via accessible ramps and stairs. The Sixth Street PARC Project is being led by the City of Los Angeles Bureau of Engineering.	Under Construction
91	Soundstage Development	Conversion of a cold storage facility into a 236,000-square-foot motion picture production studio and office space.	Under Construction
98	NOS Rehab Unit 11 — Humboldt St to Cardinal St	Rehabilitation of 3,869 linear feet of the existing 100-year-old 54-inch North Outfall Sewer.	Pending Environmental Review
102	Air Treatment Facility — Mission and Jesse Expansion	Expansion of the sewer air treatment facility near the intersection of Mission Road and Jesse Street.	Pending Construction
103	Asphalt Plant No. 1 — Phase 2	City of Los Angeles satellite site to store and process recycled asphalt pavement.	Undergoing Environmental Review
104	Soto Street Primary Sewer Rehabilitation	Rehabilitation of an existing sewer line on Soto Street, between 11th Street and 26th Street.	Pending Construction
106	City of Vernon Los Angeles River Path Active Transportation Access Plan	Potential new multi-modal improvements within the City of Vernon to connect to the Project.	Undergoing Environmental Review

Project ID is in association with Table 3-1 in Section 3.1, *Introduction to Environmental Analysis*.

Past, present, and probable future projects within the cumulative study area may be constructed simultaneously with the Proposed Project, and could include the use of heavy construction equipment that would generate elevated construction noise levels. Past, present, and probable future projects would go through or have gone through their own environmental clearance process and would include mitigation for construction noise to reduce impacts. Nonetheless, the Proposed Project in combination with past, present, and probable future projects within 600 feet of Proposed Project construction activities could result in a significant cumulative construction noise impact at sensitive receptors if construction schedules overlap and result in construction noise occurring simultaneously. Although it is not possible to predict which related projects would result in a cumulative construction noise scenario, the construction noise levels associated with the Proposed Project could cumulatively increase ambient noise levels.

MM-NOI-01, *Noise Control and Monitoring Plan* would require preparation of a Noise Control Plan that would include noise-reducing methods for the Proposed Project. MM-NOI-02, *Drill Piles Where Feasible* would minimize the use of impact devices and require drilling of piles where feasible. The combination of MM-NOI-01, *Noise Control and Monitoring Plan,* and MM-NOI-02, *Drill Piles Where Feasible* would reduce construction noise impacts, although not necessarily to less than significant levels. Thus, the Proposed Project's incremental contribution to the significant cumulative construction noise impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.1.1.2 Vibration

The geographic scope for the cumulative construction vibration analysis is 500 feet. A total of 22 related projects would be located within 500 feet of Proposed Project construction activity, excluding Project IDs 7, 13, 19, and 104 as shown in Table 3.12-29. Vibration damage impacts could occur within 25 feet for typical construction and 135 feet for impact pile driving of the Proposed Project's construction footprint where vibration generated by construction equipment could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Related projects, identified as Project IDs 11, 37, 43, 44, 65, 98, 102, and 106 would be located within 25 feet of the Proposed Project and Project IDs 4, 5, 11, 37, 43, 44, 65, 90, 98, 102, and 106 would be located within 135 feet of impact pile driving activity. Vibration-generating activities associated with Project construction could result in significant levels of vibration. With implementation of MM-VIB-01, *Vibration Control Plan*, MM-VIB-02, *Vibration Monitoring Plan* and MM-NOI-02, *Drill Piles Where Feasible,* construction of the Proposed Project would not result in the generation of excessive ground-borne vibration that would cause vibration damage. As shown in Table 3.12-28, the ground-borne vibration annoyance criteria of 75 dB may be exceeded up to 428 feet from Proposed Project construction. Loaded trucks, bulldozers, and other heavy construction equipment are likely to annoy sensitive receptors up to 100 to 200 feet from the equipment. The Proposed Project has potential sensitive receptors within 200 feet of the Proposed Project footprint; therefore, Proposed Project construction activities may result in significant and unavoidable impacts related to annoyance associated with ground-borne vibration. The Proposed Project would implement MM-VIB-01, *Vibration Control Plan,* MM-VIB-02, *Vibration Monitoring Plan,* and MM-NOI-02, *Drill Piles Where Feasible* to avoid construction vibration levels that would exceed the FTA ground-borne vibration annoyance criteria. However, even with implementation of MM-VIB-01 and MM-VIB-02, the Proposed Project and its options would have a significant and unavoidable impact related to vibration annoyance during construction.

The Proposed Project, in combination with the past, present, and probable future projects could result in a cumulative vibration impact when concurrent vibration-generating activities would occur within close proximity to each other. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, typical construction from past, present, and probable future projects would have to occur simultaneously within 25 feet of any sensitive receiver or 135 feet from impact pile driving for the most sensitive Category 4 receptors. As noted above, there are eight related projects located within 25 feet of the Proposed Project construction footprint and 11 projects located within 135 feet. A cumulative vibration impact could potentially occur due to the proximity of related projects and the Proposed Project. Vibration impacts resulting from construction of these projects could combine with the Proposed Project construction activities to result in a cumulatively significant construction vibration impact. The Proposed Project would result in a significant and unavoidable impact related to construction vibration on its own. Thus, the Proposed Project's incremental contribution to the significant cumulative construction vibration impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.1.2 Operations and Maintenance

3.12.12.1.2.1 Noise

The geographic scope where the potential for operational noise to combine is approximately 600 feet. As previously discussed, 26 related projects would be located within 600 feet of the Proposed Project. Cumulative growth and development within 600 feet of the Proposed Project could result in a cumulative increase in permanent noise levels related to increased vehicle trips or on-site stationary sources of noise such as mechanical equipment, rooftop bars or similar.

The Proposed Project would be an active path for pedestrian, cycling, and rolling with intermittent use throughout the length of the path and limited noise associated with such activities. O&M activities would generally include path maintenance, such as sweeping, pavement and pothole repair, graffiti removal, trash disposal, light and fencing replacement and repair, weed control, and storm drain cleaning. These activities may require powered hand tools and maintenance vehicles, which could generate noise. However, O&M activity would be intermittent, occur within the LA River, and is expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Impacts related to operation of the Proposed Project would be less than significant. The Proposed Project would therefore have limited potential to combine with the operational noise generated by past, present, and probable future related projects. Thus the Proposed Project's incremental contribution to potentially significant cumulative noise impacts during operations, in combination with past, present, and probable future projects would not be cumulatively considerable.

3.12.12.1.2.2 Vibration

Permanent vibration effects are typically localized and instantaneous events. The geographic scope for the cumulative operations vibration analysis is the immediate vicinity (within 25 feet) of the Proposed Project where vibration generated by operation of the Proposed Project could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Existing vibration within the Proposed RSA includes freight rail and roadway traffic. Related Project IDs 11, 37, 43, 44, 65, 98, 102 and 106 would be located within 25 feet of the Proposed Project. None of these projects are the types of uses that would include significant sources of permanent vibration such as an industrial facility or freight rail. The Proposed Project would not include a permanent significant source of vibration. Light-duty trucks used to perform maintenance would produce similar vibration levels to existing roadway traffic. Heavier construction equipment may be required intermittently for pavement repairs, but would occur infrequently. Pedestrians and bicyclists would not generate vibration. Impacts related to operational vibration would be less than significant. Therefore, when combined with vibration generated by past, present, and probable future projects, the Proposed Project would not result in significant cumulative vibration effects during operation.

3.12.12.2 Option 1

3.12.12.2.1 Construction

3.12.12.2.1.1 Noise

Similar to the Proposed Project, the geographic scope for the cumulative noise analysis is the immediate vicinity (within 600 feet) of the Option 1 where Proposed Project construction-generated noise could be heard concurrently with noise from other sources. The same 26 related projects shown in Table 3.12-29 would be located within 600 feet of Option 1's construction footprint. Construction of Option 1 would require heavy earth-moving equipment, generators, cranes, pneumatic tools, and other similar machinery. Impact pile driving, which generates noise levels of 101 dBA at 50 feet, would also be required for three of the potential path types. Construction noise levels would exceed the FTA construction noise impact criteria of 80 dBA and 70 dBA for daytime and nighttime noise at residential uses, respectively.

Past, present, and probable future projects within the cumulative study area may be constructed simultaneously with Option 1 and could include the use of heavy construction equipment that would generate elevated construction noise levels. Past, present, and probable future projects would go through or have gone through their own environmental clearance process and would include mitigation for construction noise to reduce impacts. Nonetheless, Option 1 in combination with past, present, and probable future projects within 600 feet of Option 1 construction activities could result in a significant cumulative construction noise impact at sensitive receptors if construction schedules overlap and result in construction noise occurring simultaneously. Although it is not possible to predict which related projects would result in a cumulative construction noise scenario, the construction noise levels associated with Option 1 could increase ambient noise levels.

MM-NOI-01, *Noise Control and Monitoring Plan* would require preparation of a Noise Control Plan that would include noise-reducing methods for Option 1. MM-NOI-02, *Drill Piles Where Feasible* would minimize the use of impact devices and require drilling of piles where feasible. The combination of MM-NOI-01, *Noise Control and Monitoring Plan,* and MM-NOI-02, *Drill Piles Where Feasible* would reduce construction noise impacts, although not necessarily to less than significant levels. Thus, Option 1's incremental contribution to the significant cumulative construction noise impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.2.1.2 Vibration

Similar to the Proposed Project, the geographic scope for the cumulative construction vibration analysis is 500 feet. A total of 22 related projects would be located within 500 feet of Option 1 construction footprint, excluding Project IDs 7, 13, 19, and 104 as shown in Table 3.12-29. Vibration damage impacts could occur within 25 feet for typical construction and 135 feet for impact pile driving of the Option 1 's construction footprint where vibration generated by construction equipment could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Similar to the Proposed Project, related Project IDs 11, 37, 43, 44, 65, 98, 102, and 106 would be located within 25 feet of Option 1 and Project IDs 4, 5, 11, 37, 43, 44, 65, 90, 98, 102, and 106 would be located within 135 feet of Option 1 construction activities.

Vibration-generating activities associated with Option 1 construction could result in significant levels of vibration. With implementation of MM-VIB-01, *Vibration Control Plan*, MM-VIB-02, *Vibration Monitoring Plan*, and MM-NOI-02, *Drill Piles Where Feasible*, construction of Option 1 would not result

in the generation of excessive ground-borne vibration that would cause vibration damage. As shown in Table 3.12-28, the ground-borne vibration annoyance criteria of 75 dBA may be exceeded up to 428 feet from Option 1 construction. Loaded trucks, bulldozers, and other heavy construction equipment are likely to annoy sensitive receptors up to 100 to 200 feet from the equipment. Option 1 has potential sensitive receptors within 200 feet of the Option 1 footprint; therefore, Option 1 construction activities may result in significant and unavoidable impacts related to annoyance associated with ground-borne vibration. Option 1 would implement MM-VIB-01, *Vibration Control Plan,* MM-VIB-02, *Vibration Monitoring Plan, and* MM-NOI-02, *Drill Piles Where Feasible* to avoid construction vibration levels that would exceed the FTA ground-borne vibration annoyance criteria. However, even with implementation of MM-VIB-01 and MM-VIB-02, Option 1 would have a significant and unavoidable impact related to vibration annoyance during construction.

Option 1, in combination with the past, present, and probable future projects could result in a cumulative vibration impact when concurrent vibration-generating activities would occur within close proximity to each other. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, typical construction from past, present, and probable future projects would have to occur simultaneously within 25 feet of any sensitive receiver or 135 feet from impact pile driving for the most sensitive Category 4 receptors. As noted above, eight related projects would be located within 25 feet of Option 1's construction footprint and 11 related projects would be located within 135 feet. A cumulative vibration impact could potentially occur due to the proximity of related projects and Option 1. Vibration impacts resulting from construction of these projects could combine with the Option 1's construction activities to result in a cumulatively significant construction vibration impact. Option 1 would result in a significant and unavoidable impact related to construction vibration on its own. Thus, Option 1's incremental contribution to the significant cumulative construction vibration impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.2.2 Operations and Maintenance

3.12.12.2.2.1 Noise

The geographic scope where the potential for operational noise to combine is approximately 600 feet. As previously discussed, 26 related projects would be located within 600 feet of Option 1. Cumulative growth and development within 600 feet of Option 1 could result in a cumulative increase in permanent noise levels related to increased vehicle trips or on-site stationary sources of noise such as mechanical equipment, rooftop bars or similar.

Option 1 would be an active path for pedestrian, cycling, and rolling with intermittent use throughout the length of the path and limited noise associated with such activities. O&M activities would generally include path maintenance, such as sweeping, pavement and pothole repair, graffiti removal, trash disposal, light and fencing replacement and repair, weed control, and storm drain cleaning. These activities may require powered hand tools and maintenance vehicles, which could generate noise. However, O&M activity would be intermittent, occur within the LA River, and is expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Impacts related to operation of Option 1 would be less than significant. Option 1 would therefore have limited potential to combine with the operational noise generated by past, present, and probable future related projects. Therefore, Option 1's incremental contribution to potentially significant cumulative noise impacts during operations, in combination with past, present, and probable future projects would not be cumulatively considerable.

3.12.12.2.2.2 Vibration

Permanent vibration effects are typically localized and instantaneous events. The geographic scope for the cumulative operations vibration analysis is the immediate vicinity (within 25 feet) of Option 1 where vibration generated by operation of Option 1 could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Existing vibration within the Proposed RSA includes freight rail and roadway traffic. Related Project IDs 11, 37, 43, 44, 65, 98, 102, and 106 would be located within 25 feet of the Proposed Project. None of these projects are the types of uses that would include significant sources of permanent vibration such as an industrial facility or freight rail. Option 1 would not include a permanent significant source of vibration. Light-duty trucks used to perform maintenance would produce similar vibration levels to existing roadway traffic. Heavier construction equipment may be required intermittently for pavement repairs, but would occur infrequently. Pedestrians and bicyclists would not generate vibration. Impacts related to operational vibration would be less than significant. Nonetheless, Option 1's contribution would not be cumulatively considerable. Therefore, when combined with vibration generated by past, present, and probable future projects, Option 1 would not result in significant cumulative vibration effects during operation.

3.12.12.3 Option 2

3.12.12.3.1 Construction

3.12.12.3.1.1 Noise

Similar to the Proposed Project, the geographic scope for the cumulative noise analysis is the immediate vicinity (within 600 feet) of the Option 2 where construction-generated noise could be heard concurrently with noise from other sources. The same 26 related projects shown in Table 3.12-29 would be located within 600 feet of Option 2's construction footprint. Construction of Option 2 would require heavy earth-moving equipment, generators, cranes, pneumatic tools, and other similar machinery. Impact pile driving, which generates noise levels of 101 dBA at 50 feet, would also be required for three of the potential path types. Construction noise levels would exceed the FTA construction noise impact criteria of 80 dBA and 70 dBA for daytime and nighttime noise at residential uses, respectively.

Past, present, and probable future projects within the cumulative study area may be constructed simultaneously with Option 2 and could include the use of heavy construction equipment that would generate elevated construction noise levels. Past, present, and probable future projects would go through or have gone through their own environmental clearance process and would include mitigation for construction noise to reduce impacts. Nonetheless, Option 2 in combination with past, present, and probable future projects within 600 feet of Option 2 construction activities could result in a significant cumulative construction noise impact at sensitive receptors if construction schedules overlap and result in construction noise occurring simultaneously. Although it is not possible to predict which related projects would result in a cumulative construction noise scenario, the construction noise levels associated with Option 2 could increase ambient noise levels.

MM-NOI-01, *Noise Control and Monitoring Plan* would require preparation of a Noise Control Plan that would include noise-reducing methods for Option 2. MM-NOI-02, *Drill Piles Where Feasible* would minimize the use of impact devices and require drilling of piles where feasible. The combination of MM-NOI-01 and MM-NOI-02 would reduce construction noise impacts, although not necessarily to less than significant levels. Thus, Option 2's incremental contribution to the significant cumulative

construction noise impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.3.1.2 Vibration

Similar to the Proposed Project, the geographic scope for the cumulative construction vibration analysis is 500 feet. A total of 22 related projects would be located within 500 feet of Option 2's footprint, excluding Project IDs 7, 13, 19, and 104 as shown in Table 3.12-29. Vibration damage impacts could occur within 25 feet for typical construction and 135 feet for impact pile driving of Option 2's construction footprint where vibration generated by construction equipment could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Related Projects identified as Project IDs 11, 37, 43, 44, 65, 98, 102, and 106 would be located within 25 feet of Option 2's construction footprint and Project IDs 4, 5, 11, 37, 43, 44, 65, 90, 98, 102, and 106 would be located within 135 feet of impact pile driving activity. Vibration-generating activities associated with Option 2 construction could result in noticeable levels of vibration. With implementation of MM-VIB-01, *Vibration Control Plan,* MM-VIB-02, *Vibration Monitoring Plan,* and MM-NOI-02, *Drill Piles Where Feasible*, construction of Option 2 would not result in the generation of excessive ground-borne vibration that would cause vibration damage.

As shown in Table 3.12-28, the ground-borne vibration annoyance criteria of 75 dBA may be exceeded up to 428 feet from Option 2 construction. Loaded trucks, bulldozers, and other heavy construction equipment are likely to annoy sensitive receptors up to 100 to 200 feet from the equipment. Option 2 has potential sensitive receptors within 200 feet of the Option 2 footprint; therefore, Option 2 construction activities may result in significant and unavoidable impacts related to annoyance associated with ground-borne vibration. Option 2 would implement MM-VIB-01, *Vibration Control Plan,* MM-VIB-02, *Vibration Monitoring Plan, and* MM-NOI-02, *Drill Piles Where Feasible* to avoid construction vibration levels that would exceed the FTA ground-borne vibration annoyance criteria. However, even with implementation of MM-VIB-01 and MM-VIB-02, Option 2 would have a significant and unavoidable impact related to vibration annoyance during construction.

Option 2, in combination with the past, present, and probable future projects could result in a cumulative vibration impact when concurrent vibration-generating activities would occur within close proximity to each other. For the combined vibration impact from simultaneous construction projects to reach cumulatively significant levels, typical construction from past, present, and probable future projects would have to occur simultaneously within 25 feet of any sensitive receiver or 135 feet from impact pile driving for the most sensitive Category 4 receptors. As noted above, eight related projects would be located within 25 feet of Option 2 and 11 related projects would be located within 135 feet. A cumulative vibration impact could potentially occur due to the proximity of related projects and Option 2. Vibration impacts resulting from construction of these projects could combine with the Proposed Project construction activities to result in a cumulatively significant construction vibration impact. Option 2 would result in a significant and unavoidable impact related to construction vibration on its own. Thus, Option 2's incremental contribution to the significant cumulative construction vibration impact would be cumulatively considerable. This cumulative impact would be significant and unavoidable.

3.12.12.3.2 Operations and Maintenance

3.12.12.3.2.1 Noise

The geographic scope where the potential for operational noise to combine is approximately 600 feet. As previously discussed, 26 related projects would be located within 600 feet of Option 2. Cumulative growth and development within 600 feet of the Option 2 could result in a cumulative increase in permanent noise levels related to increased vehicle trips or on-site stationary sources of noise such as mechanical equipment, rooftop bars or similar.

Option 2 would be an active path for pedestrian, cycling, and rolling with intermittent use throughout the length of the path and limited noise associated with such activities. O&M activities would generally include path maintenance, such as sweeping, pavement and pothole repair, graffiti removal, trash disposal, light and fencing replacement and repair, weed control, and storm drain cleaning. These activities may require powered hand tools and maintenance vehicles, which could generate noise. However, O&M activity would be intermittent, occur within the LA River, and is expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Impacts related to operation of Option 2 would be less than significant. Option 2 would therefore have limited potential to combine with the operational noise generated by past, present, and probable future related projects. Therefore, Option 2's incremental contribution to potentially significant cumulative noise impacts during operations, in combination with past, present, and probable future projects would not be cumulatively considerable.

3.12.12.3.2.2 Vibration

Permanent vibration effects are typically localized and instantaneous events. The geographic scope for the cumulative operations vibration analysis is the immediate vicinity (within 25 feet) of Option 2 where vibration generated by operation of Option 2 could occur concurrently with vibrations from other sources associated with past, present, and probable future projects. Existing vibration within the RSA includes freight rail and roadway traffic. Related Project IDs 11, 37, 43, 44, 65, 98, 102, and 106 would be located within 25 feet of the Proposed Project. None of these projects are the types of uses that would include significant sources of permanent vibration such as an industrial facility or freight rail. Option 2 would not include a permanent significant source of vibration. Light-duty trucks used to perform maintenance would produce similar vibration levels to existing roadway traffic. Heavier construction equipment may be required intermittently for pavement repairs, but would occur infrequently. Pedestrians and bicyclists would not generate vibration. Impacts related to operational vibration would be less than significant. Nonetheless, Option 2's contribution would not be cumulatively considerable. Therefore, when combined with vibration generated by past, present, and probable future projects, Option 2 would not result in significant cumulative vibration effects during operation.

3.13 Population and Housing

3.13.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to population and housing. This section also describes the existing setting and current applicable regulatory framework.

3.13.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to population and housing.

3.13.2.1 Federal

There are no applicable federal regulations related to population and housing.

3.13.2.2 State

The California Relocation Act (*Government Code* Section 7260 et seq.) establishes uniform policies to provide for the fair and equitable treatment of people displaced from their homes or businesses as a direct result of state and/or local government projects or programs. This act requires that comparable replacement housing be made available to displaced persons within a reasonable period of time prior to the displacement. Provisions of the California Relocation Act apply if a public entity undertakes a project for which federal funds are not present, and in this case, the public entity must provide relocation assistance and benefits.

3.13.2.3 Regional and Local

3.13.2.3.1 Southern California Association of Governments

3.13.2.3.1.1 Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

The Southern California Association of Governments' (SCAG's) *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Connect SoCal includes an Active Transportation Technical Report that explains SCAG's commitment to active transportation infrastructure and the related community benefits.

3.13.2.3.2 Los Angeles County

Los Angeles County's *General Plan 2035* (County of Los Angeles Department of Regional Planning 2022a) provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of Los Angeles County will grow. The 2021–2029 Housing Element of *General Plan 2035* (Los Angeles County Department of Regional Planning 2022b) establishes goals and policies to address housing needs. It includes increased accessibility and connectivity for neighborhoods, particularly low- and moderate-income households. Applicable population, housing, and employment goals and policies of *General Plan 2035* include:

- Goal 2: Sustainable communities with access to employment opportunities, community facilities and services, and amenities.
- Policy 6.4: Maintain and improve community facilities, public housing services, and infrastructure, where necessary, to enhance the vitality of older, low-income neighborhoods.

3.13.2.3.2.1 Los Angeles County LA River Master Plan 2022

The *LA River Master Plan* (LARMP) was first created in 1996 (Los Angeles County 1996) and recognized the river as a body of resources of regional importance that must be protected and enhanced by implementing efforts identified by the Master Plan. These included goals to improve the appearance of the river and the pride of local communities in it, provide a safe environment and a variety of recreational opportunities along the river, and ensure safe access to and compatibility between the river and other activity streams. On June 14, 2022, the County adopted an update to the LARMP. The 2022 LARMP Update builds on planning and implementation efforts from the LA River including efforts by the County, City of Los Angeles, LA River Ecosystem Restoration Feasibility Study Lower LA River Working Group, and the Upper LA River and Tributaries Working Group (LACDPW 2022). The 2022 LARMP includes a vision for the LA River to become a continuous 51-mile trail with improved and increased access points to help the river serve as an active and alternative transit mode for communities adjacent to the river and throughout the County.

3.13.2.3.3 Los Angeles County Metropolitan Transportation Authority

3.13.2.3.3.1 Moving Beyond Sustainability Strategic Plan 2020

The Los Angeles County Metropolitan Transportation Authority's (Metro's) *Moving Beyond Sustainability Strategic Plan 2020* is a 10-year strategic plan that sets goals, targets, strategies, and actions that align with and emanate from other key Metro guidance documents (Metro 2020a). The plan aims to achieve sustainability targets through the provision of greater transportation mode options and improved service, roadway improvement, pedestrian and bicycle projects to increase neighborhood walkability and connectivity, and development of transit-oriented communities.

3.13.2.3.3.2 Vision 2028 Strategic Plan

The *Metro Vision 2028 Strategic Plan*, published in April 2018, seeks to provide great mobility to everyone, whether they walk, bicycle, take transit, or drive (Metro 2018). The plan creates the foundation for transforming mobility in Los Angeles County over the next 10 years and sets the mission, vision, performance outcomes, and goals for Metro and puts in motion specific initiatives and performance outcomes. The plan details five goals: (1) provide high-quality mobility options that enable people to spend less time traveling, (2) deliver outstanding trip experiences for all users of the

transportation system, (3) enhance communities and lives through mobility and access to opportunity, (4) transform Los Angeles County through regional collaboration and national leadership; and (5) provide responsive, accountable, and trustworthy governance within the Metro organization. Part of the plan's strategic framework is integrating community development policies with multi-modal transportation infrastructure. This includes reliable, convenient, and safe options for taking transit, walking, bicycling, sharing rides, and carpooling.

3.13.2.3.3.3 Active Transportation Strategic Plan

Metro's *Active Transportation Strategic Plan,* adopted in November 2023*, i*s a countywide effort to identify strategies to increase walking, bicycling and transit use (Metro 2023). Through the plan, Metro aims to help the region respond to regional and state regulations for the development of the transportation system and for the reduction of greenhouse gas (GHG) emissions. Major components of the plan's strategy include connecting regional destinations in the County and supporting the integration of mobility, land use, and urban design. The *2023 Active Transportation Strategic Plan* furthers Metro's mission of providing a world-class transportation system, focusing specifically on its regional active transportation network and first/last mile connectivity to transit. The revised plan allows Metro to better plan for the most effective active transportation improvements across Los Angeles County.

3.13.2.3.3.4 2020 Long Range Transportation Plan

Metro's *2020 Long Range Transportation Plan* (LRTP), adopted in September 2020, includes strategies and actions to ensure every resident has affordable, equitable transportation choices that are sustainable for the future (Metro 2020b). The 2020 LRTP commits Metro to increasing access and connectivity for the residents of Los Angeles. This includes coordinated transit and housing development planning that expands community access to jobs, education, health care, and other essential services. The 2020 LRTP encourages efforts to meet current and future connectivity needs.

3.13.2.3.3.5 Connect US Action Plan

Metro's *Connect US Action Plan*, published in May 2015, establishes objectives and implementation strategies that would provide pedestrians and cyclists safe and pleasurable passage to transit between Los Angeles Union Station First/Central Regional Connector Station, and the adjacent historic/cultural neighborhoods (Metro 2015). These neighborhoods include El Pueblo, Chinatown, Cornfield Arroyo Seco, Boyle Heights, Arts District, Little Tokyo, and Civic Center. The plan goals, objectives, and policies include providing basic pedestrian and bicycle facilities and improving weak linkages to surrounding neighborhoods.

3.13.2.3.3.6 First/Last Mile Guidelines

Metro's *First/Last Mile Guidelines* (Metro 2021) describes the process by which Metro and local jurisdictions partner in the planning, design, and construction of first/last mile (FLM) improvements for new rail transit and bus rapid transit) corridor projects. The Guidelines are intended to fulfill the Metro Board of Directors' vision for safe, connected FLM pathways to new transit stations. It builds upon Metro's first/last mile policies and past experience: the *First/Last Mile Strategic Plan* (2014) presented methodology for first/last mile planning; and Board Motions 14.1 and 14.2 (2016) directed activities to facilitate and implement first/last mile networks around transit stations and stops throughout the County. The goal of the First/Last Mile Guidelines is to ensure the comprehensive integration of first/last mile improvements into existing and future transit capital projects.

3.13.2.3.4 City of Los Angeles

3.13.2.3.4.1 General Plan Framework

The *City of Los Angeles General Plan Framework* is the organizing element of the General Plan and is a strategy for long-term growth that sets a citywide context to guide the subsequent amendments of the City's Community Plans, zoning ordinances, and other pertinent programs (City of Los Angeles 2001). Chapter 4 of the Framework Element, *Housing*, includes goals, objectives, and policies applicable to maintenance and expansion of neighborhood transportation services and programs to enhance neighborhood accessibility to jobs and essential services.

3.13.2.3.4.2 City of Los Angeles General Plan

The *City of Los Angeles General Plan* establishes the long-term vision for how the City will evolve and prescribes policy goals and objectives to shape the physical development of the City (City of Los Angeles 2001). The General Plan includes 11 elements: land use, air quality, conservation, health, safety, mobility, infrastructure systems, open space, public facilities and services, noise, and housing. The Housing Element of the *City of Los Angeles General Plan* (City of Los Angeles 1973) promotes safe and healthy urban neighborhoods that provide accessibility and meet housing needs related to population growth. The Land Use Element of the *City of Los Angeles General Plan* (City of Los Angeles 1973) is made up of 35 Community Plans, which establish community-specific goals and implementation strategies in accordance with the Framework Element. Table 3.11-1 in Section 3.11, *Land Use and Planning* lists the City of Los Angeles Community Plans and Specific Plans applicable to the Project.

Applicable population, housing, and employment goals and policies of the *City of Los Angeles General Plan* include promoting safe, healthy, and sustainable neighborhoods that have mixed-income housing, jobs, amenities, services and transit; planning and encouraging the construction of bicycle facilities connecting residential neighborhoods to schools, open space areas, and employment centers; and assuring that local bicycle routes are identified and linked with facilities of neighboring areas of the City of Los Angeles.

3.13.2.3.4.3 Bicycle 2010 Master Plan

The *City of Los Angeles 2010 Bicycle Plan* designates a 1,684-mile bikeway system and introduces a comprehensive collection of programs and policies, including a Citywide Bikeway System with three bikeway networks throughout the City, bicycle-friendly streets, the bundling of programs and policies, and a multipronged implementation strategy (City of Los Angeles Department of City Planning 2011). The *City of Los Angeles 2010 Bicycle Plan* promotes connections between neighborhood networks and anticipates the projected increase of bicycle commuters.

3.13.2.3.4.4 LA River Revitalization Master Plan

The *LA River Revitalization Master Plan* a long-term vision for transforming the City of Los Angeles' 32-mile stretch of the LA River into a network of parks, walkways, and bicycle paths, as well as providing better connections to the neighboring communities, protecting wildlife, promoting the health of the river, and leveraging economic reinvestment (City of Los Angeles Department of Public Works 2007). The *LA River Revitalization Master Plan* includes a broader mission to enhance connections and linkages between communities in the corridor area.

3.13.2.3.4.5 Great Streets for Los Angeles: City of Los Angeles Department of Transportation Strategic Plan 2018–2020

The City of Los Angeles' Department of Transportation's *Great Streets for Los Angeles: 2018–2020 Strategic Plan* (Great Streets) establishes a vision for the City of Los Angeles Department of Transportation to deliver great streets for Los Angeles that will support economic vitality and enhance quality of life (LADOT 2018). The concept of great streets encapsulates the City's vision for a 21st century transportation system that provides better multi-modal choice, a system that can be sustained economically and ecologically, and a system that supports the City's economy by connecting places and creating public spaces. Great Streets seeks to expand the bicycle network and fill key gaps in the City's bicycle network by improving bicycle network connectivity in high-value locations, such as first-mile and last-mile connections to transit and gaps in the network.

3.13.2.3.5 City of Vernon

3.13.2.3.5.1 City of Vernon General Plan

Goals and policies provided in the Housing Element of the *City of Vernon General Plan* include strategies to allow very limited residential growth and the associated support services, including recreation and transit (City of Vernon 2015). Policies provided in the Circulation and Infrastructure Element of the City of Vernon General Plan address the movement of goods and people along roadways and railways within the City. Applicable population and housing goals and policies of the City of Vernon General Plan include encouraging development of residential uses in strategic proximity to schools, recreational facilities, commercial areas, parks and other public spaces, and transit routes; and cooperating with Metro and local agencies to complete a bicycle path along the levee of the Los Angeles River connecting to adjacent jurisdictions.

3.13.2.3.5.2 City of Vernon Bicycle Master Plan

The *City of Vernon Bicycle Master Plan* is the guiding document for the development of a safe and comfortable network of bicycle facilities linking working centers and community destinations within the City, as well as to the larger regional network (City of Vernon 2017). The *City of Vernon Bicycle Master Plan* summarizes the planning process, and describes the current biking conditions in Vernon, recommends policies and tools for the City to use in implementing programs and infrastructure improvements, and provides implementation strategies to create better connectivity throughout Vernon and to the surrounding region.

3.13.2.3.6 City of Maywood

3.13.2.3.6.1 City of Maywood General Plan

The *City of Maywood General Plan* includes goals and policies for enhancing and preserving the character and quality of residential neighborhoods in the City of Maywood (City of Maywood 2007). The *City of Maywood General Plan* also anticipates changing transit needs related to population growth and future transit volumes.

3.13.2.3.7 City of Bell

3.13.2.3.7.1 City of Bell 2030 General Plan

The City of Bell *2030 General Plan* (City of Bell 2018), adopted in May 2018, includes the Land Use and Sustainability, Resource Management, Health and Safety, Mobility and Circulation, and Housing Elements. The General Plan includes policies that promote and improve alternative transportation and circulation in the City, such as pedestrian friendly streets, a comprehensive bicycle system, and expanded use of public transit.

3.13.2.3.7.2 City of Bell Bicycle Master Plan

The City of Bell *Bicycle Master Plan* (City of Bell 2016) provides detailed recommendations for infrastructure, policies and programs that promote safe bicycling in the City of Bell. The Plan also establishes City priorities, directs allocation of infrastructure and program resources, and guides implementation of a sustainable bikeway network. The Plan identifies improvements to the bicycling environment in the City and provides recommendations for bikeway and bicycle support facilities, as well as education, encouragement, enforcement, and evaluation programs.

3.13.3 Methodology

Construction and operations may affect current population and housing through temporary use (temporary construction easements [TCEs] during construction) or permanent use (through required land acquisitions and Project operation). The population and housing impact analysis identifies whether the Proposed Project and its options would induce substantial unplanned population or housing growth beyond SCAG growth projections presented in Connect SoCal, either directly or indirectly, during construction and operation. The analysis also considers whether the Proposed Project and its options would temporarily or permanently displace substantial existing population or housing, necessitating the construction of replacement housing elsewhere.

Federal, state, regional, and local regulatory requirements related to population and housing were reviewed, and applicable policies are described in Section 3.13.2. The population, housing, and employment growth numbers for the Base Year (2019) and Opening Year (2031) are based on SCAG transportation analysis zones (TAZs) containing Connect SoCal data. Spatial data and a geographic information system were used to identify TAZs that intersect the study area.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.13.3.1 Resource Study Area

For purposes of evaluating population and housing impacts, the resource study area (RSA) for the population and housing analysis is defined as 3 miles from the permanent and temporary footprints (including construction staging areas, access points, and design variations) of the Proposed Project and its options. This area maintains consistency with Metro's *First-Last Mile Strategic Plan & Planning Guidelines* (Metro 2014) and the Federal Transit Administration's *Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law Policy* (FTA 2011) that outline how far an individual will bicycle to access transit and encompasses the 0.5-mile threshold for pedestrians that corresponds to how far a person will walk to access transit. As stated in the *First-Last Mile Strategic Plan*, the 3-mile shed provides an acceptable limit for all other active transportation

users (for example, skateboarders and mobility riders). Figure 3.13-1 shows the RSA for the population and housing analysis.

Figure 3.13-1. Population and Housing Resource Study Area



3.13.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with population and housing are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to population and housing would occur if the Project would do any of the following:

- **Impact PH-1:** Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?
- **Impact PH-2:** Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

3.13.3.3 Project Features

As described in Appendix C*, Project Features,* a number of features have been incorporated into the Proposed Project and its options to comply with the laws, guidelines, and best practices of regulatory agencies. No project features have been developed specifically for population and housing.

3.13.4 Existing Setting

The following section describes the existing conditions for population and housing. The Proposed Project and its options are located in the Cities of Los Angeles and Vernon and connects to the City of Maywood in Los Angeles County. Specifically, the City of Los Angeles neighborhoods located adjacent to the footprints of the Proposed Project and its options include Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights.

The existing conditions in the RSA reflect the selected SCAG TAZs containing SCAG Connect SoCal data and that fall within the RSA limits. The population, households, and employment growth numbers for the Base Year (2019) and Opening Year (2031) are based on SCAG Connect SoCal data and summarized in Table 3.13-1. The table shows substantial growth in population, households, and employment. Households will grow at approximately double the rate of population and employment, which may indicate a trend toward fewer individuals per household or more individuals living alone.

Table 3.13-1. Population, Households, and Employment Growth in the Resource Study Area

	Base Year[a] (2019)	Opening Year[a] (2031)	Net Growth (2019–2031)	% Growth (2019–2031)
Population	1,376,606	1,492,089	115,483	8.4
Households	402,126	466,624	64,498	16.0
Employment	679,512	729,249	49,737	7.3

Source: SCAG 2020

[a] Base Year and Opening Year social and economic development growth is based on Connect SoCal data using SCAG TAZs that fall within the study area. The compound annual growth rate is interpolated using $(x_2/x_1)^{1/n}$-1, where n is number of years between x_1 and x_2.

Table 3.13-2 summarizes the population, housing, and employment growth of the neighborhood communities adjacent to the Proposed Project and its options. In all three categories, the City of Los Angeles is projected to experience nearly double the growth rate of Los Angeles County. This is corroborated by growth rates in the incorporated Cities of Vernon and Maywood at the southern end of the RSA, which are lower than most of the communities in the City of Los Angeles. The Arts District/Little Tokyo, Chinatown, and Downtown Los Angeles communities are expected to experience the greatest population and housing growth rates. The Arroyo Seco community, City of Vernon, and City of Maywood have the smallest projected population and housing growth rates, which may be

partially explained by the prevalence of industrial and commercial uses along the river path in these areas. The highest employment growth rates are projected in the Arts District/Little Tokyo, Chinatown, and Elysian Valley communities, which are all expecting more than double the employment growth rate of the City of Los Angeles. Following the population and housing patterns, the Arroyo Seco community, City of Vernon, and City of Maywood are expected to experience the lowest employment growth rates.

Table 3.13-2. Population, Housing, and Employment Growth for the Communities Adjacent to the Footprints of the Proposed Project and its Options

Jurisdiction/Community	Base Year (2019)	Opening Year (2031)	Net Growth (2019–2031)	% Growth (2019–2031)
Population				
County of Los Angeles	10,328,339	10,950,028	621,689	6.0%
City of Los Angeles	833,235	926,220	92,985	11.2%
Arroyo Seco	23,705	23,957	252	1.1%
Arts District/Little Tokyo	8,809	13,690	4,881	55.4%
Boyle Heights	82,340	86,464	4,125	5.0%
Chinatown[a]	25,026	30,835	5,809	23.2%
Cypress Park	13,444	13,810	367	2.7%
Downtown Los Angeles	80,525	126,735	46,210	57.4%
Echo Park	46,944	50,917	3,973	8.5%
Elysian Valley	7,192	7,479	287	4.0%
Lincoln Heights	29,827	30,440	612	2.1%
City of Vernon[b]	210	211	1	0.2%
City of Maywood	28,071	28,481	409	1.5%
Households				
County of Los Angeles	3,431,371	3,774,477	343,107	10.0%
City of Los Angeles	264,433	317,625	53,192	20.1%
Arroyo Seco	8,543	8,683	140	1.6%
Arts District/Little Tokyo	3,451	6,233	2,782	80.6%
Boyle Heights	21,713	24,083	2,370	10.9%
Chinatown[a]	6,721	9,990	3,270	48.6%
Cypress Park	3,838	4,046	209	5.4%
Downtown Los Angeles	40,634	67,039	26,406	65.0%
Echo Park	16,445	18,717	2,272	13.8%
Elysian Valley	2,034	2,198	164	8.0%
Lincoln Heights	7,831	8,168	338	4.3%
City of Vernon[b]	75	76	1	0.7%
City of Maywood	6,619	6,787	168	2.5%
Employment				
County of Los Angeles	4,811,675	5,078,880	267,206	5.6%
City of Los Angeles	451,144	494,976	43,833	9.7%

Table 3.13-2. Population, Housing, and Employment Growth for the Communities Adjacent to the Footprints of the Proposed Project and its Options

Jurisdiction/Community	Base Year (2019)	Opening Year (2031)	Net Growth (2019–2031)	% Growth (2019–2031)
Arroyo Seco	1,783	1,805	22	1.2%
Arts District/Little Tokyo	13,158	17,120	3,962	30.1%
Boyle Heights	26,271	28,795	2,524	9.6%
Chinatown[a]	19,859	24,772	4,913	24.7%
Cypress Park	2,617	2,918	301	11.5%
Downtown Los Angeles	208,909	227,219	18,311	8.8%
Echo Park	13,384	14,687	1,303	9.7%
Elysian Valley	1,442	1,742	300	20.8%
Lincoln Heights	30,098	31,176	1,078	3.6%
City of Vernon[b]	43,569	43,916	348	0.8%
City of Maywood	4,043	4,134	91	2.2%

Source: SCAG 2020

Data sourced from Connect SoCal data. Estimates are calculated from TAZs that intersect the neighborhoods adjacent to the footprints of the Proposed Project and its Options. The City of Los Angeles estimates are calculated from TAZs within the 3-mile study area. LA County data are the sum of all TAZs in LA County. The Cities of Vernon and Maywood estimates are for the whole city.

[a] The Chinatown neighborhood also includes El Pueblo de Los Angeles and Union Station areas.

[b] City of Vernon is an exclusively industrial city with a minimal residential population located primarily around its City Hall.

3.13.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to population and housing are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.13.5.1 Impact PH-1: Unplanned Growth

Impact PH-1: Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

3.13.5.1.1 Proposed Project, Option 1, and Option 2

3.13.5.1.1.1 Construction

Less than significant impact. Construction activities would be located primarily along the LA River banks, inside the LA River, and within staging areas as identified in Chapter 2, *Project Description*. Pre-construction activities (such as community outreach programs, a traffic management plan, agency coordination, haul routes, and a construction phasing and staging plan) are anticipated to start in 2026. The anticipated construction start is in 2027, with completion anticipated in 2031. Construction of the Proposed Project or its options would create temporary construction-related jobs; however, the work requirements are highly specialized so that construction workers remain at a job site only for the time in which their specific skills are needed to complete a particular phase of the construction process. Construction activities would be temporary and would not directly or indirectly induce unplanned population growth in the area. Construction workers are anticipated to be existing contractors or new workers that live within driving distance to the job site and would not require moving to the surrounding area for work. Population, housing, or employment growth is not expected to occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community. Therefore, impacts associated with construction of the Proposed Project or its options would be **less than significant**.

3.13.5.1.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other nonmotorized activities along the LA River to connect with the existing Los Angeles River Greenway Trail near Egret Park in the City of Los Angeles and the Los Angeles River Bicycle Path near Atlantic Boulevard in the City of Vernon. No new housing or businesses, and no other infrastructure improvements are proposed. As such, the Proposed Project and its options would not directly or indirectly induce substantial unplanned population growth in the area. Instead, the Proposed Project and its options would provide accessibility and connections to existing recreational facilities and to the surrounding communities to serve existing and planned communities. As summarized in Table 3.13-2, the population in the adjacent communities would have a net growth ranging from 0.2% (City of Vernon) to 55.4% (Arts District/Little Tokyo neighborhoods) and 57.4% (downtown Los Angeles neighborhood) between the Base Year (2019) and Opening Year (2031). The Proposed Project and its options would support planned population growth in the area and recreational use along the LA River.

The Proposed Project and its options would be located in an area surrounded by urban uses with a limited number of vacant or underused parcels and is not expected to substantially change existing growth and development patterns. The Proposed Project and its options would also employ O&M activities to maintain a safe, reliable, and well-maintained path. The O&M activities would be consistent with the current activities for the existing Los Angeles River Greenway to the north and the existing Los Angeles River Bike Path south of the Proposed Project and its options and would be scheduled routinely as part of the Project's O&M plan. The O&M activities would be conducted by existing staff members and would not induce substantial unplanned population growth to the area. Therefore, the Proposed Project and its options would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the area beyond adopted growth projections, and impacts associated with O&M activities would be **less than significant**.

3.13.5.2 Impact PH-2: Displacement

Impact PH-2: Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

3.13.5.2.1 Proposed Project, Option 1, Option 2

3.13.5.2.1.1 Construction

Less than significant impact. As described in Section 2.6.2, *Construction Activities*, construction activities for the Proposed Project and its options would be temporary and would be located within the temporary footprint, which comprises of all areas of ground disturbances associated with construction activities and access (including in-channel access), proposed TCEs, and laydown staging areas. The Proposed Project and its options would require permanent easements for aerial and at-grade pathways, TCEs for construction activities, and full acquisitions or TCEs for construction laydown areas. Refer to Section 2.6.7, *Right-of-Way Acquisitions and Temporary Construction Easements*, for details on property acquisitions associated with the Proposed Project and its options.

Construction laydown areas and support sites would be located on sites that would need to be acquired by the Proposed Project and its options. These sites are characterized as industrial, commercial, vacant, or in the LA River. No parcels with residential uses would be affected by the Proposed Project and its options. The Proposed Project would affect 158 parcels and require 56 permanent (at-grade) easements, 32 aerial easements, and 158 TCEs. Option 1 would affect 183 parcels and require 60 permanent (at-grade) easements, 29 aerial easements, and 183 TCEs. Option 2 would affect 192 parcels and require 68 permanent (at-grade) easements, 33 aerial easements, and 192 TCEs.

TCEs would be temporary and would primarily consist of slivers of property aside from sites used for the construction laydown. TCEs would be needed to accommodate areas for river access and staging areas and would not impact existing buildings on properties or change the primary function of the existing use as industrial and warehouse businesses. Temporary and permanent loss of parking spaces may occur; however, additional parking is still available within the affected properties for business operation and would not affect the function of the industrial or commercial businesses. In addition, driveways to some parcels may be permanently impacted but other driveway access to those parcels would remain unaffected and the industrial and warehouse business functions would be maintained.

Permanent easements may affect outdoor storage on some parcels that is ancillary to the overall industrial/warehouse functions on those parcels but would not affect existing major structures that would require the relocation of existing businesses or property displacement. Residential uses would not be affected and no displacement of existing people or housing would occur that would necessitate the construction of replacement housing elsewhere. Additionally, it is anticipated that construction workers would commute to the construction site and would not relocate their households permanently from other regions. Although temporary construction areas and permanent easements may be located within areas identified as having medium to high housing unit potential in the 2021–2029 Housing Element of *General Plan 2035* (County of Los Angeles Department of Regional Planning 2022b), they would not preclude the use of the parcels for future housing. Metro would provide compensation for all businesses impacted during construction as required under the California Relocation Act. Furthermore, properties to be acquired for construction staging areas or used as TCEs would be appraised to determine the fair market value of the portion that would be used temporarily during construction, and just compensation not less than the approved appraisal would be made to each property owner. Full compliance with the California Relocation Act, Metro relocation policies and

procedures, and other applicable policies minimizes displacement impacts associated with construction. Residential sites or housing would not be acquired for construction that would displace people or require the construction of replacement housing. Therefore, the Proposed Project and its options would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and impacts would be **less than significant**.

3.13.5.2.1.2 Operations and Maintenance

No impact. O&M activities would occur within the permanent footprints of the Proposed Project and its options and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Residential sites or housing would not be acquired for the operation and O&M activities of the Proposed Project or its options that would displace people or require the construction of replacement housing. Therefore, the Proposed Project and its options would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and **no impact** would occur.

3.13.6 Mitigation Measures

As identified in Section 3.13.5, the Proposed Project and its options would have a less than significant impact on population and housing under Impact PH-1 and Impact PH-2. The Proposed Project and its options would have no impact under Impact PH-2 for operation. No mitigation measures would be required for construction or operation.

3.13.7 Significance After Mitigation

No mitigation is required for the Proposed Project or its options. Impacts would be less than significant under Impacts PH-1 and PH-2. The Proposed Project and its options would have no impact under Impact PH-2 for operation.

3.13.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. For consistency with the RSA for population and housing, the geographic scope for cumulative impacts to population and housing is extended to 3 miles from the permanent and temporary footprints (including construction staging areas and design variations) of the Proposed Project and its options.

As discussed in Section 3.13.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.13.5, the Proposed Project and its options would result in substantially similar impacts related to population and housing. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.13.8.1 Proposed Project, Option 1, and Option 2

3.13.8.1.1 Construction

Construction activities for the Proposed Project and its options would be temporary and would not directly or indirectly induce unplanned population growth in the area. Population, housing, or employment growth is not expected to occur directly or indirectly beyond that which is already anticipated in the Connect SoCal growth projections for the region and in the local community and impacts would be less than significant.

The Proposed Project and its options would require permanent easements for aerial and at-grade pathways, TCEs for construction activities, and full acquisitions or TCE for construction laydown areas. Permanent easements, TCEs, and full property acquisitions required for the Proposed Project and its options would affect existing industrial warehouse businesses and no residential uses would be affected. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with the Proposed Project and its options. The Proposed Project and its options would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and no impact would occur. Therefore, the Proposed Project and its options would result in a less than significant impact on population and housing during construction.

Similarly, past, present, and probable future projects would include temporary construction activities and are not expected to result in population, housing, or employment growth beyond that which is already anticipated in the Connect SoCal growth projections for the region and in the local community. If acquisitions and displacements are required for past, present, and probable future projects, these related projects would be required to comply with the California Relocation Act and all applicable regulations to minimize displacement impacts. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant population and housing impacts during construction.

3.13.8.1.2 Operations and Maintenance

The Proposed Project and its options are located in highly urbanized areas surrounded by urban uses with a limited number of vacant or underused parcels. The Proposed Project and its options would be located within the LA River. O&M activities would not result in the displacement of housing, substantially change existing growth and development patterns, or directly or indirectly induce substantial unplanned population growth in the area beyond that which is already anticipated in the Connect SoCal growth projections for the region and in the local community. Therefore, the Proposed Project and its options would result in a less than significant impact on population and housing during operation.

O&M activities would occur within the permanent footprint of the Proposed Project or its options and would not displace substantial numbers of existing people or housing. Therefore, the Proposed Project and its options would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere, and no impact would occur.

Past, present and probable future projects would consist of infrastructure, commercial, industrial, or residential projects. Like the Proposed Project and its options, past, present, and probable future projects are located in highly urbanized areas and are not expected to result in direct or indirect growth beyond that which is already anticipated in the Connect SoCal growth projections for the

region and in the local community. Past, present, and probable future projects that may require the displacement or replacement of housing as a result would be required to comply with applicable plans and requirements to minimize impacts to residents and housing. Changes in demographics associated with new development opportunities are anticipated to be consistent with the SCAG adopted growth projections since these growth projections are based on the general plan land use designations of local jurisdictions. Similarly, if acquisitions and displacements are required for past, present, and probable future projects, these related projects would be required to comply with the California Relocation Act and all applicable regulations to minimize displacement impacts. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant population and housing impacts during operation.

3.14 Public Services/Safety and Security

3.14.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to public services/safety and security from construction and operation. This section also describes the existing setting and current applicable regulatory framework.

3.14.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to public services/safety and security.

3.14.2.1 Federal

3.14.2.1.1 Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) was established in 1979 via executive order and is an independent agency of the federal government. In March 2003, FEMA became part of the US Department of Homeland Security. FEMA's continuing mission is to lead the effort to prepare the nation for all hazards and effectively manage federal response and recovery efforts following any national incident. FEMA also initiates proactive mitigation activities, trains first responders, and manages the National Flood Insurance Program and the US Fire Administration.

3.14.2.1.2 Americans with Disabilities Act

The Americans with Disabilities Act of 1990 (ADA) is implemented through 28 *Code of Federal Regulations* (CFR) Part 36. The ADA sets guidelines for accessibility to places of public accommodation and commercial facilities by individuals with disabilities. These guidelines are to be applied during the design, construction, and alteration of such buildings and facilities to the extent required by regulations issued by federal agencies, including the Department of Justice, under the ADA.

3.14.2.1.3 Safety and Health Regulations for Fire Suppression and Emergency Medical Services

In accordance with 29 CFR Part 1910, *Occupational Safety and Health Standards*, the federal Occupational Safety and Health Administration (OSHA) has established minimum standards for fire suppression and emergency medical services. Subpart E, *Exit Routes and Emergency Planning*, sets regulations and compliance requirements for construction activities for the purpose of maintaining existing exit routes and emergency action and fire prevention plans. Subpart L, *Fire Protection*, addresses facility fire codes and fire system requirements.

3.14.2.1.4 Safety and Health Regulations for Construction

OSHA's safety and health regulations for construction are established in 29 CFR Part 1926. Subpart F provides regulations for fire protection and prevention during construction. It requires the development of a fire protection program to be followed throughout all phases of construction and demolition, and the provision of a temporary or permanent water supply that would be available as soon as combustible materials accumulate. The regulations also include fire prevention regulations for ignition hazards, temporary buildings, open yard storage, and indoor storage.

3.14.2.1.5 Safe Route to Schools Program

The Safe Routes to School Program is an approach that promotes walking and bicycling to school through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and bicycling to school. Safe Routes to School initiatives improve safety and levels of physical activity for students and can be implemented by a department of transportation, metropolitan planning organization, local government, school district, or even a school.

3.14.2.2 State

3.14.2.2.1 California Governor's Office of Emergency Services

The California Governor's Office of Emergency Services (Cal OES) coordinates the State's preparation for, prevention of, and response to major disasters, such as fires, floods, earthquakes, and terrorist attacks. During an emergency, Cal OES serves as the lead agency for emergency management in the State. It also serves as the lead agency for mobilizing the State's resources and obtaining federal resources. Cal OES coordinates State response to major emergencies in support of local government. The primary responsibility for emergency management resides with local government. Local jurisdictions first use their own resources and, as they are exhausted, obtain more from neighboring cities and special districts, the county in which they are located, and other counties throughout the state through the Statewide Emergency Management Mutual Aid Plan and system.

3.14.2.2.2 Standardized Emergency Management System

The Standard Emergency Management System (SEMS) program (per 19 *California Code of Regulations* [CCR] Section 2401 et seq.), sets forth measures by which a jurisdiction should handle emergency disasters. In California, SEMS provides the mechanism by which local government requests assistance. Non-compliance with SEMS could result in the State withholding disaster relief from the non-complying jurisdiction in the event of an emergency disaster.

3.14.2.2.3 Assembly Bill 1558, River Ranger Program Establishment Plan

Approved in 2017, Assembly Bill 1558 tasked the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy and the Santa Monica Mountains Conservancy with creating a river ranger program. The river ranger program provides a network of rangers along the LA River and required the conservancies to develop a *Los Angeles River Ranger Program Establishment Plan* in partnership with State and local agencies. In May 2019, the conservancies published the *Los Angeles River Ranger Program Establishment Plan*, which serves as a framework for an expanded river ranger program (WCA 2019). The plan includes adding sworn California Peace Officers as River Rangers; River Rangers are

program staff focused on public safety, maintenance, and interpretive/educational elements along the LA River.

3.14.2.2.4 Constitution of California, Article XIII Section 35

Section 35 of Article XIII of the Constitution of California directs the proceeds of a 0.50% sales tax to be used exclusively for local public safety services, including police and fire. Article XIII, Section 35(a)(2) of the Constitution of California provides: "The protection of the public safety is the first responsibility of local government and local officials have an obligation to give priority to the provision of adequate public safety services."

3.14.2.2.5 California Health Safety Code Sections 13100 through 13135

California Health Safety Code Sections 13100 through 13135 codify regulations known as the "Regulations of the State Fire Marshal" and constitute the Basic Building Design and Construction Standards of the State Fire Marshal. The regulations establish minimum standards for the preservation and protection of life and property against fire, explosion, and panic through requirements for fire protection and notification systems, fire protection devices, and fire suppression training.

3.14.2.2.6 Title 8 California Code of Regulations Sections 1270 and 6773

In accordance with 8 CCR Section 1270, *Fire Prevention* and Section 6773, *Fire Protection and Fire Equipment*, the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

3.14.2.2.7 California Code of Regulations Title 8, Subchapter 4

8 CCR Subchapter 4, *Construction Safety Orders* establishes minimum safety standards whenever employment exists in connection with the construction, alteration, painting, repair, construction maintenance, renovation, removal, or wrecking of any fixed structure or its parts. These orders also apply to all excavations not covered by other safety orders for a specific industry or operation.

3.14.2.2.8 California Fire Code

24 CCR Part 9, also referred to as the California Fire Code, is part of the California Building Code and includes fire safety requirements and regulations, including the implementation of fire protection devices; establishment of fire resistance standards for types of construction; and fire suppression training. The California Fire Code applies to all occupancies in California except where adopted local regulations are more stringent.

3.14.2.3 Local

3.14.2.3.1 Southern California Association of Governments

Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) is a long-range visioning plan that balances future mobility and housing needs with economic,

environmental, and public health goals (SCAG 2020). Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Connect SoCal includes a core vision for creating complete streets that are safe and inviting to all roadway users; complete streets are critical to increasing mobility choice, reducing traffic fatalities and serious injuries, and for meeting greenhouse gas reduction targets.

3.14.2.3.2 Los Angeles County

3.14.2.3.2.1 Los Angeles County General Plan 2035

Los Angeles County's *General Plan 2035*, adopted in October 2015, provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of the County will grow (County of Los Angeles Department of Regional Planning 2022). The Mobility Element of *General Plan 2035* establishes policies and programs that consider all modes of travel, with the goal of making streets safer, accessible, and more convenient to walk, ride a bicycle, or take transit within unincorporated Los Angeles County (County of Los Angeles Department of Regional Planning 2022). The county's *Bicycle Master Plan* (LACDPW 2012) is a component of the *General Plan 2035*'s Mobility Element and proposes a vision for a diverse regional bicycle system of interconnected bicycle corridors, support facilities, and programs to make bicycling more practical and desirable to a broader range of people in the county. *General Plan 2035*'s Public Services and Facilities Element (County of Los Angeles Department of Regional Planning 2022) promotes the orderly and efficient planning of public facilities and infrastructure in conjunction with land use development and growth. This element focuses on services and facilities that are affected the most by growth and development, including libraries. Last, *General Plan 2035*'s Safety Element aims to reduce the potential risk of death, injuries, and economic damage resulting from natural and human-made hazards (County of Los Angeles Department of Regional Planning 2022).

Applicable general plan goals and policies related to public services include promoting active transportation and transit use through transportation corridors and networks, infrastructure improvements to encourage bicycle safety, and providing adequate public services and facilities for the community.

3.14.2.3.2.2 Los Angeles County LA River Master Plan

The Los Angeles County *LA River Master Plan,* first adopted in 1996 and updated in 2021, recognizes the river as a body of resources of regional importance, and that those resources must be protected and enhanced by implementing efforts identified by the Los Angeles County *LA River Master Plan* to revitalize the publicly owned right-of-way (ROW) along the LA River (LACDPW 2022). The plan's Recreation and Flood Management, and Water Conservation key issues include safety goals and objectives related to use of the LA River ROW. The plan's vision is for the LA River to become 51 miles of connected public open space that provides landmark opportunities to reduce flood risk and improve resiliency, support healthy and connected ecosystems, address potential adverse impacts on housing affordability and people experiencing homelessness, promote healthy, safe clean water, and create jobs while fostering opportunities for arts, culture, and community engagement.

Applicable goals and policies related to public services include providing a safe environment and recreational opportunities along the river; safe access to the river and other activity centers; and meeting public safety needs at the river.

3.14.2.3.2.3 Los Angeles County Code

The Los Angeles County Fire Code is contained in Title 32 of the Los Angeles County Code. It incorporates the California and International Fire Codes. The Los Angeles County Fire Code establishes regulations to protect fire and emergency personnel and to safeguard fire response systems, the water supply, hazardous materials, and areas of imminent fire hazard. The fire code establishes regulations affecting or relating to structures, processes, premises, and safeguards regarding conditions affecting the safety of the firefighters and emergency responders during emergency operations. It also includes regulations associated with fire hydrant systems, water supply, fire equipment access, weed abatement, combustible brush and vegetation that represent an imminent fire hazard, debris abatement, combustible storage abatement, and hazardous material storage and use.

Section 2.68.060 of the Los Angeles County Code outlines the County's emergency organization. It permits the use of all officers and employees of the County, volunteer forces registered to aid the County during a duly proclaimed emergency, and all groups, organizations and persons who may be charged with duties during such an emergency. County Code Section 2.68.070 describes the Los Angeles County operational area. Pursuant to the provisions of the California Emergency Services Act, and the State's SEMS, the County is the lead agency for the operational area, and the Board of Supervisors is its governing body.

3.14.2.3.3 City of Los Angeles

3.14.2.3.3.1 General Plan Framework

The City of Los Angeles' Framework Element, an element of the *General Plan*, was originally adopted in December 1996 and re-adopted in August 2001 (City of Los Angeles 2001). The plan's Framework Element guides long-term growth in the City, guides the update of community plans, and guides the update of other plan elements. The Framework Element also contains purposes, policies, and programs for City development. Framework Element Chapter 9, *Infrastructure and Public Services* addresses police protection, fire prevention, fire protection, emergency medical services, and school and library services provided to the City.

3.14.2.3.3.2 General Plan Safety Element

The plan's Safety Element, adopted in 1996 and updated in 2021, identifies existing police, fire, and emergency services and the service needs of the City of Los Angeles in the event of a natural disaster (City of Los Angeles 2021). The Safety Element provides goals, objectives, and policies related to the City's response to hazards and natural disasters. Safety Element goals, objectives, and policies are broadly stated to reflect the comprehensive scope of the Emergency Operations Organization, which is the city program that implements the plan's Safety Element.

Applicable general plan goals and policies related to public services include providing and maintaining adequate police and fire services, facilities, equipment, and personnel to meet existing and future needs; maintaining mutual assistance agreements with local, State, and federal law enforcement and fire agencies; implementing comprehensive emergency response and disaster plans; and providing adequate school facilities and library facilities for communities.

3.14.2.3.3.3 General Plan Land Use Element

The *City of Los Angeles General Plan's* Land Use Element is made up of 35 community plans. The community plans establish neighborhood-specific goals and implementation strategies in accordance with the Framework Element. Community plans that apply to the Project area include the Silver Lake–Echo Park–Elysian Valley (City of Los Angeles Department of City Planning 2004), Northeast Los Angeles (City of Los Angeles Department of City Planning 1999), Boyle Heights (City of Los Angeles Department of City Planning 2023), and Central City North (City of Los Angeles Department of City Planning 2000) community plans.

Applicable general plans goals and policies related to public services include encouraging compatibility of school facilities with community character; supporting the construction, rehabilitation, or expansion of library facilities; and providing adequate police and fire facilities and personnel to respond to service demands.

3.14.2.3.3.4 2010 Bicycle Master Plan

The purpose of the *City of Los Angeles 2010 Bicycle Plan* is to increase, improve, and enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation (City of Los Angeles Department of City Planning 2011). The plan establishes policies and programs to increase the number and type of bicyclists in the City, to make every street a safe place to ride a bicycle and to transform Los Angeles into a bicycle-friendly community.

Applicable goals and policies related to public services include educating the public on bicycle safety and safe driving around cyclists and providing and maintaining safe bikeways to create a safe cycling environment.

3.14.2.3.3.5 Los Angeles Fire Department Strategic Plan 2018–2020: A Safer City 2.0

The Los Angeles Fire Department (LAFD) *Strategic Plan 2018–2020: A Safer City 2.0* (LAFD 2018) is a 3-year plan that focuses on five goals that serves as LAFD's guide to provide and improve its emergency services in the City and to support LAFD's vision, mission, and core values. The strategic actions listed in the strategic plan aim to achieve these goals. The five goals are (1) provide exceptional public safety and emergency service, (2) embrace a healthy, safe, and productive work environment, (3) capitalize on advanced technology, (4) enhance LAFD sustainability and community resiliency, and (5) increase opportunities for personal growth and professional development. One of LAFD's strategies to meet the *Strategic Plan 2018–2020* goal of providing exceptional public safety and emergency service is to complete the Standards of Cover analysis.

3.14.2.3.3.6 City of Los Angeles Charter, Administrative, and Municipal Code

The law enforcement regulations, as well as the powers and duties of the Los Angeles Police Department (LAPD), are outlined in the City of Los Angeles Charter, Administrative Code, and Los Angeles Municipal Code (LAMC). Article V, Section 570 of the City of Los Angeles Charter gives power and duty to LAPD to enforce the penal provisions of the charter, city ordinances, and State and federal law. The charter gives responsibility to LAPD officers to act as peace officers and to protect lives and property in case of disaster or public calamity.

Los Angeles Administrative Code Division 22, Chapter 11, Section 22.240 requires LAPD to adhere to the State of California standards described in Section 13522 of the California Penal Code.

Section 13522 of the Administrative Code charges LAPD with the responsibility of enforcing all LAMC Chapter 5 regulations related to firearms, illegal hazardous waste disposal, and nuisances (for example, excessive noise), and with providing support to the Department of Building and Safety Code Enforcement inspectors and LAFD in the enforcement of the City's Fire, Building, and Health Codes. LAPD is also given the power and the duty to protect residents and property and to review and enforce specific security-related mitigation measures in regard to new development.

3.14.2.3.3.7 Los Angeles Fire Code

The Los Angeles Fire Code is contained within LAMC Chapter V, Article 7, *Fire Protection and Prevention*. As required by the fire code, the LAFD Bureau of Fire Prevention and Public Safety is required to administer and enforce basic building regulations as set forth by the State fire marshal. The Los Angeles Fire Code is a combination of the California Fire Code and Los Angeles amendments. The Los Angeles Fire Code provides regulations for the safeguarding of life and property from fire, explosion, panic, or other hazardous conditions which may arise in the use or occupancy of buildings, structures, or premises. LAMC Section 57.503.1.4 requires facility, structure, group of structures, or premises to provide and maintain LAFD access and requires that any structure located more than 150 feet from an approved street provide an approved fire lane.

3.14.2.3.3.8 Los Angeles Police Department Computer Statistics Unit Program

The LAPD Computer Statistics Unit (COMPSTAT) Program was created in 1994 and implements the General Plan's Framework Element goal of assembling statistical population and crime data to determine necessary crime prevention actions. This system implements a multi-layer approach to police protection services through statistical and geographical information system analysis of growing trends in crime through its specialized crime control model. COMPSTAT has reduced the occurrence of crime in Los Angeles communities through accurate and timely intelligence regarding emerging crime trends or patterns (LAPD 2021a).

3.14.2.3.3.9 Los Angeles Unified School District 2020 Facilities Services Division Strategic Execution Plan

The Los Angeles Unified School District (LAUSD) *2020 Facilities Services Division Strategic Execution Plan* (LAUSD 2020) establishes guiding principles for the Facility Services Division's programs, including sustainable school projects driven by educational objectives and opportunities to increase instructional resources; integration of districtwide goals in the planning, design and delivery of projects; district facilities that are safe and secure, as well as efficient to operate; and quality assurance and quality control at all projects' stages including identification of best practices.

3.14.2.3.3.10 Los Angeles Public Library Strategic Plan 2015–2020

The *Los Angeles Public Library (LAPL) Strategic Plan 2015–2020* (LAPL 2015) provides goals, objectives, and key activities highlighting the steps LAPL will take to provide better access to services, information, and resources to LAPL patrons. The goals and objectives of the strategic plan guides LAPL in providing services, opportunities, and increase existing collections that will cultivate and inspire young readers; nurture student success; champion literacy and lifelong learning; contribute to

the City's economic growth; stimulate the imagination; and strengthen community connections and celebrate the City.

3.14.2.3.4 City of Vernon

3.14.2.3.4.1 City of Vernon General Plan

The *City of Vernon General Plan*, adopted on December 3, 2007, and last updated in 2015, provides goals and policies that are related to public facilities, safety, and security (City of Vernon 2015). The *City of Vernon General Plan*'s Circulation and Infrastructure Element does not encourage bicycling on the City's streets due to heavy truck traffic and the narrow configuration of many streets, which would present dangers to bicyclists. However, it will cooperate with Metro and other local agencies in the efforts to complete a bicycle path along the levee of the LA River that would connect to adjacent jurisdictions.

Applicable goals and policies related to public services include providing a balanced transportation system for the safe and efficient movement of people, goods, and emergency services throughout the City; maintaining high standards for the provision of City emergency services; and considering the design of new development projects to consider public safety and issues.

3.14.2.3.4.2 City of Vernon Bicycle Master Plan

The *City of Vernon Bicycle Master Plan* (City of Vernon 2017) is the guiding document for the development of a safe and comfortable network of bicycle facilities linking working centers and community destinations within the City, as well as to the larger regional network. The plan summarizes the planning process and describes the current biking conditions in Vernon, recommends policies and tools for the City to use in implementing programs and infrastructure improvements, and provides implementation strategies to create better connectivity throughout Vernon and to the surrounding region. Applicable goals and policies related to public services include implementing designs that emphasize safety and comfort of the most vulnerable road users, improving safety for people riding bicycles through the design and maintenance of streets, and reducing bicycle-related collisions.

3.14.2.3.4.3 City of Vernon Municipal Code

The City of Vernon Municipal Code Chapter 7 contains the Fire Regulations for the City. It establishes a fire chief and fire department and adopts in full Title 32 of the Los Angeles County Code as its own fire code. The fire code regulates the safeguarding of life and property from fire and explosion hazards related to the storage, handling, and use of hazardous substances, materials, and devices, and from hazardous conditions in the occupancy of buildings and premises.

Chapter 8 of the Vernon Municipal Code describes the Emergency Organization and Functions of the City of Vernon. It provides for the preparation and execution of plans to protect individuals and property within Vernon during an emergency. It also directs emergency organization and coordinates emergency functions with other public agencies, corporations, and organizations.

The City of Vernon Municipal Code Chapter 16 authorizes the law enforcement powers and responsibilities of the City of Vernon. The City adheres to the standards for recruitment and training established as minimums by the California Commission on Peace Officer Standards and Training pursuant to Penal Code of California Chapter 1, Section 13522.

3.14.2.3.5 City of Maywood

3.14.2.3.5.1 City of Maywood General Plan

The *City of Maywood General Plan* defines the City's long-range intentions regarding the vision, nature and direction of future developments in the City (City of Maywood 2007). The State mandates that every local jurisdiction prepare, adopt, and maintain a general plan, and has provided guidelines regarding their scope and content. Applicable goals and policies related to public services and safety and security include locating and adequately sizing public facilities and utilities to meet existing and projected demand; coordinating with public and private agencies to improve public facilities as density increases; providing an extensive, integrated, and safe bicycle and pedestrian network throughout the community; and establishing a designated safe route to local schools.

3.14.2.3.5.2 City of Maywood Municipal Code

The City of Maywood Municipal Code Title 4 contains regulations pertaining to public safety, and the City of Maywood Fire Code is contained in the City of Maywood Municipal Code Title 4, Chapter 2, Article 1. It adopts Title 32 of the Los Angeles County Code as its own fire code and, per Title 4, Chapter 2, Section 102, deems the City a part of the unincorporated area of Los Angeles County when referenced in the Uniform Fire Code.

The City of Maywood Emergency Organization and Functions section is contained in Title 4, Chapter 1 of the Maywood Municipal Code. It provides for the preparation and execution of the City of Maywood Emergency Plan, directs emergency organization through the Disaster Council, and coordinates the emergency functions of the City with all other public agencies, corporations, organizations, and affected private persons.

3.14.2.3.6 City of Bell

3.14.2.3.6.1 City of Bell 2030 General Plan

The City of Bell *2030 General Plan* (City of Bell 2018), adopted in May 2018, includes the Land Use and Sustainability, Resource Management, Health and Safety, Mobility and Circulation, and Housing Elements. Applicable goals and policies related to public services and safety and security include promoting emergency preparedness, having sufficient fire and police resources, and ensuring that the future needs for infrastructure and public services are addressed.

3.14.3 Methodology

Public service needs are dependent on various factors, including the size of the service population, the geographic area served, the number and types of calls for service, and the characteristics of a project and its surrounding community. Existing settings for public services/safety and security provide the school, library, fire, and police facilities that are identified within or would serve a project area. This information is based on website data provided by: LAUSD, LAPL, Los Angeles County Library, LAFD, Los Angeles County Fire Department (LACoFD), LAPD, Los Angeles County Sheriff's Department (LASD), City of Vernon Police Department, and the City of Bell Police Department. A desktop analysis was completed to verify the public facilities and identify additional facilities that may not have been captured in the above data searches.

Impacts of the Proposed Project and its options on public services/safety and security were evaluated based on the adequacy of existing facilities and personnel to meet any additional demand generated. The analysis evaluates the potential need for new public service facilities or additions to existing facilities, and the associated potential impacts from the construction of new public service facilities or the expansion of existing facilities, if required. An impact on public services/safety and security would occur if the Proposed Project and its options would require the provision of new or physically altered public facilities, the construction and/or operation of which would cause significant environmental impacts to maintain service ratios, response times, or other performance objectives.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.14.3.1 Resource Study Area

For the purposes of evaluating public services/safety and security impacts, the Proposed Project's RSA is defined as 0.25-mile radius from the permanent and temporary footprints (including construction staging areas, access points, and design variations) of the Proposed Project, Option 1, and Option 2. Figure 3.14-1 shows the RSA for the public services/safety and security analysis for the Proposed Project, Option 1, and Option 2.

Figure 3.14-1. Public Services Resource Study Area



3.14.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with public services/safety and security are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to public services/safety and security would occur if the Project would do any of the following:

> " ... [R]esult in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for any of the public services:"

Based on these guidelines, impacts are summarized as follows:

Impact PS-1: Fire protection and emergency services

Impact PS-2: Police protection

Impact PS-3: Schools

Impact PS-4: Public libraries

Refer to Section 3.15, *Recreation,* for a discussion of potential impacts on parks and recreational facilities. Refer to Section 3.16, *Transportation* for a discussion of potential impacts to roads and transit services. Refer to Section 3.18, *Utilities and Service Systems* for a discussion of potential impacts to utilities.

3.14.3.3 Project Features

As described in Appendix C*, Project Features,* a number of features have been incorporated into the Proposed Project and its options to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for public services/safety and security:

PF-PS-01, *Emergency Service Coordination*

Los Angeles County Metropolitan Transportation Authority's (Metro's) contractor shall coordinate with police, fire, and emergency service providers prior to and during construction to maintain emergency access through construction work areas.

PF-PS-02, *Construction Safety Measures*

Los Angeles County Metropolitan Transportation Authority's (Metro's) contractor shall provide safety and security measures at the construction sites and staging areas. Security measures would include barriers for excavations, installation of temporary barriers around perimeters, security patrols, and appropriate signage and lighting. The contractor shall provide a safety and security plan to Metro for review prior to the start of construction.

Additional applicable project features related to public services/safety and security include the following. Refer to Section 3.16, *Transportation*, for additional detail:

- PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*
- PF-TR-02, *Traffic Control Plan*

3.14.4 Existing Setting

The following section describes the existing conditions for public services/safety and security.

The assessment of existing conditions establishes a baseline for impacts by describing the existing public service facilities (fire protection and emergency services, police protection, schools, and libraries); current safety and security conditions as they relate to pedestrians and bicyclists; and other relevant data in the RSA for public services and/safety and security. The communities in the RSA include the Cities of Los Angeles, Vernon, Maywood, and Bell, as well as the unincorporated Bandini Islands community of Los Angeles County.

3.14.4.1 Fire Protection and Emergency Response Services

Fire protection and emergency response services within the City of Los Angeles portion of the RSA are provided by LAFD. The LACoFD serves the unincorporated Bandini Islands community, and the Cities of Vernon, Maywood, and Bell contract with LACoFD to provide fire protection services in these cities. Figure 3.14-2 shows the location of the fire stations that serve the RSA.

3.14.4.1.1 Fire Protection

The adequacy of fire protection for a given area is based on required fire flow (the flow rate of a water supply that is available for the responding fire department for manual firefighting), response distance from existing fire stations, and LAFD and LACoFD's judgment of needs in the area. Personnel and equipment needs for individual fire stations are determined based on LAFD and LACoFD's review of the number of incidents within a station's service area. As the number of incidents increases, LAFD and LACoFD assign new staff members and equipment as necessary to maintain acceptable service ratios and response times.

The amount of water necessary for fire protection depends on various factors, including the type of development, risk of life, occupancy, and the level or intensity of a fire hazard. Response distance relates directly to the linear travel distance (such as miles between a station and a site) and LAFD and LACoFD's judgment as to their ability to successfully navigate through an area's circulation system. Roadway congestion, intersection level of service, weather conditions, and construction traffic can affect the response route, response distance, and travel time. Multi-lane arterial roadways typically allow the emergency vehicles to travel at higher speeds and permit other traffic to maneuver out of the path of the emergency vehicle.

Figure 3.14-2. Fire Stations Serving the Resource Study Area



Source: LACoFD 2021; Los Angeles County Open Data 2018

3.14.4.1.1.1 Los Angeles Fire Department

LAFD is a full-spectrum life safety agency serving the 469-square mile jurisdiction of the City of Los Angeles. Approximately 3,435 uniformed LAFD fire personnel protect life, property, and the environment through their direct involvement in fire prevention, firefighting, emergency medical care, technical rescue, hazardous materials mitigation, disaster response, public education, and community service. LAFD also employs approximately 381 professional support personnel who provide administrative and technical support to the LAFD. A total of approximately 1,018 uniformed firefighters are on duty citywide (LAFD 2021a).

LAFD is divided into four geographic bureaus: Central, South, West, and Valley Bureaus, which are divided into battalions, and further subdivided into fire stations. The City has 14 battalions and 106 fire stations. Each bureau is commanded by a Deputy Chief who oversees and coordinates daily field operations within each bureau's respective service area. The RSA lies entirely within the service area of the Central Bureau and is within Battalions 1 and 2. These battalions coordinate and oversee the seven LAFD fire stations that provide service to the RSA. Fire Stations 1, 2, 4, 9, 17, 25, and 44 serve the RSA (LAFD 2021b). Table 3.14-1 identifies the fire stations and apparatus available at each LAFD station that serves the RSA.

Table 3.14-1. City of Los Angeles Fire Department Fire Stations Serving the Resource Study Area

Fire Station	Address	Station Apparatus
Battalion 1 (Central Bureau)		
2	1962 East Cesar E Chavez Avenue, Los Angeles	Engine, Truck, Paramedic Rescue Ambulance
4	450 East Temple Street, Los Angeles	Engine, Paramedic Rescue Ambulance
9	430 East Seventh Street, Los Angeles	Engine, Truck, Rescue Ambulance
17	1601 South Santa Fe Avenue, Los Angeles	Engine
25	2927 Whittier Boulevard, Los Angeles	Engine, Rescue Ambulance
Battalion 2 (Central Bureau)		
1	2230 Pasadena Avenue, Los Angeles	Truck, Paramedic Rescue Ambulance
44	1410 Cypress Avenue, Los Angeles	Engine, Paramedic Rescue Ambulance

Source: LAFD 2021b

3.14.4.1.1.2 Los Angeles County Fire Department

LACoFD aims to protect lives, the environment, and property by providing prompt, skillful and cost-effective fire protection, and life safety services. There are 4,700 personnel working within the LACoFD emergency and business operations bureaus, including firefighters, dispatchers, lifeguards, nurses, and administrative support. In total, LACoFD includes 177 stations, 228 engine companies, 112 paramedic units, and 34 truck companies (LACoFD 2021).

LACoFD provides fire and safety services to the unincorporated areas of Los Angeles County, to contracted cities, and to cities that are under an agreement for the cooperative response and management of fires and other emergency incidents. In the RSA, LACoFD provides fire protection, paramedic, and incidental services to the Cities of Vernon and Maywood on a contract basis. LACoFD

stations serving the RSA include Fire Stations 13, 27, 52, and 163. Table 3.14-2 identifies the station apparatus of the LACoFD stations that serve the RSA.

Table 3.14-2. Los Angeles County Fire Department Fire Stations Serving the Resource Study Area

Fire Station	Address	Station Apparatus
Battalion 3		
27	6031 Rickenbacker Road, Commerce	Engine, Truck
163	6320 Pine Avenue, Bell	Engine
Battalion 13		
13	3375 Fruitland Avenue, Vernon	N/A
52	4301 Santa Fe Avenue, Vernon	N/A[a]

Source: LACoFD 2021

[a] LACoFD contracts fire services with the City of Vernon, which began in October 2020. Station information is limited.

N/A = not available

3.14.4.1.2 Police Protection Services and Safety

Police services and security in the RSA is currently provided by local law enforcement, including LAPD, LASD, and Cities of Vernon and Bell Police Departments. Within the City of Los Angeles, the RSA is served by four LAPD stations: Northeast, Central, Hollenbeck, and Newton. The City of Maywood contracts its police services to LASD. The unincorporated Bandini Islands community is served by the LASD East Los Angeles Sheriff's Station, and the City of Maywood is served by the LASD East Los Angeles Sheriff's Station and Maywood/Cudahy Substation. The Maywood/Cudahy Substation is the closest police station to the LA River that serves the City of Maywood. The Cities of Bell and Vernon operate independent police departments within their jurisdictions in the RSA. Police protection facilities for each jurisdiction serving the RSA are discussed in the following subsections. Figure 3.14-3 shows the location of the police stations that serve the RSA.

3.14.4.1.2.1 Los Angeles Police Department

LAPD covers approximately 470 square miles and contains specialized units, including Special Operations, Special Weapons and Tactics, Gangs and Narcotics, K-9 Units, and Mounted Units. LAPD is divided into four geographic bureaus: Central, South, West, and Valley, which are divided into 21 community police divisions, and into reporting districts. The bicycle path is located in the Central Bureau and would be served by four LAPD stations: Newton, Northeast, Hollenbeck, and Central.

As of August 2021, the LAPD has approximately 9,000 sworn officers and 3,000 civilian employees. The average station typically polices a population of approximately 200,000 people (LAPD 2021b). To plan for personnel needs at individual stations, LAPD uses a field deployment software model called Patrol Plan, which considers 25 separate factors, including crime data, population density, and traffic speeds. The model is run on a quarterly basis, but station captains can request the assignment of additional personnel at any time in response to increased demand. LAPD seeks to maintain a maximum response time of 7 minutes and will increase staffing at stations as necessary to ensure that this goal is met.

Figure 3.14-3. Police Stations Serving the Resource Study Area



Source: LAPD 2021; LASD 2021; Vernon Police Department 2021; Bell Police Department 2021

3.14.4.1.2.2 Los Angeles County Sheriff's Department

LASD is a law enforcement agency that serves Los Angeles County. LASD is one of the largest sheriff departments in the world, with approximately 18,000 employees. LASD provides general law enforcement services to 40 contract cities; 90 unincorporated communities; 216 facilities, hospitals, and clinics located throughout the County; 9 community colleges; Metro; and 47 superior courts. Within the RSA, police protection services in the unincorporated Bandini Islands community and the City of Maywood are provided by LASD.

In addition to providing patrol and investigative services, the LASD offers a broad range of support services, including neighborhood watch coordination, community education programs, drug use prevention education for school children, and homeland security.

3.14.4.1.2.3 Vernon Police Department

The Vernon Police Department provides a full range of policing services to a community comprised primarily of businesses and industries. It includes several internal departments including a Patrol Division, Professional Standards Division, Communications Center, Records Division, and Detective Bureau. The Vernon Police Station currently serves the portion of the RSA within the City of Vernon's jurisdictional boundaries.

3.14.4.1.2.4 Bell Police Department

The Bell Police Department is a full-service police agency providing police service to the City of Bell. It is composed of a Support Division that handles dispatch, investigation, and records responsibilities and an Operations Division that runs patrol of the City. The station on Pine Avenue services the portion of the RSA within the City of Bell.

3.14.4.1.2.5 City of Los Angeles Business Improvement District Safety Teams

A Business Improvement District (BID) in the City of Los Angeles is a geographically defined area within the City in which property and/or business owners pay an assessment to fund programs and projects within a district's boundaries with the goal of improving commerce. Funded services are supplemental to those already provided by the City and include cleaning streets, providing security, making capital improvements, construction of pedestrian and streetscape enhancements, marking, and increasing economic development and livability. The safety team provides daily, 24-hour services to maintain safety within the district. City of Los Angeles communities adjacent to the Proposed Project and its options have BIDs and include the Greater Lincoln Heights BID and Arts District Los Angeles BID.

3.14.4.2 Schools

The LAUSD provides educational services in the RSA. In total, 15 schools are located in the RSA, including, five elementary schools, two middle schools, four high schools, and three span schools. A span school spans multiple levels (elementary and middle, middle and high, or elementary through high school). The RSA also includes one bilingual charter school (Para Los Niños Charter School) and a college (Southern California Institute of Architecture). Table 3.14-3 identifies the location of the schools within the RSA and the distance of the schools from the LA River. Figure 3.14-4 shows the location of the schools within the RSA.

Table 3.14-3. Schools within the Resource Study Area

School	Address	Distance from the Alignment (miles)
Los Angeles Unified School District Elementary Schools		
Ann Street Elementary School	126 East Bloom Street, Los Angeles	0.2
Albion Street Elementary School	322 South Avenue 18, Los Angeles	0.2
Hillside Elementary School	120 East Avenue 35, Los Angeles	0.8
Loreto Street Elementary School	3408 Arroyo Seco Avenue, Los Angeles	0.6
Maywood Elementary School	5200 Cudahy Avenue, Maywood	0.1
Los Angeles Unified School District Middle Schools		
Florence Nightingale Middle School	3311 North Figueroa Street, Los Angeles	0.6
Alliance College-Ready Middle School	211 Avenue 20, Los Angeles	0.1
Los Angeles Unified School District High Schools		
Felicitas and Gonzalo Mendez Learning Center	1200 Plaza Del Sol, Los Angeles	0.1
Los Angeles Leadership Academy Charter	234 East Avenue 33, Los Angeles	0.9
Alliance Susan & Eric Smidt Technology High School	211 Avenue 20, Los Angeles	0.1
Metropolitan Continuation High School	727 South Wilson Street, Los Angeles	0.4
Los Angeles Unified School District Span Schools		
Partnerships to Uplift Communities Milagro Charter Academy	1855 North Main Street, Los Angeles	0.2
Utah Street Elementary School	255 Gabriel Garcia Marquez Street, Los Angeles	0.2
South Region High School #8/Maywood Center for Enriched Studies	5800 King Avenue, Maywood	0.3
Other Schools		
Para Los Niños Charter	1617 East Seventh Street, Los Angeles	0.4
Southern California Institute of Architecture	960 East Third Street, Los Angeles	0.7

Source: LAUSD 2021

Figure 3.14-4. Public Schools Serving the Resource Study Area



3.14.4.3 Libraries

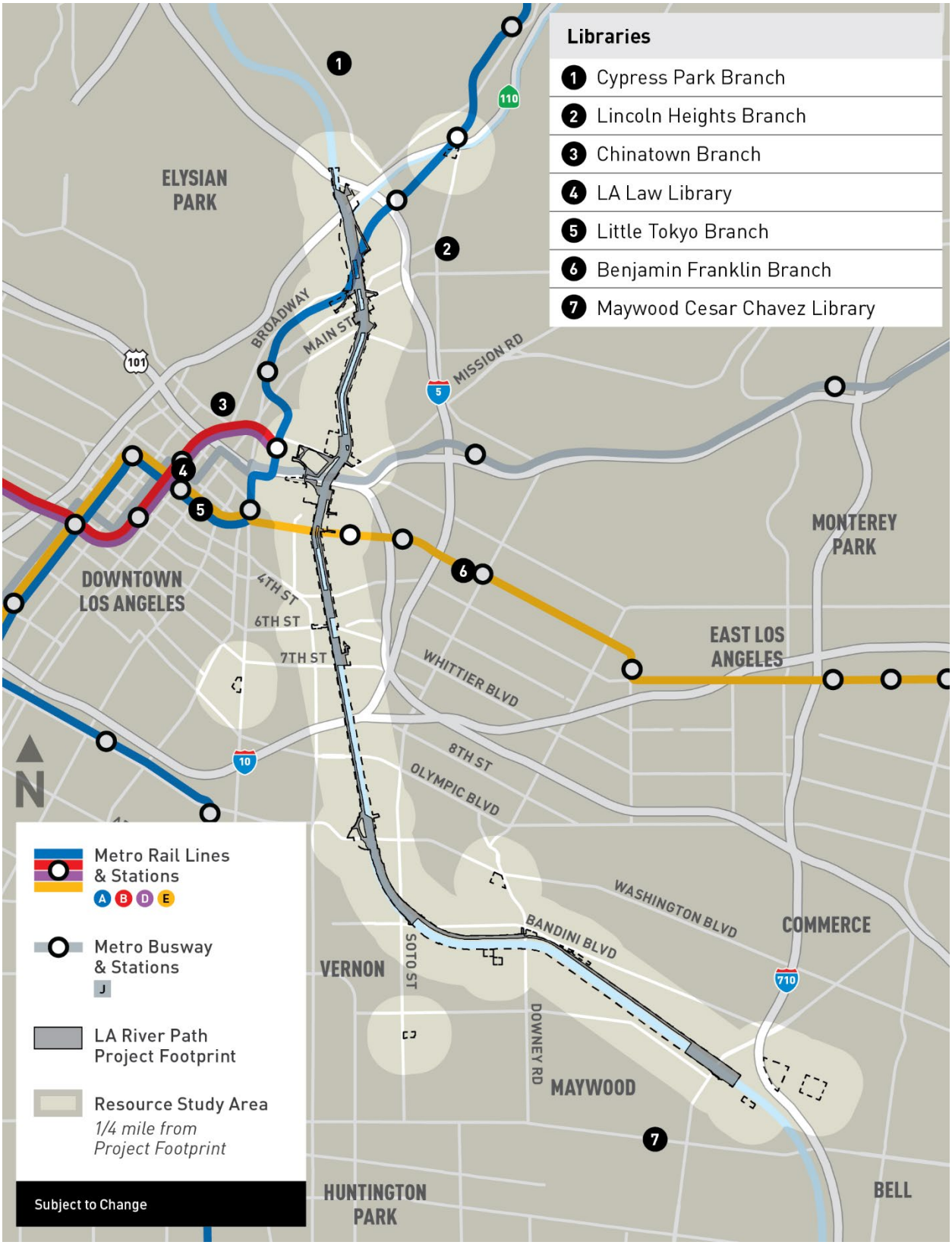
The RSA is served by the LAPL and Los Angeles County Library systems. LAPL generally provides library services for residents of the City of Los Angeles and the Los Angeles County Library provides library services to residents living in the unincorporated areas of Los Angeles County and 49 of the 88 incorporated cities in the County, including the unincorporated Bandini Island community and the Cities of Vernon, Bell, and Maywood. Although libraries are not located within the RSA, seven libraries are within 1 mile of the LA River, four of which are part of the LAPL system, and one is part of the Los Angeles County Library system. In addition, the LA Law Library is located within 1 mile of the RSA. The LA Law Library is a selective government depository for United States Government Publishing Office and State of California materials. These libraries are listed in Table 3.14-4, and Figure 3.14-5 shows the location of these libraries.

Table 3.14-4. Libraries within the Resource Study Area

Library	Address	Distance from the Alignment (miles)
Los Angeles Public Library		
Chinatown Branch	639 North Hill Street, Los Angeles	0.6
Benjamin Franklin Branch	2200 East First Street, Los Angeles	0.9
Little Tokyo Branch	203 South Los Angeles Street, Los Angeles	0.7
Lincoln Heights Branch	2530 Workman Street, Los Angeles	0.5
Cypress Park Branch	1150 Cypress Avenue, Los Angeles	0.7
Los Angeles County Library		
LA County Library—Maywood Cesar Chavez Library	4323 Slauson Avenue, Maywood	0.6
Other Public Libraries		
LA Law Library	301 West First Street, Los Angeles	0.7

Source: LAPL 2023; Los Angeles County Library 2021

Figure 3.14-5. Libraries Serving the Resource Study Area



3.14.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to public services/safety and security are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.14.5.1 Impact PS-1: Fire Protection and Emergency Services

Impact PS-1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for fire protection and emergency services?

3.14.5.1.1 Proposed Project, Option 1, and Option 2

3.14.5.1.1.1 Construction

Less than significant impact. Construction activities for the Proposed Project and its options would be temporary. Most construction activities would occur outside of the public ROW and would be located primarily along the banks and inside the LA River and within staging areas as identified in Chapter 2, *Project Description*. Construction staging areas and support sites would be located on sites characterized as industrial, commercial, or vacant, and in the LA River. Construction staging areas would include temporary parking for construction personnel. Construction activities are anticipated to start in 2028 and last approximately 3 years. Construction activities for the Proposed Project and its options would be similar and generally consist of four major activities: mobilization (staging areas, setting up construction trailers, and mobilizing equipment and materials to the staging areas), site preparation (clearance of the site and preparing it for construction), site work (based on the path type and component to be constructed and includes, but is not limited to, excavation, driven piles, concrete piers, steel girders, grading, trusses, arches, and similar structures), and finishes (pathway elements such as railings, pathway striping, signage, seating, landscaping, and similar features).

Construction of activities would have the potential to temporarily increase existing demand on fire protection and emergency response services. Construction activities could potentially expose combustible materials (for example, wood, plastics, sawdust, coverings, and coatings) to fire risks from machinery and equipment sparks, exposed electrical lines, chemical reactions in combustible materials and coatings and lighted cigarettes. Other flammable materials and liquids that would be present during construction include petroleum fuel for construction equipment. However, as discussed in Section 3.9, *Hazards and Hazardous Materials*, all hazardous materials used during construction activities would be handled, stored, transported, and disposed of in accordance with federal, state, and local laws and with manufacturer's instructions. In compliance with Cal/OSHA requirements, construction managers and personnel would be trained in construction safety standards, including guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, and the testing, maintenance, and use of all firefighting and emergency medical equipment. As such,

with proper handling, storage, transportation, and compliance with applicable safety requirements, fire risks during construction would be minimized.

The response time for fire protection and emergency services is based on a fire department's judgment as to its ability to successfully navigate an area's circulation system. Generally, roadway congestion, weather conditions, and construction traffic can affect the response route, response distance, and travel time. Construction activities may generate traffic associated with the movement of construction equipment, removal of demolition and excavation materials, and construction worker trips. Temporary partial closures of roadways, sidewalks, and crosswalks would also occur to allow for certain construction activities, material deliveries, and to maintain public safety. These construction-related traffic and partial roadway closures could adversely affect fire and emergency service vehicle response times. No long-term roadway, sidewalk, and crosswalk closures are expected.

Project features have been developed for the Proposed Project and its options so that proper traffic flow is maintained during temporary construction activities. Traffic controls, flaggers, and other traffic safety measures would be required. PF-PS-01, *Emergency Services Coordination*, and PF-PS-02, *Construction Safety Measures* would ensure that fire and emergency service response times are not adversely impacted during construction; emergency access is maintained during construction, and safety measures are present along the Safe Route to School streets in the RSA. PF-PS-01, *Emergency Services Coordination* includes Metro coordination with police, fire, and emergency service providers prior to and during construction. Consistent with PF-PS-02, *Construction Safety Measures* the contractor would prepare and submit a safety and security plan to Metro and would implement safety and security measures at the construction sites and staging areas including barriers for excavation, installation of temporary barriers around perimeters, security patrols, and appropriate signage and lighting. PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* would address potential temporary impacts from construction activities on vehicular, transit, pedestrian, bicycle access and mobility. The TMP would include specific strategies to address short-term temporary Project-related construction effects on traffic, bicyclists, pedestrians, and area residents and businesses. PF-TR-02, *Traffic Control Plan* that would include traffic controls, flaggers, and other traffic safety measures are part of the Proposed Project and its options to maintain proper traffic flow during temporary construction activities. The Traffic Control Plan would be prepared in coordination with the affected fire protection facilities to ensure that emergency response times are not significantly impacted. Refer to Section 3.16, *Transportation* for further discussion.

Construction activities are temporary and construction-related lane, street, sidewalk, and crosswalk closures would be returned to pre-construction conditions once construction is completed. Construction of the Proposed Project and its options is not expected to substantially change the existing population of the area as construction jobs are temporary and there is a substantial employment base and residential population in the region to fill any construction-related jobs. Furthermore, Metro's Project Labor Agreement requires that 40% of project work is performed by Local Targeted Workers with priority given to community area residents (Metro 2017).[1] As such, construction would not result in an increase in demand for fire protection and emergency services due to an increase in population.

Construction of the Proposed Project and its options does not include the construction of new facilities that would require the need for new or physically altered fire protection and emergency service facilities to maintain acceptable service ratios, response times, and other performance objectives. PF-PS-01, *Emergency Service Coordination*, PF-PS-02, *Construction Safety Measures,* PF-TR-01,

[1] LACMTA and LA/OCBCTC PLA Agreement. Article VII, Section 7.5, 7.5.2(a)

Prepare and Implement Transportation Management Plan (TMP), and PF-TR-02, *Traffic Control Plan*, have been developed for the Proposed Project and its options so that safety measures are implemented to allow fire protection and emergency services to continue to operate without limitations and minimize potential increases to service demand during construction. There would be no construction of new or physically altered fire protection and emergency services facilities in order to maintain acceptable services ratios, response times, or other performance objectives because of the Proposed Project or its options and as a result there would be no substantial adverse physical impacts associated with the construction of new or physically altered fire protection and emergency response facilities. Therefore, impacts on fire protection and emergency services would be **less than significant** during construction.

3.14.5.1.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities along the LA River to connect with the existing LA River Greenway Trail near Egret Park in the City of Los Angeles and the LA River Bicycle Path near Atlantic Boulevard in the City of Vernon. The Proposed Project and its options would be located entirely in or along the banks of the LA River and would not interfere with traffic along the surrounding roadways. The Proposed Project and its options would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in the RSA in a way that would affect emergency response routes. Because traffic on the surrounding roadways is not expected to increase, the Proposed Project and its options are not expected to affect the response times of fire protection and emergency services in the surrounding communities.

The Proposed Project and its options would generate pedestrian and bicyclist activity along the LA River, which serves as a flood control channel and can pose risks that would increase the demand for emergency services, particularly during rain events. Potential measures that may be incorporated include a 12-foot vertical clearance for a majority of the path, a minimum 14-foot-wide path, and clear lines of sight for the entirety of the path. The Proposed Project proposes 9 access points; Option 1 proposes 11 access points; and Option 2 proposes 9 access points, each of which would incorporate safety and security features such as pathway striping, lighting, protective railings and bollards, and signage providing informational, educational, and wayfinding information. Railings would protect users from falling into the flood control channel and act as a barrier against other risks associated with being in a flood control channel, such as deep water or swift current and steep and slippery channel walls. The rescue anchors would assist emergency responders with swift-water rescues. In addition, compliance with code requirements pertaining to emergency vehicle access would ensure response times and service ratios of fire protection and emergency services are maintained at acceptable levels.

Operation of the Proposed Project and its options do not include new facilities that would require the need for new or physically altered fire protection and emergency service facilities to maintain acceptable service ratios, response times, and other performance objectives. The Proposed Project and its options would not increase traffic on the surrounding roadways in a manner that would affect the response times of fire protection and emergency services, would incorporate features along the proposed bicycle path to improve safety and emergency response times, and would not result in the need for new or physically altered fire protection or emergency services facilities. As a result, there would be no substantial adverse physical impacts associated with the construction of new or physically altered fire protection and emergency response facilities. Therefore, impacts on fire protection and emergency services would be **less than significant** during operation.

3.14.5.2 Impact PS-2: Police Protection

Impact PS-2: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for police protection?

3.14.5.2.1 Proposed Project, Option 1, and Option 2

3.14.5.2.1.1 Construction

Less than significant impact. As discussed in Impact PS-1: Fire Protection, most construction activities would occur outside of the public ROW and would be located primarily along the banks and inside the LA River and within staging areas. Construction staging areas and support sites would be located on acquired sites characterized as industrial, commercial, or vacant, and in the LA River. Construction activities may generate traffic, and temporary partial closures of lanes, roadways, sidewalks, and crosswalks would occur. Construction-related traffic and partial roadway closures could adversely affect police protection service vehicle response times. No long-term lane, roadway, sidewalk, and crosswalk closures are expected, and temporary construction-related closures would be returned to pre-construction conditions once construction is completed. PF-PS-01, *Emergency Service Coordination*, PF-PS-02, *Construction Safety Measures*, PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP),* and PF-TR-02, *Traffic Control Plan* would provide safety and security measures to the construction site and RSA to minimize any potential impacts on police and emergency service response times or increased service demand during construction of the Proposed Project and its options Specifically, PF-PS-02, *Construction Safety Measures*, states that security measures including barriers, fencing, security patrols, and signage and lighting would be provided to deter the potential for illegal site trespassing or theft. Construction of the Proposed Project and its options are not expected to substantially change the existing population of the area as construction jobs are temporary. The Proposed Project and its options would be required to include 40% of local construction workers and there is a substantial employment base and residential population in the region to fill any construction-related jobs resulting from the Proposed Project and its options.

Construction of the Proposed Project and its options does not include the construction of new facilities that would not require the need for new or physically altered police protection service facilities to maintain acceptable service ratios, response times, and other performance objectives. As a result there would be no substantial adverse physical impacts associated with the construction of new or physically altered police protection facilities. Therefore, impacts on police protection services would be **less than significant** during construction.

3.14.5.2.1.2 Operations and Maintenance

Less than significant impact. As described for Impact PS-1, the Proposed Project and its options, Option 1 and Option 2, would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities along the LA River to connect with the existing LA River Greenway Trail near Egret Park in the City of Los Angeles and the LA River Bicycle Path near Atlantic Boulevard in the City of Vernon. The Proposed Project and its options would be located entirely in or along the banks of the LA River and would not interfere with traffic along the surrounding roadways. The Proposed Project and its options would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in the RSA in a manner that would affect emergency response routes. Because traffic on the surrounding roadways is not expected to

increase, the Proposed Project and its options is not expected to affect the response times of police protection services in the surrounding communities.

The Proposed Project and its options would generate pedestrian and bicyclist activity along the LA River. Objectives of the Project include improving the safety for pedestrians and bicyclists from existing conditions and creating a path that feels safe, comfortable, and is a world-class transportation corridor open to people of all ages and abilities. To meet these objectives, the Proposed Project and its options would incorporate features that would improve the safety and security of the Project corridor and reduce the demand for police protection services. Ancillary path elements would also be installed throughout the proposed bike path to increase safety and security along the proposed bicycle path. Lighting provides users with illumination to survey their surroundings area and protective fencing prevent access to certain portions of the LA River and unauthorized areas. In addition, compliance with code requirements pertaining to emergency vehicle access would ensure response times and service ratios of police protection services are maintained at acceptable levels.

The Proposed Project and its options may potentially deploy River Rangers from the LA River Ranger Program to patrol along the LA River. Although local police departments are typically responsible for patrolling and law enforcement, the LA River Ranger Program would complement this public safety service along the path and would not limit local police and sheriff's departments involvement in patrolling and enforcement along the proposed bicycle path. The use of the River Rangers for security patrol would be based upon discussion with the affected local agencies and their police and sheriff's departments.

Operation of the Proposed Project and its options does not include new facilities that would require the need for new or physically altered police protection facilities to maintain acceptable service ratios, response times, and other performance objectives. The Proposed Project and its options would not increase traffic on the surrounding roadways in a manner that would affect the response times of police protection services, would incorporate features that would improve the safety of the proposed bicycle path and ease the demand for local police and sheriff protection services, and would not result in the need for new or physically altered police/sheriff stations or facilities. As a result, there would be no substantial adverse physical impacts associated with the construction of new or physically altered police protection facilities. Therefore, impacts on police protection services would be **less than significant** during operation.

3.14.5.3 Impact PS-3: Schools

Impact PS-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for schools?

3.14.5.3.1 Proposed Project, Option 1, and Option 2

3.14.5.3.1.1 Construction

No impact. As discussed in Impact PS-1: Fire Protection, most construction activities would occur outside of the public ROW and would be located primarily along the banks and inside the LA River and within staging areas. Construction staging areas would not occur on or adjacent to any school sites. While construction activities may temporarily generate traffic and temporary partial closures of lanes, roadways, sidewalks, and crosswalks would occur, construction activities are not expected to impact

the operations of school facilities. PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* would address potential temporary impacts from construction activities on vehicular, transit, pedestrian, bicycle access and mobility. The TMP would include specific strategies to address short-term temporary Project-related construction effects on traffic, bicyclists, pedestrians, and area residents and businesses. PF-TR-02, *Traffic Control Plan* would provide safety and security measures to the construction site and RSA to minimize any potential impacts that construction activities would have on pedestrian or vehicle access to educational facilities in the RSA.

Given the temporary nature of construction activities and jobs, construction of the Proposed Project and its options is not expected to induce population growth. While construction of the Proposed Project and its options would create temporary construction-related jobs, the work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time in which their specific skills are needed to complete a particular phase of the construction process. In addition, the Proposed Project and its options would also be subject to Metro's Project Labor Agreement, which encourages employment and training opportunities to those who reside in economically disadvantaged areas on Metro construction projects (Metro 2017). Metro's Project Labor Agreement also requires that 40% of project work is performed by Local Targeted Workers with priority given to community area residents. Accordingly, there is a substantial employment base and residential population in the region to fill any construction-related jobs resulting from the Proposed Project and its options; thus, increases in the student population or student enrollment in public schools are not anticipated.

Construction of the Proposed Project and its options does not include the construction of new facilities that would require the need for new or physically altered school facilities. Construction activities are not expected to increase the demand on school facilities, and the addition of new school facilities or expansion of existing school facilities is not expected to occur. Therefore, **no impacts** on school facilities would occur during construction.

3.14.5.3.1.2 Operations and Maintenance

No impact. The Proposed Project and its options would create an active transportation path that would be used by pedestrians and bicyclists from the surrounding communities and is not expected to induce population growth. Any population growth in the area would be contingent upon local city zoning regulations and approvals, which would consider a development's consistency with local general plans and policies; therefore, any growth is anticipated to be consistent with local polices and requirements, and local growth projections. Any growth not currently planned would not occur without modification of local zoning ordinances and/or general plans. No housing is proposed as part of the Proposed Project and its options. Operation of the Proposed Project and its options does not include new facilities that would require the need for new or physically altered school facilities. Operation and maintenance of the Proposed Project and its options would not result in the need for new or physically altered educational facilities. Therefore, **no impacts** on school facilities would occur during operation.

3.14.5.4 Impact PS-4: Public Libraries

Impact PS-4: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable services ratios, response times or other performance objectives for public libraries?

3.14.5.4.1 Proposed Project, Option 1, and Option 2

3.14.5.4.1.1 Construction

No impact. As discussed in Impact PS-1: Fire Protection, most construction activities would occur outside of the public ROW and would be located primarily along the banks and inside the LA River and within staging areas. Construction staging areas would not occur on or adjacent to any library facilities. No library facilities are located within the RSA. PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* would address potential temporary impacts from construction activities on vehicular, transit, pedestrian, bicycle access and mobility and PF-TR-02, *Traffic Control Plan* would minimize any potential access impacts to library facilities. Construction of the Proposed Project and its options does not include the construction of new facilities that would require the need for new or physically altered library facilities. Construction activities and jobs are temporary and is not expected to permanently increase the population in a manner that would affect library services. Therefore, **no impacts** on library facilities would occur during construction.

3.14.5.4.1.2 Operations and Maintenance

No impact. The Proposed Project and its options would create an active transportation path that would be used by pedestrians and bicyclists from the surrounding communities and is not expected to induce population growth. Any population growth in the area would be contingent upon local city zoning regulations and approvals, which would consider a development's consistency with local general plans and policies; therefore, any growth is anticipated to be consistent with local polices and requirements, and local growth projections. Any growth not currently planned would not occur without modification of local zoning ordinances and/or general plans. No housing is proposed as part of the Proposed Project or its options. Construction of the Proposed Project and its options does not include the construction of new facilities that would require the need for new or physically altered library facilities. The Proposed Project and its options are not expected to increase the demand for library services and operational activities would not result in the need for new or physically altered libraries. Therefore, **no impacts** on library facilities would occur during operation.

3.14.6 Mitigation Measures

As identified in Section 3.14.5, the Proposed Project and its options, Option 1 and Option 2, would result less than significant impacts under Impact PS-1 and Impact PS-2, and no impact under Impact PS-3 and Impact PS-4. No mitigation measures are required for construction or operation.

3.14.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options, Option 1 and Option 2. Impacts would be less than significant under Impact PS-1 and Impact PS-2, and no impact would occur under Impact PS-3 and Impact PS-4.

3.14.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for public services/safety and security,

and extends further to include other projects that, due to the area's topography and existing built environment, may interact with the Project elements. The geographic scope for cumulative impacts to public services/safety and security is the service areas of the police protection, fire protection and emergency response providers, schools, and public libraries that include the 0.25-mile radius from the permanent and temporary footprints of the Proposed Project and its options.

As discussed in Section 3.14.5, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.14.5, the Proposed Project and its options would result in substantially similar impacts related to public services/safety and security. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.14.8.1 Proposed Project, Option 1, and Option 2

3.14.8.1.1 Construction

Construction activities and temporary lane and street closures could temporarily affect the pedestrian and bicycle environment, motorist safety, school route safety, and emergency response services. The Proposed Project and its options would coordinate with police and fire and emergency services, develop construction staging plans, and comply with applicable regulations and impacts would be less than significant. PF-PS-01, *Emergency Service Coordination,* PF-PS-02, *Construction Safety Measures*, PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*, and PF-TR-02, *Traffic Control Plan* would ensure that fire and emergency service response times are maintained during construction, that emergency access is maintained during construction, and that safety measures are present along the Safe Route to School streets in the RSA to avoid impacts to pedestrian, bicyclist, or motorist safety. Construction of the Proposed Project and its options does not include the construction of new facilities that would not require the need for new or physically altered police protection service and fire service facilities to maintain acceptable service ratios, response times, and other performance objectives. As a result, there would be no substantial adverse physical impacts associated with the construction of new or physically altered police protection and fire service facilities. Impacts on police protection services and fire services would be less than significant during construction.

Construction of the Proposed Project and its options does not include the construction of new facilities that would require the need for new or physically altered school and library facilities. Construction activities are not expected to increase the demand on school and library facilities, and the addition of new school and library facilities or expansion of existing school facilities is not expected to occur. No impacts on school and library facilities would occur during construction.

Past, present, and probable future projects would increase temporary construction activities that would increase the demand for public services. Similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with all applicable regulations and implement migration measures and/or specific project-related design features to minimize impacts to public services during construction. The Project, when combined with past, present, and probable future projects, would increase demand for public services, such that new or expanded facilities could be required, but the Proposed Project and its options incremental contribution to police services and fire protection services impacts would be less than significant, based on the nature of the project, implementation of project features, and safety and security measures. Similar to the Proposed Project and its options, construction activities for past, present, and probable future projects would be temporary in nature and would not increase the demand for schools and library services. Therefore, the Proposed Project and its options, when combined with past, present, and probable future projects,

would not result in cumulatively significant public service and emergency services impacts during construction.

3.14.8.1.2 Operations and Maintenance

Operation of the Proposed Project and its options would not include operation and maintenance activities or the construction of new facilities that would require the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. The Proposed Project and its options would not increase traffic on the surrounding roadways in a manner that would affect the response times of fire protection and emergency services, would incorporate features along the proposed bicycle path, and would comply with applicable code requirements to ensure response times and service ratios of police protection, fire protection, and emergency services are maintained at acceptable levels. Impacts on police protection, fire protection, and emergency services would be less than significant during operation.

The Proposed Project and its options would not induce population growth and is not expected to increase the demand for school and library services and operational activities would not result in the need for new or physically altered school and libraries. No impacts on school and library facilities would occur during operation.

Past, present, and probable future projects would consist of infrastructure, commercial, industrial, and residential projects that may increase the demand for public services, including fire and police protection. Like the Proposed Project and its options, past, present, and probable future projects would be subject to all applicable safety codes and regulations and would comply with requirements with the local emergency services. Each past, present, and probable future projects would be required to implement project features and mitigation measures, as necessary, to reduce impacts. In addition, past, present, and probable future projects may also induce population growth that may increase the demand for school and library facilities. Past, present, and probable future projects would be required to comply with applicable regulations and determine if in-lieu fees for school and library facilities are required, as applicable based on the type of related project.

The Proposed Project and its options when combined with past, present, and probable future projects would increase demand for public services, such that new or expanded facilities could be required, but the Project's incremental contribution to public services impacts would be less than significant, based on the nature of the project, implementation of project features, and safety and security measures. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant public service and emergency services impacts during operation.

3.15 Recreation

3.15.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to parks and recreation. This section also describes the existing setting and current applicable regulatory framework.

3.15.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to parks and recreation.

3.15.2.1 Federal

There are no applicable federal regulations related to parks and recreation.

3.15.2.2 State

3.15.2.2.1 California Public Resources Code

3.15.2.2.1.1 California Public Park Preservation Act of 1971

The California Public Park Preservation Act of 1971 is codified as California *Public Resources Code* (PRC) Sections 5400–5409. Under the California Public Park Preservation Act of 1971, cities and counties may not acquire real property that is in use as a public park for any nonpark use unless compensation or land, or both, are provided to replace the parkland acquired.

3.15.2.2.1.2 California Parklands Act of 1980

The California Parklands Act of 1980 (PRC Sections 5096.141–5096.143) identifies "the public interest for the state to acquire, develop, and restore areas for recreation...and to aid local governments of the state in acquiring, developing and restoring such areas...." The California Parklands Act also identifies the necessity of local agencies to exercise vigilance to see that their parks, recreation areas, and recreational facilities are not lost to other uses.

3.15.2.2.2 California Government Code

California Government Code (CGC) Section 66001 allows local agencies to establish, increase, or impose a fee as a condition of approval for development projects. The fee cannot include the costs attributable to existing deficiencies in public facilities but may include the costs attributable to the increased demand for public facilities reasonably related to the development project to refurbish existing facilities to maintain the existing level of service or achieve an adopted level of service that is consistent with the general plan. Parks and recreational facilities are one of the public facilities to which the fees are applicable.

3.15.2.2.2.1 Quimby Act

The Quimby Act was established by the California State Legislature in 1965 and codified as CGC Section 66477. The Quimby Act allows the legislative body of a city or county to require, by ordinance, the dedication of land, payment of fees in lieu thereof, or a combination of both for park or recreational purposes as a condition of the approval of a tentative tract map or parcel map.

3.15.2.3 Regional and Local

3.15.2.3.1 Southern California Association of Governments

3.15.2.3.1.1 Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Connect SoCal—2020–2045 Regional Transportation Plan/Sustainable Communities Strategy (Connect SoCal) is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals (SCAG 2020). Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Connect SoCal includes a core vison for creating "complete streets" that are safe and inviting to all roadway users and are critical to increasing mobility choices, reducing traffic fatalities and serious injuries, and meeting greenhouse gas reduction targets.

3.15.2.3.2 Los Angeles County Metropolitan Transportation Authority

3.15.2.3.2.1 Countywide Sustainability Strategic Plan (Moving Beyond Sustainability)

Metro's *Countywide Sustainability Strategic Plan (Moving Beyond Sustainability)* (Metro 2020a) outlines a comprehensive sustainability strategy for the next decade to make Metro facilities greener, reduce air pollution and trash from construction and reduce smog and greenhouse gases across Los Angeles County. The plan builds on more than a decade of Metro sustainability policies dating back to the 2008 *Metro Sustainability Implementation Plan*.

3.15.2.3.2.2 Metro Complete Streets Policy

The Complete Streets Policy (Metro 2014) advances the vision provided in Metro's *Countywide Sustainability Planning Policy & Implementation Plan* (Metro 2012) and the Metro Board's *Active Transportation Strategic Plan* (Metro 2023). The Complete Streets Policy demonstrates Metro's ongoing commitment to improve mobility in the region and ensure that streets form a comprehensive and integrated transportation network, thus promoting safe and convenient travel for all users while preserving flexibility, recognizing community context, and using design guidelines and standards that support best practices.

3.15.2.3.2.3 Metro First/Last Mile Guidelines

Metro's *First/Last Mile Guidelines* (Metro 2021) describes the process by which Metro and local jurisdictions partner in the planning, design, and construction of first/last mile (FLM) improvements for new rail transit and bus rapid transit) corridor projects. The Guidelines intend to fulfill the Metro Board of Directors' vision for safe, connected FLM pathways to new transit stations. It builds upon Metro's FLM policies and past experience: the First/Last Mile Strategic Plan (2014) presented methodology for FLM planning; and Board Motions 14.1 and 14.2 (2016) directed activities to facilitate and implement FLM networks around transit stations and stops throughout the county. The goal of the First/Last Mile Guidelines is to ensure the comprehensive integration of FLM improvements into existing and future transit capital projects.

3.15.2.3.2.4 Active Transportation Strategic Plan

Metro's *Active Transportation Strategic Plan* (Metro 2023) serves to update Metro's 2006 *Bicycle Transportation Strategic Plan* (Metro 2006) and is Metro's countywide effort to identify strategies to increase walking, bicycling, and transit use in Los Angeles County. The *Active Transportation Strategic Plan*'s policy and infrastructure recommendations require collaboration among Metro, local and regional agencies, and other stakeholders to ensure implementation. The *Active Transportation Strategic Plan* focuses on improving first and last mile access to transit, proposing a regional network of active transportation facilities, including shared-use paths and on-street bikeways, and developing a funding strategy to get them built.

3.15.2.3.2.5 Vision 2028 Strategic Plan

Metro's *Vision 2028 Strategic Plan* (Metro 2018) creates the foundation for transforming mobility in Los Angeles County over the next 10 years. This plan sets the mission, vision, performance outcomes, and goals for Metro, and puts in motion specific initiatives and performance outcomes. The plan details five goals:

- Provide high-quality mobility options that enable people to spend less time traveling
- Deliver outstanding trip experiences for all users of the transportation system
- Enhance communities and lives through mobility and access to opportunity
- Transform Los Angeles County through regional collaboration and national leadership
- Provide responsive, accountable, and trustworthy governance within the Metro organization

3.15.2.3.2.6 2020 Long Range Transportation Plan

The *2020 Long Range Transportation Plan* (2020 LRTP) (Metro 2020b) includes strategies and actions to ensure every resident has affordable transportation choices that are sustainable for the future. The 2020 LRTP includes strategies for complete streets that create a comprehensive, integrated network that uses infrastructure and design to allow safe and convenient travel along streets for all users. Complete streets provide safer crossing and roadway facilities for pedestrians and bicyclists, have more greenery and fewer potholes, and help create a more environmentally sustainable transportation system. The 2020 LRTP includes several active transportation facility projects, including Rail to Rail Active Transportation Corridor Segment A, a 5.6-mile multi-use path connecting the Fairview Heights Station of the Crenshaw Line to the Slauson A Line station in South Los Angeles; LA River Path–Central LA, an 8-mile path gap closure between Elysian Valley and Maywood; and the LA River Path–

San Fernando Valley Project, a 13-mile path connecting the San Fernando Valley to the existing LA River Path near Griffith Park.

3.15.2.3.3 Los Angeles County

3.15.2.3.3.1 Los Angeles County General Plan

The *Los Angeles County General Plan*, adopted in October 2022, provides the policy framework and establishes the long-range vision for how and where the unincorporated areas of Los Angeles County will grow (County of Los Angeles Department of Regional Planning 2022). The *Los Angeles County General Plan*'s Conservation and Natural Resources Element intends to guide the County's long-range preservation of its natural resources and open space, and sets policy direction for the open space, natural, and energy-related resources within unincorporated Los Angeles County. The Parks and Recreation Element provides for the maintenance and expansion of the County's parks and recreation system through goals and policies, which address the growing and diverse recreation needs of the communities served by the County. The unincorporated community of Bandini Islands (that is, the unincorporated islands within the City of Vernon) in the RSA are also supported by the policy framework established in the *Los Angeles County General Plan*.

Applicable goals and policies related to recreation include protecting and conserving natural resources and open spaces; supporting and prioritizing new open space acquisitions; providing, enhancing, and promoting active and passive park and recreation opportunities; and improving accessibility and connectivity to parks with pedestrian and bicycle-friendly paths and trail systems.

3.15.2.3.3.2 Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment

The *Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment* (LADRP 2016) documents existing parks and recreation facilities in cities and unincorporated communities and uses the data to determine the scope, scale, and location of park needs in Los Angeles County. The *Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment* also establishes new ways of understanding about parks, recreation, and open space by considering parks as key infrastructure; using a new series of metrics to determine park needs; supporting a need-based allocation of funding for parks and recreation; and emphasizing community priorities and deferred maintenance projects. As part of the assessment, the LADRP collaborated with 86 cities.

3.15.2.3.3.3 County of Los Angeles Bicycle Master Plan

The *County of Los Angeles Bicycle Master Plan* (LACDPW 2012) provides direction for improving mobility of bicyclists and encouraging more bicycle ridership within Los Angeles County by expanding the existing bikeway network, connecting gaps, addressing constrained areas, providing for greater local and regional connectivity, and encouraging more residents to bicycle often. The plan proposes to build on the existing 144 miles of bikeways throughout Los Angeles County and install approximately 831 miles of new bikeways in the next 20 years. This also includes bicycle infrastructure improvements, bicycle-related programs, implementation strategies, and policy and design guidelines for the unincorporated communities of Los Angeles County. The master plan also recommends building a bicycle path along the LA River through the City of Vernon.

3.15.2.3.3.4 Los Angeles County LA River Master Plan

The first Los Angeles County *LA River Master Plan* (LACDPW 1996) recognized the river as a body of resources of regional importance, and that these resources must be protected and enhanced by implementing efforts identified in the master plan that would revitalize publicly owned rights-of-way (ROWs) along the LA River. In 2022, the County Board of Supervisors approved an update to the *LA River Master Plan* (LACDPW 2022). The updated plan identifies existing recreational facilities along the LA River and identifies the need for new public open space and parks in Los Angeles County. The plan also provides goals and objectives applying recreational facilities, including creation of a regional greenway and trail system that would link existing trails and enhance potential trail opportunities. The updated plan's vision for the LA River with respect to recreation include the following:

- Become 51 miles of connected public open space along the river Create welcoming access points and gateways to the LA River and LA River Trail to optimize physical access along its length, on both sides
- Increase safe transportation routes to the river
- Provide support facilities at a regular cadence along the length of the river, on both sides where feasible
- Complete the LA River Trail so that there is a continuous route along the entire river, and encourage future routes on both sides where feasible
- Ensure design excellence within and along the river corridor
- Encourage compatibility of the river and adjacent land uses
- Repurpose single-use spaces, such as power-line easements, rail ROWs, or flood infrastructure, to serve multiple functions, such as multi-use trails or habitat, and prioritize spaces that are in high and very high park need areas
- Promote life safety along the river
- Promote public safety along the river

3.15.2.3.4 City of Los Angeles

3.15.2.3.4.1 General Plan Framework Element

The *City of Los Angeles General Plan* Framework Element is the plan's organizing element and is a strategy for long-term growth that sets a citywide context to guide the subsequent amendments of the City's community plans, zoning ordinances, and other pertinent programs (City of Los Angeles 2001). Framework Element Chapter 6, *Open Space and Conservation*, and Chapter 9, *Infrastructure and Public Services* include goals, objectives, and policies applicable to recreational facilities. Applicable goals and policies related to recreation include protecting and conserving natural resources; and encouraging the use, stability, accessibility and connections of parks and open space.

3.15.2.3.4.2 City of Los Angeles General Plan

The *City of Los Angeles General Plan* (City of Los Angeles 2001) establishes a long-term vision for how the City will evolve and prescribes policy goals and objectives to shape the physical development of the City. The *City of Los Angeles General Plan* includes 11 plan elements: land use, air quality, conservation, health, safety, mobility, infrastructure systems, open space, public facilities and services, noise, and housing.

Plan for a Healthy Los Angeles: The Health and Wellness Element of the City of Los Angeles General Plan provides high-level policy vision, along with measurable objectives and implementation programs to elevate health as a priority for the City's future growth and development. Health and Wellness Element Chapter 3, *Bountiful Parks and Open Spaces*, includes objectives and policies applicable to recreational facilities (City of Los Angeles 2015).

The *City of Los Angeles General Plan's* Open Space Element (City of Los Angeles 1973) provides official guidelines for the identification, preservation, conservation, and acquisition of open space in the City. The Open Space Element defines open space as land that is essentially free of structures and buildings and/or is natural in character, and functions to provide recreational or educational opportunities, scenic, cultural, or historic values, and public health and safety; conserve ecologically important areas or natural resources; preserve community scale and identity; or buffer/define activity areas. The Open Space Element includes definitions, goals, objectives, and policies pertaining to the regulation of open space within the City.

The *City of Los Angeles General Plan's* Public Recreation Plan, which is part of the Service Systems Element (City of Los Angeles 1980) identifies existing recreational facilities and parks in the City of Los Angeles. The Public Recreation Plan categorizes parks into three types: neighborhood, community, and regional. Ideally, neighborhood parks have a service radius of approximately 0.5 mile and are pedestrian accessible without crossing a major arterial street or highway/freeway. Community parks have a service radius of 2 miles and are easily accessible to the area served. Regional parks in the City provide specialized recreational facilities and/or attractions and have a service radius encompassing the Los Angeles region. The Public Recreation Plan also provides the City's standard long-range ratios for parks to population and states that the types of amenities, such as recreation centers, gyms, and basketball courts offered on public parks and recreation land should also be considered when determining the adequacy of park space.

The City of Los Angeles' *Mobility Plan 2035* lays out the policy foundation for achieving a transportation system that balances the needs of all road users in the City (City of Los Angeles Department of City Planning 2016). *Mobility Plan 2035* establishes a foundation for a network of complete streets that will provide safe and efficient transportation for pedestrians, bicyclists, transit riders, and car and truck drivers, and similar.

Applicable recreational facility goals, objectives, and policies of the Health and Wellness Element, Open Space Element, and *Mobility Plan 2035* include the accessibility of natural open space and physical activity; supporting the implementation of the *Los Angeles River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007); providing safe, convenient, and comfortable bicycling facilities; and providing "first mile, last mile solutions."

3.15.2.3.4.3 2009 Citywide Community Needs Assessment

LADRP conducted a needs assessment (City of Los Angeles 2009) as the first step in the preparation of a citywide recreation and parks master/strategic plan and a 5-year capital improvement plan. The needs assessment identifies, quantifies, and preliminarily prioritizes the need for recreation and open space in the City. As part of the development of this needs assessment, LADRP also performed a high-level review to address various facilities needing improvements to meet current and future needs, prevent future maintenance problems, and offer positive alternatives to an increasingly dense and urbanized population.

3.15.2.3.4.4 LA's Green New Deal Sustainable City pLAn 2019

The City of Los Angeles' *LA's Green New Deal Sustainable City pLAn 2019* expands the City's vision for a sustainable future and tackles the climate emergency with accelerated targets and more aggressive goals (City of Los Angeles 2019). *LA's Green New Deal Sustainable City pLAn 2019* contains targets and initiatives pertaining to recreational facilities, including expanding bicycle lane network by 20 lane-miles per year and increase bicycle-supportive infrastructure. *LA's Green New Deal Sustainable City pLAn 2019* also identifies the need to create a fully connected LARiverWay public access system that includes 32 miles of bicycle paths and trails that prioritize native habitat, stormwater capture, and shading by 2028, and supports the expansion of recreational opportunities compatible with the LA River.

3.15.2.3.4.5 City of Los Angeles Community Plans

The City of Los Angeles' *Boyle Heights Community Plan* (City of Los Angeles Department of City Planning 2023), *Central City Community Plan* (City of Los Angeles 2003), *Central City North Community Plan* (City of Los Angeles Department of City Planning 2000), *Northeast Los Angeles Community Plan* (City of Los Angeles Department of City Planning 1999), *Silver Lake – Echo Park – Elysian Valley Community Plan* (City of Los Angeles Department of City Planning 2004), and the *Alameda District Specific Plan* (City of Los Angeles Department of City Planning 1996) contain applicable recreational facility goals, objectives, and policies for each community plan area. Applicable objectives, goals, and policies related to recreation include preserving, expanding, and maintaining recreation and park facilities for the community; and providing access to new recreational resources and open space, including trails and facilities along the Los Angeles River, and new parks.

3.15.2.3.4.6 Connect US Action Plan

Metro's *Connect US Action Plan* (formerly the *Union Station and First/Central Station Linkages Study*) (Metro 2015) establishes objectives and implementation strategies that would provide pedestrians and cyclists safe and pleasurable passage between Union Station, First/Central Regional Connector Station, and the adjacent historical/cultural neighborhoods. These neighborhoods include El Pueblo, Chinatown, Cornfield Arroyo Seco, Boyle Heights, Arts District, Little Tokyo, and Civic Center. Applicable objectives related to recreation include providing and improving pedestrian and bicycle facilities in the neighborhoods and improving access to open spaces. Most of these objectives will be implemented through the LA Union Station Forecourt and Esplanade Improvements Project.

3.15.2.3.4.7 2010 Bicycle Plan

The City of Los Angeles *2010 Bicycle Plan* (City of Los Angeles Department of City Planning 2011) designates a 1,684-mile bikeway system and introduces a comprehensive collection of programs and policies, including a citywide bikeway system with three bikeway networks throughout the City, bicycle-friendly streets, the bundling of programs and policies, and a multi-pronged implementation strategy. The purpose of the *2010 Bicycle Plan* is to increase, improve, and enhance bicycling in the City as a safe, healthy, and enjoyable means of transportation and recreation.

3.15.2.3.4.8 LA River Revitalization Master Plan

The *LA River Revitalization Master Plan* (City of Los Angeles Department of Public Works 2007) provides a long-term vision for transforming the City of Los Angeles' 32-mile stretch of the LA River into a network of parks, walkways, and bicycle paths, as well as providing better connections to the

neighboring communities, protecting wildlife, promoting the health of the river, and leveraging economic reinvestment. The plan includes recommendations for physical improvements to the river corridor, and to the recreational and green space network in adjacent neighborhoods.

3.15.2.3.4.9 Great Streets for Los Angeles Strategic Plan

The Los Angeles Department of Transportation's (LADOT's) *Great Streets for Los Angeles Strategic Plan* establishes a vision for the City of to deliver great streets for Los Angeles that will support economic vitality and enhance quality of life (LADOT 2018). The *Great Streets for Los Angeles Strategic Plan* encapsulates the vision for the City's 21st Century transportation system that provides better multi-modal choice, a system that can be sustained economically and ecologically, and a system that supports the City's economy by connecting places and creating public spaces. The *Great Streets for Los Angeles Strategic Plan* seeks to expand the bicycle network and fill key gaps in the City's bicycle network by improving bicycle network connectivity in high-value locations, such as first and last mile connections to transit and gaps in the network.

3.15.2.3.5 City of Vernon

3.15.2.3.5.1 City of Vernon General Plan

Goals and policies provided in the Resources Element of the *City of Vernon General Plan* (City of Vernon 2015) include strategies to best manage the limited available natural resources in Vernon and encourage continued participation in broader efforts to protect the environment from harmful human activities. Policies provided in the Circulation and Infrastructure Element of the *City of Vernon General Plan* address the movement of goods and people along roadways and railways within the City. Applicable objectives related to recreation include preserving and looking for new opportunities for open space; cooperating with regional efforts to upgrade the open space value of the Los Angeles River Channel; and cooperating with Metro and local agencies to complete a bicycle path along the LA River.

3.15.2.3.5.2 City of Vernon Bicycle Master Plan

The *City of Vernon Bicycle Master Plan* (City of Vernon 2017) is the guiding document for the development of a safe and comfortable network of bicycle facilities linking working centers and community destinations within the City of Vernon, as well as to the larger regional network. The *City of Vernon Bicycle Master Plan* summarizes the planning process, and describes the current biking conditions in Vernon, recommends policies and tools for the City to use in implementing programs and infrastructure improvements, and provides implementation strategies to create better connectivity throughout Vernon and to the surrounding region. Applicable goals, objectives, and policies related to recreation include increasing bicycle access; providing and improving bicycle plans that integrate with all modes of transportation; and providing education and awareness for bicycle programs.

3.15.2.3.6 City of Maywood

3.15.2.3.6.1 City of Maywood General Plan

The Open Space Element of the *City of Maywood General Plan* (City of Maywood 2007) includes goals and policies for preserving and obtaining open space areas in the City of Maywood. The element includes an inventory of both public and private open space and a plan for the continued protection of these areas. The Conservation Element of the *City of Maywood General Plan* identifies resources and

establishes goals and policies to assist in the management, preservation, or conservation of these resources. The Transportation Element of the *City of Maywood General Plan* establishes goals and policies focusing on improving existing and future circulation issues in the City of Maywood. Applicable goals and policies related to recreation include providing open space and a bicycle and pedestrian network to the community; coordinating with Metro to improve city bicycle routes; and supporting efforts to link the bicycle path system to the Los Angeles River Bicycle Trail.

3.15.2.3.7 City of Bell

3.15.2.3.7.1 City of Bell 2030 General Plan

The *City of Bell 2030 General Plan* (City of Bell 2018), adopted in May 2018, includes the Land Use and Sustainability, Resource Management, Health and Safety, Mobility and Circulation, and Housing Elements. The Plan includes policies that promote and improve alternative transportation and circulation in the City, such as pedestrian friendly streets, a comprehensive bicycle system, and expanded use of public transit.

3.15.2.3.7.2 City of Bell Bicycle Master Plan

The *City of Bell Bicycle Master Plan* (City of Bell 2016) provides detailed recommendations for infrastructure, policies and programs that promote safe bicycling in the City of Bell. The Plan also establishes City priorities, directs allocation of infrastructure and program resources, and guides implementation of a sustainable bikeway network. The Plan identifies improvements to the bicycling environment in the City and provides recommendations for bikeway and bicycle support facilities, as well as education, encouragement, enforcement and evaluation programs.

3.15.3 Methodology

The analysis of parks and recreational facilities included the identification of park and recreational uses and facilities within the resource study area (RSA) based on existing sources, including general plans and a desktop analysis of aerial maps and satellite imagery. Recreational uses and facilities include existing public parks, recreational centers, open space, bikeways, and hiking trails. Bikeways are typically a type of non-motorized transportation infrastructure. However, for the purpose of this analysis, bikeways are also considered a recreational use because some of the bikeways within the RSA (for example, bikeways along the LA River) have characteristics similar to those of a recreational facility.

Construction and operation of the Proposed Project and its options, Option 1 and Option 2, have the potential to affect existing parks and recreational uses and facilities in the RSA. To determine if the Proposed Project and its options have the potential to impact existing parks and recreational uses and facilities, the following impact analysis approach was used for each of the CEQA thresholds of significance. The analysis determines whether the Proposed Project and its options would result in an increase in the use of nearby existing recreational facilities, resulting in physical deterioration. Increased demand on parks and recreational facilities are generally associated with an increase in population. As such, the impact analysis evaluates whether the Proposed Project and its options would increase residential population in the existing surrounding communities. Because the Proposed Project and its options are an active transportation path with characteristics similar to those of a recreational facility, the analysis also evaluates whether the Proposed Project and its options would result in an increased demand on the surrounding connecting active transportation paths. The impact

analysis also evaluates if the Proposed Project and its options would result in significant impacts in the expansion of and connection to other active transportation facilities or recreational facilities.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.15.3.1 Resource Study Area

For the purposes of evaluating parks and recreation impacts, the RSA is defined as 0.25-mile from the permanent and temporary footprints (including construction staging areas and design variations) of the Proposed Project and its options. Figure 3.15-1 shows the RSA for the parks and recreation analysis.

Figure 3.15-1. Parks and Recreation Resource Study Area



3.15.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Proposed Project impacts associated with parks and recreation are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to parks and recreation would occur if the Proposed Project would do any of the following:

- **Impact REC-1:** Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

- **Impact REC-2:** Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?
- **Impact REC-3:** Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks?

3.15.3.3 Project Features

As described in Appendix C*, Project Features,* a number of features have been incorporated into the Proposed Project and its options, Option 1 and Option 2, to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies.

No project features have been developed specifically for parks and recreation. However, project features related to parks and recreation include the following. Refer to Section 3.16, *Transportation* for additional detail:

- PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*
- PF-TR-02, *Traffic Control Plan*

3.15.4 Existing Setting

The following section describes the existing conditions for parks and recreation.

3.15.4.1 Parks and Recreation Facilities

LADRP owns and operates 177 parks in both unincorporated areas and cities in Los Angeles County, including four arboreta and botanic gardens, 92 local parks, 22 community regional parks, 16 regional parks, 14 wildlife sanctuaries, eight nature centers, and 19 golf courses. The County's park system, including facilities that are owned, operated, and maintained by the County, totals approximately 70,000 acres. LADRP also manages and provides parks and recreational services throughout the City of Los Angeles.

The Mountains Recreation and Conservation Authority (MRCA) is dedicated to the preservation and management of local open space and parkland, wildlife habitat, coastal access, watershed lands, and trails in both wilderness and urban settings, and to ensuring access to public parkland and coastal resources. The MRCA works in cooperation with the Santa Monica Mountains Conservancy and other local agencies include the Los Angeles County and the City of Los Angeles with the goal of creating a continuous greenway along the 51-mile Los Angeles River and its tributaries. The MRCA manages numerous parks along the river from the San Fernando Valley to Downtown Los Angeles and has developed, funded, and built many parks and recreational greenways throughout the region that are now managed by Los Angeles County or other jurisdictions. MRCA manages parks in the recreation RSA including Egret Park, River Garden Park, Oso Park, Steelhead Park, and the LA River Greenway Trail.

City of Los Angeles park and recreation facilities include more than 16,000 acres of parkland with more than 444 park sites, including hundreds of athletic fields, 422 playgrounds, 321 tennis courts, 184 recreation centers, 72 fitness areas, 62 swimming pools and aquatic centers, 30 senior centers, 26 skate parks, 13 golf courses, 12 museums, and nine dog parks.

The City of Vernon is a primarily industrial manufacturing city and does not own or manage any parks or recreational facilities. The City of Maywood Community Services Department maintains five parks totaling approximately 12 acres and offers various activities and programs. There are no LADRP managed parks in the City of Vernon or Maywood.

Approximately 12 parks and recreational facilities have been identified within the RSA, totaling approximately 183 acres, including approximately 132 acres of Elysian Park's 575 total acres, as detailed in Table 3.15-1.

3.15.4.2 Bicycle Facilities

Los Angeles County currently maintains 144 miles of existing bikeways with proposed plans for an interconnected network of bicycle corridors that would add approximately 831 miles of new bikeways throughout the County (Los Angeles County 2012). The existing and proposed bikeways are located in the unincorporated communities of Los Angeles County and where Los Angeles County owns property or has jurisdictional control, such as along flood-control facilities.

Using Caltrans' *Highway Design Manual* (Caltrans 2016), bicycle facilities are classified as Class I, II, III, and IV. Class I bikeways provide a completely separated ROW for the exclusive use of bicycles and pedestrians. Class II bike lanes are typically striped lanes for one-way bike travel on a street or highway. Class III bike paths are signed shared roadways (sharrows) that provide shared use with pedestrians or motor vehicle traffic. Class IV bikeways are protected bike lanes that are physically separated from the vehicle travel lane by more than the white stripe. Separation may be accomplished with grade separation, flexible bollards, or permanent barriers.

The City of Los Angeles operates the citywide bikeway system, which totals approximately 675 miles (City of Los Angeles 2021). Two Class I bikeways are in the RSA and are part of the greater LA River Bicycle Path: the LA River Greenway Trail, which is approximately 7 miles long north of the Project near Egret Park in the City of Los Angeles, and the Los Angeles River Bicycle Path, which is approximately 17 miles long south of the southern terminus near Atlantic Boulevard in the City of Vernon. The Project would connect these two existing LA River bicycle facilities to create one continuous 32-mile corridor for walking, rolling, or bicycling.

The only existing bikeway in Vernon is the 0.78-mile stretch of the Los Angeles River Bicycle Path that goes from Atlantic Boulevard to Slauson Avenue. The City of Vernon has not previously developed a plan for its bikeway network. However, several regional planning efforts have proposed bikeways within the City of Vernon. Currently, the City of Maywood does not provide designated bicycle facilities. The only existing bikeway in the City of Bell is the 1.8-mile Los Angeles

Table 3.15-1. Parks and Recreational Facilities Identified within in the Resource Study Area

Facility [a]	Total Area	Amenities	Park Type	Distance to Proposed Project Footprint
Park and Recreation Facilities				
Albion Riverside Park (LADRP) 1739 Albion Street, Los Angeles	6.2 acres	Soccer fields (two), children's play area, open space, walking paths	Neighborhood park	Adjacent
Confluence Park (LADRP) 510 North San Fernando Road, Los Angeles	0.4 acre	Open plaza	Pocket park	74 feet
Downey Playground and Recreation Center (LADRP) 1772 Spring Street, Los Angeles	4.5 acres	Indoor gym, auditorium, baseball diamond, basketball courts (two), swimming pool, kitchen	Neighborhood park	Adjacent
Ed P. Reyes River Greenway (City of Los Angeles Bureau of Sanitation) 299 N Avenue 19, Los Angeles	0.9 acre	Walking path, interpretive signs	Pocket park	Adjacent
Egret Park (MRCA) 975 Riverside Drive, Los Angeles	0.1 acre	Walking path	Pocket park	15 feet
Elysian Park (LADRP) 929 Academy Road, Los Angeles	575 acres [b]	Trails, bicycle paths, tennis courts, basketball courts, baseball diamonds, picnic tables, children's play areas, community centers, recreation center, horseshoe pits, restrooms	Regional park	69 feet
River Garden Park (MRCA) 570 West Avenue 26 #100, Los Angeles	0.5 acre	Walking paths	Pocket park	707 feet
Los Angeles State Historic Park (CA State Parks) 1245 North Spring Street, Los Angeles	32 acres	Large open space with walking paths	Regional park	Adjacent
Oso Park (MRCA) 2100 Oros Street, Los Angeles	0.2 acre	Walking path	Pocket park	490 feet
Steelhead Park (MRCA) 2240 Oros Street, Los Angeles	0.2 acre	Walking path, interpretive signs, open space	Pocket park	943 feet
Maywood Park and Recreation Center (City of Maywood) 4801 East 58th Street, Maywood	5.4 acres	Indoor gym, baseball diamond, swimming pool, restrooms	Neighborhood park	670 feet [c]
Pine Avenue Park (City of Maywood) 5313 Pine Avenue, Maywood	0.2 acre	Walking path, picnic tables, open space	Pocket park	1,272 feet

Table 3.15-1. Parks and Recreational Facilities Identified within in the Resource Study Area

Facility [a]	Total Area	Amenities	Park Type	Distance to Proposed Project Footprint
Bicycle Facilities				
City of Los Angeles Citywide Bikeway System (City of Los Angeles) Citywide Los Angeles	593 miles	Bicycle lanes	Class I, II, III, and IV bicycle lanes	Los Angeles citywide
LA River Greenway Trail (MRCA) Along LA River	7 miles	Bicycle path	Class I bicycle lane	Connects to the Project at the northern terminus
Los Angeles River Bicycle Path Along LA River	17 miles	Bicycle path	Class I bicycle lane	Connects to the Project at the southern terminus

[a] Public agencies provided in the parenthesis are the jurisdictional departments for the recreational facility. The Los Angeles River Bicycle Path is managed by several jurisdictions and is not listed in the table.

[b] Only 132 of Elysian Park's 575 total acres fall within the RSA.

[c] Distance is measured from the nearest point of a potential staging area to the recreational facility.

Notes:

Class I bikeways: bicycle paths that are completely separated from a street or highway ROW and are exclusively use by pedestrians and bicyclists away from the roadway.

Class II bicycle lanes: striped lanes for one-way bicycle travel on a street or highway.

Class III bicycle routes: routes on streets shared with motor vehicle traffic.

Class IV bikeways: bikeways that are exclusively used by bicyclists. The bikeways are within a street or highway ROW that are physically separated from the vehicle travel lane by more than lane markings.

CA State Parks = California Department of Parks and Recreation

LADRP = City of Los Angeles Department of Recreation and Parks

MRCA = Mountains Recreation and Conservation Authority

River Bicycle Path along the west side of the Los Angeles River, that spans the entire length of the channel within the City of Bell, from just south of Heliotrope Avenue to just south of Florence Avenue. The path originates approximately.5-mile north of Bell city limits at Atlantic Boulevard. The City of Bell maintains this segment of the LA River path and contracts out a daily maintenance and graffiti removal service.

Table 3.15-1 and Figure 3.15-2 list the parks, recreational facilities, and bicycle facilities in the RSA.

Figure 3.15-2. Parks and Recreational Facilities Identified within the Resource Study Area



3.15.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to parks and recreation are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.15.5.1 Impact REC-1: Increased Recreation

Impact REC-1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

3.15.5.1.1 Proposed Project, Option 1, and Option 2

3.15.5.1.1.1 Construction

Less than significant impact. Construction activities would be located primarily along the banks and inside the LA River channel and within potential staging areas. Construction activities are estimated to last approximately 3 years, with pre-construction activities (community outreach programs, a Construction Management Plan, agency coordination, haul routes, construction phasing and staging plan) anticipated to start in 2026. The anticipated construction start is 2028, with completion anticipated in 2031. Construction activities for the proposed path generally consist of four major activities: mobilization (staging areas, setting up construction trailers, and mobilizing equipment and materials to staging areas), site preparation (clearance of the site and preparing the Proposed Project footprint for construction), site work (based on the path type and component to be constructed and includes, but is not limited to, excavation, driven piles, concrete piers, steel girders, grading, trusses, arches, and similar), and finishes (pathway elements such as railings, pathway striping, signage, seating, landscaping, and similar).

The Proposed Project and its options would construct on-street access to Albion Park to the east and Los Angeles State Historic Park to the west with the construction of a dual incised ramps on the west bank connecting to the north and south sides of the North Main Street Bridge. Construction activities would not be located on existing neighborhood parks, regional parks, other recreational facilities, or bikeways and would not directly create permanent impacts that would physically deteriorate such facilities. While construction of the Proposed Project and its options would create temporary construction-related jobs, the work requirements are highly specialized so that construction workers remain at a job site only for the time in which their specific skills are needed to complete a particular phase of the construction process. Accordingly, it is not anticipated that construction workers would relocate their residences as a consequence of working on the Proposed Project and its options that would lead to an increased use of the nearby parks and recreational facilities. Although construction workers may use nearby parks or recreational facilities during lunchtime breaks, such use would be temporary and nominal. Therefore, construction activities would not generate demand for parks or other recreational facilities that would increase the use of existing neighborhood and regional parks or other recreational facilities, resulting in accelerated or substantial physical deterioration of the facilities.

Construction activities would result in temporary impacts associated with intermittent increases in noise, which could affect the use and physical quality of nearby and adjacent parks, recreational facilities, and bicycle paths, including the LA River Greenway Trail, Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. As discussed in Section 3.12, *Noise and Vibration*, construction may at times exceed the applicable noise standards resulting in significant and unavoidable impacts. MM-NOI-01, *Noise Control and Monitoring Plan* would be implemented to lower sound levels during construction. Noise impacts related to construction of the Proposed Project and its options would be temporary in duration and would not physically deteriorate existing parks and recreational facilities due to increased use of these facilities.

Construction access to staging areas would be via public highways and roads with access to the LA River Path and channel via existing flood-control access routes and temporary access routes. Long-term road closures would not occur; however, temporary closures or partial closures of roadways, sidewalks, crosswalks, and bicycle facilities would be implemented to allow for construction activities, material delivery, and to maintain public safety for pedestrians, bicyclists, and construction workers. In particular, these closures could temporarily limit access and use of nearby and adjacent parks, recreational facilities, and bicycle paths, including the LA River Greenway Trail, Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. However, construction activities would be temporary and the Proposed Project and its options would implement PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan.* The TMP would include traffic controls, flaggers, and other traffic safety measures to maintain traffic flow during temporary construction activities that would maintain safe access to nearby and adjacent parks, recreational facilities, and bikeways to the extent feasible (refer to Section 3.16, *Transportation*, for more information about the transportation features). Maintaining access to the nearby park and recreational facilities is not anticipated to increase the use of such facilities but would allow the general use of the facilities to be unimpeded to the extent feasible. As such, construction of the Proposed Project and its options would not create temporary or permanent impacts that would physically deteriorate existing parks and recreational facilities.

In summary, temporary construction impacts, potential limited use by construction workers, and maintaining access to such facilities during construction would not increase their use in a way that would result in permanent physical deterioration. Therefore, construction activities would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and construction impacts would be **less than significant**.

3.15.5.1.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would be located within and along the banks of the LA River and serve as an active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities separated from vehicular traffic. It has similar characteristics to a recreational facility. The Proposed Project and its options do not include components such as new housing or office space that would cause population in the RSA to increase. Rather, the Proposed Project and its options would serve the population in the surrounding communities as a non-motorized mode of transportation that would provide the surrounding communities with an alternative way of accessing parks, recreational facilities, and bikeways in the RSA.

Approximately 12 parks and recreational facilities and three bicycle facilities including the City of Los Angeles citywide bikeway system and two Class I bicycle facilities (LA River Greenway Trail and Los Angeles River Bicycle Path) are identified within the RSA. The Proposed Project and its options each provide multiple access points that would provide users of the path with connections to the

surrounding communities and nearby parks and recreational facilities. In particular, the Proposed Project would close the gap between the LA River Greenway Trail to north and the Los Angeles River Bicycle Path to the south of the Project, and create direct paths to Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park.

As discussed in Section 3.16.5, *Impact Evaluation,* of *Transportation*, the Proposed Project and its options would improve non-motorized access to the parks, recreational facilities, and bikeways that could increase the number of visitors to such facilities. There are two general ways people would use the path: utilitarian and recreational. Utilitarian users would use the path for a purposed destination (for example, work, school, and commercial retail) and recreational users would use the path for enjoyment. It is anticipated that most of the utilitarian users would originate from the surrounding residential developments to the LA River Path. Recreational users would also originate from the surrounding residential developments but could potentially originate from areas beyond the vicinity of the LA River Path. These recreational users could originate from beyond Los Angeles County or beyond the walking and biking distance to the river. Refer to Section 3.16.5.1, *Project Elements* of *Transportation* for more detail about the access opportunity network analysis conducted for the Proposed Project and its options. Table 3.15-2 summarizes the estimated number of pedestrians and bicyclists that would use the path. The Proposed Project and its options would result in approximately 4,600 pedestrians in 2028 and 2045, approximately 6,600 bicyclists in 2028 and approximately 7,200 bicyclists in 2045.

Table 3.15-2. Pedestrian and Bicyclist Access Demand

Project or Option	2045 Pedestrian			2028 Bicyclist			2045 Bicyclist		
	Utilitarian	Recreation	Total	Utilitarian	Recreation	Total	Utilitarian	Recreation	Total
Proposed Project	3,767	828	**4,595**	5,225	1,389	**6,614**	5,653	1,504	**7,157**
Option 1	3,767	829	**4,596**	5,224	1,389	**6,613**	5,652	1,502	**7,154**
Option 2	3,767	828	**4,595**	5,227	1,389	**6,616**	5,652	1,504	**7,156**

Source: Metro 2024

Notes:

The 2045 pedestrian demand is substantially similar to that of 2028; therefore, only the 2045 pedestrian demand is shown in the table.

Utilitarian users: use the path for a purposed destination, such as work, school, and commercial retail.

Recreational users: use the path for enjoyment.

New pedestrians and bicyclists using the new LA River Path may also connect to the surrounding parks and recreational facilities, which may increase the use of such facilities. However, because the surrounding parks and recreational facilities are operated by various jurisdictions and have existing operations and maintenance requirements, it is not anticipated that this increased use would result in substantial deterioration of these facilities. Potential trips from the LA River Path to each park or recreational facility cannot be assumed. The existing park and recreational facilities serve the population of the surrounding communities, and the Proposed Project and its options does not include components that would result in a direct increase in population that could substantially permanently increase the use of such facilities.

Occasional large community events may also increase the use of parks, recreational facilities, and bicycle facilities in which recreational users may originate beyond the surrounding communities. However, these park community events would be similar to those that are currently held in the RSA, and the Proposed Project and its options would not alter the operations or frequency of these locally held community events. Similar to existing conditions, the managing departments of the parks,

recreational facilities, and bicycle paths of the affected jurisdictions (that is, LADRP, California Department of Parks and Recreation, City of Los Angeles Bureau of Sanitation, MRCA, City of Maywood) would provide services and resources to the attendees of these events. As an active transit infrastructure project, the Proposed Project and its options may provide residents of the surrounding communities who choose not to drive an alternative means of accessing locally held community events. During such events, the use of parks, recreational facilities, and bikeways may potentially increase. However, the increased use would be occasional and specific to the community event. Thus, the Proposed Project and its options would provide improved connections to such community events and would not directly accelerate or result in a substantial deterioration of existing parks, recreational facilities, and bikeways.

The Proposed Project and its options would also employ operations and maintenance (O&M) activities to maintain a safe, reliable, and well-maintained path. O&M activities would be consistent with the current activities for the existing LA River Greenway Trail to the north and the existing Los Angeles River Bicycle Path to the south and would be scheduled routinely as part of the Proposed Project's O&M plan. O&M activities would not negatively affect regular operations of the LA River Greenway Trail, Los Angeles River Bicycle Path, Egret Park, Downey Recreation Center, Albion Park, and Los Angeles State Historic Park. O&M activities would not permanently increase the population because these activities would be conducted by existing staff members and any additional employment that would be needed is expected to be filled with existing residents in the RSA or within Los Angeles County. Therefore, the Proposed Project and its options would not increase the use of existing neighborhood and regional parks or other recreational facilities in a manner that would accelerate or result in substantial physical deterioration of these facilities, and impacts would be **less than significant**.

3.15.5.2 Impact REC-2: New Recreation Facilities

Impact REC-2: Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

3.15.5.2.1 Proposed Project, Option 1, and Option 2

3.15.5.2.1.1 Construction

Less than significant impact. The proposed active transportation path has characteristics and amenities similar to those of a recreational facility. Construction activities would be located primarily along the banks and in the LA River and within potential staging areas. Construction activities would not be located on and would not permanently disrupt the use of existing parklands, recreation facilities, and bikeways. As discussed in Impact REC-1, construction activities have the potential to disrupt access to nearby parks, recreational facilities, and bikeways. However, PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* are part of the Project to maintain safe access to these facilities to the extent feasible. All construction activities would be temporary and would not require additional construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Additionally, construction activities would not result in adverse physical effects on the environment beyond what is identified for the Proposed Project and its options. Therefore, impacts would be **less than significant**.

3.15.5.2.1.2 Operations and Maintenance

Less than significant impact. O&M activities would be regularly scheduled and implemented to maintain the path. Such activities would not generate residents that would increase the demand on

existing parks or recreational facilities. Instead, the Proposed Project and its options would provide a new active transportation path that would serve temporary daytime users along the path to connect with existing bicycle facilities north and south of the proposed path, surrounding communities, and surrounding parks, recreational facilities, and bikeways. the Proposed Project and its options would not result in adverse physical effects on the environment beyond what is identified for the Project. Additionally, the Proposed Project and its options would serve the existing population in the surrounding communities and would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, impacts would be **less than significant**.

3.15.5.3 Impact REC-3: New Governmental Facilities

Impact REC-3: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios or other performance objectives for parks?

3.15.5.3.1 Proposed Project, Option 1, and Option 2

3.15.5.3.1.1 Construction

Less than significant impact. As discussed for Impact REC-1, construction activities would be temporary, located primarily along the banks and inside the LA River, and within the potential staging areas, and would not generate permanent increases in the residential population. The service ratio for parks and recreational facilities would remain similar to existing conditions because changes in population would not occur due to construction activities. As a result, construction activities would not require the provision of new park facilities or result in the need for physically altered facilities to maintain service ratios. Impacts would be **less than significant**.

3.15.5.3.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options would provide a new active transportation path with characteristics similar to those of a recreational facility. As discussed in Impact REC-1 and Impact REC-2, the Proposed Project and its options would improve non-motorized access to existing parks, recreational facilities, and bikeways in the RSA. Operation of Proposed Project and its options and related O&M activities would not directly increase permanent residential population of the surrounding communities. Rather, the Proposed Project and its options would serve the population in the surrounding communities. Thus, the service ratio for parks and recreational facilities would remain similar to existing conditions. Because the Project would create an 8-mile bikeway along the LA River, the Proposed Project and its options would improve the service ratio for bicycle facilities in the RSA. Therefore, O&M activities would not require the construction of new or expand existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities. Therefore, impacts would be **less than significant**.

3.15.6 Mitigation Measures

As identified in Section 3.15.5, the Proposed Project and its options would result in less than significant impacts on parks and recreation under Impact REC-1, Impact REC-2, and Impact REC-3. No mitigation measures are required for construction or operation.

3.15.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options. The impacts would be less than significant under Impact REC-1, Impact REC-2, and Impact REC-3.

3.15.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the cumulative analysis approach and lists the related projects identified within a 1-mile radius of the Proposed Project alignment that could produce related or cumulative impacts. This distance includes the RSA for parks and recreation, and additional distance that is expected to include other projects that may be considered in conjunction with Proposed Project elements based on topography and the existing built environment. For the purposes of cumulative analysis, the general geographic area that could be affected by the Proposed Project and its options in combination with past, present, and future projects varies depending on the environmental resource. The geographic scope for cumulative impacts to parks and recreation is 0.25-mile radius along the proposed bike path and at each proposed entry point from the edge of the Proposed Project footprint.

As discussed in Section 3.15.5, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.15.5, the Proposed Project and its options would result in substantially similar impacts related to parks and recreation. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.15.8.1 Proposed Project, Option 1, and Option 2

3.15.8.1.1 Construction

Construction activities would occur outside of the public ROW and would be located primarily along the river banks, inside the LA River, and within staging areas. MM-NOI-01, *Noise Control and Monitoring Plan* would be implemented to lower sound levels during construction. Noise impacts related to construction of the Proposed Project and its options would be temporary in duration and would not physically deteriorate existing parks and recreational facilities due to increased use of these facilities. Construction activities related to new access points such as connections, pathways, and ramps would be temporary, site-specific, and primarily located in parking lots or on the perimeter of the parks, recreational facilities, and bikeways. PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would be part of the Proposed Project and its options to maintain access to nearby parks and recreational facilities. Temporary construction impacts, potential limited use by construction workers, and maintaining access to such facilities during construction would not increase their use in a way that would result in permanent physical deterioration. In addition, construction workers may use nearby parks or recreational facilities during lunchtime breaks, but such use would be temporary and nominal. Construction activities for the Proposed Project and its options would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and construction impacts would be less than significant.

All construction activities for the Proposed Project and its options would be temporary and would not require additional construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Therefore, impacts would be less than significant. Construction activities for the Proposed Project and its options would be temporary and would not generate

permanent increases in the residential population. Construction activities would not require the provision of new park facilities or result in the need for physically altered facilities to maintain service ratios. Impacts would be less than significant.

Similarly, past, present, and probable future projects could result in temporary construction impacts and are anticipated to implement construction plans to minimize temporary construction impacts. Similar to the Proposed Project and its options, past, present, and probable future projects would be required to maintain access to parks and recreational facilities to the extent feasible. In addition, construction activities of the past, present, and probable future projects would not result in a permanent increase in population that could cause the deterioration of park and recreational facilities. Construction of the Proposed Project and its options in combination with past, present, and probable future projects would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated, and cumulative construction impacts would be less than significant. Therefore, the Proposed Project and its options in combination with past, present, and probable future projects would not result in cumulatively significant recreation impacts during construction.

3.15.8.1.2 Operations and Maintenance

The Proposed Project is an active transportation project located along the LA River that would provide new access points to the LA River Path. The Proposed Project and its options would provide greater accessibility and connectivity to park and recreational facilities. Thus, the Proposed Project and its options would provide improved connections to such community events and would not directly accelerate or result in a substantial deterioration of existing parks, recreational facilities, and bikeways. O&M activities would be consistent with the current activities for the existing LA River Greenway Trail and Los Angeles River Bicycle Path and would not permanently increase the population. Therefore, the Proposed Project and its options would not increase the use of existing neighborhood and regional parks or other recreational facilities in a manner that would accelerate or result in substantial physical deterioration of these facilities, and impacts would be less than significant.

The Proposed Project and its options would serve the existing population in the surrounding communities and would not require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment. Operation of Proposed Project and its options and related O&M activities would not directly increase permanent residential population of the surrounding communities. Therefore, O&M activities would not require the construction of new or expand existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities, and impacts would be less than significant.

Similarly, past, present, and probable future projects could consist of new development, infrastructure, redevelopment, or expansions. Transportation projects are not anticipated to directly increase local residential populations that would increase park and recreational facility use in the surrounding area. Instead, the related transportation projects could provide additional connections to the existing transportation infrastructure, including first/last mile transportation connections to Metro's bus and rail network, and provide greater accessibility for the surrounding communities and the region. New development or redevelopment projects may increase the number of businesses and housing that would directly generate residential population in the surrounding area. However, the projected growth as a result of past, present, and probable future projects have been accounted for in the regional and local plans. Local plans indicate that existing neighborhood, community, and regional parks and recreational facilities are currently insufficient for the current and growing population, regardless of park fees generated through the Quimby Act and Mitigation Fee Act to ameliorate the park and recreational demands. However, the Proposed Project and its options incremental contribution to that

significant cumulative impact would be less than cumulatively considerable because the Project would add a recreational facility to the region and would not generate population growth. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant park and recreation impacts during operation.

3.16 Transportation

3.16.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to transportation. This section also describes the existing setting and current applicable regulatory framework.

3.16.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to transportation.

3.16.2.1 Federal

3.16.2.1.1 Americans with Disabilities Act Standards

The Department of Justice published revised regulations for Titles II and III of the Americans with Disabilities Act of 1990 (ADA) in the *Federal Register* on September 15, 2010. These regulations adopted revised enforceable accessibility standards called the *2010 ADA Standards for Accessible Design* (US Department of Justice 2010). The 2010 Standards set minimum requirements for newly designed and constructed or altered state and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities.

3.16.2.2 State

3.16.2.2.1 Senate Bill 375

Senate Bill (SB) 375, adopted on September 30, 2008, requires the California Air Resources Board (CARB) to set regional vehicular greenhouse gas (GHG) emissions reduction targets for 2020 and 2035 for each region, and to incorporate those targets in a Metropolitan Planning Organization's (MPO's) Regional Transportation Plan/Sustainable Communities Strategy. The Southern California Association of Governments (SCAG) is the MPO covering the Southern California region. As indicated in SCAG's *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020a), CARB set the per capita GHG emission reduction targets for automobiles and light trucks for the SCAG region at 8% below 2005 per capita emissions levels by 2020 and at 19% below 2005 per capita emissions levels by 2035.

3.16.2.2.2 Senate Bill 743

SB 743 requires the Governor's Office of Planning and Research (OPR) to develop new California Environmental Quality Act (CEQA) guidelines "for determining the significance of transportation impacts" for projects. Those guidelines "shall promote the reduction of greenhouse gas emissions, the development of multi-modal transportation networks, and a diversity of land uses." The new criteria were required to move away from vehicle delay and level of service and move toward more

multi-modal concepts "that may include but are not limited to VMT, vehicle miles traveled per capita, automobile trip generation rates, or automobile trips generated."

In 2018, Section 15064.3 was added to the CEQA Guidelines to reflect the provisions of SB 743. The section addresses both land use and transportation projects, and broadly describes the methodology, including the potential for qualitative analysis, used to assess VMT. Agencies are given "broad discretion" to select the methodology for analysis, or even apply a qualitative approach. In 2018, OPR prepared a *Technical Advisory on Evaluating Transportation Impacts in CEQA* (Technical Advisory) (Governor's Office of Planning and Research 2018). This guidance addresses a variety of projects, with recognition that the approach for evaluating impacts is necessarily project-specific.

As documented in Section F of the Technical Advisory, "additions of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel" are considered projects "that would likely not lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced demand analysis." Furthermore, the Technical Advisory provides the following guidance for estimating vehicle miles traveled (VMT) impacts from specific transportation projects: "Transit and active transportation projects generally reduce VMT and therefore are presumed to cause a less than significant impact on transportation. This presumption may apply to all passenger rail projects, bus and bus rapid transit projects, and bicycle and pedestrian infrastructure projects. Streamlining transit and active transportation projects aligns with each of the three statutory goals contained in SB 743 by reducing GHG emissions, increasing multi-modal transportation networks, and facilitating mixed use development" (Governor's Office of Planning and Research 2018).

3.16.2.3 Regional and Local

3.16.2.3.1 Southern California Association of Governments

3.16.2.3.1.1 Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy

Connect SoCal was approved and fully adopted on September 3, 2020. As indicated in the plan, "the plan aligns transportation investment and land use decisions to improve mobility and reduce greenhouse gases not just by building new and bigger infrastructure, but also by bringing housing and jobs closer together, making commutes shorter and making it easier to get around without a car."

Connect SoCal outlines approximately $638 billion in transportation investment between 2020 and 2045, resulting in approximately 8% below 2005 per capita emissions by 2020 and 19% below 2005 per capita emissions levels by 2035. Furthermore, Connect SoCal would decrease the time spent in traffic delay per capita by 25.7% and decrease in daily miles driven per capita by 5.0%. There are 10 goals presented for Connect SoCal, which fall into four main categories: economy, mobility, environment, and healthy/complete communities. The following five goals apply to transportation:

- Goal 2: Improve mobility, accessibility, reliability, and travel safety for people and goods.
- Goal 3: Enhance the preservation, security, and resilience of the regional transportation system.
- Goal 4: Increase person and goods movement and travel choices within the transportation system.

- Goal 7: Adapt to a changing climate and support an integrated regional development patterns and transportation network.
- Goal 8: Leverage new transportation technologies and data-driven solutions that result in more efficient travel.

3.16.2.3.1.2 2020 Long Range Transportation Plan

The Los Angeles County Metropolitan Transportation Authority (Metro) *2020 Long Range Transportation Plan* is the most current long-range transportation plan for Los Angeles County. The plan was adopted by the Metro Board of Directors on September 24, 2020 (Metro 2020a). The *2020 Long Range Transportation Plan* details goals and strategies for doubling the share of transportation modes other than solo driving by providing better transit, less congestion, complete streets, and access to opportunity. The plan includes construction or improvement of transit corridors and fixed guideway transit, investments in arterial and freeway projects to reduce congestion, and construction of bicycle and pedestrian projects to increase active transportation, including the Project.

3.16.2.3.1.3 Vision 2028 Strategic Plan

Metro's *Vision 2028 Strategic Plan* is a strategic plan for Los Angeles County that creates the foundation for transforming mobility over the next 10 years (Metro 2018). The *Vision 2028 Strategic Plan* details strategic goals for 2018–2028, and describes the specific actions Metro would undertake to meet those goals. The plan's strategic goals include the following:

- Provide high-quality mobility options that enable people to spend less time traveling.
- Deliver outstanding trip experiences for all users of the transportation system.
- Enhance communities and lives through mobility and access to opportunity.
- Transform Los Angeles County through regional collaboration and national leadership.
- Provide responsive, accountable, and trustworthy governance within the Metro organization.

3.16.2.3.1.4 Moving Beyond Sustainability

Metro's *Moving Beyond Sustainability* (Metro 2020b) is a comprehensive sustainability strategy for the next decade and beyond to make Metro facilities more sustainable, reduce air pollution, reduce construction trash, and reduce smog and greenhouse gases across Los Angeles County.

3.16.2.3.1.5 Complete Streets Policy

Metro's *Complete Streets Policy*, published in 2014, is designed to help plan a better street environment for all types of users, including pedestrians, bicyclists, public transit, motorists and others. The policy is intended to achieve the following goals:

- Maximize the benefits of transit services and improve access to public transit by making it convenient, safe, and attractive for users
- Maximize multi-modal benefits and efficiencies
- Improve safety for all users on the transportation network

- Facilitate multi-jurisdictional coordination and leverage partnerships and incentive programs to achieve a "complete" and integrated transportation system that serves all users
- Establish active transportation improvements as integral elements of the countywide transportation system
- Foster healthy, equitable, and economically vibrant communities where all residents have greater mobility choices

3.16.2.3.1.6 Connect US Action Plan

Metro's *Connect US Action Plan*, published in 2015, is a community-driven public improvement plan that prioritizes bike and pedestrian public improvement projects. The goal of the plan is to connect Los Angeles Union Station (Union Station) and the First/Central Regional Connector Station to the neighborhoods surrounding them safely for pedestrians and bicyclists.

3.16.2.3.1.7 Active Transportation Strategic Plan

Metro's *Active Transportation Strategic Plan* is a strategic plan for Los Angeles County that advances active transportation and provides more travel options throughout the county (Metro 2023). The plan focuses on enhancing access to transit stations and developing a regional network for people who choose to take transit, walk, and/or bike. *Active Transportation Strategic Plan* goals include the following:

- Improve access to transit.
- Establish active transportation modes as integral elements of the countywide transportation system.
- Enhance safety, removed barriers to access, or correct unsafe conditions in areas of heavy traffic, high transit use, and dense pedestrian and bicycle activity.
- Promote multiple clean transportation options to reduce criteria pollutants and greenhouse gas emissions and improve air quality.
- Improve public health through traffic safety, reduced exposure to pollutants, and design and infrastructure that encourage residents to use active transportation as a way to integrate physical activity into their daily lives.
- Foster healthy, equitable, and economically vibrant communities where all residents have greater transportation choices and access to key destinations, such as jobs, medical facilities, schools, and recreation.

3.16.2.3.2 Los Angeles County

3.16.2.3.2.1 Los Angeles County 2035 General Plan

The Los Angeles County *2035 General Plan* includes sections relevant to development projects where improvements are proposed within the public realm. Specifically, goals one and two provide design strategies that support the experience and needs of all users:

- Goal M 1 Complete Streets: Street designs that incorporate the needs of all users.
- Goal M 2 Active Transportation Design: Interconnected and safe bicycle- and pedestrian friendly streets, sidewalks, paths and trails that promote active transportation and transit use.

3.16.2.3.2.2 Los Angeles County LA River Master Plan 2022

The *2022 LA River Master Plan* (LACDPW 2022) is a comprehensive update of the 1996 *Los Angeles River Master Plan* (Los Angeles County Public Works 1996) for the future of flood protection, water resources management, recreation, active transportation, open space, wildlife habitat, and economic activity along 51 miles of the LA River. The *2022 LA River Master Plan* has the following nine objectives:

- Reduce flood risk and improve resiliency
- Provide equitable, inclusive, and safe parks, open space, and trails
- Support healthy, connected ecosystems
- Enhance opportunities for equitable access to the river corridor
- Embrace and enhance opportunities for arts and culture
- Address potential adverse impacts on housing affordability and people experiencing homelessness
- Foster opportunities for continued community engagement, development, and education
- Improve local water supply reliability
- Promote healthy, safe, clean water

3.16.2.3.3 City of Los Angeles

3.16.2.3.3.1 Los Angeles River Revitalization Master Plan

The *Los Angeles River Revitalization Master Plan*, published in April 2007, provides a framework for restoring the LA River's ecological function and for transforming it into an amenity for residents and visitors to the city (City of Los Angeles Department of Public Works 2007). The plan includes recommendations for physical improvements to the Project area and to the green space network in adjacent neighborhoods. Goals of the *Los Angeles River Revitalization Master Plan* include revitalizing the river, green the neighborhoods with a continuous river greenway, connected neighborhoods, capturing community opportunities, and creating value.

3.16.2.3.3.2 Vision Zero

Vision Zero, published by the City of Los Angeles Department of Transportation (LADOT) in January 2017, is a road safety policy that promotes smart behaviors and roadway design that "anticipates mistakes such that a collision does not result in severe injury or death" (City of Los Angeles 2017). In August 2015, Mayor Eric Garcetti issued Executive Direction 10, formally launching the Vision Zero initiative. Vision Zero is also a stated safety objective in the City of Los Angeles' *Mobility Plan 2035,* (City of Los Angeles Department of City Planning 2016), which sets the goal of zero traffic deaths by 2035. *Vision Zero* organizes action items into the following categories: create safe streets for all; develop a culture of safety; respond to relevant data; and adopt new policy and legislation to strengthen safety.

3.16.2.3.3.3 Transportation Assessment Guidelines

LADOT's *Transportation Study Guidelines and Transportation Assessment Guidelines* (TAG) were published in July 2020, incorporating CEQA Guidelines Section 15064.3, which implements SB 743. TAG includes CEQA thresholds and screening criteria for analyzing impacts, as well as providing the city's adopted VMT thresholds and screening criteria (LADOT 2020).

3.16.2.3.3.4 L.A.'s Green New Deal: Sustainable City pLAn

The City's *L.A.'s Green New Deal: Sustainable City pLAn*, published by the mayor of City of Los Angeles, in 2019, is a comprehensive and actionable directive roadmap that focuses on both short-term and long-term goals to transform the City in an environmentally healthy, economically prosperous and equitable way. In Chapter 6, *L.A.'s Green New Deal: Sustainable City pLAn* outlines targets for mobility and public transit:

- Increase the percentage of all trips made by walking, biking, micro-mobility / matched rides or transit to at least 35% by 2025; 50% by 2035; and maintain at least 50% by 2050
- Reduce VMT per capita by at least 13% by 2025; 39% by 2035; and 45% by 2050
- Ensure Los Angeles is prepared for autonomous vehicles by the 2028 Olympic and Paralympic Games

3.16.2.3.3.5 Complete Streets Design Guide

The City of Los Angeles' *Complete Streets Design Guide* (City of Los Angeles n.d.) was developed as part of California's Complete Streets Act of 2008 (AB 1358). The goal of the guide is to provide concepts and best practices that promote Complete Street objectives of safety and accessibility in multi-modal transportation. In Section 7.2, Multi-Purpose Paths, the guide outlines the following:

- Frequent access points from the local road network. If access points are spaced too far apart, users will have to travel out of the way to enter or exit the path, which can discourage use.
- Grade-separated crossings (bridges or underpasses) at intersections.
- Placing wayfinding signs to direct users to and from the path at major roadway crossings.
- Building to a construction standard high enough to allow heavy maintenance and emergency equipment to access the path without causing deterioration.
- Proper design of intersections with on-street roadways, to alert motorists to the presence of bicyclists and to alert bicyclists to the presence of motor vehicles for all crossing movements.
- Identifying and addressing potential security problems.
- Provision of separate pedestrian ways to reduce conflicts.
- Landscape designs that encourage bicyclist use and safety, but discourage loitering.

In Section 7.3, Multi-Purpose Paths in River and Utility Corridors, the guide outlines:

- Any access point to the path should be well-defined with lighting and appropriate signage designating the pathway as a bicycle facility and prohibiting motor vehicles.
- Path access should be facilitated by gates.

3.16.2.3.3.6 Citywide Design Guidelines

The City's *Citywide Design Guidelines* were adopted in October 2019 include sections relevant to development projects where improvements are proposed within the public realm (City of Los Angeles 2019). The design guidelines promote a pedestrian-first design focusing on design strategies that create human-scale spaces in response to how people engage with their surroundings, by prioritizing active street frontages, clear paths of pedestrian travel, legible wayfinding, and enhanced connectivity. Specifically, Guidelines 1 through 3 provide design strategies that support the pedestrian experience. Guidelines 1 through 3 also provide best practices in design that apply in the three spatial categories of site planning, building design and public right of way.

- Guideline 1: Promote a safe, comfortable, and accessible pedestrian experience for all.
  - Design projects to be safe and accessible and contribute to a better public right-of-way for people of all ages, genders and abilities.
  - Ensure that pedestrian pathways are accessible, clear, prominent, and intuitive to navigate.
  - Prioritize pedestrian circulation at the street level.
  - Provide direct access to the surrounding neighborhood and amenities, including transit.
  - Use ornamental low-level lighting to highlight and provide security for pedestrian paths and entrances. Ensure that all parking areas and pedestrian walkways are illuminated.
  - Introduce pedestrian lighting in addition to roadbed lighting to the satisfaction of the Bureau of Street Lighting.
  - In collaboration with the Department of Transportation, explore opportunities where appropriate to improve the comfort and safety of pedestrians' street crossing experience.
- Guideline 2: Carefully incorporate vehicular access such that it does not degrade the pedestrian experience.
  - Design to avoid pedestrian and vehicular conflicts and to create an inviting and comfortable public right-of-way.
- Guideline 3: Design projects to actively engage with streets and public space and maintain human scale.
  - New projects should be designed to contribute to a vibrant and attractive public realm that promotes a sense of civic pride. Better connections with the built environment contribute to a livable and accessible city and a healthier public realm.

3.16.2.3.4 Municipal Plans (General Plans and Bicycle Master Plans)

The general plans, circulation elements, bicycle plans, and master/specific plans for the Cities of Los Angeles, Vernon, Maywood, Huntington Park, Commerce, and for Los Angeles County provide the

local regulatory framework and policies related to transportation and traffic issues. Table 3.16-1 lists local plans and relevant goals, policies, and implementation actions.

Table 3.16-1. Municipal Plans Regulatory Setting Summary

Policy/Goal	
City of Los Angeles	
Mobility Plan 2035[a]	
Chapter 1 – Safety First	▪ Policy 1.9 – Recreational Trail Safety – Balance user needs on the city's public recreational trails.
Chapter 2 – World-Class Infrastructure	▪ Policy 2.3 – Pedestrian Infrastructure – Recognize walking as a component of every trip and ensure high-quality pedestrian access in all site planning and public right-of-way modifications to provide a safe and comfortable walking environment. ▪ Policy 2.6 – Bicycle Networks – Provide safe, convenient, and comfortable local and regional bicycling facilities for people of all types and abilities. ▪ Policy 2.12 – Walkway and Bikeway Accommodations – Design for pedestrian and bicycle travel when rehabilitating or installing a new bridge, tunnel, or exclusive transit right-of-way.
Chapter 3 – Access for All Angelenos	▪ Policy 3.2 – People with Disabilities – Accommodate the needs of people with disabilities when modifying or installing infrastructure in the public right-of-way. ▪ Policy 3.11 – Open Streets – Facilitate regular "open street" events and repurposing of the public right-of-way.
Chapter 4 – Collaboration, Communication, and Informed Choices	▪ Policy 4.11 – Cohesive Regional Mobility – Communicate and partner with the Southern California Association of Governments, Metro, and adjacent cities and local transit operators to plan and operate a cohesive regional mobility system. ▪ Policy 4.14 – Wayfinding – Provide widespread, user-friendly information about mobility options and local destinations, delivered through a variety of channels and including traditional signage and digital platforms.
Chapter 5 – Clean Environment and Healthy Communities	▪ Policy 5.1 – Sustainable Transportation – Encourage the development of a sustainable transportation system that promotes environmental and public health. ▪ Policy 5.2 – Vehicle Miles Traveled – Support ways to reduce vehicle miles traveled per capita.
Mobility Plan 2035 Programs	▪ ENG.16 – Los Angeles River – Implement Greenway 2020 (a locally led effort to complete the bicycle path along the entire 32-mile stretch of the Los Angeles River by 2020) and Los Angeles River Greenway Trail to provide a multi-generational trail and provide active transportation options to disadvantage communities.
2010 Bicycle Plan[b]	
Goal 1 – Increase the number and types of bicyclists who bicycle in the City.	▪ Policy 1.1.2 – Reduce automobile trips and greenhouse gas emissions by making 5% of all daily trips and 3% of commute trips bicycle trips by 2020. ▪ Policy 1.4.2 – Provide widespread and user-friendly information on the location and quality of bicycle facilities.

Table 3.16-1. Municipal Plans Regulatory Setting Summary

Policy/Goal	
Goal 2 – Make every street a safe place to ride a bicycle.	▪ Policy 1.1.2 – Reduce automobile trips and greenhouse gas emissions by making 5% of all daily trips and 3% of commute trips bicycle trips by 2020. ▪ Policy 1.4.2 – Provide widespread and user-friendly information on the location and quality of bicycle facilities.
Goal 3 – Make the City of Los Angeles a bicycle-friendly community.	▪ Policy 3.3.1 – Provide a connected network of Class I Bikeways facilities linking bicyclists to recreational, transportation, and community facilities. ▪ Policy 3.3.4 – Promote bicycle connectivity to community-serving uses such as schools, libraries, retail, and parks.
City of Vernon	
City of Vernon General Plan – Circulation and Infrastructure Element and Resource Element[c]	
▪ Policy CI-1.1 – Continue to improve the street system to meet the minimum standards contained in this Element. ▪ Policy CI-1.12 – Cooperate with Metropolitan Transportation Authority and other local agencies in their efforts to complete a bicycle path along the levee of the Los Angeles River connecting to adjacent jurisdictions. ▪ Policy R-3.2 – Cooperate with regional efforts to upgrade the appearance and open space value of the Los Angeles River Channel.	
City of Vernon Bicycle Master Plan[d]	
Objective 1.B: Eliminate barriers and gaps in the bikeway network.	▪ Strategy 1.B.1: Pursue construction of a Class I bicycle path along the Los Angeles River between the current path terminus at Atlantic Boulevard and the northern city boundary. ▪ Strategy 1.B.2: Identify connections to and from the existing and planned Los Angeles River bicycle path. ▪ Strategy 1.B.3: Identify opportunities to improve bicycle connectivity across the Los Angeles River and Interstate 710. ▪ Strategy 1.B.4: Coordinate with neighboring jurisdictions to construct bikeways that provide continuous connections across jurisdictional boundaries.
City of Maywood	
City of Maywood General Plan – Circulation Element[e]	
▪ Policy 4.3 – Support efforts to link the bicycle path system to the LA River Bicycle Trail. Coordinate with organizations such as the Northeast Trees to create regional bicycle path system.	
City of Huntington Park	
City of Huntington Park 2030 General Plan – Mobility and Circulation Element **(City of Huntington Park 2017).**	
▪ Policy 18 – The City of Huntington Park shall work with adjacent jurisdictions and Metro to develop a network of on-street bike lanes or off-street bike paths.	
City of Commerce	
City of Commerce 2020 General Plan[f]	
▪ No applicable transportation policies.	

Table 3.16-1. Municipal Plans Regulatory Setting Summary

Policy/Goal	
Los Angeles County	
Bicycle Master Plan[g]	
Goal 1 Bikeway System – Expanded, improved, and interconnected system of county bikeways and bikeway support facilities to provide a viable transportation alternative for all levels of bicycling abilities, particularly for trips of less than 5 miles.	▪ Policy 1.1 – Construct the bikeways proposed in 2012 County of Los Angeles Bicycle Master Plan over the next 20 years. ▪ Policy 1.4 – Support the development of bicycle facilities that encourage new riders.
Goal 2 Safety – Increased safety of roadways for all users.	▪ Policy 2.2 – Encourage alternative street standards that improve safety such as lane reconfigurations and traffic calming. ▪ Policy 2.3 – Support traffic enforcement activities that increase bicyclists' safety.
Goal 4 – Encouragement Programs	▪ Policy 4.2 – Encourage non-automobile commuting. ▪ Policy 4.3 – Develop maps and wayfinding signage and striping to assist navigating the regional bikeways.
Los Angeles County 2020 LA River Master Plan[h]	
▪ Objective 2 – Provide equitable, inclusive, and safe parks, open space, and trails. ▪ Objective 4 – Enhance opportunities for equitable access to the river corridor.	

[a]City of Los Angeles Department of City Planning 2016
[b]City of Los Angeles Department of City Planning 2010
[c]City of Vernon 2015
[d]City of Vernon 2017
[e]City of Maywood 2008
[f]City of Commerce 2008
[g]Los Angeles County Public Works 2012
[h]LACDPW 2022

3.16.3 Methodology

Existing transportation facilities in the Project area may be affected by construction and operation of the Proposed Project and its options. The transportation analysis conducted for this EIR follows guidance set forth in CEQA Guidelines Section 15064.3, which addresses the determination of the significance of transportation impacts.

For operation of the Proposed Project and its options, access points are the main focus of transportation evaluation. Access points would be a main source of attraction for bicyclists and pedestrians who would use Project facilities. Providing enough access points at ideal/advantageous locations and making sure those access points connect to other mobility options and destinations would create a functional and enjoyable experience for users. Access points also create access for maintenance and emergency vehicles.

During construction, transportation evaluation focuses on potential temporary lane and sidewalk closures and disruptions to transit operators and emergency responders. Refer to Section 3.16.5 for additional information about this analysis methodology.

The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.16.3.1 Resource Study Area

For the purposes of evaluating transportation impacts, the resource study area (RSA) is defined as a 2-mile-wide area with 1 mile on each side of the LA River's centerline for the entire length of the permanent and temporary footprints (including construction staging areas, access points, and design variations) of the Proposed Project and its options. For active transportation facilities, accessibility to the river was assessed within 0.5-mile on each side of the LA River's centerline. Figure 3.16-1 shows the RSA for transportation analysis.

Figure 3.16-1. Transportation Resource Study Area for the Proposed Project and Options



3.16.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with transportation are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to transportation would occur if the Project would do any of the following:

- **Impact TR-1:** Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?
- **Impact TR-2:** Conflict or be consistent with CEQA Guidelines Section 15064.3(b)?
- **Impact TR-3:** Substantially increase hazards due to a geometric design feature (for example, sharp curves or dangerous intersections) or incompatible uses (for example, farm equipment)?
- **Impact TR-4:** Result in inadequate emergency access?

3.16.3.3 Project Features

As described in Appendix C*, Project Features*, a number of features have been incorporated into the Project to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for transportation.

3.16.3.3.1 Construction

PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*

During the final engineering phase and prior to construction, a construction Transportation Management Plan (TMP) shall be prepared by the contractor and reviewed and approved by the Los Angeles County Metropolitan Transportation Authority (Metro), Los Angeles Department of Transportation (LADOT), the California Department of Transportation (Caltrans) and affected cities, where applicable. The TMP shall address potential temporary impacts from construction activities on vehicular, transit, pedestrian, bicycle access and mobility, including but not limited to temporary short-term lane, sidewalk, crosswalk, on-street parking closures; increases in traffic volumes (construction traffic, construction equipment, materials delivery vehicles, waste/haul vehicles, and employee commutes); construction parking and emergency services (for example, fire, police, or ambulances). The development of the TMP shall be coordinated with Metro, local jurisdictions (cities and county), agencies, and other potentially affected parties (for example, school bus and transit and railroad operators and police, fire, and emergency service providers).

The TMP shall include specific strategies to address short-term temporary Project-related construction effects on traffic, bicyclists, pedestrians, and area residents and businesses. The TMP shall identify proposed closure schedules and detour routes, as well as construction traffic routes, including haul truck routes, and preferred staging locations and hours to avoid heavily congested areas during peak hours, where feasible. The TMP shall include, but not be limited to, the following provisions or strategies as appropriate:

- Reference to the construction staging plan identifying actions that shall be required to reduce effects on the surrounding community such as providing restrictions on construction hours, providing offsite parking for construction vehicles, and ensuring that roadways are always open and accessible to emergency services (for example, fire, police, and ambulances).

- An outline of the community strategy, providing the public, including emergency service and transit providers, with construction updates, alerts, and schedules. Communications shall be provided through the Project website, social media, and other forms of communication such as mailings and flyers to businesses and residences (typically within 0.25 miles of the construction zone).
- Coordination with nearby projects that have potential overlapping construction timeframes, to schedule vehicle movements to ensure construction vehicles are not impeding traffic flow on the surrounding streets.
- Coordination with railroad owners (Metro, Amtrak, Union Pacific, and BNSF Railway) for construction activities adjacent to railroad operations to minimize impedance to railroad operations.
- Reference to the traffic control plans that show the location of any roadway or sidewalk closures, traffic alternate and detour routes, pedestrian and bicycle detour routes, and haul routes. To provide safe travel for the public, the traffic control plans shall adhere to the affected city's transportation department design standards for appropriate signage, pavement delineations, and traffic control devices that would be needed to provide advisory warnings, regulatory directions, and supplemental guidance to drivers, bicyclists, and pedestrians traveling adjacent to the construction work areas. Traffic control plans shall be coordinated with the affected city's transportation department and adhere to their approval process.
- Reference to the haul route plan that identifies haul route roadways as well as locations of temporary staging areas and river construction access. The plan shall detail measures to ensure that trucks use the specified haul route, and do not travel through residential neighborhoods. The haul route plan shall be coordinated with affected city's transportation department and adhere to their approval process.

PF-TR-02, *Traffic Control Plan*

The Los Angeles County Metropolitan Transportation Authority (Metro) shall develop a traffic control plan (for local public streets in the project area) that shall be implemented by Metro and its contractors during construction of the Project. The traffic control plan shall include, but not be limited to:

- Traffic controls, flaggers, and other traffic safety measures to maintain proper traffic flow during temporary construction activities
- Maintaining access throughout the communities during construction as practical
- Providing signage to direct pedestrians and motorists around construction areas; around sidewalk, street, and lane closures; to entrances of businesses and community assets; and to maintain the flow of traffic around the construction area
- Providing appropriate signage, barriers, and fencing for pedestrian and bicycle detour routes, as necessary

The traffic control plans shall be developed in conjunction with the Transportation Management Plan, which would further enhance the construction strategies to minimize impacts.

3.16.4 Existing Setting

The following section describes existing conditions for transportation. Transportation includes streets, freeway systems, public transit providers, and pedestrian and bicycle facilities. While the Proposed Project and its options do not propose any physical modifications to the existing transportation facilities, it is important to understand the surrounding transportation modes and transit usage to evaluate the potential sources of mode shift to the LA River path. Refer to Appendix M, *Transportation*, for more information about surrounding facilities.

3.16.4.1 Roadways

3.16.4.1.1 Freeways

US Route 101 (US-101) is a freeway that originates at the Interstate (I-)5/I-10/State Route (SR-)60 interchange in Boyle Heights and generally runs northwest to southeast through the Los Angeles metropolitan area. Near the Project area, US-101 runs north-south between Seventh Street and I-10 and then heads west around the northern portion of Downtown Los Angeles. US-101 is generally three and four lanes in each direction and with service interchanges to Seventh Street, First Street, Cesar E Chavez Avenue, and North Vignes Street/Alameda Street near the Proposed Project access points. US-101 crosses the LA River between Cesar E Chavez Avenue and First Street, east of Union Station.

I-5 is a major north-south transportation corridor in the Los Angeles metropolitan area that generally traverses the LA River along the Project area. I-5 is generally four or five lanes in each direction near the Project area, and three lanes in the southbound direction near the beginning of the RSA. I-5 has service interchanges to Riverside Drive, Main Street, Mission Road, Cesar E Chavez Avenue, Seventh Street, and Atlantic Boulevard that are direct access routes to some of the proposed access points for the Proposed Project and its options. I-5 crosses the LA River near Riverside Drive at the northern limits of the Proposed Project footprint and the existing bicycle path also north of the Proposed Project footprint.

I-10 is a major east-west transportation corridor in the Los Angeles metropolitan area that generally traverses the LA River between US-101 and SR-60. I-10 is generally five lanes in each direction where it joins the I-5 alignment for approximately 1.8 miles near the LA River and is oriented north-south. I-10 shares service interchanges with I-5 to Cesar E Chavez Avenue and Seventh Street to the LA River Path access points. I-10 crosses the LA River between Seventh Street and Olympic Boulevard.

I-710 is a north-south freeway facility that originates north of I-10 and runs south to the Port of Los Angeles/Port of Long Beach. I-710 is generally four or five lanes in each direction near the Project area with service interchanges to Washington Boulevard and Atlantic Boulevard/Bandini Boulevard.

SR-110 is a north-south freeway that originates north of Downtown Los Angeles and heads northeast toward Pasadena. This portion of SR-110 is historical and known as Arroyo Seco Parkway. The freeway is three lanes in each direction near the Project area with a service interchange to Figueroa Street. SR-110 crosses the LA River between Riverside Drive and North Broadway.

3.16.4.1.2 Street Network

Table 3.16-2 summarizes major streets (listed from north to south) in the RSA defined in Section 3.16.1. These major roadways are expected to provide connectivity between the LA River Trail and residential, commercial, and industrial locations, and to local/regional transit stations. The general descriptions in Table 3.16-2 apply to limits near or over the LA River. The table also includes roadway classifications assigned to each street as identified in the *City of Los Angeles General Plan* (Los Angeles Department of City Planning 2016) and the *City of Vernon General Plan* (2015).

Table 3.16-2. Summary of Street Network in the Resource Study Area

Street Name	Orientation	Jurisdiction	Number of Lanes	Local Roadway Classification
Riverside Dr	NW to SE	LADOT	2	Avenue I
Figueroa St	NE to SW	LADOT	4	Avenue I
Broadway	NE to SW	LADOT	4	Avenue II
Baker St	NE to SW	LADOT	2	Local Street
Spring St	NE to SW	LADOT	3	Avenue I
Naud St	NE to SW	LADOT	2	Modified Local Street
Albion St	NE to SW	LADOT	2	Modified Local Street
Keller St	NE to SW	LADOT	2	Collector
Main St	NE to SW	LADOT	4	Avenue II
Cesar E Chavez Ave	E to W	LADOT	4	Avenue I
Commercial St	E to W	LADOT	2/3/4	Collector
First St	E to W	LADOT	4	Avenue II
Fourth St	E to W	LADOT	5	Avenue II
Sixth St/Whittier Blvd	E to W	LADOT	4	Avenue II
Seventh St	E to W	LADOT	4	Avenue II
Olympic Blvd	E to W	LADOT	4	Avenue I
Washington Blvd	E to W	LADOT	4	Boulevard II
26th St	E to W	Vernon	2	Collector
37th St/Bandini Blvd	E to W	Vernon	4	Arterial
Rickenbacker Rd	E to W	Bell	4	Arterial
District Blvd	NW to SE	Vernon	4	Collector
Atlantic Blvd	NE to SW	Vernon	6	Arterial
San Fernando Rd	N to S	LADOT	4	Modified Avenue II
Ave 19	N to S	LADOT	2	Modified Collector
Ave 18	N to S	LADOT	2	Modified Local Street
Center St	N to S	LADOT	2	Avenue III
Alameda St	N to S	LADOT	4/6	Avenue I
Mission Rd	N to S	LADOT	4	Boulevard II/Avenue I/ Avenue III

Table 3.16-2. Summary of Street Network in the Resource Study Area

Street Name	Orientation	Jurisdiction	Number of Lanes	Local Roadway Classification
Pasadena Ave	N to S	LADOT	2	Modified Avenue II
Vignes St	N to S	LADOT	4	Boulevard II/Avenue I
Santa Fe Ave	N to S	LADOT/Vernon	2/4	Avenue II
Soto St	N to S	LADOT/Vernon	4	Avenue I
Downey Rd	N to S	LADOT/Vernon	4	Avenue I/Arterial

Sources: Los Angeles Department of City Planning 2016; City of Vernon 2015

Notes:

E = east
N = north
NE = northeast
NW = northwest
S = south
SE = southeast
SW = southwest
W = west

3.16.4.2 Transit

The RSA has existing railroad and bus transit services provided by Metro, Metrolink, Amtrak, and other transit operators such as intercity, local or municipal bus providers. Figure 3.16-2 shows existing Metro rail and bus rapid transit services near and around the RSA.

Figure 3.16-2. Existing Metro Rail and Bus Rapid Transit Services Near and Around Resource Study Area



3.16.4.2.1 Metro Rail

There are four Metro rail lines (light rail transit [LRT] and heavy rail transit [HRT]) in the RSA vicinity. The Metro E Line passes through the RSA from Atlantic station in East Los Angeles to its terminus in Downtown Santa Monica. The Metro B and D Lines run from just west of the Proposed Project and its options at Union Station en route to terminal stations in North Hollywood (where the Metro B Line connects to the Metro G Line en route to the San Fernando Valley) and Wilshire/Western in Los Angeles (the Metro D Line terminus). The Metro A Line runs north-south from terminal stations in Azusa in the north en route to Long Beach in the south. The Metro B and D Lines are HRT. The Metro A and E Lines are LRT.

3.16.4.2.2 Metrolink and Amtrak

Metrolink is a regional commuter rail service that operates seven routes. Six Metrolink routes are within the RSA, all via Union Station: the Antelope Valley Line, the Ventura Line, the San Bernardino Line, the Orange County Line, the Riverside Line, and the 91/Perris Valley Line.

Amtrak is a passenger railroad service that provides medium- and long-distance intercity services in the United States and Canada. Amtrak has five routes in the RSA, all via Union Station: Coast Starlight, Pacific Surfliner, Southwest Chief, Sunset Limited, and Texas Eagle (Amtrak 2021).

3.16.4.2.3 Metro Bus

Metro operates several types of local and regional bus services. These services can generally be categorized as rapid, express, and local. The major bus services in each category in the RSA are summarized in the following paragraphs.

Metro Rapid is a bus service that operates primarily in mixed-flow traffic on heavily traveled corridors with transit signal priority on signals along the route, with limited stops and enhanced bus stations. The Metro J 910 Line is the major line in the RSA.

Metro Express routes provide long-distance trips with fewer stops along the route and more stops at the beginning and end of the routes. The express routes usually operate from stations with park-and-ride lots, with stops at major activity centers or transfer points. The routes use freeways and high-occupancy vehicle, high-occupancy toll, or bus lanes. The Metro Express lines 487 and 489 are the major lines in the RSA.

Metro provides Dodger Stadium Express service from/to Union Station West to/from Dodger Stadium from 90 minutes before a baseball game through the end the second inning for all home games.

There are several Metro Local bus routes in the RSA. These routes operate on city streets with several stops.

The Metro Vanpool Program is designed to ease work commutes by allowing commuters to ride with others they work with. The aim of the program is to take single-occupancy vehicles off the roads, reduce emissions per person, and provide transit service in areas that lack it. Vanpool riders may take routes near or in the RSA.

3.16.4.2.4 Other Transit Operators

Other transit operators serving the area include municipal operators, contract operators, and localities. Table 3.16-3 summarizes the major operators serving close to or in the RSA.

Table 3.16-3 Other Transit Operators in Resource Study Area

Operator	Service Area/Type
LADOT Downtown Area Short Hop	Downtown Los Angeles
Foothill Transit Bus Lines	Montclair to Downtown Los Angeles
Montebello Bus Lines	Downtown and East Los Angeles
LAX FlyAway Bus	Los Angeles International Airport to Union Station
Greyhound Bus	Inter-city with stop in Downtown Los Angeles
FlixBus	Inter-city with stop at Union Station
Megabus	Inter-city with stop at Union Station

3.16.4.3 Active Transportation

The bicycle and pedestrian elements in the RSA are described in the subsections below. The bicycle facilities range from Class I bikeways to major Class III bike routes with pedestrian facilities generally provided on major roadways. The bicycle and pedestrian facilities assessment listed in this section was focused on the area approximately 0.5 miles of each side of the Proposed Project and its options.

3.16.4.3.1 Bicycle Facilities

Figure 3.16-3 shows existing and planned bicycle networks from the City of Los Angeles *Mobility Plan 2035* (City of Los Angeles Department of City Planning 2016) and the City of Vernon *Bicycle Master Plan* (City of Vernon 2017).

Figure 3.16-3. Existing and Planned Bicycle Networks Near and Around Resource Study Area



Existing Class I Bikeways in the vicinity of the RSA are as follows:

- The LA River Trail runs north-south along the LA River from Atlantic Boulevard in the City of Vernon to Long Beach. The bikeway is parallel to I-710.
- The Los Angeles River bikeway runs north-south along the LA River from Elysian Valley in Los Angeles to Riverside Rancho. The bikeway is primarily parallel to I-5.
- The Riverside Drive Viaduct connects Cypress Park to Elysian Valley over the LA River.
- The Rio Hondo Bike Path runs parallel to Rio Hondo and joins the LA River bikeway at the confluence of Rio Hondo and the LA River in South Gate.

Existing major Class II Bikeways in the vicinity of the RSA are as follows:

- Mission Road between Cesar E Chavez Avenue and Broadway
- Spring Street between Main Street and Cesar E Chavez Avenue
- Main Street between Venice Boulevard and Cesar E Chavez Avenue
- Third Street between Santa Fe Avenue and San Pedro Street
- Los Angeles Street between First Street and Alameda Street
- Eighth Street between Boyle Avenue and Olympic Boulevard

Existing major Class III bike routes in the vicinity of the RSA are as follows:

- First Street between Boyle Avenue and Pedro Street/Judge John Aiso Street
- Second Street between Santa Fe Avenue and Spring Street
- Lorena Street between Grande Vista Avenue and Third Street

The Metro Bike Share is a public transportation system that offers 24/7 access to a fleet of public bicycles for rent in Downtown Los Angeles, Central Los Angeles, North Hollywood, and the Westside. Table 3.16-4 summarizes the nearest Bike Share Stations to the Proposed Project and its options.

Table 3.16-4. Existing Bike Share Stations Near Proposed Project and Options

Station	Location	Distance to Proposed Project/Options (Miles)
Union Station East Portal	N Vignes St at East Cesar E Chavez Ave	0.3
Temple St & Vignes St	720 E Temple St	0.2
First St & Utah St	First St at Utah St	0.3
Third St & Santa Fe Ave	999 E Third St	0.15
Fifth St & Hewitt St	1210 East Fifth St	0.35
Willow St & Mateo St	Willow St at Mateo St	0.3
Factory Place & Alameda St	1245 Factory Place	0.45
Imperial St & Seventh St	Seventh St at Imperial St	0.25
Industrial St & Mateo St	1855 Industrial St	0.3

In addition, Metro Bike Hubs are bicycle parking facilities for riders across Los Angeles County. The Union Station hub is the closest to the Project.

3.16.4.3.2 Pedestrian Facilities

Pedestrian facilities were studied on major streets and existing trails nearest to the Proposed Project and its options. The existing Los Angeles River Greenway Trail connecting to the Project from the north side, and the existing Los Angeles River Trail connecting to the Project from the south side, are the closest pedestrian paths to the Project. All streets listed below have sidewalk facilities on both directions. The only exception is southbound Downey Road, which does not have a sidewalk between Bandini Boulevard and Slauson Avenue due to the rail tracks. In addition, there are crosswalks at the streets nearest to the Proposed Project and its options listed as follows:

- Main Street (east/west)
- Cesar E Chavez Avenue (east/west)
- First Street (east/west)
- Fourth Street (east/west)
- Sixth Street/Whittier Boulevard (east/west)
- Seventh Street (east/west)
- Olympic Boulevard (east/west)
- Washington Boulevard (east/west)
- 37th Street/Bandini Boulevard (east/west)
- Soto Street (north/south)
- Downey Road (north/south)
- Atlantic Boulevard (east/west)

3.16.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to transportation are substantially the same. For instances where the Proposed Project, Option 1, or Option 2 would result in substantially different or additional impacts, the impact analysis is separated. The potential for the Proposed Project and its options to result in an impact to transportation is dependent on the specific alignment and Proposed Project components. Therefore, a separate discussion of environmental impacts is included in the following sections for the Proposed Project and its options, Option 1 and Option 2.

3.16.5.1 Project Elements

This section provides a discussion of the Project transportation elements that may result in impacts on existing and future transportation facilities within and adjacent to the Project area. Impacts may affect transportation facilities through permanent use (such as changes in facilities, access, or demand) or temporary use (such as increases in demand due to construction traffic and street or lane closures).

3.16.5.1.1 Operational Elements

A description of operational elements is generally similar for the Proposed Project and its options (refer to Sections 2.5 and 2.8, *Proposed Project and Options* and *Operations and Maintenance*, of the *Project Description*).

3.16.5.1.1.1 Bicycle and Pedestrian Demand

The *LA River Path Network Demand Draft Memo* (Alta 2024) presents Project access opportunity network analysis results. This analysis was conducted to evaluate the relative demand associated with each potential access point and to help assess the relevant benefits and opportunities of access. This access opportunity network analysis identified the differences in expected demand for each unique access opportunity based on the bicycle and pedestrian network that is expected to be in place in 2045. This network consists of all facilities designed to improve the safety and convenience of bicycle travel, including bike lanes, and bike boulevards, and shared-use paths.

The analysis consisted of building the network, analyzing the network, and providing estimates of absolute demand. The network analysis focused on evaluating the destinations and populations that could be reached by each access point and the level of stress of users for each service area. Absolute demand estimates were derived from the relative demand scores in conjunction with the 2035 daily walking and bicycling trip projections from the previous *LA River Path Origin and Destination + Demand Analyses* completed by Metro in 2020 (Metro 2020c). The 2035 daily bicycling and walking trip projections were adjusted using SCAG population growth estimates for Los Angeles to reflect 2045 conditions (SCAG 2020b).

The daily trip estimated trips entering and exiting each access point in 2045 are illustrated on Figures 3.16-4 and 3.16-5 and are summarized in Table 3.16-5. As shown in Table 3.16-5, the busiest areas of the path are expected to be in proximity to Downtown Los Angeles, followed by the north section near Elysian Park. Activity is expected to decrease as the path moves south through Vernon.

Figure 3.16-4. Pedestrian Daily Access Point Demand (2045)

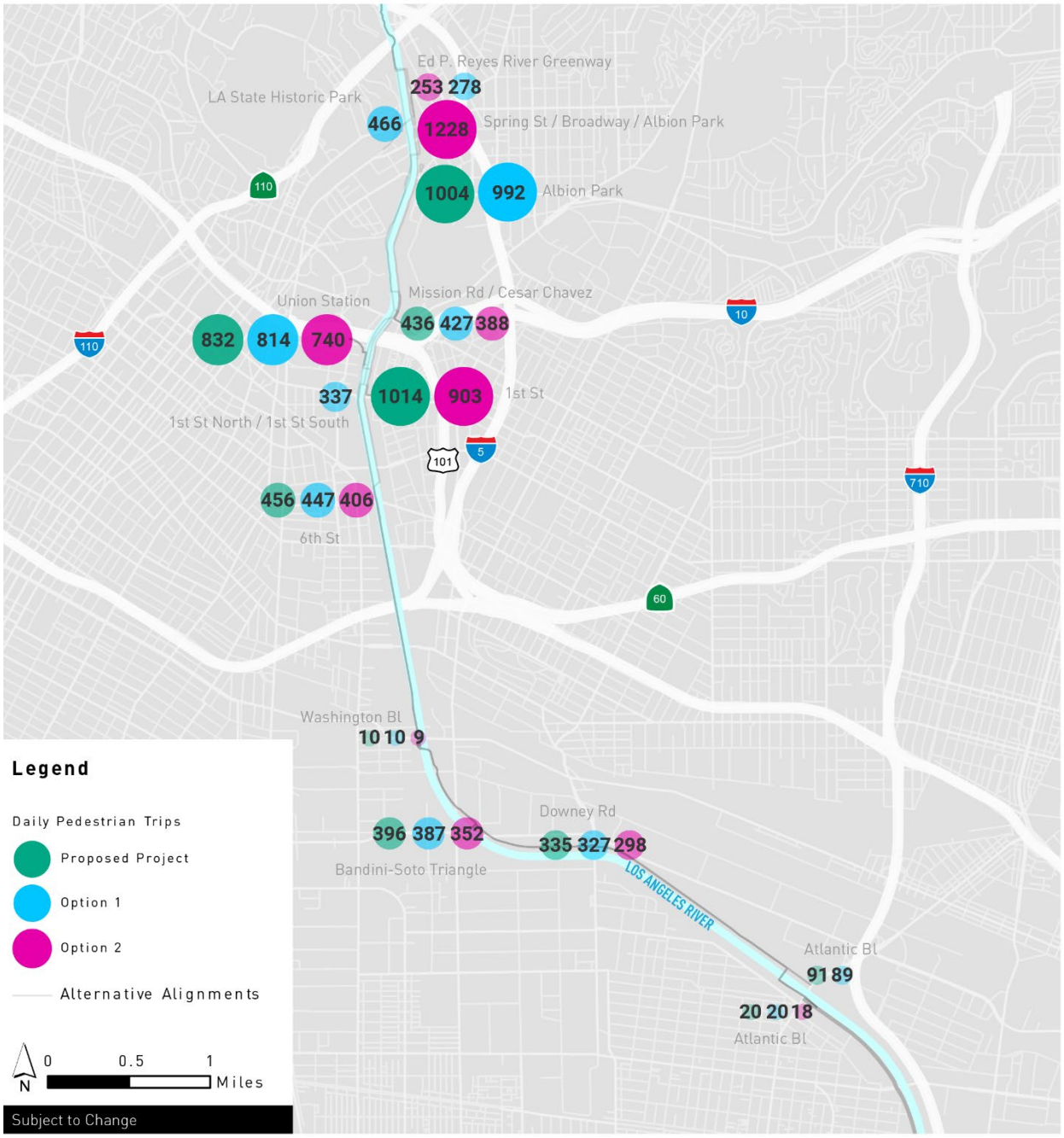


Figure 3.16-5. Bicyclist Daily Access Point Demand (2045)

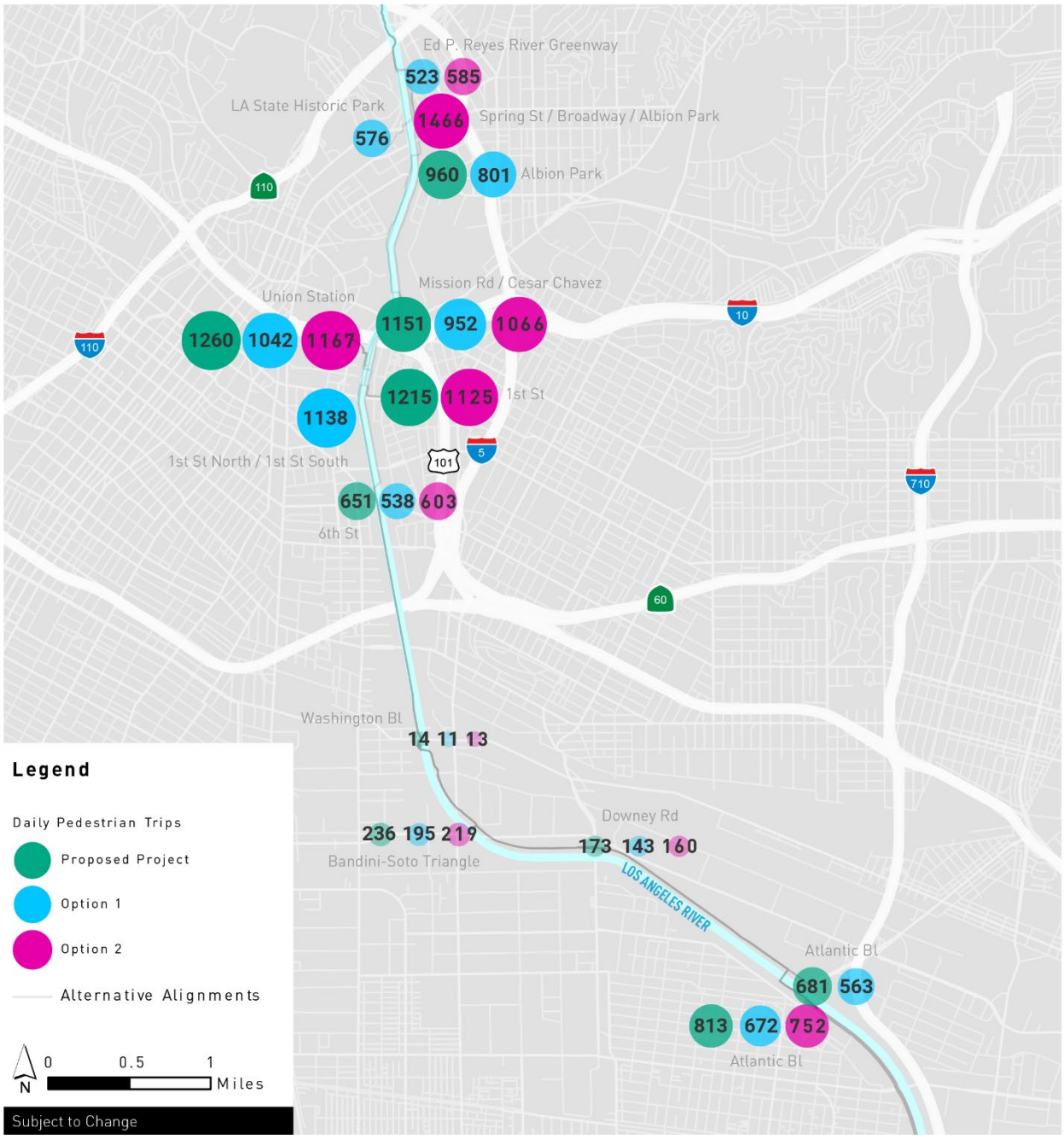


Table 3.16-5. Pedestrian and Bicyclist Access Point Daily Entering and Exiting Demand (2045)

Access Point	2045 Pedestrian						2045 Bicyclist					
	Proposed Project		Option 1		Option 2		Proposed Project		Option 1		Option 2	
	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational
Ed P. Reyes River Greenway	-	-	228	50	207	46	-	-	413	110	462	123
Spring St/ Broadway/ Albion Park	-	-	-	-	1007	221	-	-	-	-	1158	308
LA State Historic Park	-	-	382	84	-	-	-	-	455	121	-	-
Albion Park	823	181	814	179	-	-	758	202	633	168	-	-
Union Station via Center St	682	150	667	147	607	133	996	265	823	219	922	245
Mission Rd/ Cesar E Chavez Ave	358	79	350	77	318	70	910	242	752	200	842	224
First North/ First St South	-	-	277	61	-	-	-	-	899	239	-	-
First St	832	183	-	-	740	163	960	255	-	-	888	236
Sixth St	374	82	366	80	333	73	514	137	425	113	476	127
Washington Blvd	8	2	8	2	7	2	11	3	9	2	10	3
Bandini-Soto Triangle	324	71	317	70	289	63	187	50	154	41	173	46
Downey Rd	274	60	269	59	244	54	137	36	113	30	127	34
Atlantic Blvd	75	16	73	16	-	-	538	143	445	118	-	-

Table 3.16-5. Pedestrian and Bicyclist Access Point Daily Entering and Exiting Demand (2045)

Access Point	2045 Pedestrian						2045 Bicyclist					
	Proposed Project		Option 1		Option 2		Proposed Project		Option 1		Option 2	
	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational	Utilitarian	Recreational
Atlantic Blvd (Existing)	17	4	16	4	15	3	642	171	531	141	594	158

Source: Alta 2024

3.16.5.1.1.2 Operations and Maintenance Vehicle Demand

Operations and maintenance (O&M) activities for the Proposed Project and its options would vary depending on user demand and specific context of different locations along the path. Section 2.8*, Operations and Maintenance* describes expected O&M activities. Overall, O&M of the Project would be consistent with existing Los Angeles River Greenway O&M activities to the north of the Project and the existing LA River Trail O&M activities to the south of the Project. O&M would support a safe, reliable, and well-maintained path, and O&M would not require heavy construction equipment in any area simultaneously.

Facility management standards would be developed for the Project as part of the future comprehensive O&M plan. These standards and plan would identify the frequency of required O&M tasks. A comprehensive O&M plan would be completed based on the direction of the steering committee for the plan. These O&M activities are anticipated to produce a minimal number of daily trips.

3.16.5.1.1.3 Access Points

Access points would serve as entry points to the LA River Path for the communities surrounding it. The features of access point areas would vary depending on community needs, path user demand, available space, and the surrounding context. Access points would be located along and adjacent to both sides of the river to connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including Union Station and Metro's E Line and A Line stations. The alignments for the Proposed Project and its options would vary in where they follow the river's west or east bank, resulting in differences in access location (refer to Section 2.5, *Proposed Project and Options*).

3.16.5.1.1.4 Access Design

Access points would be designed to comply with applicable federal, state, and local regulations governing access for people with disabilities, and would incorporate design principles to serve people of all ages and abilities. These access points would be designed using the City of Los Angeles *Complete Streets Design Guide* (City of Los Angeles n.d.), which was developed as part of California's Complete Streets Act of 2008 (AB 1358) and the *Citywide Design Guidelines* adopted in October 2019.

3.16.5.1.1.5 Universal Design

Based on the *LA River Path Access + Accessibility Assessment* (Metro 2019), universal design principles take the intersections of federal, state, and local regulations a step further and aim to proactively create facilities that exceed minimum requirements and deliver high performance and rich user experiences for people of all ages and abilities.

3.16.5.1.1.6 Vehicle Demand

There are two general ways people would use the path: utilitarian and recreational. Utilitarian users would use the path for a purposed destination (for example, work, school, and commercial retail) and recreational users would use the path for enjoyment.

It is anticipated that most of the utilitarian users would originate from the surrounding residential developments to the LA River Path and from the existing path north and south of the LA River Path. Recreational users would also originate from the surrounding residential developments but could potentially originate from areas beyond the vicinity of the LA River Path. These recreational users could originate from beyond Los Angeles County or beyond the walking and biking distance to the river. Due to the distance, it is anticipated that these recreational users would use a vehicle to get to an access points. Therefore, vehicle demand at the access points would be from these recreational users.

The transportation model from the access opportunity network analysis provides total daily numbers of bicycles and pedestrians entering and exiting at each access point and provides a usage breakdown between utilitarian and recreational users as follows:

- Utilitarian bicyclists would comprise approximately 79% and recreational bicyclists would comprise approximately 21% of users.
- Utilitarian pedestrians would comprise approximately 82% and recreational pedestrians would comprise approximately 18% of users.

The transportation model cannot accurately forecast the percentage of recreational users that would drive to the access point to use the path during the weekday peak periods. However, there are several reasons why there would be a relatively small number of vehicles coming to the access points:

- Recreational users would use the path during off-peak hours or during the weekend.
- Recreational users are only approximately one-fifth of the total daily users of the river at each access point.
- Only a portion of these recreational users would arrive at the access points via a vehicle.
- Recreational users would often carpool (more than one recreational user per vehicle) using their own vehicles or potentially using a rideshare service.
- There is limited parking available at each of the access points.

Overall, implementation of the Proposed Project or its options would provide a continuous 32-mile path along the LA River encouraging the use of other modes of transportation instead of private vehicles. This would result in reducing vehicle trips along roadways in the RSA. The increase in vehicle demand at the access points would be minimal and would not exceed the corresponding reduction in vehicle trips on other roadways. Therefore, a significant increase in the number of vehicles at the access points is not anticipated.

3.16.5.1.1.7 Mobility Connection

The Proposed Project and its options would connect to on-street bicycle networks via access points connecting to existing and planned low-stress bicycle infrastructure such as Class III neighborhood bicycle routes, Class II bicycle lanes, and Class IV protected bikeways. Access points would also connect to on-street existing and planned sidewalks that serve people walking and taking transit. The City of Los Angeles *Mobility Plan 2035* identifies Pedestrian Enhanced Districts and a Transit Enhanced Network (Los Angeles Department of City Planning 2016). These networks are planned for street improvements that would increase access to area amenities through continuous, predictable, and safe sidewalks, intersections, and transit support facilities. Access points along the river may connect to these districts and networks.

The LA River Path would also connect to Union Station, the region's largest transportation hub, providing an opportunity for users to connect with existing Metrolink, Amtrak, and Metro's countywide rail and bus facilities as well as future mobility projects including Metro's Arts District/Sixth Street Station, Link Union Station (Link US) project, California High-Speed Rail, and the Southeast Gateway Line.

Metro's Arts District/ Sixth Street Metro Rail Station is a proposed rail station for serving the Arts District, Boyle Heights, and surrounding communities. The Link US project would expand Union Station to allow trains to enter and exit from existing northern tracks, and from new tracks to the south over US-101. The expansion would increase rail service capacity, reduce train idling times, and accommodate future high-speed rail services.

California High-Speed Rail is an 800-mile rail project that would connect the San Francisco Bay metropolitan region to Union Station in Downtown Los Angeles, and run at speeds of over 200 miles per hour. California High-Speed Rail is proposing a shared corridor by running on existing Metrolink railroad tracks and Link US improvements at Union Station.

Finally, the Southeast Gateway Line is a planned 20-mile LRT line that would run parallel to the LA River Path and connect Downtown Los Angeles to southeast Los Angeles County, expanding transit connections from Union Station.

Table 3.16-6 summarizes access points and their connections to bicycle, pedestrian, and transit networks. Access location connectivity to different transportation networks is more prominent north of Washington Boulevard through the Downtown Los Angeles area up to the north corridor limit. The connectivity for access points south of Washington Boulevard through the City of Vernon to the south corridor limit is limited to on-street bicycle networks.

3.16.5.1.1.8 Community Connections

When completed, the Project would allow people to travel along the LA River between San Fernando Valley and Long Beach and would provide access to many communities in between. The Project would provide countywide mobility and much-needed low-cost transportation options. It would also provide first/last mile transportation connections to Metro's bus and rail network. The Project would provide greater accessibility to employment, entertainment, commercial, education, and recreational centers, and would provide more active lifestyle choices to largely disadvantaged communities. Additionally, the Project would complement projects that have already been built or that are underway by closing critical gaps in the bicycle network and integrating and synchronizing plans for the path. Table 3.16-7 summarizes key destinations served by each access point.

Table 3.16-6. Summary of Proposed Project Mobility Connections

Access Point	Mobility Connections							
	Proposed Project	Option 1	Option 2	Roadway Accessibility	Bicycle Network	Planned Pedestrian Enhanced Districts	Planned Transit Enhanced Districts	Metro Rail Stop Location (within 0.5 miles of LA River)
Ed P. Reyes River Greenway	-	X	X	N Ave 18	Class II Bicycle Lane	X	X	Lincoln/Cypress Station – Metro A Line
				N Ave 19	Class II Bicycle Lane; Planned Class IV Separated Bicycle	X	X	
LA State Historic Park	-	X	-	Baker St	-	-	-	Chinatown Station – Metro A Line
				N Spring St	Planned Class II Bicycle Lane; Planned Class I Path	X	-	
Albion Park	X	X	-	Albion St	-	-	-	-
Spring St/Broadway/Albion Park	-	-	X	Broadway	-	-	-	-
Mission Rd/Cesar E Chavez Ave	X	X	X	Mission Rd	Class II Bicycle Lane	X	X	Union Station – Major Hub (several Metro, Metrolink, and Amtrak lines)
				Cesar E Chavez	Planned Class IV Separated Bicycle; Planned Class II Bicycle Lane	X	X	
Union Station	X	X	X	Center St	Planned Class IV Separated Bicycle	X	-	Union Station – Major Hub (several Metro, Metrolink, and Amtrak lines)
First St North/First St South	-	X	-	First St	Planned Class IV Separated Bicycle	X	-	Little Tokyo/Arts District Station – Metro E Line Pico/Aliso Station – Metro E Line
First St	X	-	X	First St	Planned Class IV Separated Bicycle	X	-	Little Tokyo/Arts District Station – Metro E Line Pico/Aliso Station – Metro E Line
Sixth St	X	X	X	Santa Fe Ave	Planned Class III Bicycle Route	X	-	-
				Sixth/Whittier	Planned Class IV Separated Bicycle	X	X	
Washington Blvd	X	X	X	Washington Blvd	Planned Class II Bicycle Lane	-	-	-
Bandini-Soto Triangle	X	X	X	37th/Bandini	Planned Class IV Separated Bicycle	-	-	-
Downey Rd	X	X	X	Downey Rd	Planned Class I Path	-	-	-
Atlantic Blvd	X	X	-	Atlantic Blvd	Planned Class II Bicycle Lane	-	-	-
Atlantic Blvd (Existing)	X	X	X	Atlantic Blvd	Planned Class II Bicycle Lane	-	-	-

Table 3.16-7. Proposed Project Community Connections

Access Point	Proposed Project	Option 1	Option 2	Key Destination Served
Ed P. Reyes River Greenway	-	X	X	▪ Adjacent developments: industrial, commercial, residential, and open green space ▪ Lincoln Heights Community (schools, recreation centers, churches, active commercial and industrial corridors, housing, and small local businesses), Cypress Park Community (schools, recreation centers, churches, housing, and small local businesses) ▪ Lincoln/Cypress and Chinatown A Line Stations ▪ Northeast Los Angeles Communities (Mt. Washington, Highland Park, Montecito Heights) ▪ Other destinations including Elysian Park, Elysian Park/Radio Hill Garden, Dodger Stadium, Los Angeles State Historic Park, State Historic Park Residential Commercial Development, Chinatown Business District, Heritage Square Museum, Lummis Home and Gardens Museum, Downey Recreation Center, several schools and churches
LA State Historic Park	-	X	-	▪ Adjacent developments: industrial, commercial, residential, and open green space, schools and churches ▪ Los Angeles State Historic Park and Elysian Park ▪ Lincoln Heights Community (schools, recreation centers, churches, housing, and small local businesses) ▪ Chinatown Business District ▪ Chinatown A Line Station ▪ Downey Recreation Center and Dodger Stadium
Albion Park	X	X	-	▪ Adjacent developments: industrial, commercial, and residential ▪ Los Angeles State Historic Park and Albion Riverside Park ▪ Lincoln Heights Community (schools, recreation centers, churches, active commercial and industrial corridors, housing, and small local businesses) ▪ Chinatown Business District ▪ Union Station and Metro headquarters
Spring St/Broadway/Albion Park	-	-	X	▪ Adjacent developments: industrial, commercial, and residential ▪ Los Angeles State Historic Park and Albion Riverside Park ▪ Lincoln Heights Community (schools, recreation centers, churches, active commercial and industrial corridors, housing, and small local businesses) ▪ Chinatown Business District ▪ Union Station and Metro headquarters
Mission Rd/Cesar E Chavez Ave	X	X	X	▪ Adjacent developments: heavy industrial, large public facilities, limited commercial and limited residential spaces ▪ Boyle Heights, Lincoln Heights and Chinatown Communities (school, recreation centers, churches, and active commercial corridors, housing, and small local businesses) ▪ Union Station and Metro Headquarters ▪ Other destinations including Lincoln Park Skatepark, Lincoln Park DMV, Plaza De La Raza, USC Keck Hospital, Los Angeles County Public Work, Los Angeles County Hospital, Harbor UCLA Medical Center, Cesar E Chavez Business District, Los Angeles Fire Station, US Post Office, Ramon C. Cortines School of Visual and Performing Arts, several schools and churches
Union Station	X	X	X	▪ Adjacent developments: heavy industrial, large public facilities, limited commercial, and limited residential spaces ▪ Boyle Heights, Lincoln Heights and Chinatown Communities (school, recreation centers, churches, and active commercial corridors, housing, and small local businesses) ▪ Union Station and Metro Headquarters ▪ Other destinations including Lincoln Park Skatepark, Lincoln Park DMV, Plaza De La Raza, USC Keck Hospital, Los Angeles County Public Work, Los Angeles County Hospital, Harbor UCLA Medical Center, Cesar E Chavez Business District, Los Angeles Fire Station, US Post Office, Ramon C. Cortines School of Visual and Performing Arts, several schools and churches
First St North/First St South	-	X	-	▪ Adjacent developments: heavy industrial, large public facilities, limited commercial and limited residential spaces ▪ Boyle Heights, Lincoln Heights and Chinatown Communities (school, recreation centers, churches, and active commercial corridors, housing, and small local businesses) ▪ Union Station and Metro Headquarters ▪ Pico/Aliso and Little Tokyo/Arts District E Line Station ▪ Other destinations including Lani Vest Pocket Park, Los Angeles Police Department Station, Hollenbeck Youth Center, Iglesia Evangélica De Jesucristo, Libros Schmibros Lending Library, Nishi Hongwanji Buddhist Temple, Japanese American National Museum, Koyasan Buddhist Temple, Japanese Village Plaza, Caltrans District 7, LADOT headquarters, City Hall, Parker Center, Los Angeles Police Department headquarters, Aliso Pico Recreation Center, and Hollenbeck Park

Table 3.16-7. Proposed Project Community Connections

Access Point	Proposed Project	Option 1	Option 2	Key Destination Served
First St	X	-	X	▪ Adjacent developments: heavy industrial, large public facilities, limited commercial and limited residential spaces ▪ Boyle Heights, Lincoln Heights and Chinatown Communities (school, recreation centers, churches, and active commercial corridors, housing, and small local businesses) ▪ Union Station and Metro Headquarters ▪ Pico/Aliso and Little Tokyo/Arts District E Line Stations ▪ Other destinations including Lani Vest Pocket Park, Los Angeles Police Department Station, Hollenbeck Youth Center, Iglesia Evangélica De Jesucristo, Libros Schmibros Lending Library, Nishi Hongwanji Buddhist Temple, Japanese American National Museum, Koyasan Buddhist Temple, Japanese Village Plaza, Caltrans District 7, LADOT headquarters, City Hall, Parker Center, Los Angeles Police Department headquarters, Aliso Pico Recreation Center, and Hollenbeck Park
Sixth St	X	X	X	▪ Adjacent developments: heavy industrial, limited commercial and limited residential spaces ▪ Arts District Community (museum, cultural centers, limited open green spaces, and active commercial corridors, and small local businesses), and Boyle Heights Community (schools, recreation centers, churches, and active commercial corridors, housing, and small local businesses)
Washington Blvd	X	X	X	▪ Adjacent developments: active, heavy industrial sector ▪ Washington A Line Station ▪ The exclusively industrial City of Vernon
Bandini-Soto Triangle	X	X	X	▪ Adjacent developments: active heavy industrial sector, commercial center housing, restaurants, and cafes ▪ The exclusively industrial City of Vernon
Downey Rd	X	X	X	▪ Adjacent developments: active heavy industrial sector, commercial center housing, restaurants, and cafes ▪ The exclusively industrial City of Vernon
Atlantic Blvd	X	X	-	▪ Adjacent developments: mix of active heavy industrial and residential sectors) ▪ Residential community of Maywood (schools, recreation centers, churches, and small local businesses) ▪ Existing bike path ▪ The exclusively industrial City of Vernon
Atlantic Blvd (Existing)	X	X	X	▪ Adjacent developments: mix of active heavy industrial and residential sectors) ▪ Residential community of Maywood (schools, recreation centers, churches, and small local businesses) ▪ Existing bike path ▪ The exclusively industrial City of Vernon

Notes:
DMV = Department of Motor Vehicles
UCLA = University of California Los Angeles
USC = University of Southern California

3.16.5.1.2 Construction Elements

As discussed in Section 2.6, *Construction*, construction activities are similar for the Proposed Project and its options. Construction activities generally consist of preconstruction activities and four major construction activities: mobilization, site preparation, site work, and finishes (ancillary path elements). The total time to construct the Project is anticipated to be 3 years. The current schedule estimates construction to begin in summer/fall 2028 and construction completion/opening date of summer/fall 2031 with pre-construction activities potentially starting in spring/summer 2026. Multiple temporary staging areas throughout the RSA would be established to support construction. Due to construction activity limitations at the river channel, it is anticipated that potential staging areas would be used for material and equipment storage and worker rally points. Potential staging areas and locations for each proposed alignment are shown in Appendix B, *Project Footprint Maps*. Access to staging areas for the Proposed Project and its options would be accomplished using existing public highways and roads. Construction staging areas and river access areas would be finalized during final design. At the current level of design and development, estimates are based on the professional opinion of design engineers and construction managers, but exact details would depend on the methods used by the construction contractor selected to perform the work.

3.16.5.1.2.1 Construction Vehicle Demand

Construction vehicle demand for the Proposed Project and its options is a product of the planned construction operations and activities. During the peak of construction, it is anticipated that as many as 30 to 35 concurrent construction activities would occur over a single month with 207 to 281 workers in multiple construction areas along the proposed alignment. Depending on the construction activity and specific construction segment on any particular day, daily workers would be distributed throughout multiple sites. Daily workers would arrive and park their personal vehicles in their assigned staging area. Workers would then be transported (via a workers transport) to their designated work area via one of the planned river access points. At the end of the workday, daily workers would be transported back to the staging areas.

Offsite trips of haul trucks for imported and exported soils and concrete trucks for path and access point construction were considered. These trips are assumed to be generated outside the construction area (offsite) and enter the river channel via the planned access points, pick-up and drop-off at the construction site, and exit the using the same route. In other words, these trips are not assumed to use the staging areas. Due to the limitations at the channel, a separate set of offsite trips are expected related to the daily mobilization of material and equipment in and out of the construction sites. The mobilization trips are likely to occur between the river access points and the closest staging areas to minimize daily material and equipment mobilization. Table 3.16-8 summarizes offsite peak daily construction vehicle traffic estimates.

Table 3.16-8. Summary of Peak Daily Construction Traffic

Construction Traffic Activity	Number of Round Trips per Day		
	Proposed Project	Option 1	Option 2
Mobilization	320	279	367
Workers	230	207	281
Worker Transport	59	54	73
Haul Trucks	16	16	16
Concrete Trucks	27	28	23
TOTAL	**652**	**584**	**760**

3.16.5.2 Impact TR-1: Conflict with Plans and Policies

Impact TR-1: Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

3.16.5.2.1 Proposed Project

3.16.5.2.1.1 Construction

Less than significant impact. No long-term closures of roadways, transit, bicycle, or sidewalks are anticipated for construction of the Proposed Project. Most construction activities are anticipated to occur outside of the public rights-of-way and would be located primarily within the temporary footprint along the banks and inside the LA River and within staging areas. Construction staging areas would be located on properties within the Proposed Project footprint and would not be within public rights-of-way. Temporary short-term full and partial road closures would be implemented to allow for certain construction activities, material deliveries, hauling materials off-site, and to maintain public safety. Full street closures are anticipated to be required during construction for locations where the alignment is elevated over an existing roadway, access points, and potential on-street path locations. The full street closures would be temporary, would typically occur overnight and on weekends, would be coordinated with local jurisdictions, and would require established transportation management plans (per PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*) and traffic control plans (per PF-TR-02, *Traffic Control Plan*), which would include addressing traffic delays, detour planning and associated signage, and public awareness efforts.

Construction activities would have temporary transportation effects associated with roadway or lane closures, on-street parking closures, detours, and traffic related to construction workers and equipment entering and leaving the construction staging areas and LA River construction access points. In general, the traffic operations effects of the construction activities would increase delays for drivers where there are added construction traffic and lane reductions, or increase travel distances because of detours, resulting in additional delay. Where there is reduced capacity or where detours would be required for some construction activities, some travelers may choose alternate routes around the area to avoid construction activity and traffic delays.

Potential temporary commuter and freight railway closures may be required at some locations north of Washington Boulevard where construction is in close proximity to the tracks and where elevated paths and connectors span over rail crossings. Potentially affected operations include Metrolink commuter

service on both banks of the river, Amtrak passenger service and BNSF freight service on the west bank, and UP freight service on the east bank. The closures are expected to occur during overnight periods and would be arranged well in advance to minimize disruptions to rail service. Intermittent sidewalk and crosswalk closures in the vicinity of LA River access points would also occur, impeding pedestrian circulation.

Construction is a temporary condition and generally programs, plans, ordinances, and policies are focused on permanent conditions rather than construction activities. Therefore, these temporary transportation effects on roadway, pedestrian and bicycle facilities, bus and rail transit, and freight railway would result in a **less than significant impact**.

Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would further ensure transportation effects during construction would be less than significant levels. The construction TMP and traffic control plans would include provisions and specific strategies to minimize and address these temporary Proposed Project-related construction effects on roadway, bicyclists, pedestrians, transit and area residents and businesses. The TMP would ensure that connectivity for all modes of transportation is maintained to the extent feasible and extensive coordination with the railroad operators would be required.

3.16.5.2.1.2 Operations and Maintenance

Less than significant impact. The general theme for the programs, plans, ordinances, and policies discussed in Section 3.16.2, is as follows:

- State and regional transportation plans and policies are focused on meeting the state's goal of reducing GHG emissions by encouraging a sustainable transportation system that promotes environmental and public health.
- Local plans and policies are focused on the following:
  - Provide a continuous path along the LA River linking the river to neighborhoods and linking bicyclists and pedestrians to recreational, transportation, and community facilities.
  - Building and expanding the pedestrian and bicycle network.
  - Providing safe, convenient, and comfortable local and regional bicycle facilities for people of all ages and abilities.
  - Encouraging modes of transportation other than private vehicles.
  - Improving roadway safety and reduce bicycle (bicycle-to-pedestrian, bicycle-to-bicycle, bicycle-to-automobile) collisions.
  - Provide equitable, inclusive, and safe parks, open space, and trails.
  - Enhance opportunities for equitable access to the river area.

The Proposed Project would create a continuous active transportation path along the LA River, closing the 8-mile gap between Elysian Valley and the Cities of Vernon and Maywood. As discussed in Section 3.16.5.1, access points would be strategically located along and adjacent to both sides of the river to allow people to travel along the LA River between San Fernando Valley and Long Beach and would provide access to many communities in between.

Access points would be the main attraction for bicyclists and pedestrians that are expected to use Proposed Project facilities. Providing enough access points at ideal/advantageous locations that connect

to other mobility options and destinations would create a functional and enjoyable path. The Proposed project and its options would connect the path with existing and proposed future on-street bicycle, transit, and walking networks, including Union Station and Metro's E Line and A Line stations, providing first/last mile transportation connections to Metro's bus and rail network. The path would also provide greater accessibility to employment, entertainment, commercial, education, and recreational centers, and would provide more active lifestyle choices to largely disadvantaged communities. Additionally, the Proposed Project would complement projects that have already been built or are underway by closing critical gaps in the bicycle network and integrating and synchronizing plans for the path, resulting in an expanded pedestrian and bicycle network.

Additionally, there are several projects along the LA River or near the Proposed Project such as California High-Speed Rail Burbank to LA Union Station, US Army Corps of Engineers LA River Ecosystem Restoration, and Link US that are relevant to the Proposed Project. Alignment of the Proposed Project to these other projects was assessed through access connectivity. The Proposed Project's connectivity to these other projects would complement them by providing a recreational corridor or supporting alternative modes of transportation.

The Proposed Project would enhance and provide recreational opportunities, livability, regional and local connectivity, and provide an outstanding user experience, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. The path would be designed to comply with applicable federal, state, and local regulations governing access for people with disabilities and incorporate design principles to serve people of all ages and abilities. This new transportation facility would contribute to improved health, economic, environmental, transportation, and equity issues throughout and beyond the study area.

As discussed in Section 3.16.2.2 and pursuant to SB 743, for projects that do not increase roadway capacity, automobile delay is no longer considered environmental impacts under CEQA per California Public Resources Code Section 21099(b)(2) and CEQA Guidelines Section 15064.3(a). Nonetheless, for information purposes only, this transportation analysis considers whether the increase in vehicle demand would result in substantial automobile delay. As discussed in Section 3.16.5.1, an increase in vehicle demand at each access point is anticipated due to recreational path users driving to an access point to use the path. These recreational path users are assumed to originate from areas beyond the vicinity of the path. However, the increase in vehicle demand is not anticipated to have a significant impact on the roadways during the weekday peak periods because of the following reasons:

- Recreational users would use the path during off-peak hours and weekend.
- Recreational users are only approximately one-fifth of the total daily users.
- Only a portion of the recreational users would drive to the access points.
- Recreational users would often carpool.
- There is limited parking at each access point.

Overall, implementation of the Proposed Project would reduce vehicle trips along roadways in the vicinity of the path. The increase in vehicle demand at the access points would be minimal and is not expected to exceed the corresponding reduction in vehicle trips on other roadways.

In addition, this increase in vehicle demand may potentially affect the availability of public parking spaces on adjacent streets. Similar to automobile delay, a reduction in parking is generally not an environmental impact under CEQA (refer to Public Resources Code Section 21099(b)(3)). It should be noted, however, that because the Proposed Project is not expected to add or remove parking spaces,

and parking demand is not expected to be concentrated in focused areas, public parking spaces are not anticipated to be substantially affected.

The Proposed Project aligns with the general theme for the programs, plans, ordinances, and policies discussed in Section 3.16.2. Therefore, implementation of the Proposed Project is consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the river. The Proposed Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including those relevant to transit, roadway, bicycle, and pedestrian facilities. Therefore, the impacts of operations and maintenance-related activities of the Proposed Project would be **less than significant**.

3.16.5.2.2 Option 1

3.16.5.2.2.1 Construction

Less than significant impact. The construction impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project. Option 1 could temporarily close roadway and sidewalk facilities along Avenue 18 and Baker Street due to additional access locations for Option 1 compared to the Proposed Project. Although slightly more area is covered for Option 1, the same general construction equipment and activities would be involved.

Construction is a temporary condition and generally programs, plans, ordinances, and policies are focused on permanent conditions rather than construction activities. Therefore, these temporary transportation effects on roadway, pedestrian, transit, and bicycle facilities would result in a less than significant impact. Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan*, as described in Section 3.16.3.3, would further ensure these construction-related transportation effects would be **less than significant** levels.

3.16.5.2.2.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project, but the same general Project elements and operations are proposed.

Implementation of Option 1 is consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the river. Option 1 would not conflict with a program, plan, ordinance, or policy that addresses the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, the impacts from operations and maintenance-related activities of Option 1 would be **less than significant**.

3.16.5.2.3 Option 2

3.16.5.2.3.1 Construction

Less than significant impact. The construction impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project. Option 2 could temporarily close roadway and sidewalk facilities along Avenue 18, Spring Street, and Broadway due to the slightly different access locations of Option 2 in comparison to the Proposed

Project. Because similar area is covered for Option 2, the same general construction equipment and activities would be involved.

Construction is a temporary condition and generally programs, plans, ordinances, and policies are focused on permanent conditions rather than construction activities. Therefore, these temporary transportation effects on roadway, pedestrian, transit, and bicycle facilities would result in a less than significant impact. Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would further ensure these construction-related transportation effects would be **less than significant** levels.

3.16.5.2.3.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project, and the same general elements and operations are proposed.

Implementation of Option 2 is consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the river. Option 2 would not conflict with a program, plan, ordinance, or policy that addressed the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Therefore, the impacts from operations and maintenance-related activities of Option 2 would be **less than significant**.

3.16.5.3 Impact TR-2: Conflict with CEQA Guidelines

Impact TR-2: Conflict or be inconsistent with CEQA Guidelines Section 15064.3(b)?

3.16.5.3.1 Proposed Project

3.16.5.3.1.1 Construction

Less than significant impact. Construction activities for the Proposed Project may result in temporary increases in VMT. *Construction Vehicle Demand* in Section 3.16.5.1.2 describes the construction vehicle demand anticipated for the Proposed Project. Based on the construction schedule, the estimated offsite construction traffic associated with the Proposed Project is 652 round trips per day and these are expected to be divided among the river access locations because the active construction activities would be scattered along the LA River alignment. The vehicle trips are expected to originate from construction worker residences, staging areas, and offsite parking areas for construction workers. This temporary increase in vehicle demand would also result in a temporary increase in VMT.

Because the increase vehicle trips and associated VMT would be temporary, the Proposed Project is not anticipated to substantively change the surrounding vehicle transportation system. When construction is completed, construction-related traffic would cease and VMT levels would return to pre-existing conditions. The Proposed Project is not anticipated to conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). Therefore, **less than significant impacts** from the temporary increase in VMT would occur.

3.16.5.3.1.2 Operations and Maintenance

Less than significant impact. Implementation of the Proposed Project supports the state's goal of reducing GHG emissions by encouraging the use of non-motorized uses and shared mobility, thereby

reducing the use of private vehicles, resulting in a reduction of VMT. Simultaneously, there is a potential for VMT increases related to the secondary effects of regional users driving to the Project site for recreational trips. This increase is anticipated to be minimal and would not result in an offset of the daily reductions in vehicle travel locally. The following Project elements contribute to the overall reduction of VMT:

- Closing the 8-mile gap along the LA River between Elysian Valley and the City of Vernon provides an off-road facility through Los Angeles for all ages and abilities via active transportation modes such as bicycles, scooters, skateboards, rollerblading, roller skating, walking, and running.
- A continuous 32-mile path improves regional and local connectivity, encouraging the use of active transportation for recreation and commuting. Access points are strategically located to connect to on-street bicycle, pedestrian, and transit networks conveniently and comfortably, providing opportunities for connectivity between different communities, neighborhoods, jobs, and key destinations.
- Design elements along the river improve safety and security for path users, which enhances the attractiveness, comfort, and enjoyment of the path as a transportation and recreational corridor and contributes to the path's attractiveness as a destination. These design elements include artwork along the river, lighting, wayfinding, landscaping, site furnishing (shade structures, seating, and water fountains), and bicycle amenities.

3.16.5.3.1.2.1 Requirements for Vehicle Miles Traveled Analysis

Pursuant to SB 743, the focus of evaluating transportation impacts under CEQA has shifted from traffic delays measured by LOS to total VMT. The intent of SB 743 is to bring the analysis of transportation impacts under CEQA more into alignment with the state's long-term climate goal of reducing GHG emissions. The requirements from SB 743 are implemented in CEQA Guidelines Section 15064.3(b). OPR also provides the Technical Advisory (Governor's Office of Planning and Research 2018), which contains technical recommendations regarding the assessment of VMT, thresholds of significance, and mitigation measures for different types of transportation projects.

The approaches and tools for evaluating VMT are still developing, and the technical guidance from the state and other jurisdictions is not definitive, particularly for active transportation paths (all non-motorized uses) such as the Proposed Project. However, as documented in Section F of the Technical Advisory, "additions of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel" are considered projects "that would likely not lead to a substantial or measurable increase in vehicle travel, and therefore generally should not require an induced demand analysis." Furthermore, the Technical Advisory states that active transportation projects generally "reduce VMT and therefore are presumed to cause a less than significant impact on transportation" aligning with the state's goal of reducing GHG emissions.

Similarly, the City of Los Angeles transportation assessment screening criteria in LADOT's TAG for transportation projects concludes that "transit and active transportation projects and projects that generally reduce roadway capacity generally reduce VMT and, therefore, are presumed to cause a less than significant impact." As listed in Table 2.3-1 of the assessment guidelines, "addition of Class I bike paths, trails, multi-use paths, or other off-road facilities that serve non-motorized travel" is categorized as a transportation project that is not likely to lead to a substantial or measurable increase in vehicle travel and would, therefore, not be required to prepare an induced travel analysis.

3.16.5.3.1.2.2 Vehicle Miles Traveled Assessment

Although the Proposed Project is presumed not to have a significant VMT impact based on the Technical Advisory and LADOT TAG, the following VMT assessment is provided to support a reduction in vehicle use and VMT due to active transportation projects. The focus of this assessment is to provide a general quantification of the reduction in vehicle use and VMT.

Two methods for estimating reductions in vehicle trips and VMT due to bicycle and pedestrian facilities were applied. The CARB method is the most widely used method due to its simplicity, use of typically available data, and applicability. The CARB method, developed for the purpose of quantifying emissions reductions when allocating federal Congestion Mitigation and Air Quality Improvement Program funding, assumes that a new bicycle or pedestrian facility leads to a portion of drivers who travel along the route served by the facility to shift from driving to bicycling or walking. The shift in the transportation mode is based on the characteristics of the route and of the surrounding area.

A focused evaluation using the CARB method was conducted on a sample of north-south roadway segments parallel to the Proposed Project to gauge the estimated vehicle reduction expected from the increase in walking and biking. The sampled roadway segments were selected along Alameda Street, Santa Fe Street, Soto Street, Mateo Street, Boyle Avenue, and Central Avenue. For the purposes of this evaluation, historical traffic counts from the *6th Street Viaduct Seismic Improvement Project Final Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation* (Caltrans and City of Los Angeles Department of City Planning 2011) were used. Recent traffic counts were not collected at the time of the analysis due to the pandemic condition. An annual growth rate of 0.70% per year was applied to estimate year 2031 traffic conditions. The calculated annual growth rate is based on the population, housing, and employment information documented in the *Demographics and Growth Forecast* Report (SCAG 2020b).

Based on the CARB methodology, it is estimated that an average of 0.20% to 0.39% of drivers who travel on parallel roadways within 0.5 mile of the Proposed Project would shift to bicycle and walking. Estimated year 2031 (opening year) average daily traffic on the parallel roadways ranges from 3,260 vehicles per day to 35,200 vehicles per day. On the 17 segments of the 6 sampled parallel streets, the potential reduction in vehicle traffic is estimated to range between 20 and 280 vehicles per day in 2031 depending on the roadway characteristics and surroundings. Traffic volumes would decrease on other parallel roadways, as well as other east-west roadways where the CARB methodology does not apply.

A second method involves using the City of Los Angeles VMT calculator to estimate VMT and quantify the VMT reduction for transportation demand management strategies proposed as a mitigation for GHG emissions impacts. VMT reduction estimates are based on the December 2021 California Air Pollution Control Officers Association publication, *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. Based on the methodology, the Proposed Project would potentially fall into three of the transportation demand management strategies:

- T-18 Provide pedestrian network improvement (VMT reduction: up to 6.4%)
- T-19 Construct or improve bike facility (VMT reduction: up to 0.8%)
- T-20 Expand bikeway network (VMT reduction: up to 0.5%)

Both methodologies suggest that an overall reduction in vehicle travel would result in a direct reduction in VMT of 0.5% to more than 6.0%. This finding is consistent with the guidance provided in the Technical Advisory exceptions for these types of transportation projects.

Because the Proposed Project is an active transportation project, it is presumed to have a **less than significant impact** on transportation as documented in Section F of the Technical Advisory and LADOT's TAG. In addition, based on supporting VMT quantification, the Proposed Project would reduce VMT. Therefore, the Proposed Project is not anticipated to conflict or be inconsistent with CEQA Guidelines Section 15064.3(b).

3.16.5.3.2 Option 1

3.16.5.3.2.1 Construction

Less than significant impact. The construction impacts of Option 1 would be substantially similar to those of the Proposed Project. Although the construction of Option 1 is anticipated to have a slightly lower vehicle demand at 584 round trips per day compared to the Proposed Project at 652 round trips per day, the level of impact of both options is expected to be the same.

Because the increase in VMT is temporary, the Proposed Project and its options are not anticipated to substantively change the surrounding vehicle transportation system. The Proposed Project and its options are not anticipated to conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). Therefore, **less than significant** impacts from the temporary increase in VMT would occur.

3.16.5.3.2.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project, but the same general elements and operations are proposed. Because Option 1 is an active transportation project and would reduce VMT by 0.5% to more than 6%, Option 1 is presumed to have a **less than significant impact** on transportation.

3.16.5.3.3 Option 2

3.16.5.3.3.1 Construction

Less than significant impact. The construction impacts of Option 2 would be substantially similar to those of the Proposed Project. Although the construction of Option 2 is anticipated to have a slightly higher vehicle demand at 760 round trips per day compared to the Proposed Project at 652 round trips per day, the level of impact of both options is expected to be the same.

Because the increase in VMT is temporary, the Proposed Project and its options are not anticipated to substantively change the surrounding vehicle transportation system. The Proposed Project and its options are not anticipated to conflict or be inconsistent with CEQA Guidelines Section 15064.3(b). Therefore, **less than significant** impacts from the temporary increase in VMT would occur.

3.16.5.3.3.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project, and the same general elements and operations are proposed. Because Option 2 is an active transportation project and would reduce VMT by 0.5% to more than 6%, Option 2 is presumed to have a **less than significant impact** on transportation.

3.16.5.4 Impact TR-3: Design Hazards or Incompatible Uses

Impact TR-3: Substantially increase hazards due to geometric design features (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

3.16.5.4.1 Proposed Project

3.16.5.4.1.1 Construction

Less than significant impact. Construction of the Proposed Project may result in short-term roadway effects, which could result in increased hazards due to geometric design features, specifically during the construction of the Proposed Project access points where the path connects to a local roadway. At Proposed Project access points, construction activities would result in temporary road and lane closures (full or partial), the presence of construction equipment, and sidewalk closures creating hazards (for example, increased delays resulting in traffic queueing and reduced sight lines due to temporary obstructions) for roadway travelers. There is also the potential for increased hazards at the construction access points and construction staging areas due to the increase in vehicular traffic and presence of construction vehicles. Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would provide provisions and strategies in developing construction staging plans and traffic control plans to minimize transportation effects on roadways and provide safe travels for roadway travelers. The TMP would include guidance to adhere to the affected city's transportation department design standards for appropriate signage, pavement delineations, and traffic control devices that would be needed to provide advisory warnings, regulatory directions, and supplemental guidance to drivers, bicyclists, and pedestrians traveling adjacent to the construction areas. The TMP and traffic control plans would also provide strategies in informing roadway travelers of construction activities, detours, lane closures and possible alternate routes. While application of these provisions and strategies would not completely eliminate hazards, the resulting construction-related transportation impacts would be **less than significant**.

3.16.5.4.1.2 Operations and Maintenance

Less than significant impact. As described in Section 2.5, *Proposed Project and Options*, there are nine proposed access locations (four west of the bank and five on the east bank of the river) connecting to major roadways (Cesar E Chavez Avenue, First Street, Sixth Street, Washington Boulevard, Bandini Boulevard, Soto Street, Downey Road and Atlantic Boulevard). As a result, the Proposed Project would generate pedestrian and bicyclist activity along the LA River at the access points. The added pedestrian and bicyclist activity can potentially pose risks that would increase hazards at access points specific to bicycle, pedestrian, and vehicle conflict due to road design and infrastructure, blind spots, and low-visibility conditions. Inadequate road design would include crosswalks that are not clearly marked or visible and lack of wayfinding signs. Blind spots and low-visibility conditions would reduce visibility of drivers and pedestrians, increasing the risk of collisions.

Access points for the Proposed Project, where the access points transition to the local street system, would be designed to comply with applicable federal, state, and local regulations regarding access for people with disabilities and would incorporate design principles that serve people of all ages and abilities. Among the requirements for river access points, based on the City of Los Angeles *Complete Streets Design Guide* (City of Los Angeles n.d.), is proper design of intersections with on-street roadways by providing lighting and appropriate signage to alert motorists to the presence of bicyclists and to alert bicyclists to the presence of motor vehicles for all crossing movements along with provision of separate pedestrian ways to reduce conflicts. The *Citywide Design Guidelines* (City of Los Angeles 2019) promotes a pedestrian-first design which focuses on design strategies that create human-scale spaces in response to how people engage with their surroundings, by prioritizing active street frontages, clear paths of pedestrian travel, legible wayfinding, and enhanced connectivity. As indicated in the guidelines, design of the lighting must be designed to the satisfaction of the Bureau of Street Lighting and opportunities where appropriate to improve the comfort and safety of pedestrians' street crossing experience should be collaborated with LADOT. Given the required compliance with such design standards, the Proposed Project would not substantially increase hazards due to geometric design features or incompatible uses. Therefore, the impacts of operations and maintenance-related activities of the Proposed Project would be **less than significant**.

3.16.5.4.2 Option 1

3.16.5.4.2.1 Construction

Less than significant impact. The construction impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project; Option 1 provides more access locations and longer path length than the Proposed Project. However, the same general construction equipment and activities would be involved. Because construction activities would be the same, a temporary increase in hazards is anticipated.

Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would provide provisions and strategies in developing construction staging plans and traffic control plans to minimize transportation effects on roadways and provide safe travels for roadway travelers as well as strategies in informing the roadway travelers of construction activities, detours, lane closures and possible alternative routes. While application of these provisions and strategies would not completely eliminate hazards, the resulting construction-related transportation impacts would be **less than significant**.

3.16.5.4.2.2 Operations and Maintenance

Less than significant impact. Option 1 would have 11 proposed access locations (six west of the bank and five on the east bank of the river) along the LA River connecting to similar major roadways as in the Proposed Project as well as to Avenue 18 and Baker Street. As a result, Option 1 would generate pedestrian and bicyclist activity along the LA River that can potentially pose similar risks as Proposed Project at the access points.

The operation impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project, but the same general elements and operations are proposed. Given the required compliance with design standards, Option 1 would not substantially increase hazards due to geometric design features or incompatible uses. Therefore, the impacts from operations and maintenance-related activities of Option 1 would be **less than significant**.

3.16.5.4.3 Option 2

3.16.5.4.3.1 Construction

Less than significant impact. The construction impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared the Proposed Project; Option 2 provides the same number of access locations and slightly shorter path length than the Proposed Project. Therefore, the same general construction equipment and activities would be involved. Because construction activities would be the same, a temporary increase in hazards is anticipated.

Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would provide provisions and strategies in developing construction staging plans and traffic control plans to minimize transportation effects on roadways and provide safe travels for roadway travelers as well as strategies in informing the roadway travelers of construction activities, detours, lane closures and possible alternative routes. While application of these provisions and strategies would not completely eliminate hazards, the resulting construction-related transportation impacts would be **less than significant**.

3.16.5.4.3.2 Operations and Maintenance

Less than significant impact. Option 2 would have nine proposed access locations (four west of the bank and five on the east bank of the river) along the LA River connecting to similar major roadways as the Proposed Project as well as Avenue 18, Spring Street, and Broadway. As a result, Option 2 would generate pedestrian and bicyclist activity along the LA River that can potentially pose similar risks as Proposed Project at the access points.

The operation impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project, and the same general elements and operations are proposed. Given the required compliance with design standards, Option 2 would not substantially increase hazards due to geometric design features or incompatible uses. Therefore, the impacts from operations and maintenance-related activities of Option 2 would be **less than significant**.

3.16.5.5 Impact TR-4: Inadequate Emergency Access

Impact TR-4: Result in inadequate emergency access?

3.16.5.5.1 Proposed Project

3.16.5.5.1.1 Construction

Less than significant impact. Construction of the Proposed Project may result in inadequate emergency access due to short-term roadway effects. At the Proposed Project access points, construction access points, and staging areas, construction activities would result in temporary full and partial street closures, the presence of construction equipment, and sidewalk closures potentially blocking emergency access to adjacent land uses and to the river. Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would include provisions for coordinating construction activities, detours, lane closures and possible

alternate routes to emergency service providers to address access and response time requirements. As discussed in Section 3.14, *Public Service/Safety and Security,* PF-PS-01, *Emergency Service Coordination*, construction contractors would coordinate with police, fire, and emergency service providers prior to and during construction to maintain emergency access through construction work areas. While application of these provisions and strategies would not completely eliminate interference with emergency service providers, the resulting construction-related transportation impacts would be **less than significant**.

3.16.5.5.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project would provide a new active transportation path dedicated for walking, running, bicycling, rolling, and other non-motorized activities along the LA River to connect with the existing LA River Greenway Trail near Egret Park in the City of Los Angeles and the LA River Trail near Atlantic Boulevard in the City of Vernon. The Proposed Project would be located entirely in or along the banks of the LA River and would not interfere with traffic along the surrounding roadways. The Proposed Project would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in the RSA in a way that would affect emergency response routes. Because traffic on the surrounding roadways is not expected to increase, the Proposed Project is not expected to affect the response times of emergency services in the surrounding communities.

The Proposed Project would generate pedestrian and bicyclist activity along the LA River and can pose risks that would increase the demand for emergency services, particularly during rain events. The Proposed Project would provide adequate access for emergency responders by providing frequent access points to and from the path to serve the potential increase in demand for emergency services. These frequent access points would also allow users to escape from flood waters, and allow emergency responders to reach them in the event of flood, accident, or crime. Frequent access points would also provide access to previously difficult-to-reach locations along the river. As discussed in Chapter 2, *Project Description*, the Proposed Project consists of nine access points connecting the river to local roadways. These access points would be designed to adhere to the City and County of Los Angeles design guidelines where frequent access points, sufficient lighting and appropriate signages are required. The Project's O&M plan would include standards and provisions to maintain these accesses to allow for emergency responders access to LA River. Therefore, the Proposed Project would not result in inadequate emergency access during Project operations, and the impacts would be **less than significant**.

3.16.5.5.2 Option 1

3.16.5.5.2.1 Construction

Less than significant impact. The construction impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project; Option 1 provides more access locations and longer path length than the Proposed Project. However, the same general construction equipment and activities would be involved. Because construction activities would be the same, a temporary increase in hazards is anticipated.

Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would include provisions in coordinating construction activities, detours, lane closures and possible alternate routes to emergency service providers to address access and response time requirements. While application of these provisions and strategies would not

completely eliminate interference with emergency service providers, the resulting construction-related transportation impacts would be **less than significant**.

3.16.5.5.2.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 1 would be substantially similar to those of the Proposed Project. Option 1 would cover slightly more area than the Proposed Project, but the same general elements and operations are proposed. Therefore, Option 1 would not result in inadequate emergency access during Project operations and the impacts would be **less than significant**.

3.16.5.5.3 Option 2

3.16.5.5.3.1 Construction

Less than significant impact. The construction impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project; Option 2 provides the same number of access locations and slightly shorter path length than the Proposed Project. However, the same general construction equipment and activities would be involved. Because construction activities would be the same, a temporary increase in hazards is anticipated.

Implementation of PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would include provisions in coordinating construction activities, detours, lane closures and possible alternate routes to emergency service providers to address access and response time requirements. While application of these provisions and strategies would not completely eliminate interference with emergency service providers, the resulting significant construction-related transportation impacts would be **less than significant**.

3.16.5.5.3.2 Operations and Maintenance

Less than significant impact. The operation impacts of Option 2 would be substantially similar to those of the Proposed Project. Option 2 would cover similar area compared to the Proposed Project, and the same general elements and operations are proposed. Therefore, Option 2 would not result in inadequate emergency access during Project operations and the impacts would be **less than significant**.

3.16.6 Mitigation Measures

As identified in Section 3.16.5, the Proposed Project and its options, Option 1 and Option 2, would result in less than significant impacts on transportation under Impact TR-1, Impact TR-2, Impact TR-3, and Impact TR-4. No mitigation measures are required for construction or operation.

3.16.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options, Option 1 and Option 2. The impacts would be less than significant under Impact TR-1, Impact TR-2, Impact TR-3, and Impact TR-4.

3.16.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the cumulative analysis approach and lists the related projects identified within a 1-mile radius of the Proposed Project alignment that could produce related or cumulative impacts. This distance includes the RSA for transportation, and additional distance that is expected to include other projects that may be considered in conjunction with Proposed Project elements based on topography and the existing built environment. For the purposes of cumulative analysis, the general geographic area that could be affected by the Proposed Project and its options in combination with past, present, and future projects varies depending on the environmental resource. The geographic scope for cumulative impacts to transportation is 2-mile-wide area, 1 mile on each side of the LA River's centerline for the entire length of the permanent and temporary footprints (including construction staging areas).

As discussed in Section 3.16.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.16.5, the Proposed Project and its options would result in substantially similar impacts related to transportation. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.16.8.1 Proposed Project, Option 1, and Option 2

3.16.8.1.1 Construction

There is an existing cumulative impact in the RSA related to transportation. The cumulative setting includes the regional and local roadway network inclusive of bike and pedestrian facilities. Future growth and development in the region would generate additional traffic on roadways near and around the Proposed Project and its options, which would adversely affect traffic flow. The additional traffic on roadways generated by past, present, and futures projects would increase the temporary construction impacts on circulation posed by the Proposed Project and its options. Other projects such as the Southeast Gateway Line project (Project ID 13) could be constructed concurrently with the Proposed Project and its options and impact traffic flow as well as bicycle circulation along local streets. The Proposed Project and its options combined with past, present, and reasonably probable future projects could contribute to the existing cumulative impact.

The Proposed Project and its options would result in temporary construction activities that would increase delays for drivers where there are added construction traffic and lane reductions, or increase travel distances because of detours, resulting in additional delay. Construction activities may also result in short-term roadway effects that could result in increased hazards due to geometric design features, specifically during the construction of the access points where the path connects to a local roadway. Construction activities may also result in temporary increases in VMT; however, because it is temporary and localized, the Proposed Project and its options are not anticipated to substantively change the surrounding vehicle transportation system. PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)* and PF-TR-02, *Traffic Control Plan* would be implemented, which would minimize transportation effects on roadways, provide safe travels for roadway users, and ensure that connectivity for all modes of transportation is maintained. Therefore, construction-related transportation impacts would be less than significant.

Similarly, past, present, and probable future projects could result in temporary construction activities that could increase delays for drivers, increase travel distances because of detours, result in short-term roadway effects that could result in increased hazards due to geometric design features or result in inadequate emergency access, or temporarily increase VMT. Past, present, and probable future

projects may also be required to include a construction management plan or traffic management plan to including provisions and specific strategies that would minimize and address potential temporary construction effects on roadway, bicyclists, pedestrians, transit and area residents, and businesses. Since a Traffic Management Plan would be required for the Proposed Project and its options, it is anticipated that there would be no remaining impacts and the Proposed Project and its options would not contribute to a cumulatively considerable impact. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects would not result in cumulatively significant transportation impacts during construction.

3.16.8.1.2 Operations and Maintenance

As described for construction, there is an existing cumulative impact in the RSA related to transportation. Future growth and development in the region would generate additional traffic on roadways near and around the Proposed Project and its options, which would adversely affect traffic flow. Past, present, and probable future projects include various housing and commercial developments that would increase VMT in the region though some related projects involve transit or bicycle network improvements that are intended to offset some of the additional VMT generated by development and future growth.

The Proposed Project and its options are consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the LA River and includes access points designed to accommodate people with disabilities and emergency vehicle access. The Proposed Project and its options would result in an overall reduction of vehicle travel with a direct reduction in VMT of 0.20% to greater than 2.0%. This type of project, an active transportation project, would reduce VMT and therefore is presumed to have a less than significant impact on transportation.

Based on the traffic analysis, the Proposed Project and its options, in combination with the projected growth in the region (including past, present, and probable future projects), would not result in a significant cumulative transportation impact. Therefore, the Proposed Project and its options would not make a cumulatively considerable contribution to the regional cumulative transportation impact when combined with past, present, and probable future projects. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects, would not result in cumulatively significant transportation impacts during operations.

3.17 Tribal Cultural Resources

3.17.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to tribal cultural resources (TCRs). This section also describes the existing setting and current applicable regulatory framework.

3.17.2 Regulatory Framework

This section lists the state legislation, regulations, policies, and plans applicable to TCRs. There are no applicable federal or local regulations related to TCRs.

3.17.2.1 State

With the enactment of California Assembly Bill (AB) 52 (Chapter 532, Statutes of 2014), the California Environmental Quality Act (CEQA) was amended to establish a formal consultation process for California Native American tribes with respect to TCRs. AB 52 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a TCR is a project that may have a significant effect on the environment" (*Public Resources Code* [PRC] Section 21084.2). It further states that the lead agency shall establish measures to avoid impacts that would alter the significant characteristics of a TCR, when feasible (PRC Section 21084.3). AB 52 requires lead agencies to establish a meaningful consultation process with California Native American tribal governments at the earliest possible point in the CEQA review process. AB 52 also seeks to recognize that California Native American prehistoric, historic, archaeological, cultural, and sacred places are essential elements in tribal cultural traditions, heritages, and identities. California Native American tribes may have expertise with regard to their tribal history and practices that concern the TCR they are traditionally and culturally affiliated with. Tribal knowledge about the land and TCR at issue should be included in environmental assessments for projects that may have a significant impact on those resources.

PRC Sections 21074(a)(1) and (2) defines TCRs as "sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe" that are either included or determined to be eligible for inclusion in the California Register of Historic Resources (CRHR), or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. More detailed information regarding the local preservation ordinances is included in Appendix N, *Tribal Cultural Resources*.

The CRHR was established under PRC Section 5024.1 to serve as an authoritative guide to the state's significant historical resources. The CRHR is administered by the California Office of Historic Preservation (OHP). A resource is considered historically significant if it meets the criteria for listing in the CRHR (PRC Section 5024.1, Title 14 CCR, Section 4852).

For a property to be considered eligible for listing, it must be found to be significant under at least one of the four criteria by the State Historical Resources Commission:

- **Criterion 1:** the resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage,
- **Criterion 2:** the resource is associated with the lives of persons important in our past, or
- **Criterion 3:** the resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values,
- **Criterion 4:** the resource has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one or more of these criteria, a property must have integrity. Integrity is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Eligible resources must retain enough of their historical character or appearance to be recognizable as historical resources and to convey the reasons for their significance. The CRHR uses the same seven aspects of integrity used for evaluating properties for the National Register of Historic Places (NRHP): location, design, setting, materials, workmanship, feeling, and association. It is possible that a historical resource may not retain sufficient integrity to meet the criteria for listing in the NRHP but may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically, including:

- California properties listed on the NRHP and those formally determined eligible for the NRHP,
- California Registered Historical Landmarks from No. 770 onward, and
- Those California Points of Historical Interest that have been evaluated by the California OHP and have been recommended to the State Historical Resources Commission for inclusion on the CRHR.

The California Native American Heritage Commission (NAHC) was established in 1976 with the passage of AB 4239. The NAHC is responsible for identifying and categorizing Native American cultural resources as well as preventing damages to designated sacred sites and associated artifacts and remains. Legislation passed in 1982 authorized the NAHC to identify a most likely descendant (MLD) when Native American remains are found outside of any place other than a designated cemetery. An MLD has the authority to make recommendations regarding the treatment and disposition of discovered remains.

If human remains are encountered, all work must stop at that location and the County Coroner must be immediately notified and advised of the finding. The County Coroner would then investigate "the manner and cause of any death" and make recommendations concerning treatment of the human remains. The County Coroner must make their determination within two working days of being notified of the discovery. If the human remains are determined to be Native American, the County Coroner shall contact the NAHC. The Commission would in turn "...immediately notify those persons it believes to be most likely descended from the deceased Native American." The MLDs would then inspect the site and make recommendations for the disposition of the discovered human remains. This recommendation from the MLDs may include scientific analysis of the remains and associated items.

The California Native American Historical, Cultural, and Sacred Sites Act applies to both state and private lands. This law requires that if human remains are discovered, construction or excavation activity must cease, and the County Coroner must be notified. If the remains are Native American, the County Coroner must notify the NAHC. The NAHC then notifies the MLDs. The Act stipulates the procedures the MLDs may follow for treating or disposing of remains and associated grave goods.

3.17.3 Methodology

This section describes the methodology used to evaluate potential impacts to TCRs. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.17.3.1 Resource Study Area

For the purposes of identifying TCRs that may be affected by the Proposed Project or its options, an archival records search was conducted that focused on the area of direct impact (ADI) and a 0.25-mile radius resource study area (RSA) beyond the ADI. The ADI includes all areas of ground disturbance and improvements associated with the Proposed Project and its options.

3.17.3.2 Background Research

Archival research was completed for previously recorded cultural resources and previously conducted archaeological investigations and was received from the South Central Coastal Information Center (SCCIC) at California State University Fullerton on December 6, 2019. Additional sources consulted as part of the background research included the NRHP, the CRHR, California Historical Landmarks, California Points of Historical Interest, and the California Historic Property Data File for Los Angeles County.

Additional information was provided by Los Angeles County Metropolitan Transportation Authority (Metro). Investigators also completed a review of cultural resources included in the City of Los Angeles Historic-Cultural Monuments listings, as well as *SurveyLA*, the Los Angeles Historic Resources Survey (Sorrell et al. 2018), and Los Angeles City Planning's Office of Historic Resources records. In October 2019, a sacred land file search was requested from the NAHC. The records search indicated that 53 previously recorded archaeological resources are within the ADI and the 0.25-mile radius RSA. Of the 53 previously recorded resources, 14 archaeological resources are within the ADI and 39 additional archaeological resources are within the 0.25-mile radius RSA. Of the 14 archaeological resources within the ADI, 13 of these resources are historic-era archaeological sites and are not considered to be TCRs. One resource (Site P-19-001575) is a multicomponent site with Native American internments. The discovery of burials as part of resource P-15-001575 identified that area as being a sensitive tribal area. Based on this information, P-15-001575 is being treated as a TCR under CEQA. The 14 previously recorded archaeological resources within the ADI are described in more detail in the *Impact Analysis Report: Archaeological Resources* (Appendix G).

3.17.3.3 Consultation with Native American Tribes

In response to the NAHC sacred land file search, NAHC responded with a list of five Native American tribal representatives from the following tribes:

- Gabrieleño Band of Mission Indians – Kizh Nation
- Gabrieleno/Tongva San Gabriel Band of Mission Indians

- Gabrieleno/Tongva Nation
- Gabrielino-Tongva Indians of California Tribal Council
- Gabrielino-Tongva Tribe

Metro initiated consultation with the Native American tribal representatives provided by the NAHC on October 9, 2019.

Pursuant to the requirements of AB 52, Metro, serving as the lead CEQA agency, sent Project notification letters to the five Native American tribal representatives. The letters provided the Project description, location, and the lead agency contact information. In addition, the letters asked if the tribes wanted to consult on the Project.

Metro did not receive requests to participate in tribal consultations from four of the five Native American tribal representatives. On October 16, 2019, the Gabrieleño Band of Mission Indians – Kizh Nation requested consultation with Metro. Subsequent letters were sent to the tribal contacts again on June 13, 2023. A consultation meeting was held on December 12, 2019, between Metro and the Gabrieleño Band of Mission Indians – Kizh Nation. The meeting was attended by Andrew Salas and Matthew Teutimez of the Gabrieleño Band of Mission Indians – Kizh Nation and Lauren Cencic and Melissa Levitt of Metro. Notes taken during this consultation are in Appendix N, *Tribal Cultural Resources*. During the discussion, the representatives of the Gabrieleño Band of Mission Indians – Kizh Nation provided information on the overall landscape, land uses, and traditional practices near the Project area by Native American tribes and groups. The Gabrieleño Band of Mission Indians – Kizh Nation representatives noted that tribal members have been involved with the discovery and repatriation of burials throughout the area, typically identified within concentrated corridors and core areas near waterways.

During open discussions, the Gabrieleño Band of Mission Indians – Kizh Nation mentioned the LA River area's past uses as a trade route and a major waterway connecting various tribes and groups. The discovery of burials near Los Angeles Union Station (Union Station) and Commercial Street was discussed, making this area sensitive to tribal groups. The Gabrieleño Band of Mission Indians – Kizh Nation shared a map depicting the location of villages, rancherias, and other settlements throughout the Los Angeles basin and southern California. Sites in Vernon and Maywood within the southern portion of the Project area were referenced by the Gabrieleño Band of Mission Indians – Kizh Nation. The area near the LA River was originally bluffs and has the potential for burials to exist. In addition, present-day Boyle Heights is an area that was traditionally occupied by Native American groups. The Gabrieleño Band of Mission Indians – Kizh Nation requested that the cultural resources analysis include an ethnographic section and recommended using several sources for the analysis. The Gabrieleño Band of Mission Indians – Kizh Nation requested that if remains are found, they remain buried in situ, if possible. Additional consultation details are included in Appendix N, *Tribal Cultural Resources*.

3.17.3.4 Thresholds of Significance

PRC Section 21084.2 establishes that "a project with an effect that may cause a substantial adverse change in the significance of a [TCR] is a project that may have a significant effect on the environment." CEQA Guidelines Section 15064.5(b)(2) describes how substantial adverse changes can occur to historical resources, which may include TCRs:

- Cause a substantial adverse change in the significance of a historical resource by physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings as defined in CEQA Guidelines Section 15064.5(b)(2)
- Demolish or materially alter those physical characteristics of a historical resource that conveys its significance and that justify its inclusion in, or eligibility for inclusion in, the CRHR, or inclusion in a local register, as defined in CEQA Guidelines Section 15064.5(2)

The significance thresholds used in this Draft EIR to evaluate Project impacts on TCRs are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to TCRs would occur if the Project would do any of the following:

- **Impact TCR-1:** Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in PRC Section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC Section 5024.1. In applying the criteria set forth in subdivision (c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

3.17.3.5 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Proposed Project and its options to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for TCRs.

PF-AR-01, *Inadvertent Discovery of Human Remains*

In the event that human remains are encountered during construction activities, the human remains shall be treated in accordance with applicable state and local regulations and guidelines for disclosure, recovery, relocation, and preservation, as appropriate. California *Health and Safety Code* Section 7050.5, and California Public Resources Code (PRC) Sections 5097.94 and 5097.98 outline procedures to be followed in the event human remains are discovered during the course of California projects.

All construction affecting a discovery of human remains shall immediately cease until the Los Angeles County Medical Examiner-Coroner is contacted. The Coroner must be contacted within 24 hours of the discovery of potential human remains as required by California Environmental Quality Act (CEQA) Guidelines Section 15064.5[e]. The Los Angeles County Medical Examiner-Coroner must determine, within 2 working days of being notified, if the remains are subject to their authority. PRC Section 5097.98 requires no further disturbance and adequate protection of the immediate vicinity where the discovery occurred according to generally accepted cultural and archaeological standards and requires that any further activities consider the possibility of multiple burials. Adequate protection includes establishing a protective buffer around a discovery through exclusionary fencing or flagging.

If the remains are determined to be of Native American origin, the Los Angeles County Medical Examiner-Coroner shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours. The NAHC shall be asked to determine the most likely descendants, who are to be notified of a discovery and shall establish procedures for burial. All parties involved shall ensure that

any such remains are treated in a respectful manner and that all applicable local, State, and federal laws are followed.

3.17.4 Existing Setting

The following section describes the existing conditions for TCRs.

3.17.4.1 Cultural Context

Abundant evidence exists that humans have been present in North America for at least the past 20,000 years. Ancient sites are known in southern California. Evidence for Paleoindian occupation in California exists, particularly along the coast of southern California, but remains scant (Byrd and Raab 2007).

Most chronological adaptations for prehistoric southern California, including the Los Angeles region, have been adapted from two primary regional syntheses commonly used for the southern California deserts. The first, advanced by Wallace in 1955 and then refined in 1978, uses major cultural developments to define four cultural horizons, each with characteristic local variations; Warren's research occurred in 1968 and 1984. The following chronology is based on adaptations of Wallace and Warren's work (Wallace 1955, 1978; Warren 1968, 1984).

3.17.4.2 Paleoindian Period (12,000 to 9,600 Before Common Era)

The Paleoindian Period covers the interval from the first accepted presence of humans in southern California in the late Pleistocene until approximately 9,600 Before the Common Era. Artifacts and cultural activities from this period represent a predominantly hunting culture; diagnostic artifacts include extremely large, often fluted bifaces associated with use of the spear and the atlatl. Populations appeared to have been relatively small and highly mobile, living in temporary camps near readily available water.

Ancient sites are known in southern California. In January 1936, Works Progress Administration workers digging a storm drain along the LA River (north of Baldwin Hills) recovered human bones from an ancient stream bed (Moratto 2004). Another early site in southern California where human skeletal remains and artifacts occur is the La Brea Tar Pits (CA-LAN-159). The Arlington Spring site on Santa Rosa Island has provided occupation dates as early as 13,000 years old; the discovery of Arlington Spring Man is the second find in North America that has dated to this period (National Parks Service n.d.).

Two clusters of Paleoindian sites are reported to be in coastal southern California. One cluster runs between San Luis Obispo and Santa Barbara, which includes sites found on the Channel Islands; the second cluster of sites is reportedly located in San Diego County (TKC and SRI 2005).

3.17.4.3 Early Holocene Period (9,000 to 5,600 Before Common Era)

The first groups to inhabit California (for which there is significant evidence) are described as hunters and gatherers with specialized bifacial projectile points, well-made scrapers, knives, and many other tools designed for subsistence related tasks (such as food processing). They adapted to a number of environments and developed a variety of secondary subsistence strategies that enabled them to live in a changing environment. Southern California dwellers exploited a wide range of plants and animals, and the archaeological record shows that a greater emphasis was placed on gathering wild grasses

and seeds, rather than hunting large mammals. Coastal groups, including those living on the islands off California's coast, used marine resources, such as shellfish, fish, sea lions, and dolphins. Shell midden sites of the early Holocene are characterized by cobble tools, basin metates, manos, discoidals, and flexed burials (Byrd and Raab 2007).

3.17.4.4 Millingstone Period (5,600 to 3,000 Before Common Era)

At the start of this period, also called the Middle Holocene Period, milling stone cultures appeared throughout central and southern California. This period represents an adaptive subsistence shift indicated by the first occurrence of milling stones (manos and metates), which were used to process hard seeds like sages and California buckwheat. Sites from this period are characterized by the majority of artifacts being manos and metates, suggesting the importance of vegetal resources (Tartaglia 1976).

This period's sites are found in a wide range of environments; the flourishing of new economies, including greater plant exploitation, is seen in the desert and on the coast. Purple olive shell beads have been found in southern California desert sites, indicating the beginnings of trade with the coast. Diagnostic artifacts from the Millingstone Period include heavy keeled scrapers, metates, manos, cogged stones, discoidals, and doughnut stones. Though Pinto series projectile points, which are large, coarsely made points indicating the continued use of darts and atlatls, are found in other parts of the region (Warren 1984), in coastal southern California, projectile points are rare (TKC and SRI 2005).

3.17.4.5 Intermediate Period (3,000 Before Common Era to Common Era 1,000)

This era is marked by the increase of flaked tool technology and gave rise to the use of mortar and pestle, and the mano and metate were relied upon to a lesser degree. Temporary settlements (of 10 to 25 individuals per family) have been recorded. These sites were seasonal campsites for exploiting yuca and acorns from April through September. The seasonal pattern has been documented as regional variations in sites in southern California (King 1971). These sites are characterized by plant processing tools (such as scraper planes, milling stones, and earth ovens – necessary to prepare yuca) and an absence of hunting implements. This period had an intensive exploitation of the environment with reliance on no particular food resource. Characteristic features of this period also include crude chopping tools, large projectile points, manos and metates, purple olive shell beads, quartz crystals and cog stones, few ornaments, earth roasting pits, extended posture burials, reburials (secondary interment), and rock cairns (Wallace 1955). The first evidence of cemeteries is recorded during this period and based on the relative absence of non-utilitarian artifacts, an egalitarian social system was likely to have been in operation (Tartaglia 1976). Testing of archaeological materials in Redondo Beach and neighboring Hermosa Beach has resulted in occupation dates extending beyond 5,000 years old (Romani 1990).

3.17.4.6 Late Historic Period (Common Era 1,000 to Historic Period)

During the Late Prehistoric Period, there was a strong reliance on plant food gathering and hunting of small game, and a decreased reliance on large game (Warren 1984). This period is marked by an increase in population size and cultural complexity, which is not only represented by large material assemblages, but by the diversity of items, including the rise in use of non-utilitarian objects. Seasonal movement was still common and resulted in a diverse array of site types. For the populations in southern California, large village sites remain marked by a paucity of pottery. Characteristic artifacts

include steatite bowls and other containers, bone tools, shell and steatite ornaments and beads, Desert series and Cottonwood projectile points, buffware and brownware ceramics, and milling tools. During this period, interment practices are distinguished by the amount and types of burial goods. Coastal trade continued to develop and expanded to desert groups.

Population increased substantially and is reflected in a greater number of sites recorded during this time period. This period is characterized by large village sites, tightly flexed burials, bow and arrow, arrowshaft straighteners, ollas (jars) and comals (cooking flats), personal ornaments, pottery vessels, circular shell fishhooks, an extensive trade network, a wide variety of ritual objects, and large stone bowls (Wallace 1955). Elaborate mortuary artifacts are recovered from sites of this period.

Villages occur in the same general locations as they did in earlier time periods, but they increased in size and decreased in number; base camps were often associated with villages. There was also an increase in the number of specialized and/or diversified sites. Trade was extensive during this period, and long distances are reflected in artifacts recovered from the American Southwest (such as pottery) in California sites, while steatite objects and Pacific Coast seashells occur in American Southwest sites. During the Late Prehistoric Period, many more classes of artifacts are found in the archaeological record, and they reveal a higher order of workmanship. Larger and more extensive settlement systems are evident, likely a byproduct of a more intensive subsistence base exploiting each of the available food resources. The bow and arrow were introduced along with other aspects of their culture being expanded (such as population growth, more complex social system, and trade network).

Site P-19-001575 (CA-LAN-1575/H) is a previously recorded multicomponent site located within the ADI around Los Angeles Union Station. This site was identified during the records search through the SCCIC. The multicomponent site includes archaeological evidence from the prehistoric through the historic periods. Recent archaeological investigations for the Patsaouras Plaza project, directly adjacent to the ADI, have identified numerous historic-era artifacts and features and Native American cultural materials. As a result, this area is considered to be highly sensitive for the presence of intact archaeological features and deposits, including Native American cultural materials.

3.17.4.7 Ethnohistory

The study area is located within the traditional occupation areas of the Gabrielino people (also known as the Gabrieleno or Gabrieleño). This group was given the Spanish name after Mission San Gabriel, the mission they were removed to, but within the Gabrielino some tribes identify themselves by their traditional names as Tongva or Kizh. Spanish records and early ethnographies describe this group as "mission Indians" and refer to them by their Spanish moniker, not by their native name for themselves.

Los Angeles County was the pre-European territory of the Gabrielino. The following is a summary from McCawley's work, *The First Angelinos: The Gabrielino Indians of Los Angeles* (1996), which is a comprehensive study of the Gabrielinos. For consistency with McCawley's study, the name "Gabrielino" will be used throughout this summary.

The Gabrielinos' language belongs to the Takic subfamily of the Uto-Aztecan language stock. The territory of the Gabrielino included inland valleys and coastal plains and spanned from Topanga Canyon (in Los Angeles County) in the north to El Toro (in Orange County) in the south; Catalina, San Clemente, and San Nicolas Islands in the Channel Islands; and the San Gabriel and San Bernardino inland valleys in the east (McCawley 1996).

Pre-European contact population numbers are difficult to assess due to discrepancies in the record. In 1852, Scottish-born Los Angeles resident Hugo Reid published letters about the Gabrielino lifeways and he believed approximately 68 villages existed, 28 of which he identified in Los Angeles County (McCawley 1996). Each village was reported to have contained an average of 100 people, and McCawley offers an estimate of over 5,000 Gabrielinos at the time of contact (McCawley 1996).

The pre-contact Gabrielino practiced a patrilineal lineage system. Members of the lineage were given access to diverse resources held by the families within their lineage, allowing the Gabrielino to exploit multiple ecologies.

Distribution of settlements did not fall into a consistent pattern throughout the Gabrielino territory; this was in large part due to the diverse ecological zones within Gabrielino territory boundaries, which included coastal areas, islands, valleys, and foothills. Villages were placed near access to varying types of environments and resources, and a system of satellite camps stemming from main villages for the specific procurement of resources was then established. The level of use of these satellite campsites was in direct response to population and village size, as well as distance from the main village to the campsite (Earle and O'Neal 1994).

3.17.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-3, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to TCRs are substantially the same. The analysis presented here applies to the Proposed Project and its options (including design variations), and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.17.5.1 Impact TCR-1: Tribal Cultural Resources

Impact TCR-1: Cause a substantial adverse change in the significance of a TCR, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the CRHR, or in a local register of historical resources as defined in PRC Section 5020.1(k), or is a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision I of PRC Section 5024.1? In applying the criteria set forth in subdivision(c) of PRC Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

3.17.5.1.1 Proposed Project, Option 1, and Option 2

3.17.5.1.1.1 Construction

Less than significant with mitigation incorporated. The NAHC sacred land file search was positive. During consultation with the Gabrieleño Band of Mission Indians – Kizh Nation, the tribe mentioned that the LA River area was used as a trade route and a major waterway connecting various tribes and

groups. The discovery of burials as part of resource P-15-001575 identified that area as being a sensitive tribal area. Based on this information, P-15-001575 is being treated as a TCR under CEQA. Areas within Vernon, Maywood, and present-day Boyle Heights were also identified as locations that were traditionally occupied by Native American groups. However, based on records searches and consultation with tribal representatives, no additional known TCRs have been identified in the ADI for the Proposed Project or its options. Based on the analysis completed as part of the *LA River Path Impact Analysis Report: Archaeological Resources* (Metro 2022), construction activities that may occur within previously undisturbed and culturally sensitive soils (largely between approximately 0 to 10 feet, but depths vary) have the potential to directly impact unknown archaeological subsurface resources which may contain potential TCRs.

PF-AR-01, *Inadvertent Discovery of Human Remains* would ensure that, if human remains are encountered during construction, the resources would be treated in accordance with applicable state and local regulations and guidelines for disclosure, recovery, relocation and preservation. The procedures of California *Health and Safety Code* Section 7050.5, and PRC Sections 5097.94 and 5097.98 would be followed in the event that human remains are discovered. If the human remains are determined by the County Coroner to be Native American, the Coroner must contact the NAHC and the NAHC must, in turn, notify the persons believed to be the MLD from the deceased Native American(s). The MLD would then inspect the site and make recommendations for the disposition of the discovered human remains. During consultation, the Gabrieleño Band of Mission Indians – Kizh Nation requested that if remains are found, they remain buried in situ, if possible.

Even with implementation of PF-AR-01, *Inadvertent Discovery of Human Remains*, however, there remains a potential for construction activities undertaken for the Proposed Project or its options to adversely affect undiscovered TCRs that would be eligible for listing in the CRHR or a local register. To minimize this impact, MM-CUL-01, *Qualified Archaeologist*, MM-CUL-02, *Cultural Resources Mitigation and Management Plan,* and MM-TCR-01, *Tribal Monitoring* would be implemented.

Implementation of MM-CUL-03, *Qualified Archaeologist* would ensure that a specific and qualified individual would be assigned the task of implementing MM-CUL-04, *Cultural Resources Mitigation and Management Plan*, which in turn would ensure that a CRMMP is developed and executed. Implementation of MM-CUL-04, *Cultural Resources Mitigation and Management Plan* would ensure that avoidance of impacts and preservation-in-place are prioritized and that appropriate procedures to monitor construction and treat unanticipated discoveries are in place. Implementation of MM-TCR-01, *Tribal Monitoring* would ensure that potential TCRs are treated with culturally appropriate dignity and that resources identified to be Native American in origin will be retained by the tribe from which the resource originates. By following the procedures in the CRMMP, impacts to TCRs will be minimized.

With implementation of these three mitigation measures, construction impacts on known and unknown TCRs from the Proposed Project or its options would be reduced to **less than significant**.

3.17.5.1.1.2 Operations and Maintenance

No impact. There would be no impacts to TCRs in the ADI for the Proposed Project and its options during O&M. Although no human remains are anticipated within the ADI, if human remains are discovered during O&M, the Los Angeles County Medical Examiner-Coroner must be notified within 24 hours and there should be no further disturbance to the site where the remains were found until the process as described in PRC Section 5097.98 has been completed. Therefore, the O&M of the Proposed Project and its options would **not affect** potential TCRs.

3.17.6 Mitigation Measures

As identified in Section 3.17.5, the Proposed Project and its options would result in less than significant impacts on TCRs under Impact TCR-1 during operation. A potentially significant impact on TCRs would occur under Impact TCR-1 during construction. No mitigation measures are required during O&M.

3.17.6.1 Construction Impacts Mitigation Measures

The following measures would be incorporated into the Project to mitigate construction and implementation impacts to TCRs.

MM-CUL-03, *Qualified Archaeologist*

Prior to the commencement of any ground-disturbing activity for the Project, Los Angeles County Metropolitan Transportation Authority (Metro) shall retain a qualified archaeologist meeting the Secretary of the Interior's *Professional Qualifications Standards* for archaeology (36 *Code of Federal Regulations* Part 61) to prepare and oversee implementation of MM-CUL-02, *Cultural Resources Mitigation Management Plan.*

MM-CUL-04, *Cultural Resources Mitigation and Management Plan*

To protect archaeological resources and tribal cultural resources (TCRs) during construction activities, a Cultural Resources Mitigation Management Plan (CRMMP) shall be developed by the Los Angeles County Metropolitan Transportation Authority's (Metro's) qualified archaeologist as described in MM-CUL-03, Qualified Archaeologist.

The CRMMP shall detail the treatment and management for known resources, and identify the procedures to follow in the event of an unanticipated discovery, including halting construction within 50 feet of the exposed resource until the professionally qualified archaeologist can evaluate the find (refer to 36 Code of Federal Regulations [CFR] 800.11.1 and 14 California Code of Regulations [CCR] Section 15064.5[f]).

The CRMMP shall contain a robust research design, a data recovery plan, a monitoring plan for sensitive areas, and a plan for the analysis and long-term curation of archaeological materials recovered during construction. The CRMMP shall detail the discovery protocol if human remains are encountered and shall include a plan for reburial in an appropriate location. The CRMMP shall be consistent with the Secretary of the Interior's (SOI's) *Standards and Guidelines for Archaeological Documentation* and the California Office of Historical Preservation's (OHP's) Archaeological Resources Management.

The CRMMP shall be submitted to Metro for review and approval prior to the initiation of any ground-disturbing activities. Metro's review and approval shall ensure that the CRMMP complies with this mitigation measure (MM-CUL-04, Cultural Resources Mitigation Management Plan), including that avoidance of impacts and preservation-in-place are prioritized and that appropriate procedures to monitor construction and treat unanticipated discoveries are in place.

Consulting Tribes for the Project, as specified by Assembly Bill (AB) 52, shall have the opportunity to review and comment on the Draft CRMMP.

At a minimum, the CRMMP shall include the following:

- **Efforts to Preserve and Protect in Place:** The CRMMP, per CEQA Guidelines 15162.4(b)(3), shall include steps and procedures to avoid impacts and preserve-in-place any areas where significant components of unique archaeological sites are located within or near the ADI. Such efforts may include modifications to construction plans and layouts to avoid or minimize direct impacts on the unique archaeological resources and establishing exclusion zones around the unique archaeological sites to protect them from construction activities.
- **Development of a Preconstruction Site-Specific Sensitivity Model:** Final design feature locations and the respective level and depth of ground disturbance shall be the basis for identification of impacts to known archaeological resources: P-19-001575, P-19-002770, P-19-002837, P-19-003101, P-19-003120, P-19-003683, P-19-004193, P-19-004660, P-19-004661, P-19-004832, P-19-100881, P-19-186804, and P-19-187085.
  - Comparison with historical maps for the area shall identify specific site features buried within or near the ADI, if any.
  - Specific geotechnical boring results and past archaeological reports that identify depth of fill shall determine the level of sensitivity to encounter archaeological remains for each construction component.
  - A three-dimensional model or other relatable graphic depiction shall be created to assist Metro with the interpretation of potential archaeological impacts. This task will assist Metro in identifying the likelihood that previously recorded sites that were not relocated during survey will be intact below the current hardscape and will inform locations for feature testing.
- **Phasing of Feature Testing in Advance of Construction, Excavation, and Recovery:** The CRMMP shall contain a specific methodology for testing of known features identified through the development of the sensitivity model, to be carried out in the event that features cannot be preserved in place. Due to the extreme constraints posed by the Project area location (affecting public transportation through closure of roads, challenges working in the LA River, etc.), testing shall occur as part of the preconstruction activities. The CRMMP shall also contain specific methodologies for feature interpretation, consultation with Native American tribes and organizations, treatment of cultural remains and artifacts, curation, data recovery, and analysis for reporting. This task will help to identify whether intact archaeological features and deposits are located beneath the hardscape associated with urban development.
- **Archaeological Monitoring:** The CRMMP shall identify archaeological monitoring locations and protocols based on the final design and potential impacts. The monitoring locations shall also be demarcated in Project design and engineering drawings (in a manner that protects the confidentiality of the archaeological sites) prior to the start of construction.
  - Archaeological monitoring shall occur during all phases of work with the potential to impact archaeological sites P-19-001575, P-19-002770, P-19-002837, P-19-003101, P-19-003120, P-19-003683, P-19-004193, P-19-004660, P-19-004661, P-19-004832, P-19-100881, P-19-186804, and P-19-187085.
  - Archaeological monitoring shall also occur during all phases of work when work has the potential to impact previously undiscovered archaeological resources expected to be located where construction activities shall occur between approximately 0 to 10 feet within sensitive Holocene deposits (depths of deposits may vary) and within fill that may contain archaeological materials.

  - Areas where monitoring will occur shall be identified in the CRMMP to be incorporated into Project plans and specifications.
  - The CRMMP shall describe the roles and responsibilities of the archaeological monitor, Metro personnel (as applicable), and construction personnel.
  - The CRMMP shall describe specific field procedures to be followed for archaeological monitoring, including field protocol and methodology to be followed should there be an archaeological discovery.

- **Native American Monitoring:** The CRMMP shall identify Native American monitoring locations and protocols based on the final design. The monitoring locations shall also be demarcated in Project design and engineering drawings (in a manner that protects the confidentiality of the archaeological sites and TCRs) prior to the start of construction.

  Native American monitoring shall occur during all phases of work with the potential to impact multicomponent archaeological site P-19-001575 and when work has the potential to impact other previously undiscovered tribal cultural resources (TCRs) expected to be located where construction activities shall occur between approximately 0 to 10 feet within sensitive Holocene deposits (depths of deposits may vary) and within fill that may contain archaeological materials. Areas where monitoring will occur shall also be identified in the CRMMP to be incorporated into Project plans and specifications. The CRMMP shall describe specific field procedures to be followed for Native American monitoring, including field protocol and methodology to be followed should there be a discovery.

- **Worker Environmental Awareness Program (WEAP) Training:** An SOI-qualified archaeologist shall be retained by Metro to prepare a cultural resource-focused WEAP training that shall be given to all ground-disturbing construction personnel to minimize harm to cultural resources. Topics to be included for WEAP training shall be identified in the CRMMP. All site workers shall be required to complete WEAP training, with a focus on cultural resources, including education on the consequences of unauthorized collection of artifacts, and a review of discovery protocol.

  WEAP training shall also explain the requirements of MMs that must be implemented during ground-disturbing construction activities. In the event construction crews are phased or rotated, additional training shall be conducted for new construction personnel working on ground-disturbing activities. Construction personnel shall be informed of the types of prehistoric and historic archaeological resources and TCRs that may be encountered, and of the proper procedures to be enacted in the event of an inadvertent discovery of archaeological resources, human remains, or TCRs.

  Documentation shall be retained by the qualified archaeologist demonstrating that the appropriate construction personnel attended the training.

- **Stop Work in Event of Unanticipated Discovery:** The CRMMP will describe the requirements, protocols, and procedures for actions to be taken in the event of an unanticipated archaeological discovery or discovery of human remains. In general, should any previously unknown/undocumented cultural resources be discovered during construction of the Project, work within 50 feet of the discovery shall be halted and the onsite archaeological and Native American monitors shall evaluate the discovery. The monitors shall carefully inspect the ground surface around the discovery and proceed in accordance with procedures in the CRMMP. Work will be allowed to continue outside of the buffer area.

- **Archaeological Reporting:** Archaeological reports shall meet the requirements for reporting in the CRMMP and be submitted to Metro.
  - Evaluation and Data Recovery Reports: Where archaeological evaluation and data recovery are required, the results shall be documented in an evaluation and data recovery report. This document shall summarize the evaluation efforts and data recovery results. For each site or feature that undergoes data recovery, the report shall be prepared in accordance with the guidelines established by the SOI's Standards for Archaeological Documentation and the Archaeological Resource Management Reports: Recommended Contents and Format.
  - Cultural Resources Monitoring Report: Metro's qualified archaeologist shall prepare a yearly written report detailing archaeological and Tribal monitoring activities. A final monitoring report shall be written by Metro's qualified archaeologist upon completion of grading and excavation activities within cultural-bearing soils. The yearly report shall include the results of the fieldwork for the time period and all appropriate laboratory and analytical studies that were performed in conjunction with excavations.
- **Curation of Archaeological Collections:** Archaeological collections are comprised of several components, including but not limited to artifacts, environmental and dating samples, field documentation, laboratory documentation, photographic records, related historical documents, and reports. All collected and analyzed artifacts, relevant notes, photographs, and other materials recovered during the monitoring program related to any historical resource encountered during construction shall be curated or reburied by Metro, following the specific guidelines presented in the CRMMP. Curation management procedures may include curation of recovered materials and records in accordance with the California Guidelines for the Curation of Archaeological Collections (OHP 1993).

MM-TCR-01, *Tribal Monitoring*

To ensure potential tribal cultural resources (TCRs) are treated with culturally appropriate dignity, Los Angeles County Metropolitan Transportation Authority (Metro) shall retain a Native American monitor who shall be present during all phases of work that could impact multicomponent archaeological site P-19-001575. The Native American monitor shall also be present during all phases of work that could impact other previously undiscovered archaeological resources related to ethnohistoric or prehistoric archaeological deposits, expected to be located where construction activities will occur between approximately 0 to 10 feet within sensitive Holocene deposits (depths of deposits may vary) and within fill that may contain archaeological materials.

Before the start of ground-disturbing activities, these monitoring locations shall be identified in the Cultural Resources Mitigation and Management Plan (CRMMP) prepared pursuant to MM-CUL-04, *Cultural Resources Mitigation and Management Plan* as well as demarcated in Project design and engineering drawings (in a manner that protects the confidentiality of the archaeological sites and TCR). The Native American monitor shall be selected from a tribal group with ancestral ties to this location and shall be approved by the tribal groups that have chosen to consult on this Project, to be present alongside the archaeological monitor. Upon the discovery of any TCRs, construction activities shall cease in the immediate vicinity of the find (not less than the surrounding 100 feet) until the find can be assessed. All TCRs unearthed by Project activities shall be evaluated by the qualified archaeologist retained pursuant to MM-CUL-03, *Qualified Archaeologist* and the Native American monitor. If the resources are Native American in origin, the tribe from which the resource originates, as determined by the qualified archaeologist and the Native American monitor, shall retain the resource in the form or manner that the tribe deems appropriate.

3.17.6.2 Operations and Maintenance Mitigation Measures

There would be no impacts to TCRs during O&M. Mitigation measures are not required. Although no human remains are anticipated within the ADI, if human remains are discovered during O&M, the Los Angeles County Medical Examiner-Coroner must be notified within 24 hours and there should be no further disturbance to the site where the remains were found until the process as described in PRC Section 5097.98 has been completed. Therefore, O&M of the Proposed Project and its options would **not affect** potential TCRs.

3.17.7 Significance After Mitigation

Mitigation is required for the Proposed Project and its options. The impacts would be less than significant under Impact TCR-1 after mitigation.

Mitigation measures MM-CUL-03, *Qualified Archaeologist*, MM-CUL-04, *Cultural Resources Mitigation and Management Plan*, and MM-TCR-01, *Tribal Monitoring* would be implemented and potentially significant impacts on TCRs during construction will be reduced to less than significant. Implementation of MM-CUL-03, *Qualified Archaeologist* ensures that a specific qualified individual is assigned the task of implementing MM-CUL-04, *Cultural Resources Mitigation and Management Plan*, which in turn ensures that a CRMMP is developed and executed. Implementation of MM-CUL-04, *Cultural Resources Mitigation and Management Plan* ensures that avoidance of impacts and preservation-in-place are prioritized and that appropriate procedures to monitor construction and treat unanticipated discoveries are in place. Implementation of MM-TCR-01, *Tribal Monitoring* ensures that potential TCRs are treated with culturally appropriate dignity and that resources identified to be Native American in origin will be retained by the tribe from which the resource originates. By following the procedures laid out in the CRMMP, impacts to archaeological resources and TCRs will be reduced to a level less than significant.

3.17.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for TCRs, and extends further to include other projects that, due to the area's topography and existing infrastructure, may interact with the Project elements The geographic scope cumulative impacts to TCRs is defined generally as the ADI and a 0.25-mile radius beyond the ADI.

As discussed in Section 3.17.5, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.17.5, the Proposed Project and its options would result in substantially similar impacts related to TCRs. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.17.8.1 Proposed Project, Option 1, and Option 2

3.17.8.1.1 Construction

Impacts to TCRs are generally site-specific and localized. Based on consultation with tribal groups, one TCR has been identified in the ADI for the Proposed Project and its options (P-19-001575). Construction activities that may occur within previously undisturbed and culturally sensitive soils

(largely between 0 to 10 feet, but depths may vary) have the potential to directly impact unknown archaeological subsurface resources that could potentially be TCRs. If potential TCRs are discovered, Metro would comply with applicable federal, state, and local guidelines during construction activities. With the implementation of MM-CUL-03, *Qualified Archaeologist,* MM-CUL-04, *Cultural Resources Mitigation and Management Plan*, MM-TCR-01, *Tribal Monitoring*, and PF-AR-01, *Inadvertent Discovery of Human Remains,* the Proposed Project and its options would have a less than significant impact to potential TCRs.

Similarly, related projects are located in previously disturbed areas and are not anticipated to impact TCRs during construction. These past, present, probable future projects would be required to comply with applicable federal, state, and local regulations regarding the handling and care of such resources. Therefore, the Proposed Project and its options, when combined with past, present, probable future projects, would not result in significant cumulative TCR impacts from construction.

3.17.8.1.2 Operations and Maintenance

One TCR has been identified in the ADI for the Proposed Project and its options. O&M of the Proposed Project and its options and its related activities would not result in ground disturbance in previously undisturbed soils and would not affect P-19-001575 or other potential TCRs. Therefore, the Proposed Project and its options, in combination with past, present, probable future projects, would not result in cumulatively significant TCR impacts during O&M.

3.18 Utilities and Service Systems

3.18.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to on utilities and service systems, including water supplies and services; wastewater services; solid waste; stormwater; power; telecommunications; and other utilities and public services. This section also describes the existing setting and current applicable regulatory framework.

3.18.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to utilities and service systems.

3.18.2.1 Federal

3.18.2.1.1 Water

3.18.2.1.1.1 Clean Water Act of 1977

The Clean Water Act of 1977 (CWA) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters by outlawing the discharge of any pollutant from a point source into navigable waters unless a permit is obtained. Under the CWA's National Pollutant Discharge Elimination System (NPDES), the US Environmental Protection Agency (EPA) regulates discharges of pollutants from municipal and industrial wastewater treatment plants, sewer collection systems, and stormwater discharges from industrial facilities and municipalities. EPA also enforces requirements to ensure that industries pre-treat pollutants in their wastes to protect local sanitary sewers and wastewater treatment plants. NPDES permits establish limits and conditions for discharges from municipal wastewater treatment facilities to waters of the United States, including municipal processes used to treat domestic wastewater. These requirements provide a framework for establishing water quality and technology based NPDES permit limits, and minimum, technology based standards for discharges from municipal wastewater treatment facilities (that is, through the Secondary Treatment Standards) (EPA 2023).

3.18.2.1.1.2 Safe Drinking Water Act of 1996

The Safe Drinking Water Act of 1996 (SDWA) is the principal federal law intended to ensure safe drinking water for the public. Pursuant to the SDWA, EPA is required to set standards for drinking water quality and oversee all states, localities, and water suppliers that implement the standards. The SDWA requires EPA to establish National Primary Drinking Water Regulations for contaminants that may cause adverse public health effects. The regulations include both mandatory requirements (that is, maximum contaminant levels and treatment techniques) and unenforceable health goals (that is, maximum contaminant level goals) for each included contaminant.

3.18.2.2 State

3.18.2.2.1 California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, and transportation companies, as well as the safety of railroad and rail crossings. The CPUC is the responsible agency for projects requiring permits to construct an electric transmission line, a water utility, a radio-telephone utility, or facilities for operating a passenger transportation service.

3.18.2.2.2 Solid Waste

3.18.2.2.2.1 Assembly Bill 341

Under commercial recycling law (Public Resources Code Section 42649.8), Assembly Bill (AB) 341 directed the California Department of Resources Recycling and Recovery (CalRecycle) to develop and adopt regulations for mandatory commercial recycling and declared a State of California policy goal that not less than 75% of solid waste generated be source reduced, recycled, or composted by 2020 and annually thereafter.

3.18.2.2.2.2 Assembly Bill 939

AB 939, the Integrated Waste Management Act, passed in 1989 and requires the implementation of solid-waste management programs, including requiring each city or county to divert solid waste from landfill disposal through source reduction, recycling, and composting, and achieve a 50% diversion. The law also requires every county and city in the state to prepare a Source Reduction and Recycling Element that identifies programs that a county or city will implement to achieve the required solid-waste disposal reduction goal and submit an annual report to CalRecycle to provide an update on progress in achieving this goal. AB 939 applies to all businesses and public entities that generate 4 cubic yards or more of solid waste per week. AB 939 also further applies to private waste haulers, construction contractors, and recyclers that enter into a contract for a construction or demolition project. Therefore, they are required to have a recycling program. The reuse and recycling of certain portions of construction and demolition debris are essential to further the efforts to reduce solid waste and comply with AB 939 mandates.

3.18.2.2.2.3 Senate Bill 1374

Senate Bill (SB) 1374 was signed into law in 2002 to help jurisdictions divert construction and demolition waste material. The bill requires jurisdictions to provide a summary of progress made in diverting construction and debris waste in the annual AB 939 report to CalRecycle.

3.18.2.2.2.4 California Green Building Standards Code

The California Green Building Standards Code (24 CCR Part 11, known as "CalGreen") was adopted in 2008 as part of the California Building Standards Code. Section 4.408 of the code mandates that, in the absence of a more stringent local ordinance, a minimum of 65% of non-hazardous construction and demolition debris must be recycled or salvaged. This requirement does not apply to excavated soil and land-clearing debris.

3.18.2.2.3 Stormwater

3.18.2.2.3.1 Construction General Permit

The Construction General Permit, Order 2009-0009-DWQ, as amended by orders 2010-0014-DWQ and 2012-0006-DWQ, requires dischargers whose project disturbs 1 or more acres but are part of a larger common plan of development that in total disturbs 1 or more acres, to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity.

3.18.2.2.4 Wastewater

3.18.2.2.4.1 National Pollutant Discharge Elimination System Program

California regulates wastewater discharges to surface waters through the federal NPDES program. The NPDES permit program controls water pollution by regulating point sources that discharge pollutants, including storm drain and sewer effluent, into waters of the United States. The NPDES program has been delegated to the state for implementation through the California State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs), which are collectively known as the Water Boards. The Project is located in the Los Angeles RWQCB region.

3.18.2.2.5 Water

3.18.2.2.5.1 California Water Code

California Water Code Sections 10610–10656 require every urban water supplier that either provides over 3,000 acre-feet of water annually, or serves more than 3,000 urban connections, to submit an Urban Water Management Plan (UWMP) every 5 years to the California Department of Water Resources (DWR). UWMPs support long-term planning to ensure that adequate supplies are available to meet existing and future water needs. UWMPs also assess water sources over a 20-year planning period, describe management measures and water shortage contingency plans, and report progress toward meeting water demand reduction goals.

3.18.2.2.5.2 California State Water Resources Control Board, Division of Drinking Water, Source Water Assessment Program

The 1996 SDWA Amendments require each state to develop and implement a Source Water Assessment Program. Section 11672.60 of the California *Health and Safety Code* requires the Department of Health Services (DHS), the precursor to California Department of Public Health, to develop and implement a program to protect sources of drinking water, specifying that the program must include both a Source Water Assessment Program and a wellhead protection program. In response, DHS developed the Drinking Water Source Assessment and Protection Program, which addresses both groundwater and surface water sources.

3.18.2.2.6 Other Utilities

3.18.2.2.6.1 California Plumbing Code

The California Plumbing Code is codified in 24 CCR Part 5. The Plumbing Code contains regulations about plumbing materials, fixtures, water heaters, water supply and distribution, ventilation, and drainage. More specifically, Plumbing Code Part 5, Chapter 4 contains provisions requiring the installation of low-flow fixtures and toilets (per 2009 SB 407, Civil Code Section 1101.1 et seq.).

3.18.2.3 Regional

3.18.2.3.1 Los Angeles County Metropolitan Transportation Authority

Metro's adopted policies related to utilities, water, and waste include the following plans and policies.

3.18.2.3.1.1 Moving Beyond Sustainability Strategic Plan

Metro's *Moving Beyond Sustainability Strategic Plan* outlines a comprehensive sustainability strategy that incorporates aspects of water quality and conservation, as well as solid-waste stream reductions (Metro 2020). Targets listed in the plan that pertain to utilities and service systems include reducing potable water use, increasing runoff infiltration and stormwater capture capacity, reducing annual operational solid-waste disposal, and diverting construction and operational waste from landfills; specific target metrics are discussed in Section 3.3 of the *Moving Beyond Sustainability Strategic Plan*.

3.18.2.3.1.2 Construction and Demolition Debris Recycling and Reuse Policy

As required by this 2007 policy, Metro must give preference to recyclable and recycled products in the selection of construction materials to the maximum extent feasible during design and construction of Metro or Metro-funded capital projects (Metro 2007).

3.18.2.3.1.3 Water Quality and Conservation Policy

Under this 2009 policy, Metro is to conserve the use of potable water resources at its facilities in the most cost-effective and efficient manner (Metro 2009). The use of water for construction, operations, and maintenance purposes must be consistent with local, State, or federal water conservation measures.

Applicable procedures from this policy relating to water use and conservation required by Metro include the following:

- **Procedure 2.1—Using Potable Water for Pressure Washing Activities.** Metro shall prioritize facility locations that require regular pressure washing, apply conservation and efficiency measures and use water efficient equipment when conducting pressure washing activities, use water efficient equipment, and capture and dispose generated wastewater to an appropriate facility.

- **Procedure 2.2—Using Potable Water for Construction.** Metro shall develop a plan for dust suppression purposes to comply with applicable environmental statutes, regulations, and guidelines and only use potable water as a dust suppression agent if no other alternative is feasible or cost-effective.
- **Procedure 2.3—New Construction Planning, Design and Construction; Existing Buildings Operations.** Metro shall use water conservation and efficiency guidelines outlined in applicable Leadership in Energy and Environmental Design reference books for all planning, procurement, design, construction, operation, and maintenance of Metro's linear and non-linear facilities. Metro shall prepare operation manuals to ensure that water efficiency and conservation technologies are adopted and maintained.

3.18.2.3.1.4 Water Action Plan

Metro's 2010 *Water Action Plan* is intended to determine the potential for water conservation opportunities and cost-saving measures consistent with Metro's environmental policies and its future implementation of an Environmental Management System (Metro 2010). This will inform other Metro projects as part of the overall sustainability program for water use to be strategically aligned with other resource elements (for example, fuel use, greenhouse gas emissions, and similar).

3.18.2.3.2 Metropolitan Water District of Southern California

Metropolitan Water District of Southern California (MWD) provides water to 19 million Californians (MWD 2023). MWD aims to ensure water reliability through climate change, droughts, earthquakes and other challenges. To do this, they emphasize the importance of planning and have developed several plans to ensure water reliability in the region, such as an *Integrated Resource Plan* (IRP) (MWD 2020), a UWMP (MWD 2021), the *Water Surplus and Drought Management Plan* (MWD 1999), and the *Long-Term Conservation Plan* (MWD 2011).

3.18.2.4 Local

The Project is within the limits of Los Angeles County and extends through portions of the City of Los Angeles and the City of Vernon. Some staging has been preliminarily identified in the City of Commerce and the City of Bell; however, there is no utility work occurring in the Cities of Maywood, Commerce, or Bell. Although utilities are not a mandated element of a general plan per *California Government Code* Section 65302, cities along the resource study area (RSA) may incorporate goals and policies that address public utilities in various elements of their respective general plans. Table 3.18-1 lists local policies contained in general plans, other plans, and ordinances contained in municipal codes related to utilities in the City of Los Angeles and City of Vernon.

Table 3.18-1. Local Policies, Plans, and Ordinances Regulating Utilities

Utility Type	City of Los Angeles	City of Vernon
Power	▪ General Plan (1996) Safety Element, 1.1.3, 3.1.4 ▪ Charter and Administrative Code Division 7, Chapter 3	▪ General Plan (2015) Land Use Element, LU-3.3; Circulation and Infrastructure Element, CI-6.1, CI-6.2, CI-6.3, CI-6.4, CI-6.5; Resources Element, R-2.4 ▪ Municipal Code Chapter 30, Article 1
Water	▪ General Plan (1996) Safety Element, 1.1.3, 1.1.4, 3.1.4 ▪ Charter and Administrative Code Division 7, Chapter 3 ▪ Municipal Code Chapter VI, Article 4	▪ General Plan (2015) Circulation and Infrastructure Element, CI-3.1, CI-3.2; Safety Element, S-1.4 ▪ Municipal Code Chapter 25 Article II
Sewage and Solid Waste	▪ General Plan (1996) Safety Element, 1.1.3, 3.1.4 ▪ Municipal Code Chapter VI, Article 4 ▪ Solid Waste Integrated Resources Plan (Zero Waste Plan) ▪ Citywide C&D Waste Recycling Ordinance (Council File 09-3029)	▪ General Plan (2015) Circulation and Infrastructure Element, CI-3.1, CI-3.2; Safety Element, S-1.4 ▪ Municipal Code Chapter 25 Article II
Drainage	▪ General Plan (1996) Safety Element, 1.1.3, 3.1.4 ▪ Municipal Code Chapter VI, Article 4	▪ General Plan (2015) Circulation and Infrastructure Element, CI-5.1, CI-5.2, CI-5.3, CI-5.4 ▪ Municipal Code Chapter 21 Article V
Gas	▪ General Plan (1996) Safety Element, 1.1.3, 3.1.4	▪ Municipal Code Chapter 31 Article I
Communications	▪ General Plan (1996) Safety Element, 1.1.3, 3.1.4 ▪ Municipal Code Chapter VI, Article 2	▪ General Plan (2015) Circulation and Infrastructure Element, CI-7.1

Source: City of Los Angeles 1996, 2013; City of Vernon 2015

3.18.3 Methodology

Utilities were contacted in 2018, early 2021, and 2023 to verify the point-of-contact records for the Project. Utility conflicts were identified during conceptual engineering and were based on a review of the Project and existing as-built information.

Section 3.18.4 identifies utilities and service systems, including water supplies and services, wastewater services, solid waste, stormwater, power (natural gas, crude oil and petroleum, and electric), telecommunications, and other utilities and public services, whose services are within the RSA or could be impacted by the Proposed Project and its options. The RSA includes utilities and service systems which service the jurisdictions of the Cities of Los Angeles, Vernon, and the County; as noted below in Section 3.18.4, there is no utility work occurring in the Cities of Maywood, Commerce, or Bell that would intersect with the Proposed Project or its options. A preliminary field review and desktop search in the RSA was performed to identify existing utilities and service systems facilities. Utility owners known to have facilities in the RSA were contacted to request utility maps, as-built drawings, or other information that would allow the technical team to develop the existing utility plans and identify potential conflicts with the Proposed Project or its options, Option 1 and Option 2.

Based on the existing utilities and services systems identified in Section 3.18.4, Section 3.18.5 addresses the potential for significant impacts to utilities and service systems resulting from the Proposed Project and its options. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

3.18.3.1 Resource Study Area

For the purposes of evaluating utilities and service system impacts, the RSA is defined as the LA River channel between the existing path termini to the north and south, and 500 feet on either side of the top-of-bank of the river channel that encompass the alignments, access points, and design variations for the Proposed Project and its options, Option 1 and Option 2. Figure 3.18-1 shows the RSA for the utilities and service system analysis. However, utilities that are up to 0.25 mile from the RSA are also identified to examine additional utilities that may fall within the RSA. The width of the RSA was established with the goal of aligning the path near the river, potential river crossings, and access opportunities for adjacent neighborhoods, and considering the general widths of bridge spans. This area also provides needed space for potential construction, staging, and access areas directly adjacent to the channel.

3.18.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Project impacts associated with utilities and service systems are based on the questions set forth in Appendix G of the CEQA Guidelines and modified to address the unique nature of the Project as a public pedestrian and bicycle path. In particular, a significant impact related to utilities and service systems would occur if the Project would do any of the following:

- **Impact UTL-1:** Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, or other utility or public service facilities, the construction or relocation of which could cause significant environmental effects?
- **Impact UTL-2:** Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?
- **Impact UTL-3:** Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- **Impact UTL-4:** Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid-waste reduction goals?
- **Impact UTL-5:** Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste?

Figure 3.18-1. Utilities and Service Systems Resource Study Area Map



3.18.3.3 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Proposed Project and its options, Option 1 and Option 2, to comply with the laws, guidelines, or best practices of federal, state, local, and regional agencies. The following project features have been developed for utilities and service systems.

3.18.3.3.1 Construction

PF-UTL-01, *Utility Identification and Coordination*

Per Los Angeles County Metropolitan Transportation Authority's (Metro's) standards and general best practices, prior to the start of any demolition or construction activities, the construction contractor shall verify the locations of existing utilities potentially affected by construction activities. Existing aboveground and underground utilities include, but are not limited to, water piping, potable/fire water, storm and sanitary sewer lines, and electrical/telecommunication services. This shall include coordinating with all existing utility providers/owners for wet and dry utilities (for example, water, sewer, gas, electric, and telecommunications) to obtain documentation of existing utility locations that would be affected by the Project.

PF-UTL-02, *Development of a Utility Relocation Plan*

Before the start of construction-related activities, including the relocation of utilities, the contractor shall coordinate with Los Angeles County Metropolitan Transportation Authority's (Metro's) and affected utility providers/owners to prepare a Utility Relocation Plan. The contractor shall also coordinate with the utility providers/owners to minimize impacts to services throughout the Project and obtain Metro approval of the Utility Relocation Plan.

The Utility Relocation Plan shall be prepared, reviewed, and approved by a licensed civil engineer and, at a minimum, include the following:

- Plans that identify the utility infrastructure elements, including access for utility providers and easements, as applicable, that require relocation as a result of the Project.
- Plans that identify utilities that would be relocated, removed, or protected in place, due to Project implementation. Potential utility removals or relocations shall be conducted through standard engineering practices to avoid service interruptions, to the extent feasible.
- Utility relocation shall occur within the Metro ROW or other existing public rights-of-way (ROWs) and easements, to the extent feasible.
- Safety measures to avoid any human health hazards or environmental hazards associated with capping and abandoning some utility infrastructure, such as natural gas lines or sewer lines.
- Timing for completion of the utility relocation, which shall be scheduled to minimize disruption to the utility companies and their customers.
- Findings from site and geotechnical investigations conducted before and during final design.

PF-UTL-03, *Service Interruption Notification*

Per Los Angeles County Metropolitan Transportation Authority (Metro) standard practice, prior to the start of any demolition or construction activities, the construction contractor shall be responsible for

coordinating with utility and service providers regarding potential utilities service interruptions due to relocation of existing utilities. The construction contractor shall develop a construction plan in coordination with utilities and service providers to minimize interruptions of utilities systems to the greatest extent feasible, including providing temporary connection for services that must be disconnected for extended periods of time. Further, the construction contractor shall develop a contingency plan in cooperation with the utility providers for emergency repairs of any utilities unexpectedly found or that disintegrated because of age during excavations. The public shall be notified of areas where temporary utilities service interruptions are anticipated.

PF-UTL-04, *Solid Waste Diversion and Disposal*

Per Los Angeles County Metropolitan Transportation Authority (Metro) standard practice, the construction contractor shall be responsible for the management and reporting of soil and construction and demolition (C&D) waste, planning for waste storage, sorting, separating, salvaging, recycling, hauling, and disposing. All waste diversion and disposal conducted by the contractor shall comply with regulatory waste storage, transport, disposal and reporting regulations, requirements, and Metro policies. Prior to construction, the contractor shall prepare a Waste Management Plan to be approved by Metro.

3.18.4 Existing Setting

The following section describes the existing conditions for utilities and service systems. Utilities and service systems include those in the footprints of the Proposed Project and its options and those in a 0.25-mile radius around the RSA to account for construction needs, path connectivity, and other considerations. The RSA is within the limits of Los Angeles County and extends through portions of the City of Los Angeles and the City of Vernon. Some staging has been preliminarily identified in the Cities of Commerce and Bell; however, there is no utility work occurring in the Cities of Maywood, Commerce, or Bell. Known and anticipated utility ownership in the RSA is generally characterized by function and service area, along with a description and mapping (where available) of each utility's and public service provider's overall infrastructure in the RSA.

3.18.4.1 Water Supplies and Services

3.18.4.1.1 Los Angeles County Department of Public Works

In the RSA, groundwater wells are maintained by the Los Angeles County Department of Public Works (LACDPW) and are used to measure groundwater depth. DWR establishes minimum standards for well construction, alteration, and destruction to protect groundwater in Bulletin 74-90, *California Well Standards* (DWR 1991).

Within the RSA, there are four active groundwater wells (LACDPW 2023). When a well is constructed, modified, or destroyed, drilling contractors are required to submit a Well Completion Report to LACDPW.

3.18.4.1.2 Los Angeles Department of Water and Power

The Los Angeles Department of Water and Power (LADWP), the largest municipal water and power utility in the nation, delivers water and electricity to residents and businesses in the City of Los Angeles. LADWP owns and operates 7,337 miles of distribution pipe. LADWP is implementing a $1.3 billion plan to replace 435 miles of deteriorating pipe in the next 10 years, some of which are

located along the RSA. According to the 2020 UWMP for the Los Angeles Department of Water & Power, total water supply (consisting of existing supplies from the Los Angeles Aqueduct, groundwater, recycled irrigation and industrial use water, and MWD water purchases) available to LADWP's service area in 2025 is approximately 642,600 acre-feet per year (LADWP 2020).

Within the RSA, many water pipelines owned by LADWP traverse the LA River channel except one 6-inch-diameter water line aligned longitudinally on Avenue 19, parallel to the river channel. Two 30-inch-diameter water lines, which connect the Buena Vista Pump Station to the Ed P. Reyes River Greenway, cross the channel between Riverside Drive and Broadway.

Other water districts, such as the California Water Service Company (East Los Angeles District) and MWD, provide water service to customers within the RSA.

3.18.4.1.3 City of Vernon Public Utilities Department

The City of Vernon Public Utilities Department (VPU) offers water, electricity, natural gas, and fiber-optic services to Vernon-based businesses and residents. These service distribution systems focus on serving the business community. Vernon's water system has a direct connection to the Palos Verdes Feeder pipeline owned by MWD. According to the City of Vernon's 2020 UWMP, the total water supply (comprising of groundwater, imported water, and recycled water) available to the City in 2025 is approximately 8,644 acre-feet per year (City of Vernon 2021).

3.18.4.1.4 Metropolitan Water District of Southern California

Within the RSA, MWD owns the Palos Verdes Feeder, which traverses the river channel approximately 400 feet north of the Washington Boulevard Bridge. Installed in 1935, the pipeline provides the City of Vernon with a supplemental source and emergency supply of water.

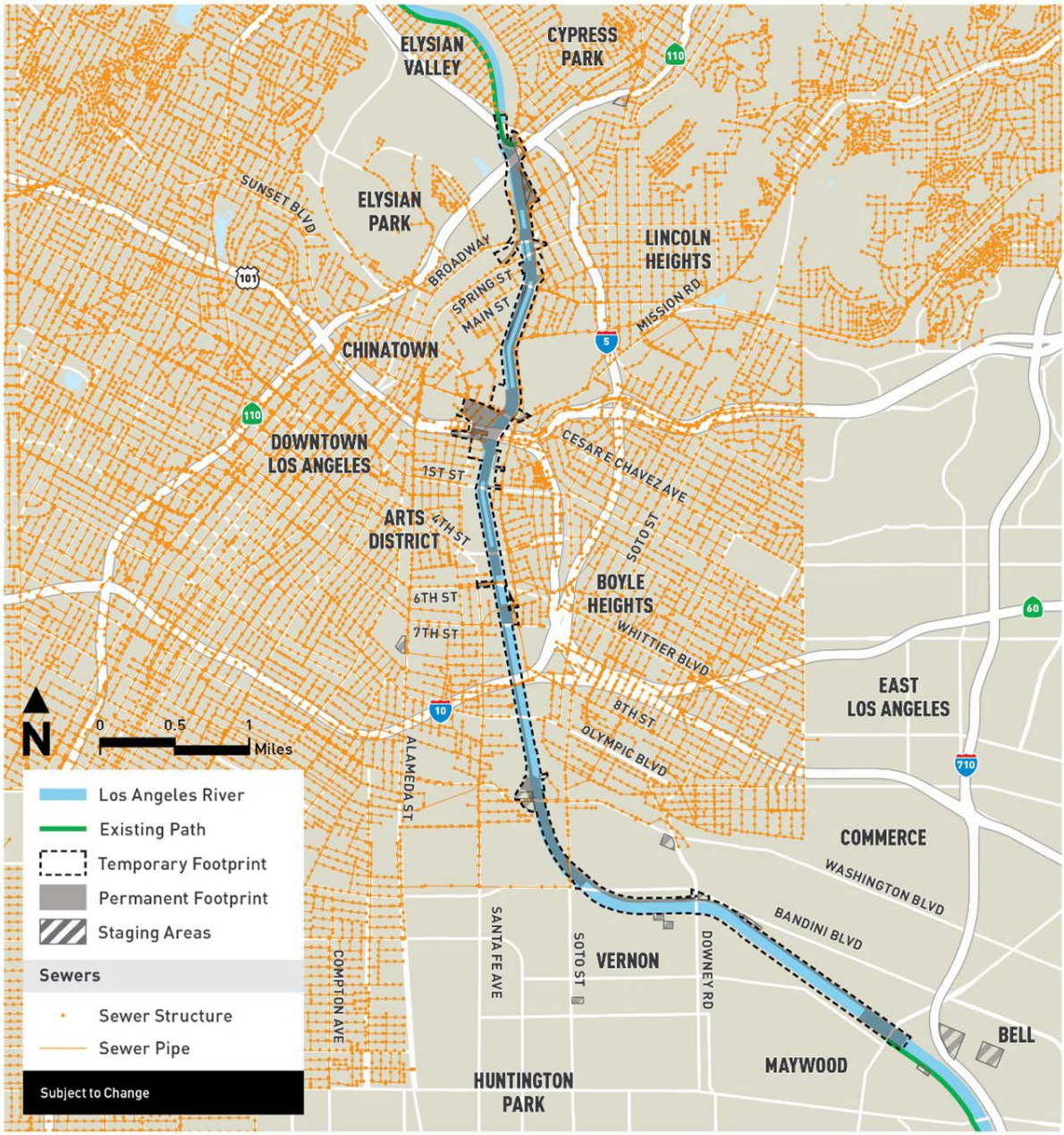
3.18.4.2 Wastewater Services

3.18.4.2.1 City of Los Angeles Bureau of Sanitation

The Los Angeles Bureau of Sanitation (LASAN) operates more than 6,700 miles of public sewers that convey about 400 million gallons per day (mgd) of flow from residences and businesses within the City of Los Angeles.

Within the RSA, several sewer lines run parallel along portions of the LA River or cross over the channel via roadway bridges. Refer to Figure 3.18-2 for the locations of the sewers within the City of Los Angeles.

Figure 3.18-2. Sewers



3.18.4.2.2 Los Angeles County Sanitation Districts

The Los Angeles County Sanitation Districts (LACSD) provide wastewater management needs for approximately 5.5 million people in the County. The LACSD service area covers approximately 824 square miles and encompasses 78 cities and unincorporated territory. Within the LACSD service area, approximately 9,500 miles of sewers are owned and operated by the cities and County that are tributary to LACSD's wastewater collection system. LACSD owns, operates, and maintains approximately 1,400 miles of sewer lines, ranging from 8 inches to 144 inches in diameter.

Within the RSA, two LACSD sanitary sewer lines traverse the channel immediately north of the Soto Street Bridge; however, it does not provide sanitary sewer service to the RSA. Further, LACSD operates a disposal facility for septage hauler companies that accepts wastewater from portable toilets, septic tanks, cesspools, and other sanitation holding devices within the County (LACSD 2024).

3.18.4.2.3 City of Vernon Public Works Department

The City of Vernon Public Works Department (Vernon Public Works) is responsible for the maintenance and construction of City-owned infrastructure, which includes Vernon's sewer and storm drain systems.

Within the RSA, there is a sanitary sewer pipeline owned and operated by Vernon Public Works, along the east bank of the river channel, immediately south of the Soto Street Bridge.

3.18.4.3 Solid Waste

LACSD provides solid-waste management needs for approximately 5.5 million people in the County. The LACSD service area covers approximately 824 square miles and encompasses 78 cities and unincorporated territory. No solid-waste or recycling facilities owned or operated by LACSD are in the RSA.

LASAN provides collection and removal services of all solid materials and waste in the City of Los Angeles, collecting an average of 6,652 tons per day of refuse, recyclables, yard trimmings, horse manure, and bulky items from more than 750,000 homes (LASAN 2023a). The LASAN service area covers the City of Los Angeles; within the RSA there is the South LA Collection Yard (located at 786 South Mission Drive), a Solvent/Automotive/Flammables/Electronics Center (2649 East Washington Boulevard), and two mulch sites (one located at 2649 East Washington and one at 3000 Gilroy Street) (LASAN 2023b).

The City of Vernon has several solid-waste haulers contracted to provide collection and removal services throughout the City boundaries.

3.18.4.4 Stormwater

The Los Angeles County Flood Control District (LACFCD), the City of Los Angeles Bureau of Engineering (BOE), and Vernon Public Works operate and maintain the storm drain pipes, inlets, and outlets in the RSA. Several outlets discharge into the LA River. Approximately 40 storm drain outlets in the LA River channel allow proper drainage during storm events. Figure 3.18-3 shows storm drains in and near the RSA.

Figure 3.18-3. Storm Drains



3.18.4.5 Power

The following subsections discuss utilities that provide electricity and natural gas services to the RSA, and companies that operate crude oil pipelines that traverse the RSA.

3.18.4.5.1 Los Angeles Department of Water and Power

LADWP, the largest municipal water and power utility in the nation, delivers water and electricity to residents and businesses in the City of Los Angeles. LADWP maintains a large electric transmission system, which includes 3,760 miles of transmission circuits spanning five western states. Within the Los Angeles Basin, LADWP's wholly owned and operated transmission network includes the following key components:

- 3,636 miles of overhead circuits (ranging from 115 kilovolts [kV] to 500 kV)
- 124 miles of underground circuits (ranging from 138 kV to 230 kV)
- 15,452 towers

The LA River is a critical utility corridor for LADWP, which transmits power from the Haynes generating station, located in Seal Beach, to the Atwater substation, located in Glendale. Power is transmitted through five circuits of 230 kV carried by overhead lines mounted on 150-foot-high lattice towers, collectively known as the Haynes-Atwater line.

Within the RSA, LADWP owns the property underlying the Haynes-Atwater line, which is a nominally 100-foot-wide strip along the east bank of the LA River in Vernon between Atlantic Boulevard and Soto Street. The LADWP-owned 230-kV transmission lines join on the east bank and continue north. LADWP also owns and operates two substations in the RSA. The Station A (St. John) Substation is located near the west bank of the LA River, along North Main Street. The River Substation is located south of Sixth Street on the west bank of the LA River between Santa Fe Avenue and Mesquit Street.

Figure 3.18-4 shows electric power transmission facilities in and near the RSA.

Figure 3.18-4. Electric Power Transmission



3.18.4.5.2 City of Vernon Public Utilities Department

Within the RSA, VPU provides electricity, gas, street lighting, and telecommunications infrastructure. Multiple VPU-owned overhead and underground transmission lines traverse the river channel along crossings between 26th Street and Atlantic Boulevard. Power is sourced from the Commerce Substation to various smaller-capacity substations in Vernon by running power lines within the LADWP-owned property on the east bank of the LA River between Atlantic Boulevard and Downey Road (Figure 3.18-4). Within the RSA, VPU provides telecommunications infrastructure through City-owned fiber-optic distribution systems, with cables ranging in size by 24, 48, 96, and 288 strands. Fiber-optic cables traverse the river channel at 26th Street, Soto Street, Downey Road, and Atlantic Boulevard.

3.18.4.5.3 Marathon Petroleum

Marathon Petroleum (formerly Andeavor Logistics) is one of the largest full-service providers of midstream logistics in the western United States and offers petroleum, natural gas, and fuel products. Under Marathon Petroleum, they operate 51 terminals, own more than 65 million barrels of crude oil and product storage capacity, and have more than 2,300 miles of refined product pipeline and 4,700 miles of crude oil and natural gas pipelines.

Within the RSA, several Marathon Petroleum oil lines traverse the LA River channel. These include multiple oil lines along the Seventh Street Viaduct, multiple 4-inch-diameter oil lines along the Olympic Boulevard Viaduct, a 4-inch-diameter oil line near the 26th Street Bridge, and another 4-inch-diameter oil line near the Soto Street Bridge. Marathon Petroleum does not provide utility services in the RSA.

3.18.4.5.4 PBF Energy

PBF Energy is an independent petroleum refiner and supplier of various gas, oil, petrochemicals, and petroleum transportation fuel products. It has several refineries nationwide, including the newest in Torrance, California, which produces over 1.8 billion gallons of gasoline annually, or approximately 10% of the statewide gasoline demand. PBF Energy operates a network of proprietary pipelines both to deliver their products and to receive unrefined crude oil from remote sources.

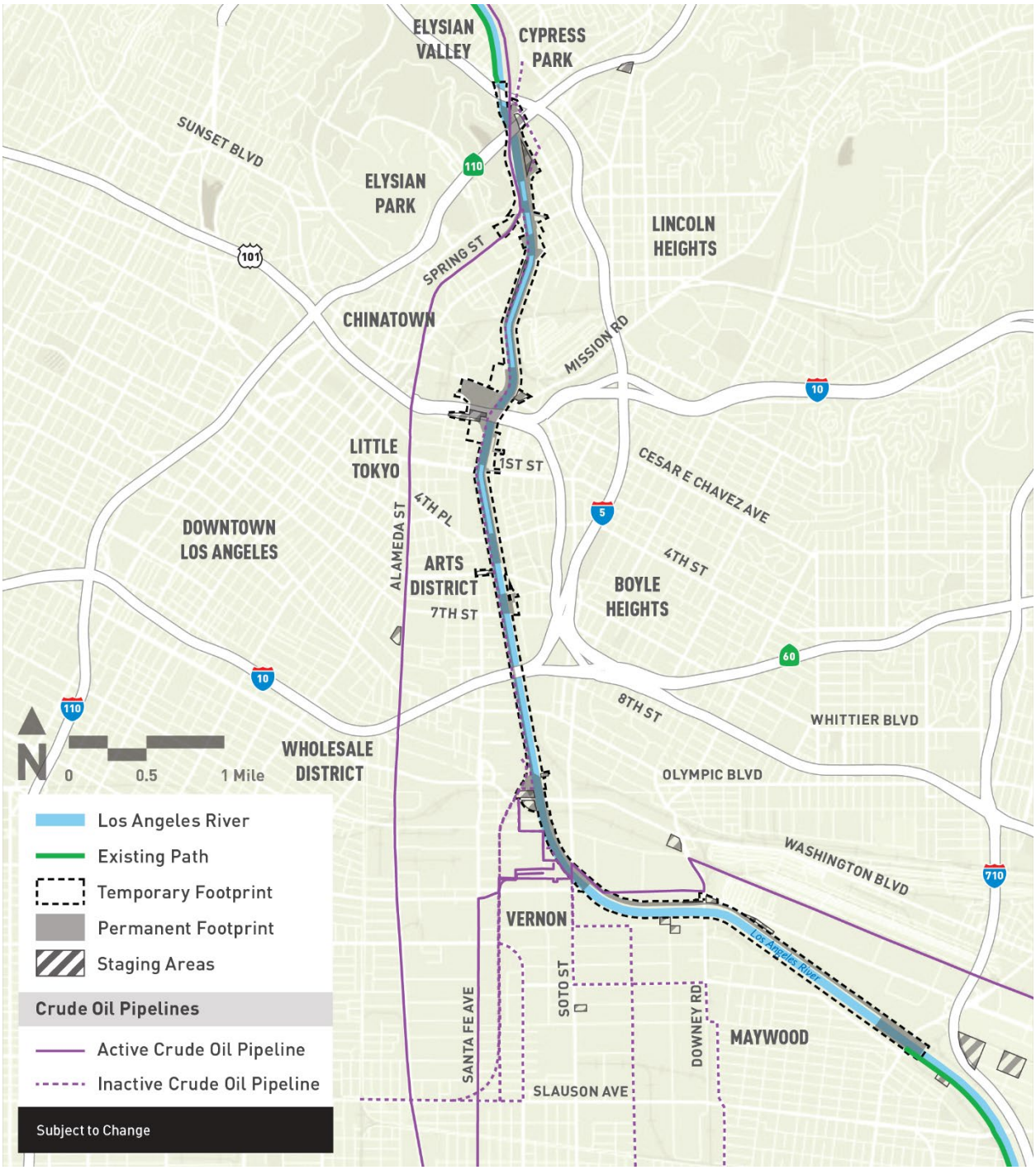
Several active pipelines owned by PBF Energy cross or run adjacent to the RSA. Active crude oil lines run adjacent to the west bank of the river channel between Washington Boulevard and 26th Street, along 26th Street, and between 26th Street and Soto Street. An active crude oil line traverses the river channel from the west bank to the east bank along the Soto Street Bridge, then runs along the east bank of the channel to Bandini Boulevard. The pipeline continues down Bandini Boulevard before diverging from the RSA on Downey Road but do not provide utility services in the RSA.

3.18.4.5.5 Plains All American Pipeline

Plains All American Pipeline (Plains Pipeline) owns and operates midstream energy infrastructure and provides logistics services for crude oil, natural gas liquids, and natural gas in North America. With an extensive network of 15,000 miles of pipelines and 37 million barrels in terminal and storage capacity, Plains Pipeline handles an average of over 5 million barrels of crude oil and natural gas liquids per day.

Within the RSA, Plains Pipeline owns an active crude oil pipeline running adjacent to the east bank of the river channel before traversing to the west bank, along the Metrolink LA River–Downey Bridge at the RSA's northern terminus on Riverside Drive (Figure 3.18-5). The pipeline continues southward, adjacent to the west bank of the channel, before diverging southwest passing the North Broadway Viaduct. The pipeline, while traversing within the RSA, would not provide utility services to the Proposed Project or its options.

Figure 3.18-5. Crude Oil



3.18.4.5.6 SoCalGas

SoCalGas, a subsidiary of Sempra Energy, provides natural gas service for approximately 21.8 million customers spanning roughly 24,000 square miles of California and is the nation's largest natural gas distribution utility. Large, high-pressure transmission pipelines transport natural gas supplies from the California-Arizona border and other receipt locations in Central and Southern California to Los Angeles County.

Within the RSA, major SoCalGas pipelines are located mostly in the City of Vernon and to the east side of the river channel, as shown on Figure 3.18-6. Several abandoned (inactive) gas lines remain within the northern half of the RSA.

Figure 3.18-6. Natural Gas



3.18.4.5.7 Southern California Edison

Southern California Edison (SCE) is the primary electricity supply company for much of Los Angeles County. It provides 14 million people with electricity across a service territory of approximately 50,000 square miles in Southern California. Although SCE does not provide service to the Cities of Los Angeles and Vernon, it owns and operates transmission lines in both cities, and these cross the LA River.

Within the RSA, several SCE transmission lines traverse the LA River at Broadway, Cesar E Chavez Avenue, Olympic Boulevard, UP LA River Bridge, and Washington Boulevard. The SCE-owned

transmission lines crossing the LA River are supported by poles or attached to LADWP towers near the channel.

Other power service providers (such as oil, gas, and/or petroleum) that have been identified within the RSA include: British Petroleum (BP), Chevron Pipe Line Company, ExxonMobil, Phillips 66, and Shell Pipeline Company.

3.18.4.6 Telecommunications

3.18.4.6.1 CenturyLink

CenturyLink is a private telecommunications company that provides communications and data services and operates as a local exchange carrier and Internet access. CenturyLink acquired Level 3 Communications (Level 3) in 2016. Level 3 is a telecommunications and Internet service provider company with existing telecommunications infrastructure along the RSA. Level 3 remains the listed owner in relevant utility plans.

Within the RSA, several telecommunications lines owned by CenturyLink cross the LA River channel and others run parallel to the channel. Between Riverside Drive and Mission Junction, longitudinal fiber-optic lines run on each side of the channel. These fiber-optic lines are buried in the river channel's banks, approximately near the top-of-bank.

3.18.4.6.2 Charter Spectrum

Charter Spectrum, a subsidiary of Charter Communications, provides various telecommunications services including broadband, cable television, Internet, and telephone services. The company has a telecommunications franchise agreement with the City of Los Angeles. As a grantee, Charter Spectrum has privilege to use the public ROW and utility easements within the City, as issued by the CPUC.

3.18.4.6.3 Crown Castle

Crown Castle is a private telecommunications company providing shared communications infrastructure nationwide, with over 40,000 cell towers and 60,000 miles of fiber-optic routes supporting small cells and fiber solutions.

Within the RSA, several telecommunications lines owned by Crown Castle cross the LA River channel. An underground fiber-optic cable crosses the river channel south of the US-101 freeway, between Cesar E Chavez Avenue and First Street. Along the Fourth Street Viaduct, a fiber-optic cable runs along the bridge. Two fiber-optic cables run along the Seventh Street Viaduct, one underground, and the other above ground on the south side of the bridge.

3.18.4.6.4 Verizon Communications

A multinational telecommunications company, Verizon Communications, offers a variety of services such as broadband, television, telephone, and Internet, and owns their subsidiary Verizon Wireless, the largest wireless communications service provider in the nation.

Within the RSA, two Verizon-owned telecommunications lines cross the LA River channel. One fiber-optic line crosses between North Main Street and Cesar E Chavez Avenue, immediately north of the Cesar E Chavez Avenue Viaduct. Another fiber-optic line crosses the channel between Seventh Street

and Olympic Boulevard, immediately north of the Olympic Boulevard Viaduct. Other telecommunication companies identified within the RSA include AT&T, Frontier Communications, Sprint, T-Mobile, and Zayo Group.

3.18.4.7 Other Utilities and Public Services

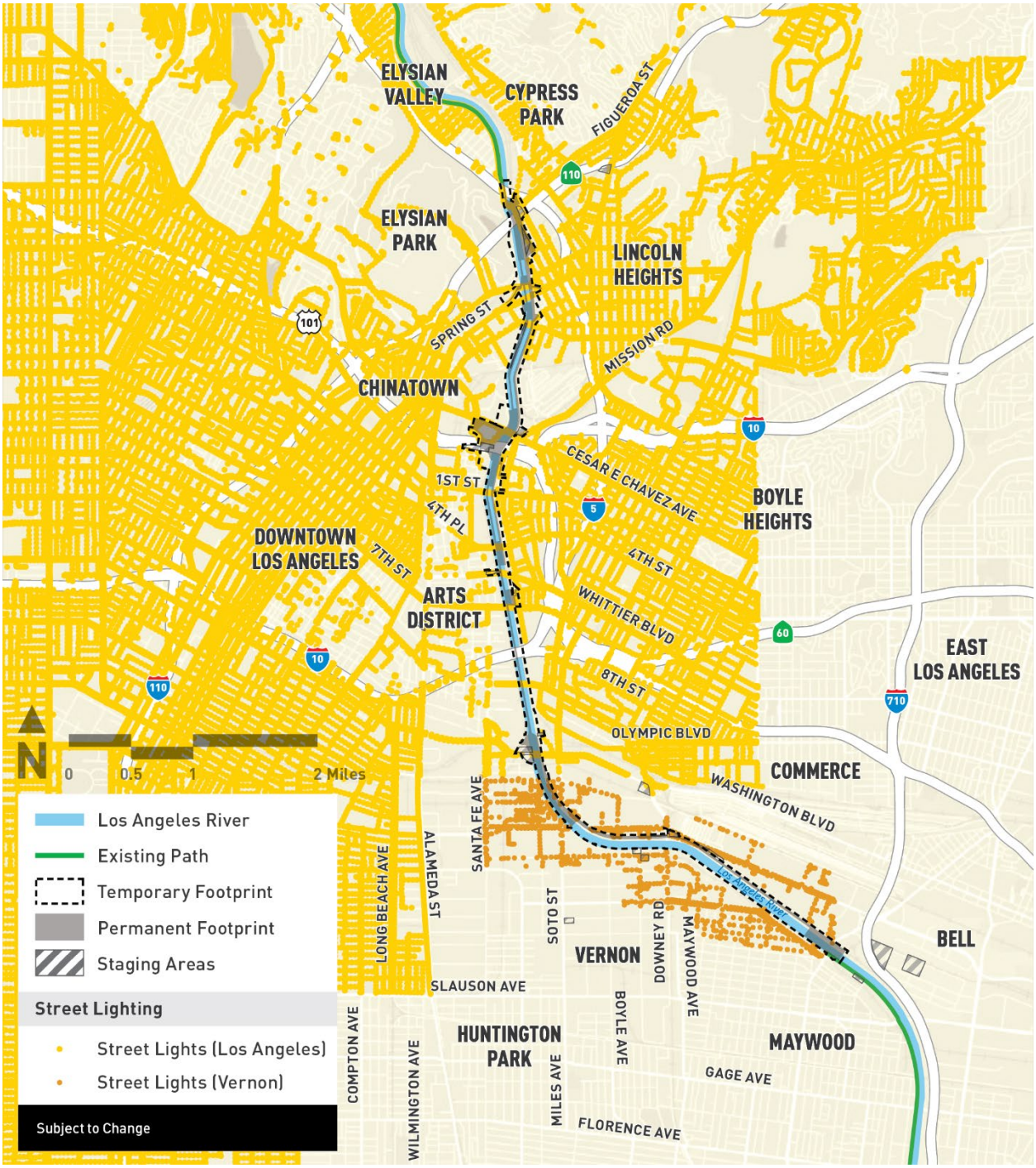
3.18.4.7.1 City of Los Angeles Bureau of Engineering

The Bureau of Street Lighting, a part of BOE, is responsible for the design, construction, operation, maintenance, and repair of the street lighting system within the City of Los Angeles. More than 220,000 lights in the City consisting of more than 400 designs, many of which are historical, illuminate 4,500 miles of streets and bridges.

Within the RSA, City of Los Angeles street bridges include street lighting that uses electrical lines owned and maintained by the Bureau of Street Lighting. Figure 3.18-7 provides the location of street light poles. Several locations along the river do not have street lighting.

Additionally, VPU provides street lighting through their municipally owned and operated electrical lines, as shown in Figure 3.18-7.

Figure 3.18-7. Street Lighting



3.18.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable) of the Proposed Project and its options, Option 1 and Option 2, including design variations. The Proposed Project and its options would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to utilities and system services are substantially the same. For instances where the Proposed Project, Option 1, or Option 2 would result in substantially different or additional impacts, the impact analysis is separated.

3.18.5.1 Impact UTL-1: Relocation or Construction

Impact UTL-1: Require or result in the relocation or construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities, or other utility or public services facilities, the construction or relocation of which could cause significant environmental impacts?

3.18.5.1.1 Proposed Project

3.18.5.1.1.1 Construction

Less than significant impact. Construction of the Proposed Project and its options, Option 1 and Option 2, would require modification and relocation of existing utilities.

Specifically, based on the Proposed Project's advanced conceptual design, the Proposed Project would impact utilities at 34 locations as listed in Table 3.18-2. Of these, the Proposed Project would require permanent modifications or improvements of approximately 27 storm drains and permanent relocation of three overhead electrical lines. None of the groundwater wells or other water utilities identified would be impacted during construction of the Proposed Project. Most utilities within the temporary and permanent footprint of the Proposed Project would be protected in place with sleeve casing or other methods consistent with Metro's *Rail Design Criteria* (Metro 2010). Any potential modifications or improvements to the 27 impacted storm drains would be designed to meet stormwater regulatory requirements. While the Proposed Project would result in the permanent relocation of three overhead electrical lines, the Proposed Project would not alter overall electrical power, water utilities, natural gas facilities, telecommunications facilities, or other utility services. Further, no streetlights have been identified as being in conflict with or would be impacted by the Proposed Project.

Table 3.18-2. Proposed Project-Impacted Utility Locations

Location Intersection	Description of Utility	Utility Owner	Impact
Wastewater Treatment/Stormwater Drainage			
Between S Atlantic Blvd and Downey Blvd	24-inch CMP Storm Drain	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	Three 24-inch CMP Storm Drains (OF-38L, 39L, 40L)	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	18-inch CMP Storm Drain (OF-37L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	18-inch CMP Storm Drain (OF-33L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	24-inch CMP Storm Drain (OF-32L)	Los Angeles County	Modification or improvement
South of Interstate 10	54-inch VCP Sewer	LADPW	Protect-in-place
South of E Seventh St	62-inch RCP Storm Drain (OF-19R)	LACFCD	Modification or improvement
North of E Seventh St	8-inch VCP Sewer	LADPW	Protect-in-place
Whittier Blvd	90-inch RCP Storm Drain (OF-17R)	LACFCD	Modification or improvement
South of E Fourth St	60-inch RCP Storm Drain (OF-19L)	LACFCD	Modification or improvement
North of E Fourth St	30-inch RCP Storm Drain (OF-18L)	Los Angeles County	Modification or improvement
Between E First St and E Fourth St	Unknown Storm Drain (OF-17L)	UNKNOWN	Modification or improvement
Between E First St and E Fourth St	12-inch RCP Storm Drain (OF-15L)	Los Angeles County	Modification or improvement
Between E First St and E Fourth St	12-inch RCP Storm Drain (OF-14L)	Los Angeles County	Modification or improvement
Between US Route 101 and E First St	Unknown Storm Drain	UNKNOWN	Modification or improvement
Between US Route 101 and E First St	36-inch RCP Storm Drain (OF-13L)	Los Angeles County	Modification or improvement
Between US Route 101 and E First St	8-inch CMP Storm Drain	LACFCD	Modification or improvement
Between US Route 101 and E First St	Unknown Storm Drain (OF-12L)	UNKNOWN	Modification or improvement
Between US Route 101 and E First St	51-inch RCP Storm Drain (OF-11L)	LACFCD	Modification or improvement
Between E Cesar E Chavez Ave and US Route 101	Two 90-inch RCP Storm Drain (OF 08L, 09L)	LACFCD	Modification or improvement
Between E Cesar E Chavez Ave and US Route 101	Two 84-inch Reinforced Concrete Arch Storm Drain (OF-6L,7L)	Los Angeles County	Modification or improvement
Between N Main St and E Cesar E Chavez Ave	96-inch RCP Storm Drain (OF-06R)	LACFCD	Modification or improvement

Table 3.18-2. Proposed Project-Impacted Utility Locations

Location Intersection	Description of Utility	Utility Owner	Impact
Between N Main St and E Cesar E Chavez Ave	96-inch RCP Storm Drain (OF-06R)	LACFCD	Modification or improvements
South of N Main St	Unknown Storm Drain (OF-05R)	UNKNOWN	Modification or improvement
South of N Spring St	16-inch RCP Storm Drain (OF-03R)	Los Angeles County	Modification or improvement
North of N Broadway	66-inch RCP Storm Drain (OF-02R)	LACFCD	Modification or improvement
Between Broadway and Route 110	10-inch Storm Drain (OF-01R)	UNKNOWN	Modification or improvement
Electrical Power			
Between S Atlantic Blvd and Downey Blvd	Overhead Electrical Line (4.5 kV–45kV)	LADWP	Relocation or removal
Between S. Atlantic Blvd and Downey Blvd	Overhead Electrical Line	LADWP	Relocation or removal
South of E Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place
North of Washington Blvd	Three Overhead Electrical Lines	LADWP	Protect-in-place
North of Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place
Between Olympic Blvd and Washington Blvd	Two Overhead Electrical Line	LADWP	Protect-in-place
Between N Main St and E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal

Notes:

CMP = corrugated metal pipe
VCP = vitrified clay pipe
RCP = reinforced concrete pipe

Coordination with utility owners would be conducted during the final design and pre-construction phases to ensure compliance with regulatory requirements. With implementation of PF-UTL-01, *Utility Identification and Coordination* and PF-UTL-02, *Development of a Utility Relocation Plan* (refer to Section 3.18.3.3), utility relocation plans would be prepared during the final design phase in consultation with the affected utility providers/owners for those utilities that would need to be relocated, removed, or protected in place. If relocation is required for Proposed Project construction, final design would focus on relocating utilities within the Metro ROW or other existing public ROWs and easements. Field and geotechnical investigations would be conducted during final design with its findings to be considered in the design of utility relocation plans. Further, with implementation of PF-UTL-03, *Service Interruption Notification*, utilities and service providers would inform the public of any potential disruptions to utilities, and advanced coordination with utilities and nearby users would be required as part of construction plans. Advance notice would be provided before a short disruption would occur during low-demand periods to minimize inconvenience. Therefore, construction of the Proposed Project would result in a **less than significant impact** related to new, expanded, or relocated utilities.

3.18.5.1.1.2 Operations and Maintenance

Less than significant impact. Operations and maintenance (O&M) activities for the Proposed Project would include irrigation for landscaping (with drought-tolerant plants) and operation of up to four public restrooms. In addition, the Proposed Project would include electrical service for path lighting, some of which may be solar powered. It is anticipated that Proposed Project O&M would result in a slight increase in water use, wastewater treatment, and electricity; however, the amounts consumed would be minimal, and would be significantly less than the projected future capacity of existing water supply, wastewater treatment capacity, and electrical power in the area, and would not have any substantial effect on water supply, wastewater treatment capacity, or electrical power. As described above and shown in Table 3-18.2, the Proposed Project would require the permanent relocation of overhead electrical lines and modifications to storm drains. These changes would be one-time, would not impact overall utility service, and would occur during the construction phase of the Proposed Project. No additional utility relocations or modifications are expected to occur during the operational phase of the Proposed Project; therefore, impacts would be **less than significant**.

3.18.5.1.2 Option 1

3.18.5.1.2.1 Construction

Less than significant impact. Impacts of Option 1 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1.

Option 1 would impact utilities at approximately 28 locations (as shown in Table 3.18-3). Of these, Option 1 in anticipated to require permanent modification or improvement of 16 storm drains and permanent relocation of five overhead electrical lines. Any potential modifications or improvements to the 16 impacted storm drains would be designed to meet stormwater regulatory requirements. While the Option 1 alignment would result in permanent relocation of five overhead electrical lines, Option 1 would not alter overall electrical power, telecommunications facilities, or other utility services. None of the groundwater wells or other water utilities identified would be impacted during construction of Option 1. Additionally, no active or inactive natural gas or crude oil pipelines, or streetlights have been identified as being in conflict with or would be impacted by Option 1. Utility relocation would be done to the extent feasible to avoid service interruptions.

With implementation of PF-UTL-01, *Utility Identification and Coordination* and PF-UTL-02, *Development of a Utility Relocation Plan* (Section 3.18.3.3) during the final design phase, the Proposed Project team would coordinate with utility companies and BOE to request information, identify conflict locations between construction activities and existing facilities, and determine if relocation would be required or if utility lines could be protected in place. Under implementation of PF-UTL-03, *Service Interruption Notification*, utility companies would inform the public of any potential disruptions to utilities, and advanced coordination with utilities and nearby users would be required as part of construction plans. Advance notice would be provided before a short disruption would occur during low-demand periods to minimize inconvenience. Therefore, construction Option 1 would result in a **less than significant impact** related to new, expanded, or relocated utilities.

Table 3.18-3. Option 1-Impacted Utility Locations

Location Intersection	Description of Utility	Utility Owner	Impact
Wastewater Treatment/Stormwater Drainage			
Between S Atlantic Blvd and Downey Blvd	Unknown Storm Drain (OF-42L)	UNKNOWN	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	102-inch Reinforced Concrete Box Storm Drain (OF-41L)	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	24-inch CMP Storm Drain	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	Three 24-inch CMP Storm Drains (OF-38L, 39L, 40L)	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	18-inch CMP Storm Drain (OF-37L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	18-inch CMP Storm Drain (OF-33L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	24-inch CMP Storm Drain (OF-32L)	Los Angeles County	Modification or improvement
North of Washington Blvd	96-inch Storm Drain (OF-23R)	LACFCD	Modification or improvement
South of Olympic Blvd	54-inch Concrete Storm Drain (OF 22R)	City of LA	Modification or improvement
South of Interstate 10	45-inch RCP Storm Drain (OF-21R)	Los Angeles County	Modification or improvement
South of Interstate 10	54-inch VCP Sewer	LADPW	Protect-in-place
North of Interstate 10	36-inch RCP Storm Drain (OF-20R)	Los Angeles County	Modification or improvement
South of E Seventh St	62-inch RCP Storm Drain (OF-19R)	LACFCD	Modification or improvement
North of E Seventh St	8-inch VCP Sewer	LADPW	Protect-in-place
North of E Seventh St	10-inch CMP Storm Drain (OF-18R)	Los Angeles County	Modification or improvement
Whittier Blvd	90-inch RCP Storm Drain (OF-17R)	LACFCD	Modification or improvement
South of E Fourth St	90-inch RCP Storm Drain (OF-16R)	Los Angeles County	Modification or improvement
Between E First St and E Fourth St	63-inch RCP Storm Drain (OF-16L)	LACFCD	Modification or improvement
Electrical Power			
Between S Atlantic Blvd and Downey Blvd	Overhead Electrical Line (4.5 kV--45kV)	LADWP	Relocation or removal
Between S Atlantic Blvd and Downey Blvd	Overhead Electrical Line	LADWP	Relocation or removal
South of E Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place
North of Washington Blvd	Three Overhead Electrical Lines	LADWP	Protect-in-place
North of Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place

Table 3.18-3. Option 1-Impacted Utility Locations

Location Intersection	Description of Utility	Utility Owner	Impact
Between Olympic Blvd and Washington Blvd	Two Overhead Electrical Lines	LADWP	Protect-in-place
E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	Two Overhead Electrical Lines	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal
North of Main St	Overhead Electrical Line	LADWP	Protect-in-place

Notes:

CMP = corrugated metal pipe
VCP = vitrified clay pipe
RCP = reinforced concrete pipe

3.18.5.1.2.2 Operations and Maintenance

Less than significant impact. The O&M impacts of Option 1 would be similar to those identified for the Proposed Project. Similarly to the Proposed Project, the slight increase in water use and electricity for O&M activities would be significantly less than the projected future capacity of existing water supply and electrical power in the area and would not have any substantial effect on water supply or electrical power. Permanent relocation of overhead electrical lines and modifications to storm drains would be one-time, would not impact overall utility service, and would occur during the construction phase of Option 1. No additional utility relocations or modifications are expected to occur during the operational phase of Option 1. Therefore, impacts would be **less than significant**.

3.18.5.1.3 Option 2

3.18.5.1.3.1 Construction

Less than significant impact. Impacts of Option 2 would be similar to those identified for the Proposed Project and Option 1, with differences in the magnitude and location of the impacts due to the varying geometry and facility locations that are required by Option 2. Option 2 would impact utilities at approximately 31 locations (Table 3.18-4). Of these, Option 2 is anticipated to require permanent modification or improvement of 19 storm drains and relocation of five overhead electrical lines.

Table 3.18-4. Option 2-Impacted Utilities

Location Intersection	Description of Utility	Utility Owner	Impact
Wastewater Treatment/Stormwater Drainage			
Between S Atlantic Blvd and Downey Blvd	Unknown Storm Drain (OF-42L)	Unknown	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	102-inch RCP Storm Drain (OF-41L)	LACFCD	Modification or improvement

Table 3.18-4. Option 2-Impacted Utilities

Location Intersection	Description of Utility	Utility Owner	Impact
Between S Atlantic Blvd and Downey Blvd	24-inch CMP Storm Drain	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	Three 24-inch CMP Storm Drains (OF-38L, 39L, 40L)	LACFCD	Modification or improvement
Between S Atlantic Blvd and Downey Blvd	18-inch CMP Storm Drain (OF-37L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	18-inch CMP Storm Drain (OF-33L)	Los Angeles County	Modification or improvement
South of Bandini Blvd	24-inch CMP Storm Drain (OF-32L)	Los Angeles County	Modification or improvement
North of Washington Blvd	96-inch Storm Drain (OF-23R)	LACFCD	Modification or improvement
South of Olympic Blvd	54-inch Concrete Storm Drain (OF-22R)	City of LA	Modification or improvement
South of Interstate 10	45-inch RCP Storm Drain (OF-21R)	Los Angeles County	Modification or improvement
South of Interstate 10	54-inch VCP Sewer	LADPW	Protect-in-place
North of Interstate 10	36-inch RCP Storm Drain (OF-20R)	Los Angeles County	Modification or improvement
South of E Seventh St	62-inch RCP Storm Drain (OF-19R)	LACFCD	Modification or improvement
North of E Seventh St	8-inch VCP Sewer	LADPW	Protect-in-place
North of E Seventh St	10-inch CMP Storm Drain (OF-18R)	Los Angeles County	Modification or improvement
Whittier Blvd	90-inch RCP Storm Drain (OF-17R)	LACFCD	Modification or improvement
South of E Fourth St	90-inch RCP Storm Drain (OF-16R)	Los Angeles County	Modification or improvement
Between E First St and E Fourth St	63-inch RCP Storm Drain (OF-16L)	LACFCD	Modification or improvement
E First St	8-inch water line	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	96-inch RCP Storm Drain (OF-06R)	LACFCD	Modification or improvement
Between Broadway and Route 110	54-inch VCP Abandoned Sewer	LADPW	Protect-in-place
Electrical Power			
Between S Atlantic Blvd and Downey Blvd	Overhead Electrical Line	LADWP	Relocation or removal
South of E Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place
North of Washington Blvd	Three Overhead Electrical Lines	LADWP	Protect-in-place
North of Washington Blvd	Overhead Electrical Line	LADWP	Protect-in-place
Between Olympic Blvd and Washington Blvd	Two Overhead Electrical Lines	LADWP	Protect-in-place

Table 3.18-4. Option 2-Impacted Utilities

Location Intersection	Description of Utility	Utility Owner	Impact
E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	Two Overhead Electrical Lines	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal
Between N Main St and E Cesar E Chavez Ave	Overhead Electrical Line	LADWP	Relocation or removal

Notes:

CMP = corrugated metal pipe
RCP = reinforced concrete pipe
VCP = vitrified clay pipe

While the Option 2 alignment would result in the permanent relocation of five overhead electrical lines, Option 2 would not alter overall electrical power, telecommunications facilities, or other utility services. None of the groundwater wells or other water utilities identified would be impacted during construction of Option 2. Additionally, no active or inactive natural gas or crude oil pipelines, or streetlights have been identified as being in conflict with or would be impacted by Option 2. Any potential modifications or improvements to the 19 impacted storm drains would be designed to meet stormwater regulatory requirements. No streetlights have been identified as being in conflict with or would be impacted by Option 2. Utility relocation would be done to the extent feasible to avoid service interruptions.

With implementation of PF-UTL-01, *Utility Identification and Coordination* and PF-UTL-02, *Development of a Utility Relocation Plan* (Section 3.18.3.3), during the final design phase, the Project team would coordinate with utility companies and BOE to request information, identify conflict locations between construction activities and existing facilities, and determine if relocation would be required or if utility lines could be protected in place. Under implementation of PF-UTL-03, *Service Interruption Notification*, utility companies inform the public of any potential disruptions to utilities, and advanced coordination with utilities and nearby users would be required as part of construction plans. Advance notice would be provided before a short disruption would occur during low-demand periods to minimize inconvenience. Therefore, construction of Option 2 would result in a **less than significant impact** related to new, expanded, or relocated utilities.

3.18.5.1.3.2 Operations and Maintenance

Less than significant impact. O&M impacts of Option 2 would be similar to those identified for the Proposed Project and Option 1. Similarly, the slight increase in water use and electricity for O&M activities would be significantly less than the projected future capacity of existing water supply and electrical power in the area and would not have any substantial effect on water supply or electrical power. Permanent relocation of overhead electrical lines and modifications to storm drains would be one-time, would not impact the overall utility service, and would occur during the construction phase of Option 2. No additional utility relocations or modifications are expected to occur during the operational phase of the Option 2. Therefore, impacts would be **less than significant**.

3.18.5.2 Impact UTL-2: Water Supplies

Impact UTL-2: Have insufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?

3.18.5.2.1 Proposed Project, Option 1, and Option 2

3.18.5.2.1.1 Construction

Less than significant impact. The Proposed Project and its options, Option 1 and Option 2 would require minimal water use during construction activities (for example, for dust control). This temporary, construction-related water use would require minimal water supplies and would not necessitate new water deliveries to the region. Construction activities would have sufficient water supplies during normal, dry, or multiple dry years. Therefore, construction of the Proposed Project and its options, Option 1 and Option 2, would have a **less that significant** impact.

3.18.5.2.1.2 Operations and Maintenance

Less than significant impact. Operation of the Proposed Project and its options, Option 1 and Option 2, would have a water demand for landscaping irrigation and up to four public restrooms; however, the amount of water consumed would be significantly less than the projected future capacity. As noted in Section 3.18.4.1, water suppliers located within the RSA (including the Proposed Project and its options) include LADWP, City of Vernon and MWD; LADWP's total water supply in 2025 is estimated to be 642,600 acre-feet per year, and the City of Vernon's total water supply in 2025 is estimated to be 8,644 acre-feet per year. Water demand from the Proposed Project is estimated to be a small amount (no more than several acre-feet per year) and would therefore be negligible in relation to the size and capacity of the water supply and would not overburden it. Therefore, O&M activities would have sufficient water supplies during normal, dry, and multiple dry years. The Proposed Project and its options, Option 1 and Option 2, would therefore have a **less than significant** impact.

3.18.5.3 Impact UTL-3: Wastewater

Impact UTL-3: Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

3.18.5.3.1 Proposed Project, Option 1, and Option 2

3.18.5.3.1.1 Construction

Less than significant impact. The Proposed Project and its options, Option 1 and Option 2 would generate wastewater during construction through the use of temporary portable restrooms. The temporary portable restrooms would be collected periodically and transported to LACSD's disposal facility and be subject to pretreatment requirements. The closest treatment plants to the Proposed Project and its options are the Hyperion Treatment Plant and the Los Coyotes Water Reclamation Plant. The Hyperion Treatment Plant is currently operating at an average of 275 mgd and is designed to treat 450 mgd in dry months and 800 mgd in peak wet weather flows (LASAN 2021b). The Los Coyotes Water Reclamation Plant currently provides treatment capacity for 37.5 mgd and serves approximately 370,000 residents (LACSD 2021). Wastewater generation would be negligible in relation

to the size and capacity of the wastewater treatment system and would not overburden it. Therefore, this impact would be **less than significant**.

3.18.5.3.1.2 Operations and Maintenance

Less than significant impact. The Proposed Project and its options, Option 1 and Option 2, would generate a new, yet minimal, source of wastewater and require new connections to existing municipal wastewater facilities as the Proposed Project and its options would include ancillary facilities such as up to four restrooms at the access points. O&M activities would not directly generate population growth that would require wastewater services. Any discharges associated with these restroom connections would be subject to a wastewater discharge permit and would be intermittent and irregular. Such irregular discharges, should they be necessary, would not exceed capacity. Any wastewater generated by the Proposed Project and its options in the full build-out condition would be of domestic quality and, if required, be subject to pretreatment requirements. The closest treatment plants to the Proposed Project and its options are the Hyperion Treatment Plant and the Los Coyotes Water Reclamation Plant. The Hyperion Treatment Plant is currently operating at an average of 275 mgd and is designed to treat 450 mgd in dry months and 800 mgd in peak wet weather flows (LASAN 2021a). The Los Coyotes Water Reclamation Plant currently provides treatment capacity for 37.5 mgd and serves approximately 370,000 residents (LACSD 2021). Wastewater generation from new restrooms and O&M activities would be negligible in relation to the size and capacity of the wastewater treatment system and would not overburden these systems. Adequate capacity therefore exists and is available to accommodate the increase in wastewater generated by the Proposed Project and its options. Impacts under the Proposed Project and its options, Option 1 and Option 2, would therefore be **less than significant** on wastewater capacity.

3.18.5.4 Impact UTL-4: Solid Waste

Impact UTL-4: Generate solid waste in excess of state or local standards, in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid-waste reduction goals?

3.18.5.4.1 Proposed Project, Option 1, and Option 2

3.18.5.4.1.1 Construction

Less than significant impact. Construction of the Proposed Project and its options, Option 1 and Option 2 would generate construction waste from the removal of existing infrastructure (for example, concrete). During construction, concrete, asphalt, and other waste would be generated. Any solid waste generated would be collected and properly disposed of in accordance with waste disposal requirements involving the sampling of waste for contaminants of potential concern. Consistent with Metro policy and standard practice, and as outlined further in PF-UTL-04, *Solid Waste Diversion and Disposal*, the construction contractor would be required to segregate these materials prior to disposal at a certified recycling facility, where materials would be properly recycled or reused, where appropriate. Additionally, the construction contractor would comply with appropriate federal, state, and local regulations for solid-waste diversion and disposal. Construction of the Proposed Project and its options would therefore result in a **less than significant** impact.

3.18.5.4.1.2 Operations and Maintenance

Less than significant impact. The operational phase for the Proposed Project and its options, Option 1 and Option 2, could create an indirect source of solid waste via path users. Trash and recycling receptacles would be located at ancillary facilities, including public restrooms, along the path and would also be emptied on a regular basis. Any solid waste generated would be collected and transferred to a nearby landfill. All waste would be properly disposed of in accordance with waste disposal requirements. The solid waste generated at each of these facilities would be negligible in relation to the size and capacity of the landfills and would not affect the landfill capacity of local infrastructure or impair the attainment of solid-waste reduction goals. Therefore, O&M activities of the Proposed Project and its options related to solid waste would result in a **less than significant** impact.

3.18.5.5 Impact UTL-5: Regulations

Impact UTL-5: Conflict with federal, state, and local management and reduction statutes and regulations related to solid waste.

3.18.5.5.1 Proposed Project, Option 1, and Option 2

3.18.5.5.1.1 Construction

Less than significant impact. As discussed in Section 3.18.5.5, construction of the Proposed Project and its options, Option 1 and Option 2 would generate construction waste from the removal of existing infrastructure (for example, concrete and similar). During construction, concrete, asphalt, and other waste would be generated. Based on Metro standard practice, the contractor would be required to segregate these materials prior to disposal at a certified recycling facility where materials would be properly recycled or reused, where appropriate (refer to PF-UTL-04, *Solid Waste Diversion and Disposal*). The contractor would also be required to adhere to federal, state, and local regulations for solid-waste disposal, including those identified in the City of Los Angeles' *Solid Waste Integrated Resources Plan—a Zero Waste Master Plan* (City of Los Angeles 2013). During construction, the Project contractor would be required to comply with SB 1374 and the City of Los Angeles C&D Waste Recycling Ordinance regarding concrete, asphalt, and scrap metal. The ordinance requires that all mixed C&D waste generated within City of Los Angeles limits be taken to City-certified C&D waste processors (LASAN 2021b). The Proposed Project and its options would be constructed in compliance with these regulations, and diversion strategies are expected to be implemented by the contractor during each phase of the Proposed Project and its options. Based on these considerations, impacts would be **less than significant**.

3.18.5.5.1.2 Operations and Maintenance

No impact. The Proposed Project and its options, Option 1 and Option 2, would comply with all applicable federal, state, and local statutes and regulations pertaining to solid-waste disposal, as required. No element of O&M activities would be outside of compliance. Therefore, **no impact** would occur.

3.18.6 Mitigation Measures

As identified in Section 3.18.5, the Proposed Project and its options, Option 1 and Option 2, would result in less than significant impacts on utilities and service systems under Impact UTL-1, Impact UTL-2, Impact UTL-3, and Impact UTL-4 for construction and operation and Impact UTL-5 for construction only. The Proposed Project and its options would result in no impact for Impact UTL-5 for operation only. No mitigation measures are required for construction or operation.

3.18.7 Significance After Mitigation

No mitigation would be required for the Proposed Project or its options, Option 1 and Option 2. Impacts would be less than significant under Impact UTL-1, Impact UTL-2, Impact UTL-3, and Impact UTL-4 for construction and operation, and Impact UTL-5 for construction only. The Proposed Project and its options would result in no impact under Impact UTL-5 for operation only.

3.18.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for utilities and service systems, and extends further to include other projects that, due to the area's topography and existing infrastructure, may interact with the Project elements. The geographic scope for cumulative impacts to utilities and service systems is defined as the LA River channel between the existing path termini to the north and south, and 500 feet on either side of the top-of-bank of the river channel. Utilities that are up to 0.25 mile from the RSA are also identified to examine additional utilities that may fall within the RSA.

As discussed in Section 3.18.4, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. As analyzed in Section 3.18.5, the Proposed Project and its options would result in substantially similar impacts related to utilities and service systems. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.18.8.1 Proposed Project, Option 1, and Option 2

3.18.8.1.1 Construction

No significant cumulative impacts. Construction activities for the Proposed Project and its options would impact utilities, may result in temporary service disruptions, would require the permanent relocation of several overhead electrical lines, and temporary modifications or improvements to storm drains. Construction of the Proposed Project and its options would require permanent modification or permanent relocation of existing utilities, including storm drains and overhead electrical lines. Any potential modifications or improvements to impacted storm drains would be designed to meet stormwater regulatory and the relocation of overhead electrical lines would not alter overall electrical power, telecommunications facilities, or other utility services. The Proposed Project and its options would implement project features PF-UTL-01, *Utility Identification and Coordination;* PF-UTL-02, *Development of a Utility Relocation Plan;* and PF-UTL-03, *Service Interruption Notification.* Construction of the Proposed Project and its options would result in a less than significant impact related to new, expanded, or relocated utilities.

Construction activities for the Proposed Project and its options would require temporary minimal water use, which would not significantly deplete water supplies and would not necessitate new water deliveries to the region. Construction of the Proposed Project and its options would have a less that significant impact related to insufficient water supplies. The Proposed Project and its options would generate wastewater during construction through the use of temporary portable restrooms. Wastewater generation during construction would be negligible in relation to the size and capacity of the LACSD disposal facilities and wastewater treatment system and would not overburden it. Construction of the Proposed Project and its options would generate construction waste from the removal of existing infrastructure. Any solid waste generated would be collected and properly disposed of in accordance with waste disposal requirements involving the sampling of waste for contaminants of potential concern, consistent with Metro policy and standard practice. PF-UTL-04, *Solid Waste Diversion and Disposal* would also be implemented, where appropriate. Additionally, the construction contractor would comply with appropriate federal, state, and local regulations for solid-waste diversion and disposal. Impacts related to solid waste would be less than significant.

Construction activities for the Proposed Project and its options would comply with applicable and appropriate federal, state, and local regulations related to water, wastewater, and solid waste and impacts related to utilities and service systems impacts during construction would be less than significant. In summary, the Proposed Project and its options would result in less than significant impacts related to utilities and system services during construction.

Similar to the Proposed Project and its options, past, present, and probable future projects may require modifications to existing utilities, result in temporary service disruptions, or require permanent relocations of utilities. Similarly, past, present, and probable future projects would be required to comply with applicable regulations and implement mitigation measures and/or specific project-related design features to reduce impacts related to new, expanded, or relocated utilities. In addition, past, present, and probable future projects would also be required to coordinate with utility companies to minimize temporary disruptions to utility services. Past, present, and probable future projects would also require temporary water use during construction activities and would generate wastewater and solid waste. Similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with applicable federal, state, and local regulations and implement mitigation measures and/or specific project-related design features to reduce impacts related to utilities and system services consisting of water, wastewater, stormwater, electric power, natural gas, telecommunications, and solid waste. Therefore, based on the above analysis, construction of the Proposed Project and its options when combined with past, present, and probable future projects, would **not result in significant cumulative utilities and service system impacts**.

3.18.8.1.2 Operations and Maintenance

No significant cumulative impacts. O&M activities for the Proposed Project and its options would not require the relocation or construction of new or additional utilities; do not include a long-term, permanent source of water use; and would not significantly increase wastewater or solid waste. Impacts related to utilities and service systems impacts during O&M activities would result in a slight increase in water use, wastewater treatment, and electricity; however, the amounts consumed would be minimal, and would be significantly less than the projected future capacity of existing water supply, wastewater treatment capacity, and electrical power in the area, and would not have any substantial effect on water supply, wastewater treatment capacity, or electrical power. No additional utility relocations or modifications are expected to occur during the operational phase of the Proposed Project; therefore, impacts would be less than significant.

Operation of the Proposed Project and its options would have a water demand for landscaping irrigation and up to four public restrooms; however, the amount consumed would be significantly less than the projected future capacity. Water demand would be negligible in relation to the size and capacity of the water supply and would not overburden it. Therefore, O&M activities would have sufficient water supplies during normal, dry, and multiple dry years and impacts would Wastewater generation from new restrooms and O&M activities would be negligible in relation to the size and capacity of the wastewater treatment system and would not overburden these systems. Adequate capacity therefore exists and is available to accommodate the increase in wastewater generated by the Proposed Project and its options. Impacts related to wastewater capacity would be less than significant.

The solid waste generated by the Proposed Project and its options would be negligible in relation to the size and capacity of the landfills and would not affect the landfill capacity of local infrastructure or impair the attainment of solid-waste reduction goals. All waste would be properly disposed of in accordance with waste disposal requirements. Impacts related to solid waste would be less than significant impact.

Related projects identified would consist of infrastructure, commercial, industrial, and residential projects, which may result in an increase of utility services and impacts to the existing capacity. Similar to the Proposed Project and its options, past, present, and probable future projects would be required to comply with all applicable regulations as it relates to utilities, water supplies, wastewater, and solid waste reduction. In addition, the past, present, and probable future projects would undergo project-specific environmental clearance and utility assessments, as necessary, to ensure existing utilities have adequate capacity to serve each project. Therefore, based on the above analysis, operation and maintenance of the Proposed Project and its options when combined with past, present, and probable future projects, would **not result in significant cumulative utilities and service system impacts**.

3.19 Wildfire

3.19.1 Introduction

This section discusses potential environmental effects of construction and operation of the LA River Path Project (Project) and its options with respect to wildfire. This section also describes the existing setting and current applicable regulatory framework.

3.19.2 Regulatory Framework

This section lists the federal, state, and local legislation, regulations, policies, and plans applicable to wildfire.

3.19.2.1 Federal

3.19.2.1.1 Occupational Safety and Health Administration and California Division of Occupational Safety and Health

The federal Occupational Safety and Health Administration (OSHA) and the California Division of Occupational Safety and Health (Cal/OSHA) enforce the provisions of the federal and state Occupational Safety and Health Acts, which require safety and health regulations for construction under 29 *Code of Federal Regulations* Part 1926. OSHA's fire-related requirements are contained in Subpart F, *Fire Protection and Prevention*, of Part 1926. Examples of general requirements related to fire protection and prevention include maintaining fire suppression equipment onsite that is specific to construction, providing temporary or permanent water supply for suppression, and ensuring storage sites are free from accumulation of unnecessary combustible materials.

3.19.2.2 State

3.19.2.2.1 California Department of Forestry and Fire Protection

3.19.2.2.1.1 Fire Protection Strategic Plan 2019

The California Department of Forestry and Fire Protection's (CAL FIRE's) *Strategic Plan 2019* (CAL FIRE 2019) is a cooperative effort between the Board of Forestry and Fire Protection and CAL FIRE. CAL FIRE's *Strategic Plan 2019* goals are to improve our core capabilities; enhance internal operations; ensure health and safety; and build an engaged, motivated, and innovative workforce. The CAL FIRE *Strategic Plan 2024* is currently being developed.

3.19.2.2.2 State Fire Regulations

3.19.2.2.2.1 Public Resources Code Division 4, Part 2, Chapter 1, 4201–4204—Fire Hazard Severity Zones

State law, in PRC Division 4, Part 2, Chapter 1, in Sections 4201–4204, directs CAL FIRE to map areas of "significant fire hazards based on fuels, terrain, weather, and other relevant factors" (OSFM 2021). These zones, referred to as Fire Hazard Severity Zones (FHSZs), define the application of various mitigation strategies to reduce risk associated with wildland fires. CAL FIRE maps FHSZs for State Responsibility Areas (SRAs) and Very High Fire Hazard Severity Zones (VHFHSZs) recommendations in Local Responsibility Areas. This mapping provides updated map zones based on new data, science, and technology. The specific mapping dataset provides FHSZs within SRA lands only, and represents proposed FHSZs, subject to changes based on local hearings. A subsequent dataset release provides the actual adopted zones. The FHSZ-designated area identified for the Proposed Project and its options is within the City of Los Angeles.

3.19.2.2.2.2 Title 5 California Government Code Chapter 6.8, Sections 51175–51189—Very High Fire Hazard Severity Zones

Title 5 of *California Government Code* Chapter 6.8, Sections 51175–51189 establish the classification for VHFHSZs based on fuel loading, terrain, weather, and other relevant factors identified by CAL FIRE as major causes of wildfire spread and on the severity of fire hazard that is expected to prevail in those areas. This code established requirements for those that maintain an occupied dwelling within a designated VHFHSZ. VHFHSZs, by definition, drive application of mitigation measures to reduce risk associated with uncontrolled wildfires and require mitigation measures. Local agencies designate VHFHSZs within their jurisdictions as required by CAL FIRE. Where local fire protection agencies are responsible for wildfire protection, the land is classified as a Local Responsibility Area.

3.19.2.2.2.3 Title 24 California Code of Regulations, Part 9—California Fire Code

Title 24 of the *California Code of Regulations* (CCR) Part 9 (referred to as the California Fire Code) is a compilation of building standards, including fire safety standards for residential and commercial buildings. The overarching California Building Code standards specified in 24 CCR serve as the basis for the design and construction of buildings in California. The California Fire Code is a component of California Building Code and applies to all types of occupancies in California, except where more stringent standards have been adopted by local agencies.

Applicable fire safety requirements of the California Fire Code include:

- Installing sprinklers in all high-rise buildings
- Establishing fire resistance standards for fire doors, building materials, and particular types of construction
- Requiring the clearing of debris and vegetation within a prescribed distance from occupied structures in wildfire hazard areas

3.19.2.2.3 Title 14 *California Code of Regulations* Sections 1270.02, 1270.04, 1270.05 and 1271—Fire Safe Regulations

The Board of Forestry and Fire Protection's Fire Safe Regulations (14 CCR Sections 1270.02, 1270.04, 1270.05 and 1271) were developed to implement PRC Division 4, Part 2, Chapter 2, Section 4290, and to stipulate minimum requirements for building construction in SRA lands. The Fire Safe Regulations address ingress and egress (such as road widths and turnouts), building and street sign visibility, emergency water standards, and fuel modification.

3.19.2.2.3.1 Title 2, Government Code Division 1, Chapter 7, Sections 8550–8551—California Emergency Services Act

Established in 1970 and amended in 2013, the California Emergency Services Act (2 *California Government Code* Division 1, Chapter 7, Sections 8550–8551) establishes the state's roles and responsibilities during human-caused or natural emergencies that result in conditions of disaster and/or extreme peril to life, property, or resources of the state. The California Emergency Services Act is intended to protect health and safety by preserving the lives and property of the people of California and applies to emergency responses during Project construction and operation.

3.19.2.3 Local

3.19.2.3.1 County of Los Angeles

3.19.2.3.1.1 LA River Master Plan

The Los Angeles County *LA River Master Plan*, first adopted in June 1996 (LACDPW Works 2022), recognizes the river as a body of resources of regional importance, and that those resources must be protected and enhanced by implementing efforts identified by the *LA River Master Plan* to revitalize the publicly owned right-of-way (ROW) along the LA River. The vision for the updated *LA River Master Plan* is for the LA River to become 51 miles of connected public open space that provides landmark opportunities to reduce flood risk and improve resiliency, support healthy and connected ecosystems, address potential adverse impacts on housing affordability and people experiencing homelessness, promote healthy, safe clean water, and create jobs while fostering opportunities for arts, culture, and community engagement. Currently, the US Army Corps of Engineers (USACE) maintains approximately half of the LA River, while the LA County Flood Control District maintains the other half. In addition to the channel, the typical LA River ROW includes flood management structures such as levees and access roads. *LA River Master Plan* Appendix Volume 1: *Design Guidelines of the LA River Master Plan* were prepared to aid designers and engineers in the establishment of a 51-mile connected open space that is a well-organized, functional, and accessible environment reflecting the diverse and shared identities of Los Angeles County. Such design guidelines are developed in coordination with both agencies.

3.19.2.3.2 City of Los Angeles

3.19.2.3.2.1 City of Los Angeles Municipal Code—Chapter 5, Article 7, Fire Protection and Prevention

City of Los Angeles Municipal Code Chapter 5, Article 7, *Fire Protection and Prevention*, contains the City's fire code and includes mandates from the California Fire Code (City of Los Angeles 2021). The City of Los Angeles' fire code prescribes laws that may be enforced by the Los Angeles Fire Department (LAFD) to help safeguard life and property from fire, explosion, panic, or other hazardous conditions that may arise in the City of Los Angeles. VHFHSZs are lands designated by LAFD pursuant to 5 *California Government Code* Division 1, Part 1 Section 51178, which are identified and recommended to local agencies by the Director of CAL FIRE and are based on criteria including fuel loading, slope, fire weather, and other relevant factors. These areas must comply with the brush clearance requirements of the California Fire Code. VHFHSZs were first established in the City of Los Angeles in 1999 and replaced the region's older Mountain Fire District and Buffer Zone criteria.

3.19.2.3.2.2 Los Angeles City Council Ordinance 185789—Fire Brush Clearance Zone Requirements

The City of Los Angeles Municipal Code specifies that areas located in Fire Brush Clearance Zones require property owners to clear brush and minimize the chance of a local fire hazard in accordance with California Fire Code). California has seen an increase in the frequency and size of wildfires, including historical brushfires in the City of Los Angeles, such as the La Tuna, Creek, and Skirball fires. Additionally, smaller brush fires have been accidentally started by well-intentioned residents performing brush clearance. In 2018, the Los Angeles City Council adopted Ordinance 185789, which amends City of Los Angeles Municipal Code, and increased the requirements for brush clearance and fire safety in VHFHSZs (Los Angeles City Council 2018). Ordinance 185789 included limitations on certain metal cutting blades for brush clearance activities and established specific requirements and penalties for violations for brush clearance activities.

3.19.2.3.2.3 General Plan Framework Element

The City of Los Angeles 2001 *General Plan Framework Element* (Framework Element) (City of Los Angeles 2001), originally adopted in December 1996, provides a comprehensive, long-range strategy for accommodating long-term growth in the City of Los Angeles. Chapter 9, *Infrastructure and Public Services of the Framework Element* sets forth goals, objectives, and policies for fire protection and emergency response services in the City. Infrastructure and Public Services objectives and policies ensure that every neighborhood has the necessary level of fire protection service, emergency response services, and infrastructure.

3.19.2.3.2.4 General Plan Safety Element

The City of Los Angeles *General Plan Safety Element* (City of Los Angeles 1996) sets forth specific policies and objectives related to safety, and emphasizes hazard mitigation, emergency response, and disaster recovery. The *General Plan Safety Element* guides construction, maintenance, and operation of fire protection facilities in the City of Los Angeles. It also sets forth policies and standards for fire station distribution and location, fire suppression water flow (also called fire flow), firefighting equipment access, emergency ambulance services, and fire prevention activities. Population density, the nature of onsite land uses, and traffic flow are also considered by LAFD when evaluating the adequacy of fire protection services throughout the City of Los Angeles.

3.19.2.3.2.5 2018 Local Hazard Mitigation Plan

The City of Los Angeles Emergency Management Department prepared the *2018 Hazard Mitigation Plan* to reduce vulnerability of disasters on the people, property, economy, and environment of the City Los Angeles, and demonstrate commitment to reducing risks resulting from natural hazards (City of Los Angeles 2018a). The *2018 Hazard Mitigation Plan* guides decision makers as they commit City of Los Angeles resources to minimize the effects of natural hazards. The *2018 Hazard Mitigation Plan* integrates with existing planning mechanisms such as building and zoning regulations, long-range planning mechanisms, and environmental planning. The *2018 Hazard Mitigation Plan* includes guidance for conducting a thorough hazard vulnerability analysis, creating community disaster mitigation priorities, and for developing subsequent mitigation strategies and projects.

3.19.2.3.2.6 Emergency Operations Plan

The Emergency Operations Plan was developed to provide guidance and structure to the City of Los Angeles Emergency Management Department (City of Los Angeles Emergency Management Department 2021). The Plan addresses the City's response from small to large scale emergency situations associated with natural disasters or human caused emergencies. It is established in accordance with Division 8, Chapter 3 of the Los Angeles Administrative Code and the California Emergency Services Act. The Plan is consistent and compatible with the State of California Emergency Plan and describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental departments and agencies, how resources are mobilized, how the public will be informed and the process to ensure continuity of government during an emergency or disaster.

3.19.2.3.2.7 Emergency Plans and Annexes

The Emergency Management Department leads the City of Los Angeles' effort in the development of citywide emergency plans, revises and distributes the Emergency Operations Master Plan and Master Procedures and Annexes, and updates and disseminates guidelines for the emergency response and recovery plans. Of the Emergency Operations Plan, the Brush Fire Hazard Specific Annex is developed in support of the City of Los Angeles Emergency Operations Plan to facilitate response to brush fire emergencies.

3.19.2.3.2.8 Los Angeles Fire Department Strategic Plan 2018–2020: A Safer City 2.0

The LAFD *Strategic Plan 2018–2020: A Safer City 2.0* (LAFD 2018) provides strategies to meet goals set forth in the plan, and includes strategies directly associated with California's brush fire season. *Strategic Plan 2018–2020: A Safer City 2.0* focuses on five goals to guide LAFD:

1. Provide exceptional public safety and emergency service
2. Embrace a healthy, safe and productive work environment
3. Capitalize on advanced technology
4. Enhance LAFD sustainability and community resiliency
5. Increase opportunities for personal growth and professional development

3.19.2.3.2.9 Los Angeles River Design Guidelines

The *Los Angeles River Design Guidelines* (City of Los Angeles 2011) further supplement the development regulations established by the Los Angeles River Improvement Overlay (RIO) District. By offering more direction for proceeding with the design of a project located within the RIO District the *Los Angeles River Design Guidelines* illustrate options, solutions, and techniques to increase awareness of, and access to, the LA River, improve the aesthetic quality of the river and its surrounding communities, increase the availability of publicly accessible open space, and effectively use public ROWs as locations to capture and treat stormwater.

3.19.2.3.3 Cities of Vernon and Maywood

The Cities of Vernon and Maywood are not located in FHSZs or VHFHSZs, and their respective general plans do not include goals, objectives, and policies related to wildfire hazards.

3.19.3 Methodology

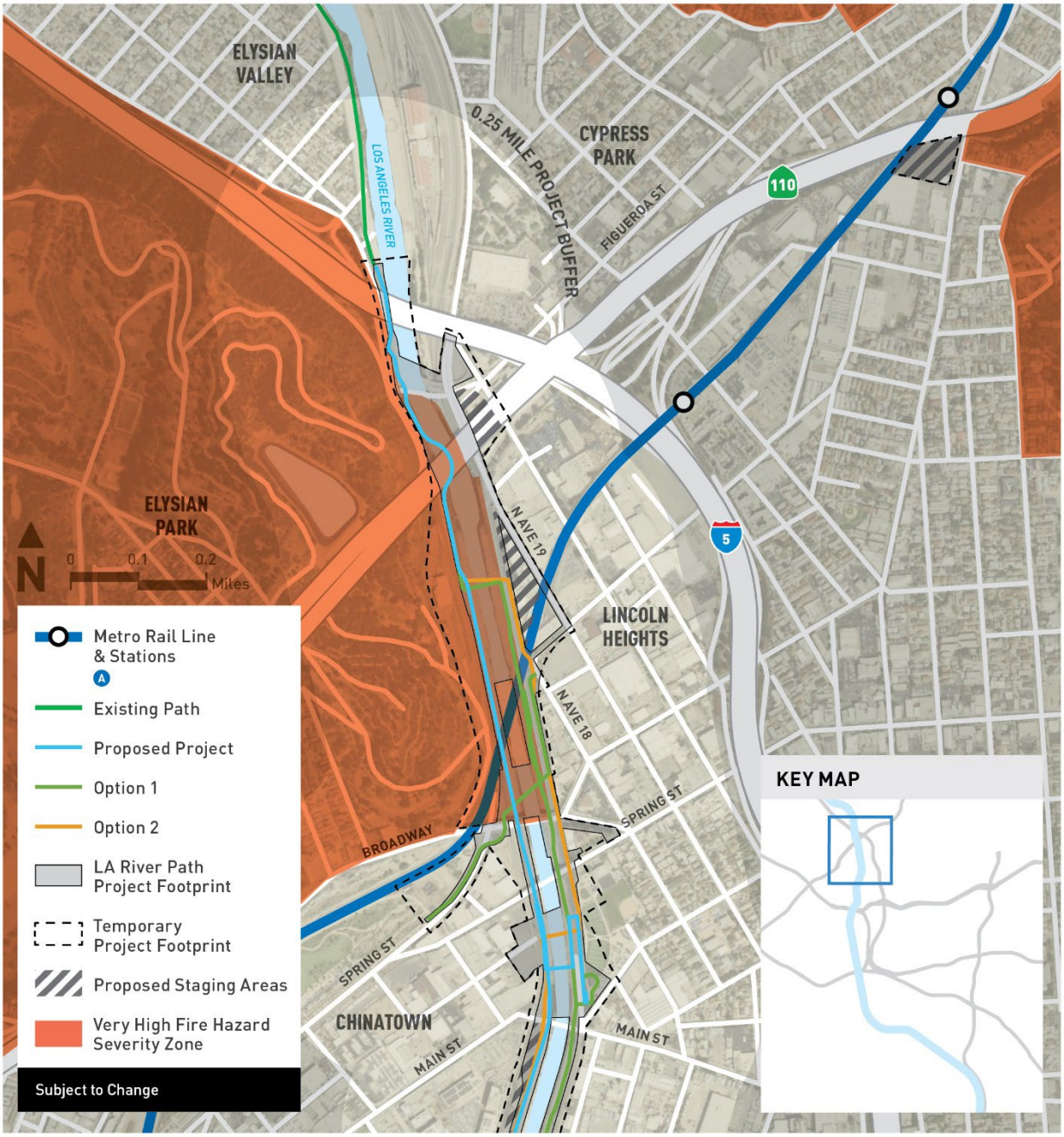
The wildfire impact analysis identifies wildfire risk based on information provided in the CAL FIRE database (OSFM 2023). The impact analysis evaluates construction and operational impacts in areas identified in an FHSZ or VHFHSZ, and direct and indirect impacts may have on FHSZs or VHFHSZs. The same methodology is applied to evaluating the impacts of the Proposed Project and its options.

As further discussed in Section 3.19.4, the northern portion of the Proposed Project and its options that extends from the Los Angeles River Greenway Trail near Egret Park to just north of North Broadway is in a designated VHFHSZ. The remainder of the footprints of the Proposed Project and its options south of North Broadway to Atlantic Boulevard in the City of Vernon are not located in a designated VHFHSZ. As such, the following wildfire analysis is focused on the footprint in the VHFHSZ.

3.19.3.1 Resource Study Area

For purposes of evaluating wildfire impacts, the resource study area (RSA) is defined as 0.25-mile from the permanent and temporary footprints (including alignments, access points, design variations, and construction) of the Proposed Project and its options. Figure 3.19-1 shows the VHFHSZ within the RSA for the wildfire analysis.

Figure 3.19-1. Very High Fire Hazard Severity Zone within the Resource Study Area



Source: CAL FIRE 2019

3.19.3.2 Thresholds of Significance

The significance thresholds used in this Draft EIR to evaluate Proposed Project impacts associated with wildfire are based on the questions set forth in Appendix G of the CEQA Guidelines. In particular, a significant impact related to wildfire would occur if the Proposed Project would do any of the following:

- **Impact WF-1:** Substantially impair an adopted emergency response plan or emergency evacuation plan?
- **Impact WF-2:** Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?
- **Impact WF-3:** Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?
- **Impact WF-4:** Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

3.19.3.3 Project Features

As described in Appendix C, *Project Features*, a number of features have been incorporated into the Proposed Project and its options, Option 1 and Option 2, to comply with the laws, guidelines, and best practices of regulatory agencies. The following project feature has been developed for wildfire:

PF-WF-01, *Los Angeles County* LA River Master Plan *Compliance*

Construction and operation of the Proposed Project shall comply with the wildfire mitigation strategies for natural habitats described in the Final *LA River Master Plan Appendix Volume I: Design Guidelines* (LACDPW 2022). This includes best practices such as removing invasive, non-native species; pruning dead plant material and removing plant debris to reduce fuel load; spacing of canopy trees and large shrubs far enough to reduce the spread of fire; maintaining vertical separation between lower and upper fuel layers; minimizing grasses and forbs (herbaceous flowering plant species); and reducing fuel load through mowing or machinery, grazing by animals, pruning, removal, chipping, masticating, and/or sparingly through prescribed burning.

Additional applicable project features related to wildfire include the following; refer to Sections 3.14, *Public Services/Safety and Security*, and 3.16, *Transportation*, for additional detail:

- PF-PS-01, *Emergency Service Coordination*
- PF-PS-02, *Construction Safety Measures*
- PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP)*
- PF-TR-02, *Traffic Control Plan*

3.19.4 Existing Setting

The following section describes the existing conditions for wildfire in the RSA.

A wildfire is a nonstructural fire that burns in natural areas with combustible vegetation and excludes prescribed or planned fires used for fire management. Wildfires can occur in undeveloped areas and spread to urban areas where the landscape and structures are not designed and maintained to be ignition resistant.

A wildland-urban interface is an area where urban development is near open space or wildland areas. The potential for wildland fires represents a hazard where development is adjacent to open space or near wildland fuels or designated fire severity zones. The hot, arid climate of the Southern California region, especially during the summer and fall, can dry out vegetation and cause dry brush to be prone to fires caused by lightning strikes and spontaneous combustion. Steep hillsides and varied topography also contribute to the risk of wildland fires.

The Proposed Project and its options are located along the LA River ROW for approximately 8 miles along a generally north-south alignment. At the north end of this ROW is the existing Los Angeles River Greenway Trail near Egret Park in Elysian Valley. The Elysian Reservoir and hilly, wooded Elysian Park are located directly west of the footprints of the Proposed Project and its options and to the north of North Broadway in the City of Los Angeles. The LA River south of this area is characterized by concrete-lined channel and banks (east and west). The surrounding area is characterized as highly urbanized, consisting of primarily industrial, commercial, transportation, and residential uses. The ROW continues through the City of Vernon and connects to the existing LA River Bicycle Path near Atlantic Boulevard and the City of Maywood.

CAL FIRE mapping data indicate that the northern portion of the footprints of the Proposed Project and its options and the RSA , extending from the Los Angeles River Greenway Trail near Egret Park to just north of North Broadway, is in a designated VHFHSZ (OSFM 2023). As a potential staging area, Staging Area 1 Pasadena/Avenue 35 is also adjacent to a designated VHFHSZ to the east of Pasadena Avenue. Approximately 176 acres of the area is in a designated VHFHSZ. The LA River ROW is separated from vegetation to the west by State Route (SR-)110, the Interstate (I-)5 connector, and the Metro A Line tracks. The proposed alignment south of North Broadway is not located in a designated VHFHSZ. Figure 3.19-1 in Section 3.19.3.1 illustrates the VHFHSZ within the RSA.

The surrounding area is highly urbanized and well-served by emergency response services, including the LAFD and the LAPD. The City of Los Angeles Emergency Management Department leads efforts to develop citywide emergency plans; revise and distribute the Emergency Operations Master Plan and the Master Procedures and Annexes; and update and disseminate guidelines for the emergency response and recovery plans.

The City of Los Angeles Department of Emergency Operations Organization is responsible for emergency preparations such as planning, training, mitigation, and response and recovery operations. The Emergency Operations Organization includes all City of Los Angeles government agencies and centralizes command and information coordination to enable its unified chain of command to operate efficiently and effectively to manage resources.

3.19.5 Impact Evaluation

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The Proposed Project and its options, Option 1 and Option 2, would construct the same types of components (refer to Section 2.5, *Proposed Project and Options*), would be located substantially within the same permanent and temporary footprints (refer to Figures 2-11, 2-15, and 2-19 in Section 2.5), and would have substantially the same operations (refer to Section 2.8, *Operations and Maintenance*). Therefore, the potential for the Proposed Project and its options to result in an impact to wildfire are substantially the same. The analysis presented here applies to the Proposed Project and its options, and the impact conclusions are valid and consistent for the Proposed Project and its options.

3.19.5.1 Impact WF-1: Emergency Response Plans

Impact WF-1: Substantially impair an adopted emergency response plan or emergency evacuation plan?

3.19.5.1.1 Proposed Project, Option 1, and Option 2

3.19.5.1.1.1 Construction

Less than significant impact. The footprints of the Proposed Project and its options are within the LA River ROW and river channel, and the footprint north of North Broadway is in a designated VHFHSZ. The LA River is separated from Elysian Park hillside vegetation to the west by freeways and the Metro A Line tracks. As discussed in Section 3.19.4, the surrounding area is highly urbanized and well-served by emergency response services, including the LAFD and LAPD. In the event of natural disasters, the City would follow the Emergency Operation Plan and the guidance from the City of Los Angeles government agencies, including adopted emergency response plans or emergency evacuation plans.

Construction activities would include mobilization, site preparation, site work, and construction finish activities located within the permanent and temporary footprints of the Proposed Project and its options. Construction activities may result in temporary street or lane closures, roadway detours, and increased traffic along emergency response routes. The Proposed Project and its options would not require closure of bridges that could be used as an emergency route. The majority of construction activities would be constructed within the LA River and along the LA Riverbanks and outside of the public ROWs. Construction staging areas would be located on property sites and within the footprint of the Proposed Project and its options and would not be within public ROWs or along or within emergency access and evacuation routes.

In addition, fire response and emergency response services have onboard live mapping that would provide construction traffic alerts during emergency calls and would re-route as necessary. In addition, Metro would coordinate with LAFD and LAPD prior to and during construction of the Proposed Project and its options to minimize impacts to roads or bridges that may be used as an emergency evacuation route in the event of an emergency. PF-PS-01, *Emergency Service Coordination* will also be implemented. In the event of a wildfire during construction, the Proposed Project and its options would comply with the emergency response procedures of the LAFD and LAPD to ensure the safe evacuation of onsite workers and to ensure construction activities would not interfere with emergency services. Construction activities would not substantially impair an adopted emergency response plan or emergency evacuation plan. Refer to Section 3.14, *Public Service/Safety and Security* for more detail

regarding emergency response services and safety for the Proposed Project and its options. Therefore, impacts would be **less than significant**.

3.19.5.1.1.2 Operations and Maintenance

Less than significant impact. Use of the path by pedestrians and cyclists and O&M activities would be located entirely within the constructed alignment, within the LA River ROW. As previously discussed, the Proposed Project footprint north of North Broadway is within a designated VHFHSZ. The LA River is separated from the Elysian Park hillside to the west by the SR-110 and I-5 freeways and the A Line tracks, and vegetation in the LA River ROW is dominated by narrow, fragmented strips of disturbed ruderal habitat. Other vegetation along the concrete channel is sparse and occurs sporadically along cracks formed in concrete. Other than nearby parks and two narrow stands of native and nonnative trees, the surrounding area is highly urbanized and well-served by LAFD and LAPD. O&M activities would occur occasionally throughout the constructed alignment and are not anticipated to impact an adopted emergency response plan or emergency evacuation plan. O&M activities would comply with all applicable fire safety regulations, including the California Fire Code and Fire Brush Clearance Zones requirements, to minimize and avoid any activities that may result in wildfire hazards. In addition, PF-WF-01, *Los Angeles County LA River Master Plan Compliance* would be implemented to minimize wildfire risks through best practices and wildfire mitigation strategies. In the event of a wildfire, emergency services and safety protocols would be provided by the local jurisdiction. While the Proposed Project and its options may increase pedestrians and bicyclists along the proposed path, it would not result in activities that would substantially obstruct or interfere with emergency vehicles or impair emergency response or evacuation plans. O&M of the Proposed Project and its options would not substantially impair an adopted emergency response plan or emergency evacuation plan. Therefore, impacts would be **less than significant**.

3.19.5.2 Impact WF-2: Exposure to Pollutants

Impact WF-2: Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

3.19.5.2.1 Proposed Project, Option 1, and Option 2

3.19.5.2.1.1 Construction

Less than significant impact. Strong Santa Ana winds combined with dry arid conditions have caused brush fires in Elysian Park. As previously discussed, the northern portion of the footprints of the Proposed Project and its options are in a designated VHFHSZ. As discussed in further detail in Section 3.4, *Biological Resources*, the most abundant habitat type in the RSA includes narrow, fragmented strips of disturbed ruderal habitat found intermittently on the east and west banks of the LA River. Each strip of ruderal habitat is typically dominated by nonnative vegetation with some areas also containing native vegetation, although not in dominance. Along the northern portion of the RSA, two strips of disturbed upland habitat exist and border the LA River channel. One strip falls within the permanent footprint and includes native California black walnut trees as well as other native and nonnative trees and vegetation. Other vegetation observed along the concrete channel was sparse and occurred sporadically along cracks formed within the concrete. The LA River ROW is concrete-lined disturbed land, and the footprints of the Proposed Project and its options are separated from the vegetated slopes of Elysian Park by SR-110, the I-5 freeway connector, and the A Line tracks. As such,

the vegetation fuel for a wildfire and the level of fire hazard would be low, although effects from a nearby wildfire could affect construction workers working in the LA River ROW.

Construction activities in this northern portion would include equipment that could create sparks, could be a source of heat, or could leak flammable materials that could exacerbate wildfire risks. However, all construction activities would comply with applicable fire safety regulations including the California Fire Code and Fire Brush Clearance Zones requirements, which includes limitations on certain metal cutting blades for brush clearance activities and established specific requirements and penalties for violations for brush clearance activities. These regulations are designed to minimize the risk of fire to structures, fences, and roadways, thereby minimizing the exposure of nearby residents, workers, and path users. In addition, construction activities would be limited, and precautions may be taken on site during periods of red flag warning when conditions such as low humidity and high winds are present. Construction would conform with the California Fire Code and OSHA Regulations for Construction to minimize the potential of igniting flames that could spread into a wildfire, including prohibiting open flames in designated VHFHSZs and prohibiting smoking where conditions are such as to make smoking a hazard and in spaces where flammable or combustible materials are stored or handled or within a VHFHSZ. Additionally, Subpart F of the OSHA Regulations requires the development of a fire protection program through all phases of construction and demolition work, and addresses requirements for appropriate firefighting equipment, water sources, sprinkler systems, and alarm systems, as applicable. Compliance with existing regulations would limit risk from hazardous materials and of fire to nearby residents, workers, and other path users. In addition, PF-PS-02, *Construction Safety Measures* discussed in Section 3.14, *Public Service/Safety and Security* would be implemented to minimize wildfire risks. Construction of the Proposed Project and its options would neither exacerbate wildfire risks nor expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, impacts would be **less than significant**.

3.19.5.2.1.2 Operations and Maintenance

Less than significant impact. The footprints of the Proposed Project and its options north of North Broadway is within a designated VHFHSZ; however, the LA River is separated from the Elysian Park hillside to the west by the SR-110 and I-5 freeways and the A Line tracks, and vegetation in the LA River ROW is dominated by narrow, fragmented strips of disturbed ruderal habitat. Other vegetation along the concrete channel is sparse and occurs sporadically along cracks formed in concrete. Other than nearby parks and two narrow stands of native and nonnative trees, the surrounding area is highly urbanized and well-served by emergency response, including LAFD and LAPD. As such, with limited vegetation and the separation from the Elysian Park hillside, the use of the path by pedestrians and cyclists would neither exacerbate wildfire risks nor expose users to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. O&M activities would occur occasionally throughout the proposed path and are not anticipated to exacerbate wildfire risks or expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. O&M activities would comply with applicable fire safety regulations, including the California Fire Code and Fire Brush Clearance Zones requirements, which include limitations on certain metal cutting blades for brush clearance activities; established specific requirements and penalties for violations for brush clearance activities; limited O&M activities during red flag warnings; and use of drought-tolerant and low-maintenance landscaping and vegetation. The Proposed Project and its options would implement PF-WF-01, *Los Angeles County LA River Master Plan Compliance* to minimize wildfire risks through best practices and wildfire mitigation strategies. O&M activities would not exacerbate wildfire risks nor expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Therefore, impacts would be **less than significant**.

3.19.5.3 Impact WF-3: Installation and Maintenance of Infrastructure

Impact WF-3: Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?

3.19.5.3.1 Proposed Project, Option 1, and Option 2

3.19.5.3.1.1 Construction

Less than significant impact. The Proposed Project and its options consist of a bicycle path and associated ancillary elements (such as seating, drinking fountains, restroom facilities, public art, landscaping and vegetation, signage, bicycle fix-it stations, and shade structures), new utilities for the bicycle path infrastructure (such as lighting) and the relocation or modification of existing utilities (such as power lines or poles), and grading and excavation activities. The analysis presented in this Draft EIR incorporates the construction and operation of these elements. As discussed in Sections 3.19.5.1 and 3.19.5.2, construction activities and installation and modification of associated infrastructure would comply with industry standards and measures to minimize fire risk to the area and would not involve new activities that would exacerbate fire risks. The Proposed Project and its options would comply with all applicable regulations and laws, including the California Fire Code and OSHA Safety and Health Regulations for Construction, to reduce the probability of fire risk, worker injury, or threat to property or infrastructure. Construction of the Proposed Project and its options would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. Therefore, impacts would be **less than significant**.

3.19.5.3.1.2 Operations and Maintenance

Less than significant impact. O&M activities as described in Section 2.8, *Operations and Maintenance* and above would consist of typical O&M activities already being performed along other sections of the path and would not exacerbate the potential of fire risks in designated VHFHSZ areas. O&M activities would occur occasionally throughout the proposed path and would include O&M activities such as brush and weed control and trash disposal that would minimize fire risk in designated VHFHSZ areas. O&M activities would comply with all applicable regulations and laws, including the fire code, to reduce the probability of fire risk or threat to property or infrastructure. In addition, during periods of red flag warning, O&M activities would be limited, and precautions may be undertaken. The Proposed Project and its options would neither exacerbate fire risk nor result in temporary or ongoing impacts on the environment. Therefore, impacts would be **less than significant**.

3.19.5.4 Impact WF-4: Flooding or Landslides

Impact WF-4: Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

3.19.5.4.1 Proposed Project, Option 1, and Option 2

3.19.5.4.1.1 Construction

Less than significant impact. After a severe wildfire, potential soil erosion and the risk of downslope or downstream flooding or landslides may occur as plant material and the litter layer may be destroyed

on a hillside. Shrubs, forbs, grasses, trees, and the litter layer break up the intensity of severe rainstorms. As previously discussed, the northern portion of the footprints of the Proposed Project and its options are separated from the Elysian Park hillside by the SR-110 freeway, I-5 freeway connector, and the Metro A Line tracks. As such, the potential for downslope flooding or landslides from Elysian Park is low. Construction activities would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be **less than significant**.

For a discussion of flooding, runoff, and drainage impacts in general, refer to Section 3.10, *Hydrology and Water Quality*.

3.19.5.4.1.2 Operations and Maintenance

Less than significant impact. As previously discussed, the footprints of the Proposed Project and its options are separated from the Elysian Park hillside by the SR-110 freeway, I-5 freeway connector, and the A Line tracks. As such, the potential for downslope flooding or landslides from Elysian Park is low. Use of the path by pedestrians and cyclists would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. O&M activities would occur occasionally throughout the path and would include bridge inspection and drainage system cleaning to ensure structure stability and a steady drainage flow. The Proposed Project and its options would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be **less than significant**.

3.19.6 Mitigation Measures

As identified in Section 3.19.6, the Proposed Project and its options, Option 1 and Option 2 would result in **less than significant impacts** on wildfire under Impact WF-1, Impact WF-2, Impact WF-3, and Impact WF-4.

3.19.7 Significance After Mitigation

No mitigation is required for the Proposed Project and its options, Option 1 and Option 2. Impacts would be less than significant under Impacts WF-1, WF-2, WF-3, and WF-4.

3.19.8 Cumulative Impacts

Section 3.1.2, *Cumulative Impact Analysis Methodology* discusses the approach for analyzing cumulative impacts and identifies projects within a 1-mile radius of the Project footprint that could contribute to cumulative impacts. This radius includes the RSA for wildfire, and extends further to include other projects that, due to the area's topography and existing built environment, may interact with the Project elements. The geographic scope for cumulative impacts to wildfire is 0.25-mile radius from the permanent and temporary footprints of the Proposed Project and its options.

As discussed in Section 3.19.3, the Proposed Project and its options would be located substantially within the same permanent and temporary footprints. The Project footprint is within the LA River ROW and river channel. The footprint north of North Broadway is in a designated VHFHSZ and the alignment south of North Broadway is not located in a designated VHFHSZ. These VHFHSZ limits are the same for the Proposed Project and its options. As analyzed in Section 3.19.5, the Proposed Project

and its options would result in substantially similar impacts related to wildfire. As such, cumulative impacts would be substantially similar for the Proposed Project and its options.

3.19.8.1 Proposed Project, Option 1, and Option 2

3.19.8.1.1 Construction

Not cumulatively significant. The Proposed Project and its options and surrounding area are highly urbanized, with the area north of North Broadway in a designated VHFHSZ area. The Proposed Project and its options would comply with the emergency response procedures of the LAFD and LAPD, and with applicable regulations including the California Fire Code, Fire Brush Clearance Zones Requirements, OSHA Regulations for Construction, and the General Construction Permit. Compliance with applicable regulations would minimize the risk of fire to structures, fences, and roadways, thereby minimizing exposure of nearby residents, workers, and other project users. The Proposed Project and its options would also implement the following project features applicable to wildfire as discussed in Section 3.19.3.3: PF-PS-01, *Emergency Service Coordination;* PF-PS-02, *Construction Safety Measures;* PF-TR-01, *Prepare and Implement Transportation Management Plan (TMP);* and PF-TR-02, *Traffic Control Plan*. These project features would protect construction workers and avoid exposing people or structures to a significant risk of loss, injury, or death involving flooding. Construction activities would not substantially impair an adopted emergency response plan or emergency evacuation plan; therefore, impacts would be less than significant.

All construction activities would comply with applicable fire safety regulations and construction would conform with the California Fire Code and OSHA Regulations for Construction to minimize the potential of igniting flames that could spread into a wildfire. Compliance with existing regulations would limit risk from hazardous materials and of fire to nearby residents, workers, and other path users. Construction of the Proposed Project and its options would neither exacerbate wildfire risks nor expose occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire. Construction of the Proposed Project and its options would not exacerbate fire risk or result in temporary or ongoing impacts on the environment. The potential for downslope flooding or landslides from Elysian Park is low. Construction activities would not expose people or structures to significant risks as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be less than significant.

Similarly, past, present, and probable future projects within the cumulative study area would be required to comply with applicable emergency response procedures of the LAFD and LAPD, and fire safety regulations for projects located within a designated VHFHSZ area during construction. Compliance with applicable regulations would ensure that the past, present, and probable future projects would not exacerbate wildfire or fire risks during construction. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects would **not result in cumulatively significant** wildfire impacts during construction.

3.19.8.1.2 Operations and Maintenance

Not cumulatively significant. Operation of the path and O&M activities would comply with the emergency response procedures of the LAFD and LAPD, and with applicable fire safety regulations including the Fire Code and Fire Brush Clearance Zones Requirements to minimize risk of fire to structures, fences, and roadways, thereby minimizing exposure of nearby residents, workers, and users of the path. While the Proposed Project and its options would potentially increase pedestrians and bicyclists along the path, it would not result in activities that would substantially obstruct or interfere

with emergency vehicles or impair emergency response or evacuation plans. The Proposed Project and its options would also implement PF-WF-01, *Los Angeles County LA River Master Plan Compliance* to minimize wildfire risks through best practices and wildfire mitigation strategies. The Proposed Project and its options would not impact adopted emergency plans, exacerbate wildfire or fire risks during operation of the path and O&M activities, or expose people or structures to significant flooding or landslides. Impacts related to wildfire would be less than significant.

Similarly, past, present, and probable future projects within the cumulative study area would be required to comply with applicable emergency response procedures of the LAFD and LAPD, and fire safety regulations for projects located within a designated VHFHSZ area. Compliance with applicable regulations would maintain that the past, present, and probable future would not exacerbate wildfire or fire risks during operation. Therefore, the Proposed Project and its options, in combination with past, present, and probable future projects would **not result in cumulatively significant** wildfire impacts during operations.

CHAPTER 4 OTHER CEQA-REQUIRED SECTIONS

CEQA Guidelines Section 15126 identifies the following subjects shall be discussed in an EIR:

- Effects determined not to be significant
- Significant irreversible environmental changes
- Growth-inducing effects

Effects determined not to be significant and significant irreversible environmental changes are summarized in the following sections. This chapter also summarizes significant and unavoidable impacts identified in Chapter 3, *Environmental Settings, Impacts, and Mitigation*. This chapter also discusses growth-inducing impacts.

4.1 Effects Found Not to be Significant

CEQA Guidelines Section 15128 states "an EIR shall contain a brief statement indicating reasons that various possible effects of a project were determined not to be significant and not discussed in detail in the EIR." Metro has determined that the Project and its options, Option 1 and Option 2, would not have the potential to cause significant impacts related to agriculture and forestry resources and mineral resources. Similarly, there is no potential for the Project and its options to combine with past, present, and reasonably probable future projects to create a cumulative impact to these resources. These resource areas are briefly addressed in this section. Each resource area was assessed using the sample initial study questions set forth in Appendix G of the CEQA Guidelines.

4.1.1 Agriculture and Forestry Resources

Based on Appendix G of the CEQA Guidelines, and for the purposes of this EIR, the Proposed Project and its options would have a significant impact on agricultural and forestry resources if it would do any of the following:

- **Impact AFR-1:** Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- **Impact AFR-2:** Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- **Impact AFR-3:** Conflict with existing zoning for, or cause rezoning of, forest land (as defined in *Public Resources Code* [PRC] Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by *Government Code* Section 51104(g))?
- **Impact AFR-4:** Result in the loss of forest land or conversion of forest land to non-forest use?
- **Impact AFR-5:** Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

4.1.1.1 Impact AFR-1: Conversion of Farmland

Impact AFR-1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No impact. The Project and its options, Option 1 and Option 2, are within a densely developed area that is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance by the California Department of Conservation. The LA River is zoned by the City of Los Angeles as Open Space, and by the City of Vernon as Industrial and Truck and Freight Terminal. Land uses surrounding the Project footprint include residential, commercial, industrial, institutional/public facilities, open space/recreation, transportation/communications/utilities, and vacant land. The Project and its options would not convert farmland to non-agricultural use, and the footprint and surrounding area (that is, 0.25 mile from the Project footprint and 0.5 mile from the access points) are not designated by the California Department of Conservation as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. Therefore, **impacts would not occur** during construction or operation activities.

4.1.1.2 Impact AFR-2: Conflict with Agricultural Use or Williamson Act

Impact AFR-2: Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No impact. No identified agricultural resources are within the footprint and surrounding area (that is, the area 0.25 mile from the Project footprint and 0.5 mile from the access points) and are not designated or zoned for agricultural use. Neither the Project footprint nor nearby lands are enrolled in a California Land Conservation Act of 1965 (Williamson Act) contract. The Project and its options would not conflict with existing zoning for agricultural use or with a Williamson Act contract. Therefore, **impact would not occur** during construction or operation activities.

4.1.1.3 Impact AFR-3: Conflict with Zoning for or Cause Rezoning of Forest Land and Timberland

Impact AFR-3: Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code [PRC] Section 12220[g]), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104[g])?

No impact. The Project and its options are within a highly urbanized area surrounded by commercial, industrial, institutional/public facilities, open space/recreation, transportation/communications/utilities, and vacant land uses. The Project footprint and surrounding area (that is, the area 0.25 mile from the Project footprint and 0.5 mile from the access points) are not zoned for forest land and no areas of forest land as defined in PRC Section 12220(g) or timberland as defined in PRC Section 4526 are within the Proposed Project footprint and surrounding area. The Project and its options would not conflict with existing zoning for, or cause rezoning of, forestland, timberland, or timberland zoned Timberland Production. Therefore, **impact would not occur** during Project construction or operation.

4.1.1.4 Impact AFR-4: Loss or Conversion of Forest Land

Impact AFR-4: Result in the loss of forest land or conversion of forest land to non-forest use?

No impact. The Project and its options are within a highly urbanized area, is not zoned for forest land, and does not include a forest. The Project and its options would not result in the loss or conversion of forest land. Therefore, **impact would not occur** during construction or operation activities.

4.1.1.5 Impact AFR-5: Other Changes Resulting in Conversion of Farmland or Forest Land

Impact AFR-5: Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

No impact. The Project and its options are within a highly urbanized area surrounded by commercial, industrial, institutional/public facilities, open space/recreation, transportation/communications/utilities, and vacant land uses. Farmland or forest land is not identified in the Project footprint or surrounding areas (that is, the area 0.25 mile from the Proposed Project footprint and 0.5 mile from the access points). The Project and its options would not involve changes to the existing environment which, due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use. Therefore, **impact would not occur** during Project construction or operation activities.

4.1.1.6 Cumulative Impacts

The Project and its options would not result in impacts to agricultural and forestry resources as discussed in Section 4.1.1, and does not have the potential to result in cumulative impacts to agricultural and forestry resources. Therefore, the Project and its options in combination with past, present, and probable future projects would not result in cumulative agricultural and forestry resource impacts during construction and operation activities.

4.1.2 Mineral Resources

Based on Appendix G of the CEQA Guidelines, and for the purposes of this EIR, the Project and its options would have a significant impact related to mineral resources if it would do any of the following:

- **Impact MNR-1:** Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- **Impact MNR-2:** Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

4.1.2.1 Impact MNR-1: Loss of Availability of Known Mineral Resource

Impact MNR-1: Result in the loss of availability of a known mineral resource that would be a value to the region and the residents of the state?

No impact. The Project and its options are situated atop alluvial soils, some of which could likely be used as construction material, such as sand and gravel. The nearest oil field is the Union Station Oil Field west of the Project footprint; oil wells are not located within the Project footprint. The northern portion of the Project footprint is within Mineral Resources Zone-2.3 as classified by the California Department of Conservation. A Mineral Resources Zone-2.3 classification is an area that contains known or inferred Portland cement concrete aggregate resources of undetermined mineral resource significance. However, the highly urbanized nature of the area, mining of these materials is not economically viable, meaning that it would not be profitable to convert the area to a quarry. In addition, the Project footprint is not on an existing or previously mined area, and local ordinances or regulations do not allow surface mining within the area. Therefore, impact **would not occur** during construction or operation activities.

4.1.2.2 Impact MNR-2: Loss of Availability of Locally-Important Mineral Resource Recovery Site

Impact MNR-2: Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

No impact; refer to Impact MNR-1. The Project and its options are not located in an area delineated as a mineral resource recovery site as indicated in the applicable local general plan or specific plans for the Cities of Los Angeles, Vernon, Maywood, or Bell. Impacts **would not occur** during construction and operation activities.

4.1.2.3 Cumulative Impacts

No cumulative impact. The Project and its options would not result in impacts to mineral resources as discussed in Section 4.1.2, and does not have the potential to result in cumulative impacts to mineral resources. Therefore, the Project and its options in combination with past, present, and probable future projects **would not result in cumulative** mineral impacts during construction and operation.

4.2 Significant and Unavoidable Impacts

This section is prepared in accordance with PRC Section 21100(b)(2)(A) and CEQA Guidelines Section 15126.2(c), which require the discussion of any significant environmental effects that cannot be avoided if a project is implemented. These include impacts that can be mitigated but cannot be reduced to a less than significant level. An analysis of environmental impacts caused by the Project and its options has been conducted and is contained in Chapter 3, *Environmental Settings, Impacts, and Mitigation*.

This environmental impact analysis determines that there are no feasible mitigation measures to reduce significant construction impacts related to paleontological resources and to noise and vibration.

4.2.1 Geology, Soils, and Paleontological Resources

The Project and its options would result in potential direct impacts to important paleontological resources in that construction excavations required could destroy unique paleontological resources, resulting in potentially significant impacts and requiring mitigation measures. The Project and its options are underlain by paleontologically sensitive rock units and deposits that would likely be encountered in moderately deep excavations (10 to 20 feet deep) for utility relocation trenches and incised path construction, and in deep construction excavation (over 20 feet deep) for drilling for bridge and viaduct structures. Pile driving and pier drilling may also impact paleontologically sensitive rock units. Grading and excavations of construction trenches for utility relocation for the incised pathway construction, and drilling for bridge and viaduct structures, could affect paleontological resources. Construction of the river crossings and elevated top-of-bank would require substantial excavation that would increase the potential of impact to paleontological resources.

Mitigation measures MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan*, MM-PAL-02, *Worker Environment Awareness Program Training*, and MM-PAL-03, *Curation* would be required to reduce the impacts on paleontological resources. MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan*, would require a qualified paleontologist to prepare a Paleontological Resources Monitoring Plan (PRMP) prior to the start of ground-disturbing construction activities that are expected to extend greater than 5 feet below ground surface. The PRMP would include site-specific mitigation measures for paleontological monitoring of construction and fossil discovery and curation. MM-PAL-02, *Worker Environment Awareness Program Training*, would require a qualified paleontologist to prepare paleontological-oriented Worker Environmental Awareness Program training. MM-PAL-03, *Curation*, would require a fossil repository agreement to be in place prior to the start of construction. Fossils discovered during construction that are determined to be significant by the qualified paleontologist would then be curated at an accredited fossil repository.

While implementation of MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan* through MM-PAL-03, *Curation* would decrease this risk, the risk of encountering and potentially destroying unique paleontological resources during construction would remain. Therefore, even with the implementation of MM-PAL-01, MM-PAL-02, and MM-PAL-03, the Proposed Project and its options would have significant and unavoidable impacts related to paleontological resources during construction.

4.2.2 Noise and Vibration

4.2.2.1 Noise

Construction of the Proposed Project and its options would result in temporary and periodic increases in ambient noise levels due to construction activity. Several noise-sensitive receptors are located close enough to the alignments that the predicted noise levels may at times exceed the 80 dBA Federal Transit Administration (FTA) 8-hour daytime and 70 dBA nighttime residential criteria, the FTA 8-hour 85 dBA daytime and nighttime commercial criteria, and the FTA 8-hour 90 dBA daytime and nighttime industrial criteria. While pile driving would be conducted only during daytime hours, it could also exceed the 80 dBA daytime noise residential criteria. Daytime pile-driving would also exceed the 85 dBA daytime noise commercial criteria.

Although construction activities are expected to be intermittent and of short duration, there is a potential for an exceedance that results in a significant and unavoidable impact. MM-NOI-01, *Noise Control and Monitoring Plan*, would require the development of a Noise Control and Monitoring Plan that demonstrates how noise criteria would be achieved during construction. The plan would include measurements of existing noise, a list of major pieces of construction equipment that would be used, and predictions of the noise levels at the closest noise-sensitive receptors. Where construction cannot be performed in accordance with the applicable noise standards (that is, the FTA 8-hour L_{eq} criteria), the contractor would investigate alternative construction measures that would result in lower noise levels. Noise-reducing methods that could be used include acoustically attenuating shields around construction equipment, high-performance noise-reducing mufflers, temporary noise barriers, and substitution of diesel power equipment for quieter electric equipment. However, in some instances the FTA impact criteria may still be exceeded. There are no additional feasible mitigation measures that could be implemented to reduce construction noise levels. Therefore, even with the implementation of MM-NOI-01, *Noise Control and Monitoring Plan*, the Proposed Project and its options would have a significant and unavoidable impact related to noise during construction.

4.2.2.2 Vibration

Construction activities have the potential to result in varying degrees of temporary ground-borne vibration, depending on the specific equipment used and operations involved. Bulldozers and other heavy civil construction equipment would be regularly used in construction. In addition, heavy trucks would be used to deliver and remove material to and from the site and the largest vibration source is an impact pile driver. Ground-borne vibration may cause annoyance for sensitive receptors. For assessing vibration annoyance, the FTA's *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual) (FTA 2018) presents average vibration source levels for various construction equipment. The ground-borne vibration annoyance criteria of 75 dBA may be exceeded at 428 feet or less from construction activities of the Proposed Project and its options. Loaded trucks, bulldozers, and other heavy construction equipment are more likely to annoy sensitive receptors in a range from 100 to 200 feet from equipment. The Proposed Project and its options all have residences within 200 feet of the Proposed Project footprint. Pile driving, both sonic and impact, would result in ground-borne vibration exceeding the annoyance criteria of 75 VdB extending much farther, up to 428 feet for the upper range for impact pile driving. Additional residences are located within the 428-foot envelope and may experience annoyance impacts as a result of impact pile driving.

Implementation of MM-VIB-01, *Vibration Control Plan* and MM-NOI-02, *Drill Piles Where Feasible* would reduce the potential for annoyance to occur at sensitive receptors. Vibration reduction methods include routing equipment away from sensitive receptors, locating stationary vibration generating equipment away from sensitive receptors, utilizing alternative equipment or methods to reduce overall vibration, and phasing earth-moving and ground-impacting activities during different time periods. MM-NOI-02 would reduce vibration through the use of drilled piles, which would result in a vibration level of 87 VdB at 25 feet versus impact driven piles which would result in a maximum vibration level of 112 VdB at 25 feet. The potential 75 VdB vibration annoyance area would be reduced from 428 feet to 135 feet. However, even with implementation of MM-VIB-01 and MM-NOI-02, the Proposed Project and its options would have a significant and unavoidable impact related to vibration annoyance during construction.

4.3 Significant Irreversible Environmental Changes

CEQA Guidelines Section 15126.2(d) and PRC Section 21100(b)(2)(B) require that an EIR identify the extent to which a project's primary and secondary effects would impact the environment and commit nonrenewable resources to uses that future generations would be unable to reverse irretrievable and irreversible commitments of nonrenewable resources have the potential to impact future generations. Nonrenewable resources are considered finite, and include petrochemical construction materials, metals, gravel, and concrete. Nonrenewable resources would not be replenished over the lifetime of the Project. Irretrievable and irreversible commitments of nonrenewable resources may be current or future, with future commitments of resources often being associated with secondary, growth-inducing impacts. Irreversible effects typically result from the use or destruction of a specific resource that cannot be replaced within a reasonable time frame. Irretrievable commitments of resources involve the loss of value of an affected resource that, as a result of the action, cannot be restored.

CEQA Guidelines Section 15126.2(d) states that a significant impact related to significant and irreversible impacts would occur if the project would:

> "Result in primary and secondary impacts that would generally commit future generations to similar uses; involve a large commitment of nonrenewable resources; involve uses in which irreversible damage could result from any potential environmental accidents associated with the project; or result in the consumption of resources that is not justified (e.g., the project involves the wasteful use of energy)."

4.3.1 Impact Evaluation

4.3.1.1 Construction

Less than significant impact. Construction activities would be substantially similar across the Project and its options, and would occur in a substantially similar footprint and staging areas, resulting in similar environmental impacts. The following analysis applies to the Project and its options.

Construction activities would involve the use of nonrenewable resources, such as electricity, natural gas, and fossil fuels. Construction activities would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels, including fuel oil. However, the consumption of such resources would not be unusual or considered wasteful compared to other construction activities and would not affect the availability of such resources or result in the unjustified or wasteful use of energy. The Project and its options would be required to comply with the *Metro Green Construction Policy*, which includes best management practices to conserve energy and to reduce the consumption of nonrenewable resources during construction. The Project and its options would also comply with applicable federal, state, and local regulations related to the conservation or recycling of natural resources, as well as regulations that serve to protect the environment from irreversible damage associated with potential environmental accidents. Therefore, use of energy and natural resources during Proposed Project and its options' construction would occur in an efficient manner, and impacts related to significant and irreversible environmental changes would be **less than significant**.

4.3.1.2 Operations and Maintenance

Less than significant impact. Operation of the Project and its options, Option 1 and Option 2, would be substantially similar across its options and would occur in a substantially similar footprint, resulting in similar environmental impacts.

The Project and its options are a non-motorized transportation and recreation infrastructure project that would connect and provide access to new areas (similar to highway improvements), including the surrounding cities and communities to the existing LA River Greenway Trail north of Egret Park in the City of Los Angeles to the LA River Trail south of Atlantic Boulevard in the City of Vernon. The proposed bath would operate as a pedestrian and bicycle path in an already highly developed areas and would serve existing and already-planned development. The Project and its options would employ O&M activities such as sweeping, cleaning, and maintenance, and would implement an O&M Plan to maintain a safe, reliable, and well-maintained path. O&M activities would be consistent with current activities for the existing LA River Greenway Trail to the north and the existing LA River Trail south, and would be scheduled routinely as part of the Project's O&M plan. O&M activities may increase the consumption of natural resources; however, O&M activities would not result in irreversible damage that could result from potential environmental accidents associated with the Project and its options and would not be considered an unnecessary, inefficient, or wasteful use of resources. O&M activities would comply with applicable regulations associated with the consumption of nonrenewable resources; therefore, natural resources would be conserved to the maximum extent feasible. Therefore, as the Project and its options would serve an existing population in an already highly urbanize area, and the use of energy and natural resources during Project operation would occur in an efficient manner, impacts related to significant and irreversible environmental impacts would be less than significant.

4.4 Growth-Inducing Impacts

PRC Section 21100(b)(5) and CEQA Guidelines Section 15126.2(e) require an EIR to discuss growth-inducing impacts. Specifically, CEQA Guidelines Section 15126.2(e) states:

> "Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a wastewater treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

Pursuant to PRC Section 21100(b)(5) and CEQA Guidelines Section 15126.2(e), this section addresses potential growth-inducing impacts that may result from the Project. Typically, growth occurs when projects remove obstacles to economic or population growth, such as from the provision of urban services and extension of infrastructure (including roadways, sewerage, or water service) into an undeveloped area.

Planned growth is generally reflected in land use plans, such as a city's general plan, and population growth projections that have been developed and approved with the underlying assumption that an adequate supporting infrastructure currently exist or would ultimately be constructed to support the planned growth. This type of growth can be described as accommodating or facilitating growth. A project can remove infrastructure constraints, provide access, or eliminate other constraints on development and thereby encourage growth that has already been approved and anticipated in regional or local land use plans.

Unplanned growth is generally not reflected in land use plans or population growth projections. A project can also remove infrastructure constraints, provide new access, or otherwise encourage growth which is not assumed as planned growth in regional and local land use plans, or growth projections for the affected jurisdictions. Unplanned growth could occur in areas that are currently designated for open space, agricultural uses, or other similar non-urban land uses. In such a case, the removal of infrastructure constraints or provision of access can trigger the consideration of a change in land use designation to allow for development at a higher level of intensity than was originally anticipated.

Projects may encourage or facilitate activities that could result in planned or unplanned growth. If such activities cause significant environmental effects, growth-inducing impacts may occur. For the purposes of this analysis, the term "inducing" is used for both types of growth.

4.4.1 Existing Setting

The Project and its options, Option 1 and Option 2, is located between Elysian Valley in the City of Los Angeles, accesses Downtown Los Angeles, and connects with the Cities of Vernon and Maywood. The resource study area (RSA) for growth-inducing impacts is defined as those areas within 3 miles from the edge of the Project footprint; the Project and its options would serve the surrounding communities in addition to adjacent communities. The following cities and communities are within the Affected Area: the City of Los Angeles communities of Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights; the Cities of Vernon, Maywood, South Pasadena, Montebello, Commerce, Bell, Huntington Park, Bell Gardens, Downey, Cudahy, South Gate; and the unincorporated Los Angeles County communities of East Los Angeles, Florence-Firestone, and Walnut Park.

The RSA for growth is forecast to experience substantial growth in population, households, and employment between Baseline Year (2019) and Opening Year (2031). Households are generally predicted to grow in tandem with the rate of population; however, employment is anticipated to grow unevenly throughout the affected area for growth and to grow generally at a faster rate than population and housing.

Historical population, housing, and employment data were obtained from the US Census Bureau and analyzed at the census block group level. Historical population and housing data were analyzed by comparing 2020 Decennial Census data for the cities and communities within the affected area for growth. Historical employment data for 2010 and 2020 were obtained from the US Census Bureau Longitudinal Employer-Household Dynamics' *OnTheMap* database (2020 is the latest year for the *OnTheMap* data) (US Census Bureau 2020).

Forecasted population, housing, and employment data were obtained from Southern California Association of Government's (SCAG's) Connect SoCal Demographics and Growth Forecast. Estimates comparing the Baseline Year (2019) and Opening Year (2031) residential population, housing, and employment are derived from selected SCAG traffic analysis zones (TAZ)s containing Connect SoCal data.

4.4.1.1 Historical Growth and Trends

4.4.1.1.1 Population and Housing

Table 4-1 shows the historical population and housing growth trends for Los Angeles County and the portions of the cities and communities that are within the affected area for growth. The area includes communities that have historically experienced relative stability with population and housing growth. At the county level, historical housing growth has developed in tandem with population growth. However, housing within the affected area for growth has overall grown at almost 2.5 times the rate of population between 2010 and 2020. This difference between housing and population growth is unevenly distributed throughout the affected area for growth, with the Cities of Vernon, Maywood, and Commerce, and the unincorporated Los Angeles County community of Florence-Firestone experiencing higher rates of growth in housing than in population.

The City of Los Angeles' communities of Arroyo Seco, Boyle Heights, Chinatown, Cypress Park, Echo Park, Elysian Valley, and Lincoln Heights as well as the cities of Maywood, Commerce, Bell, Huntington Park, Bell Gardens, Cudahy, South Gate, and the unincorporated Los Angeles County communities of East Los Angeles, Florence-Firestone, and Walnut Park experienced decreases in population, but still maintained housing growth. While population in the City of Vernon grew between 2010 and 2020 percentage-wise, the population only increased numerically by 110 individuals and 44 housing units, reflecting the relatively unchanged industrial character of land uses for the City. Similarly, the City of Maywood has existing land use constraints, which reflects the City's relatively low historical growth in housing. The overall affected area for growth shows a decrease in population and a growth in housing from the years 2010 to 2020.

Table 4-1. Historical Population and Housing Growth in Communities within the Affected Area (2010–2020)

Jurisdiction/Communities	Population [a]			Housing [a]		
	2010	2020	Percent Change	2010	2020	Percent Change
Los Angeles County	9,818,605	10,014,009	2.0%	3,241,204	3,420,628	5.5
City of Los Angeles	3,792,621	3,898,747	2.8%	1,318,168	1,410,260	7.0
Arroyo Seco	23,452	23,083	-1.6%	8,401	8,962	6.7
Arts District/Little Tokyo	4,446	9,342	110.1%	2,594	4,312	66.2
Boyle Heights	82,602	79,887	-3.3%	21,157	22,273	5.3
Chinatown[b]	21,214	20,137	-5.1%	5,285	6,564	24.2
Cypress Park	12,469	11,059	-11.3%	3,488	3,525	1.1
Downtown Los Angeles	40,731	61,318	50.5%	20,708	32,462	56.8
Echo Park	47,284	44,214	-6.5%	16,718	17,548	5.0
Elysian Valley	6,889	6,088	-11.6%	1,966	2,039	3.7

Table 4-1. Historical Population and Housing Growth in Communities within the Affected Area (2010–2020)

Jurisdiction/Communities	Population [a]			Housing [a]		
	2010	2020	Percent Change	2010	2020	Percent Change
Lincoln Heights	32,243	30,508	-5.4%	8,727	9,551	9.4
City of Vernon	112	222	98.2%	28	72	157.1
City of Maywood	27,395	25,138	-8.2%	6,559	6,558	0.0
City of South Pasadena	25,619	26,943	5.2%	10,467	10,613	1.4
City of Montebello	62,500	62,640	0.2%	19,012	19,761	3.9
City of Commerce	12,823	12,378	-3.5%	3,382	3,449	2.0
City of Bell	35,477	33,559	-5.4%	8,870	9,253	4.3
City of Huntington Park	58,114	54,883	-5.6%	14,597	15,118	3.6
City of Bell Gardens	42,072	39,501	-6.1%	9,655	9,957	3.1
City of Downey	111,772	114,355	2.3%	33,936	35,017	3.2
City of Cudahy	23,805	22,811	-4.2%	5,607	5,745	2.5
City of South Gate	94,396	92,726	-1.8%	23,278	24,577	5.6
Unincorporated Los Angeles County						
East Los Angeles	126,496	118,786	-6.1%	30,816	31,548	2.4
Florence-Firestone	63,387	61,983	-2.2%	13,900	14,563	4.8
Walnut Park	15,966	15,214	-4.7%	3,612	3,833	3.2
Affected Area	1,233,080	1,223,690	-0.8%	351,156	383,991	9.4

Source: US Census Bureau 2010

Affected area for growth-inducing impacts is defined as those areas within 3 miles from the edge of the Proposed Project footprint; the Proposed Project and its options would serve the surrounding communities in addition to adjacent communities. The following cities and communities are within the affected area for growth: the City of Los Angeles communities of Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights; the Cities of Vernon, Maywood, South Pasadena, Montebello, Commerce, Bell, Huntington Park, Bell Gardens, Downey, Cudahy, South Gate; and the unincorporated Los Angeles County communities of East Los Angeles, Florence-Firestone, and Walnut Park.

Data presented for each jurisdiction/community are for the entire jurisdiction that intersects the affected area for growth.

[a] Population and households for Los Angeles County, Cities, and Unincorporated Communities are based on decennial census records. Population and households for neighborhoods in the City of Los Angeles are based on decennial census block groups that fall within the neighborhood boundaries.

[b] The Chinatown neighborhood also includes El Pueblo de Los Angeles and Union Station.

4.4.1.1.2 Employment

Table 4-2 shows the historical employment growth trend from 2010 to 2020 for Los Angeles County and the cities and communities that intersect the affected area for growth. The area contains communities that have historically experienced a mix of gains and losses in employment. Employment growth occurred in the City of Los Angeles communities of Arroyo Seco, Arts District/Little Tokyo, Downtown Los Angeles, Echo Park, and Lincoln Heights; the cities of Maywood, Bell, Bell Gardens, Downey, Cudahy; and the unincorporated Los Angeles County communities of Florence-Firestone and

Walnut Park. The overall affected area for growth shows a decrease in employment from the years 2010 to 2020.

Table 4-2. Historical Employment Growth in Communities within the Affected Area (2010–2020)

Jurisdiction/Communities	2010	2020	Percent Change
Los Angeles County	4,131,094	4,461,841	8.0
City of Los Angeles	1,604,595	1,834,034	14.3
Arroyo Seco	1,153	1,451	25.8
Arts District/Little Tokyo	16,330	33,531	105.3
Boyle Heights	22,332	20,061	-10.2
Chinatown[a]	13,236	10,126	-23.5
Cypress Park	3,179	2,510	-21.0
Downtown Los Angeles	298,245	300,816	0.9
Echo Park	8,032	12,660	57.6
Elysian Valley	1,388	1,610	16.0
Lincoln Heights	14,788	17,872	20.9
City of Vernon	44,476	36,200	-18.6
City of Maywood	3,155	4,193	32.9
City of South Pasadena	8,100	7,374	-9.0
City of Montebello	24,374	22,615	-7.2
City of Commerce	51,856	48,571	-6.3
City of Bell	7,241	12,115	67.3
City of Huntington Park	15,937	14,523	-8.9
City of Bell Gardens	8,977	9,112	1.5
City of Downey	37,491	45,080	20.2
City of Cudahy	2,990	3,344	11.8
City of South Gate	18,221	18,179	-0.2
Unincorporated Los Angeles County			
East Los Angeles	19,159	17,558	-8.4
Florence-Firestone	6,227	7,156	14.9
Walnut Park	933	1,125	20.6
Affected Area	664,023	660,839	-0.5

Source: US Census Bureau 2010, 2020

Affected area for growth-inducing impacts is defined as those areas within 3 miles from the edge of the Proposed Project footprint; the Proposed Project and its options would serve the surrounding communities in addition to adjacent communities. The following cities and communities are within the affected area for growth: the City of Los Angeles communities of Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights; the Cities of Vernon, Maywood, South Pasadena, Montebello, Commerce, Bell, Huntington Park, Bell Gardens, Downey, Cudahy, South Gate; and the unincorporated Los Angeles County communities of East Los Angeles, Florence-Firestone, and Walnut Park.

Table 4-2. Historical Employment Growth in Communities within the Affected Area (2010–2020)

Jurisdiction/Communities	2010	2020	Percent Change

Data presented for each jurisdiction/community are for the entire jurisdiction that intersects the affected area for growth.

[a] The Chinatown neighborhood also includes El Pueblo de Los Angeles and Union Station.

Employment in the affected area for growth does not appear to linearly correlate with population and housing growth. The range of employment patterns between cities and communities may be attributable to uneven economic recovery after the 2007–2009 economic recession, as well as the shift of jobs to surrounding cities and communities.

4.4.1.2 Forecasted Growth

Table 4-3 summarizes the SCAG-forecasted population, housing, and employment growth from Baseline Year (2019) to Opening Year (2031) for Los Angeles County and the portions of the cities and communities that are within the affected area for growth. Table 4-3 also compares the forecasted growth rate to historical growth rate.

Table 4-3. SCAG-forecasted Growth and Change from Historical Growth in Communities within the Affected Area from Baseline Year (2019) to Opening Year (2031)[a]

Jurisdiction/Community	Percent Forecasted Growth (2019–2031) [a]			Percent Difference from Historical Growth [a]		
	Population	Housing	Employment	Population	Housing	Employment
Los Angeles County	4.0	6.7	3.7	1.3	4.4	-9.7
City of Los Angeles	20.7	20.1	9.7	18.0	13.1	-4.6
Arroyo Seco	1.1	1.6	1.2	2.6	-5.0	-24.6
Arts District/Little Tokyo	55.4	80.6	30.1	-54.7	14.4	-75.2
Boyle Heights	5.0	10.9	9.6	8.3	5.6	19.8
Chinatown[b]	23.2	48.6	24.7	28.3	24.4	48.2
Cypress Park	2.7	5.4	11.5	14.0	4.4	32.5
Downtown Los Angeles	57.4	65.0	8.8	6.8	8.2	7.9
Echo Park	8.5	13.8	9.7	15.0	8.8	-47.9
Elysian Valley	4.0	8.0	20.8	15.6	4.3	4.8
Lincoln Heights	2.1	4.3	3.6	7.4	-5.1	-17.3
City of Vernon	0.2	0.7	0.8	-98.0	-156.5	19.4
City of Maywood	1.5	2.5	2.2	9.7	2.6	-30.7
City of South Pasadena	2.0	3.5	2.2	-3.2	2.1	11.2
City of Montebello	2.8	5.0	2.2	2.6	1.0	9.4
City of Commerce	2.0	3.6	1.6	5.5	1.6	7.9
City of Bell	0.8	1.3	2.0	6.2	-3.0	-65.4
City of Huntington Park	3.1	5.4	4.1	8.7	1.9	13.0
City of Bell Gardens	1.4	2.5	2.5	7.5	-0.7	1.0

Table 4-3. SCAG-forecasted Growth and Change from Historical Growth in Communities within the Affected Area from Baseline Year (2019) to Opening Year (2031)[a]

Jurisdiction/Community	Percent Forecasted Growth (2019–2031) [a]			Percent Difference from Historical Growth [a]		
	Population	Housing	Employment	Population	Housing	Employment
City of Downey	2.1	1.8	2.4	-0.3	-1.4	-17.8
City of Cudahy	2.0	3.5	1.2	6.1	1.0	-10.7
City of South Gate	6.0	3.2	3.3	7.7	-2.4	3.6
Unincorporated Los Angeles County	5.8	13.4	3.8	10.5	10.3	5.6
East Los Angeles	3.5	8.7	2.8	9.6	6.3	11.2
Florence-Firestone	10.8	26.3	7.2	13.0	21.5	-7.7
Walnut Park	4.5	5.1	8.0	9.2	1.9	-12.5
Affected Area	8.7	14.2	6.7	9.5	4.9	7.1

Source: SCAG 2020

Affected area for growth-inducing impacts is defined as those areas within 3 miles from the edge of the Proposed Project footprint; the Proposed Project would serve the surrounding communities in addition to adjacent communities. The following cities and communities are within the affected area for growth: the City of Los Angeles communities of Arroyo Seco, Arts District/Little Tokyo, Boyle Heights, Chinatown, Cypress Park, Downtown Los Angeles, Echo Park, Elysian Valley, and Lincoln Heights; the Cities of Vernon, Maywood, South Pasadena, Montebello, Commerce, Bell, Huntington Park, Bell Gardens, Downey, Cudahy, South Gate; and the unincorporated Los Angeles County communities of East Los Angeles, Florence-Firestone, and Walnut Park.

Data presented for each jurisdiction/community are for the entire jurisdiction that intersects the affected area for growth.

[a] Data were sourced from Connect SoCal TAZs that intersect each of the cities and communities within the affected area for growth. Los Angeles County's estimates are the sum of all TAZs in Los Angeles County. The City of Los Angeles' estimates sum all TAZs associated with the City of Los Angeles communities that lie within or intersect the affected area for growth. Unincorporated Los Angeles County's estimates sum all TAZs associated with the unincorporated LA County that lie within or intersect the affected area for growth.

[b] The Chinatown neighborhood also includes El Pueblo de Los Angeles and Union Station.

Accordingly, population, housing, and job opportunities are expected to grow in these communities. Similar to historical growth, the forecasted growth shows correlated growth between population and housing, in addition to employment growth within the region. Forecasted employment growth varies from historical employment growth. Employment growth would vary between each community in the affected area for growth, suggesting that employment opportunities would continue to unevenly shift between surrounding and adjacent cities.

Forecasted population, housing, and employment growth is expected to be slow in the City of Vernon compared to historical trends. The City of Vernon would continue to be an exclusively industrial community with a few scattered commercial businesses and minimal residential uses. As a built-out community, the City of Maywood would have minimal space to accommodate future growth, and existing residential and commercial land uses would be conserved.

4.4.2 Impact Evaluation

The Proposed Project and its options would provide a new active transportation path along the LA River that would connect with the existing LA River Greenway Trail north of Egret Park in the City of

Los Angeles and LA River Trail south of Atlantic Boulevard in the City of Vernon. The Proposed Project and its options would share similar construction and O&M characteristics. Upon completion, the proposed path would be used as an active transportation path for pedestrians and bicyclists along the LA River. The Proposed Project and its options would employ O&M activities to maintain a safe, reliable, and well-maintained path. O&M activities would be consistent with current O&M activities occurring in the existing LA River Greenway Trail north of Egret Park and LA River Trail south of Atlantic Boulevard in the City of Vernon. Refer to Chapter 2, *Project Description*, for further details of about the Proposed Project and its options.

4.4.2.1 Construction

No impact. Construction activities for the Proposed Project and its options would be in an urbanized area and would not extend into undeveloped areas. Construction activities would be temporary and would not encourage or facilitate activities that would significantly affect the environment beyond those identified in this Draft EIR. The Proposed Project and its options would not construct any residential units that would facilitate population and housing growth and, therefore, would not generate direct growth within the affected area for growth. Construction-related employment opportunities generated are expected to be filled by residents already residing in the affected area for growth or within Los Angeles County. While construction of the Proposed Project and its options would create temporary construction-related jobs, the work requirements of most construction projects are highly specialized so that construction workers remain at a job site only for the time in which their specific skills are needed to complete a particular phase of the construction process. Accordingly, construction workers are not expected to relocate their household's place of residence as a consequence of working on the Proposed Project and its options; therefore, new permanent residents are not anticipated as a result of the construction activities. Construction of the Proposed Project and its options would not induce substantial economic growth because construction would be temporary. In addition, construction activities would not foster or facilitate economic or population growth beyond what was already anticipated in SCAG growth projections or local plans, and would not induce population growth in a manner that would exceed planned infrastructure capacities. Therefore, construction of the Proposed Project and its options would not result in substantial growth-inducing impacts and **no impact** would occur.

4.4.2.2 Operations and Maintenance

No impact. The Proposed Project and its options are in a highly developed area surrounded by urban uses with a limited number of vacant or underutilized parcels. The Proposed Project and its options are not expected to substantially change existing growth and development patterns and would not extend into undeveloped areas. The Project is a non-motorized transportation infrastructure project that would connect the surrounding cities and communities to the existing LA River Greenway Trail north of Egret Park in the City of Los Angeles to the LA River Trail south of Atlantic Boulevard in the City of Vernon. The Proposed Project and its options are not anticipated to encourage or facilitate activities that would significantly affect the environment beyond those identified in this Draft EIR. O&M activities for the Proposed Project and its options would be conducted by existing Metro or other municipal workers. Additional employment is expected to be filled by residents already residing within Los Angeles County. Employees are not anticipated to relocate; therefore, the Proposed Project and its options would not directly or indirectly lead to the construction of additional housing or businesses in the affected area for growth. The affected area for growth is served by existing fire and police protection facilities, schools, parks, and other public service facilities; has an established network of roads; and is served by existing utility infrastructure. Implementation of the Proposed

Project and its options would not induce growth such that new or expansion of public service facilities and utility infrastructure would be required.

The Proposed Project and its options are located within a highly urbanized area and is not new unplanned growth. The Proposed Project and its options would be consistent with the transportation improvement projects included in Connect SoCal and applicable local land use plans. The Proposed Project and its options would not change existing land use and development patterns in the affected area for growth or induce substantial new growth or development beyond what is projected in regional and local plans. The Proposed Project and its options would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the affected area for growth beyond what was already anticipated in the adopted growth projections. O&M activities for the Proposed Project and its options would be conducted by existing Metro or other municipal staff members. Additional employment for the Proposed Project and its options is expected to be filled by residents within Los Angeles County and employee relocation is not anticipated. Therefore, operation of the Proposed Project and its options would not result in substantial growth-inducing impacts and **no impact would occur**.

CHAPTER 5 EVALUATION OF ALTERNATIVES

5.1 Introduction

This chapter describes this Draft EIR's environmental analysis and compares the Proposed Project and its options, Option 1 and Option 2, with the No Project Alternative, Mostly-East Bank Alternative, Mostly-West Bank Alternative, Shortened Northern Path Alternative, and Shortened Southern Path Alternative. The information presented in this chapter allows decision-makers, agency stakeholders, and the general public to understand the trade-offs and benefits of the Proposed Project, Option 1, Option 2, and the alternatives, including the No Project Alternative. This alternatives analysis has been prepared in compliance with the California Environmental Quality Act (CEQA) (*Public Resources Code* Section 21000, et seq.) and the CEQA Guidelines (14 *California Code of Regulations* Section 15000, et seq.). According to CEQA Guidelines Section 15126.6(a):

> "An EIR shall describe the range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation."

The range of feasible alternatives is selected and discussed in a manner intended to foster meaningful public participation and informed decision-making. An EIR must briefly describe the rationale for selection and rejection of alternatives. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not substantially reduce or avoid any significant environmental effects.

5.2 Project Objectives

Consistent with CEQA Guidelines Section 15126.6(c), the Proposed Project alternatives include those alternatives that could feasibly accomplish the basic Project objectives and could avoid or substantially lessen one or more of the potentially significant impacts. Project objectives were shaped by stakeholders and communities throughout the conceptual public engagement process from late 2018 through 2019.

The primary objective of the Project is to create a safe and world-class active transportation path along the LA River between Elysian Valley in the City of Los Angeles and the Cities of Vernon and Maywood that would enhance and provide recreational opportunities, livability, and regional and local connectivity and would provide an outstanding user experience, access to economic opportunity, and separation from vehicular traffic for people of all ages and abilities. This new transportation facility would contribute to improved health, economic, environmental, transportation, and equity issues throughout and beyond the study area.

Project objectives include:

- Providing, to the extent feasible, a seamless pedestrian and bicycling path between the San Fernando Valley in Los Angeles and the LA River Bike Path in Long Beach.
- Improving safety for pedestrians and bicyclists from existing conditions.
- Increasing access from local neighborhoods to employment centers, regional destinations, resources, and amenities, including healthcare services.
- Reducing vehicle miles traveled by allowing people to walk and bicycle on a dedicated, vehicle-separated path through and within Los Angeles County, thereby reducing trip lengths and expanding travel choices.
- Improving access to opportunity for historically under-invested communities, especially in low-income households earning less than $60,000 per year and in marginalized communities.
- Creating a path that feels safe, comfortable, and is a world-class transportation area open to people of all ages and abilities.
- Creating a path that meets the needs of both recreational and utilitarian users.

5.3 Alternatives Considered and Rejected

This section summarizes the alternatives considered and rejected from further consideration based on alternative development and the evaluation process discussed here. As described in Section 2.1, *Proposed Project Overview and History*, Metro conducted two significant efforts to assess the viability of the Proposed Project: the *Los Angeles River Bike Path Gap Closure Feasibility Study* (Feasibility Study) (Metro 2016) and the *LA River Path Conceptual Design Report* (Conceptual Design Report) (Metro 2019). The Feasibility Study concluded that a gap closure project was feasible, and the Conceptual Design Report incorporated significant public outreach findings resulting in the identification of Proposed Project objectives and path alternatives. As discussed in the Conceptual Design Report, an alignment evaluation process was used to create, filter, and revise alignment options and to inform the selection of path alternatives to be studied during the environmental review phase of the Proposed Project. Feasibility of the alignment options was based on each alignment's ability to fulfill the Proposed Project's basic objectives and was screened against evaluation criteria that considered the following: (1) accessible, consistent, and safe paths; (2) flood protection; (3) avoidance of impacts to historic resources; (4) permitting and constructability; and (5) cost.

5.3.1 Bottom-of-Channel Path Alternative

The Bottom-of-Channel Path Alternative would provide a path on the flat bottom of the channel in any location where there is no year-round water from channel wall to channel wall that would extend from the LA River Greenway Trail to the existing LA River Trail in the City of Vernon. This alternative would not be impacted by adjacent top-of bank conditions. However, this alternative could have accessibility issues, be affected by flood events, result in delayed construction due to permitting, and may be costly. Being located on the flat bottom of the channel, the Bottom-of-Channel Path Alternative would be at high-risk of seasonal flooding and may impede existing hydrological functions in the LA River. During rainy seasons and flood events, the path may have extended periods of closure. A bottom-of-channel path does not allow users to easily escape from flood waters in the bottom of the channel and limits the ability of emergency vehicles to reach users in the event of flood. In addition, there may be greater distances between access points, potentially slowing response time in the event of injury or crime.

The Bottom-of-Channel Path Alternative may also require long ramps to reach access points and could pose an accessibility issue for users of the path. A bottom-of-channel path requires significantly longer ramps to connect with access points. In locations where access requires elevating over an adjacent rail line such as at Union Station, a bottom-of-channel path would have to elevate up almost 50 feet ---approximately 25 feet to go from bottom-of-channel to top-of-bank and 25 feet to go from top-of-bank to the required rail overhead clearance. Feasibility to implement this path, from a permitting and constructability standpoint, may also be difficult and could result in major delays and complexities based on further hydrological studies and US Army Corps of Engineers (USACE) permitting requirements. The Bottom-of-Channel Path Alternative would have limited opportunity for lighting, which would impact user experience due to low visibility and perceived safety issues. In addition, lighting and amenities such as shade, seating, and landscaping would be difficult and infeasible to place these types of elements in the channel due to USACE regulations and maintenance considerations.

Based on the above, the Bottom-of-Channel Path Alternative would not meet most of the basic the Project objectives. This alternative would provide a pedestrian and bicycling path that would reduce vehicle miles traveled (VMT) and meet some of the needs of recreational and utilitarian users. However, this alternative would not be able to provide a seamless pedestrian and bicycling path; improved safety for pedestrians and bicyclists from existing conditions; increased access; and a path that feels safe and comfortable. Therefore, this alternative was considered and rejected from detailed evaluation.

5.3.2 All Street Path Alternative

The All Street Path Alternative would provide a path along the LA River using existing roadways and bike lanes. This alternative would be outside of the LA River channel and instead would follow the direction of the LA River from the north to the south towards the City of Vernon. The All Street Path would primarily stay on the west side of the LA River and would not include any river crossings but would connect with the existing LA River Greenway Trail in the north and the existing LA River Trail in the City of Vernon in the south. However, this path alternative would not directly parallel the LA River because of the existing development adjacent to the LA River and because there is no single roadway that follows along the LA River. This alternative would require restriping of lanes and coordination with the City of Los Angeles and the City of Vernon to update bike facility classifications along selected streets. This alternative would cross several communities along the west side of the LA River but communities east of the LA River would not have direct access to this path alignment.

This alternative would avoid impacts to the LA River and would not require coordination with USACE. Although this alternative would provide a new bike path to several surrounding communities, fewer communities would have direct access to this bike path and direct access points to existing parks and recreational facilities would be limited. In addition, as a shared bike path on roadways, the level of safety would be lower than with a separated bike path in the LA River.

This alternative would provide a new bicycle path that could reduce VMTs and connect with surrounding communities. However, the All Street Path Alternative would not meet the primary objective of the Proposed Project nor fully meet most of the basic Project objectives. This alternative would not be able to provide a seamless pedestrian and bicycle path; improve safety for pedestrians and bicyclists; increase access from local neighborhoods to local destinations; improve access to opportunities for under-invested communities; and create a path that feels safe and comfortable. Therefore, this alternative was considered and rejected.

5.4 Alternatives to the Proposed Project

The CEQA Guidelines and related court cases do not specify a precise number of alternatives to be evaluated in an EIR. Rather, "the range of alternatives required in an EIR is governed by the rule of reason that sets forth only those alternatives necessary to permit a reasoned choice." At the same time, CEQA Guidelines Section 15126.6(b) requires that "...the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project" and Section 15126.6(f) requires that, "[t]he alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project." Accordingly, alternatives that would not address potentially significant effects are not considered here. The CEQA Guidelines require that a No Project Alternative must be included in the EIR.

Alternatives should be selected based on their ability to attain most of the basic objectives of a project, while reducing a project's potentially significant environmental effects. Section 15126.6(c) of the CEQA Guidelines states that "...[t]he EIR should briefly describe the rationale for selecting alternatives to be discussed [and] ...shall include sufficient information to allow meaningful evaluation, analysis and comparison with the proposed project." The range of feasible alternatives shall be selected and discussed in a manner to foster meaningful public participation and informed decision making." Alternatives that are considered remote or speculative, or whose effects cannot be reasonably predicted, do not require consideration.

The following section describes alternatives to the Proposed Project.

5.4.1 No Project Alternative

The No Project Alternative is required by CEQA Guidelines Section 15126.6(e)(2) and assumes that the Proposed Project would not be implemented. The Proposed Project is identified in the *LA River Master Plan* (LARMP) (Los Angeles County Department of Public Works [LACDPW] 2022) as the "Metro LA River Path." Under the No Project Alternative, the approximately 8-mile stretch of the LA River from Elysian Valley in the City of Los Angeles to the Cities of Vernon and Maywood would not be developed with an active transportation path. The 8-mile gap between the existing Los Angeles River Greenway Trail and the existing LA River Trail along the LA River would remain and connectivity between the existing pedestrian and bicycle paths would not occur. The Project footprint along the LA River would remain a flood channel and remain closed to the public. No new access points to the surrounding parks and recreational facilities would be developed and path elements such as lighting, landscaping, and signage would not exist. In addition, no new bridges and piers would be constructed in the LA River and no new river crossings related to the Project would occur.

The No Project Alternative assumes that projects in the regional area would continue to progress as identified in local general plans, capital improvement programs, and regional plans, including the Southern California Association of Government's (SCAG's) *Connect SoCal—The 2024–2050 Regional Transportation Plan/Sustainable Communities Strategy* (Connect SoCal) (SCAG 2020) and other proposed projects identified in the LARMP, including the Los Angeles River Ecosystem Restoration (LARER) project. Under the No Project Alternative, the LARMP would continue to serve as the existing planning framework for enhancing the LA River, including the Project area. LARMP includes 78 proposed projects along the LA River, 56 of which are planned major projects derived from previously published plans, and 22 of which are newly proposed projects. Additionally, the LARMP identified 208 smaller improvement projects related to the equitable distribution of facilities along the river and improvements to access and safety.

5.4.2 Mostly-East Bank Alternative

The Mostly-East Bank Alternative, known as Alignment D in the Conceptual Design Report, proposes a pedestrian and bicycling path alignment running predominantly along the east bank of the LA River from the northern terminus of the existing LA River Greenway Trail at Riverside Drive in the City of Los Angeles to the southern terminus of the existing path at Atlantic Boulevard. Starting at the north end on the western bank where the LA River Greenway Trail ends, this alternative would cross over the LA River to operate on the east bank north of Mission Road/Cesar E. Chavez to just north of Washington Boulevard/Redondo Junction. Due to physical and hydrological constraints, only a west bank option is possible at the Redondo Junction and the Mostly-East Bank Alternative would require a gap in the alignment path starting at the Redondo Junction before continuing along the east bank and connecting with the existing bike path at Atlantic Boulevard. The alternative would be directly adjacent to the river's east bank between the channel and at-grade active rail facilities. The Mostly-East Bank Alternative would include 10 access points: Figueroa Street (Existing), Los Angeles State Historic Park/Main Street, Mission Road/Cesar E Chavez, Union Station, First Street, Seventh Street, Washington Boulevard, Bandini Boulevard, Downey Road, and Atlantic Boulevard. Figure 5-1 shows the Mostly-East Bank Alternative alignment.

The Mostly-East Bank Alternative would include several path elements to provide comfort, safety, security, and an enjoyable user experience, similar to the Proposed Project. Construction activities for this alternative would also be similar as described for the Proposed Project and would consist of preconstruction activities and construction activities consisting of mobilization, site preparation, site work, and finishes (ancillary path elements). Right-of-way (ROW) acquisitions consisting of temporary construction easements (TCEs), permanent easements (at-grade and aerial), and full site acquisitions would be required for this alternative. Operation and maintenance (O&M) activities under this alternative would also be similar to the Proposed Project. Under the Mostly-East Bank Alternative, the active transportation path would be open for walking, rolling, and biking. O&M activities would be consistent with current O&M activities of the existing Los Angeles River Greenway and the existing LA River Trail.

Figure 5-1. Mostly-East Bank Alternative Alignment



5.4.3 Mostly-West Bank Alternative

The Mostly-West Bank Alternative, known as Alignment E in the Conceptual Design Report, proposes a pedestrian and bicycling path predominantly along the west bank of the LA River from the northern terminus of the existing path at Elysian Park to the southern terminus of the existing path at Atlantic Boulevard. The Mostly-West Bank Alternative would follow the western bank of the LA River, in the area between the channel and at-grade active rail facilities. Starting at the north end on the western bank where the LA River Greenway Trail ends, the Mostly-West Bank Alternative would cross over the LA River to operate on the eastern bank between Ed. P. Reyes Greenway and Albion Park, then cross back to the west bank at the LA State Historic Park access point and stays on the west bank until Washington Boulevard. This alternative would then operate on the east bank until just north of Atlantic Boulevard where the alignment would cross back to the west bank and connect with the existing access point at Atlantic Boulevard. The Mostly-West Bank Alternative would include 10 access points: Ed P. Reyes Greenway, Albion Park/Main Street, Los Angeles State Historic Park/Main Street, Mission Road/Cesar E Chavez Avenue, Union Station, First Street, Sixth Street Tunnel, Washington Boulevard, Bandini-Soto Triangle, and Downey Road. Figure 5-2 shows the Mostly-West Bank Alternative alignment.

The Mostly-West Bank Alternative would include several path elements to provide comfort, safety, security, and an enjoyable user experience, similar to the Proposed Project. Construction activities for this alternative would also be similar as described for the Proposed Project and would consist of preconstruction activities and construction activities consisting of mobilization, site preparation, site work, and finishes (ancillary path elements). ROW acquisitions consisting of TCE, permanent easements (at-grade and aerial), and full site acquisitions would be required for this alternative. O&M activities under this alternative would also be similar to the Proposed Project. Under the Mostly-West Bank Alternative, the active transportation path would be open for walking, rolling, and biking. O&M activities would be consistent with current O&M activities of the existing Los Angeles River Greenway and the existing LA River Trail.

Figure 5-2. Mostly-West Bank Alternative Alignment



5.4.4 Shortened Northern Path Alternative

The Shortened Northern Path Alternative proposes closing approximately 3.2 miles of the 8-mile pedestrian and bicycling path gap, from a northern terminus of the existing LA River Greenway Trail in the City of Los Angeles to a southern terminus at Sixth Street. The Shortened Northern Path Alternative would follow the same alignment as the Proposed Project and would include five access points: Albion Park, Mission Road/Cesar E Chavez Avenue, Union Station, First Street, and Sixth Street. The Shortened Northern Path Alternative would connect to the existing Class IV separated bikeway located on the Sixth Street Bridge and the Sixth Street Park, Arts, River & Connectivity Improvements (PARC) project. Similar to the Proposed Project, the Shortened Northern Path Alternative would retain the elevated crossings to connect the proposed bike path with the access points at Albion Park and Union Station and would cross over the LA River at the Mission Road/Cesar E Chavez Avenue and Sixth Street access points. Figure 5-3 shows the Shortened Northern Path Alternative alignment.

This alternative would include path elements to provide comfort, safety, security, and an enjoyable user experience, similar to the Proposed Project. Construction activities for this alternative would be similar as described for the Proposed Project but reduced based on the shortened alignment. This would consist of preconstruction activities and construction activities consisting of mobilization, site preparation, site work, and finishes. Fewer ROW acquisitions consisting of TCEs, permanent easements (at-grade and aerial), and full site acquisitions would be required for this alternative as the alternative would terminate at Sixth Street. O&M activities under this alternative would also be similar to the Proposed Project. Under the Shortened Northern Path Alternative, the active transportation path would be open for walking, rolling, and biking. O&M activities would be consistent with current O&M activities of the existing Los Angeles River Greenway and the existing LA River Trail.

Figure 5-3. Shortened Northern Path Alternative Alignment



5.4.5 Shortened Southern Path Alternative

The Shortened Southern Path Alternative proposes closing approximately 5 miles of the 8-mile pedestrian and bicycling path gap, from a northern terminus at First Street in the City of Los Angeles to a southern terminus at Atlantic Boulevard in the City of Vernon. The Shortened Southern Path Alternative would follow the same alignment as the Proposed Project from First Street and would include six access points: First Street, Sixth Street, Washington Boulevard, Bandini-Soto Triangle, Downey Road, and Atlantic Boulevard. The Shortened Path Alternative would connect to the existing Class II bicycle path located on the First Street Bridge and the Metro E Line Little Tokyo Station. Similar to the Proposed Project, the Shortened Southern Path Alternative would retain the elevated crossings to connect the proposed bike path with the access points at Bandini-Soto Triangle, and this alternative would cross over the LA River at the Sixth Street, Washington Boulevard, and Atlantic Boulevard access points. Figure 5-4 shows the Shortened Southern Path Alternative alignment.

This alternative would include path elements to provide comfort, safety, security, and an enjoyable user experience, similar to the Proposed Project but reduced based on the shortened alignment. This would consist of preconstruction activities and construction activities consisting of mobilization, site preparation, site work, and finishes. Fewer ROW acquisitions consisting of TCEs, permanent easements (at-grade and aerial), and full site acquisitions would be required for this alternative as the alternative would begin at First Street and terminate at Atlantic Boulevard. O&M activities under this alternative would also be similar to the Proposed Project. Under the Shortened Southern Path Alternative, the active transportation path would be open for walking, rolling, and biking. O&M activities would be consistent with current O&M activities of the existing Los Angeles River Greenway and the existing LA River Trail.

Figure 5-4. Shortened Southern Path Alternative Alignment



5.5 Summary of Impacts for the Proposed Project

Sections 3.1 through 3.19 provide a detailed analysis of each environmental topic of the Proposed Project. The Proposed Project and its options would construct the same types of components, would be located substantially within the same permanent and temporary footprints, and would have substantially the same operations. As demonstrated in detail for each environmental topic in Chapter 3, *Environmental Settings, Impacts, and Mitigation*, the Proposed Project and its options would result in substantially similar impacts for each environmental topic. Therefore, the following summary of impacts for the Proposed Project is inclusive of Option 1 and Option 2, unless otherwise described. Detailed analysis of each environmental resource and mitigation measures, as applicable, are provided in Chapter 3, *Environmental Settings, Impacts, and Mitigation* in Sections 3.1 through 3.19.

5.5.1 Aesthetics/Visual Quality

5.5.1.1 Construction

No scenic vistas and no scenic highways are visible from the vicinity of the Proposed Project and no impacts would occur. Daytime construction lighting would be minimal, and nighttime construction lighting would be focused on the immediate work environment to minimize light and glare impacts on surrounding sensitive uses. The Proposed Project would comply with applicable regulations related to light and glare. PF-AES-01, *Screen Direct Lighting and Glare for Nighttime Work*, PF-AES-02, *Construction Lighting,* and PF-AES-03, *Construction Staging* would be integrated as part of the Proposed Project and compliance with applicable regulations would minimize potential light and glare impacts. Therefore, aesthetics and visual resources impacts during construction would be less than significant.

5.5.1.2 Operations and Maintenance

No impacts to scenic vistas or scenic highways would occur. Changes in the visual quality of historic resources would be minimal and the visual character or quality of historic resources would not be diminished. Potential light or glare from O&M activities would be limited to those necessary for public safety. PF-AES-04, *Permanent Lighting* and PF-AES-05, *Aesthetic Treatments* and compliance with applicable regulations would reduce light trespass and light pollution impacts. Therefore, aesthetics and visual resources impacts during operation would be less than significant.

5.5.2 Air Quality

5.5.2.1 Construction

Construction of the Proposed Project would not conflict with or obstruct implementation of the applicable air quality plan (that is, the South Coast Air Quality Management District's [SCAQMD's] *2022 Air Quality Management Plan* [2022 AQMP] [SCAQMD 2022]), nor result in a cumulatively considerable contribution to a significant cumulative impact of nonattainment pollutants. Compliance with applicable federal, state, and local air quality regulations, including Metro's *Green Construction Policy* (Metro 2011) and the California Air Resources Board's (CARB's) *Truck and Bus Regulation* (CARB 2008), would ensure that the Proposed Project does not conflict with the 2022 AQMP and does not generate emissions in excess of any applicable SCAQMD significance threshold for mass daily emissions.

Construction emissions would not result in the long-term exposure of sensitive receptors to diesel PM, and health effects due to criteria pollutant emissions are considered less than significant. The Proposed Project would comply with applicable CARB Airborne Toxic Control Measures to minimize diesel particulate matter (PM) emissions. Compliance with applicable regulations would minimize construction emissions and impacts from odors. Therefore, air quality impacts during construction would be less than significant.

5.5.2.2 Operations and Maintenance

O&M activities of the Proposed Project would not conflict with or obstruct implementation of the 2022 AQMP, nor result in a cumulatively considerable contribution to a significant cumulative impact of nonattainment pollutants. Operations would comply with applicable federal, state, and local air quality regulations and would therefore support the goals and policies of the 2022 AQMP. New sources of emissions would be partially offset by the reduction of VMT and vehicle emissions from drivers switching to active transportation modes such as walking or biking to access the nearby destinations. Expanding the regional transit infrastructure network is a critical component of SCAG's and SCAQMD's regional planning initiatives to reduce on-road VMT.

O&M activities would not generate emissions that would exceed SCAQMD significance thresholds, nor expose nearby sensitive receptors to substantial concentrations of criteria pollutants, including diesel PM. Emissions associated with O&M activities would be short-term at any given location and would not create objectionable odors affecting a substantial number of people. Therefore, air quality impacts during operation would be less than significant.

5.5.3 Biological Resources

5.5.3.1 Construction

Proposed Project construction could result in significant impacts related to native tree and shrub species, special-status species, and protected trees. Project features include PF-BIO-01a, *Protected Tree and Shrub Permitting – City of Los Angeles*; PF-BIO-01b, *Protected Tree and Shrub Permitting – City of Vernon*; PF-BIO-01c, *Metro Tree Planting, Tree Maintenance, Protection of Urban Forest During Construction*; and PF-BIO-02, *Preconstruction Tree and Shrub Survey and Report,* which requires Metro to follow the applicable requirements and regulations related to tree and shrub siting, removal, and the replacement process.

No Heritage Trees would be damaged or removed by the Proposed Project or Option 1. However, under a design variation of Option 2, three Heritage Trees located adjacent to the Downey Recreation Center in the City of Los Angeles, where the proposed path branches east to the design variation for Option 2 at the North Broadway/Spring Street access point, would be removed or damaged. Option 2 would comply with regulations to protect trees and includes the same project features as the Proposed Project, ensuring that impacts remain less than significant. Option 1 and Option 2, including design variations, would not conflict with any other local policies or ordinances protecting biological resources.

Construction may result in significant impacts related to migratory birds, or the loss of habitats for migratory birds and bat species. Implementation of MM-BIO-01, *Worker Environmental Awareness Program*; MM-BIO-02a, *Preconstruction Identification of Active Bat Roost Sites*; MM-BIO-02b, *Avoid Disturbing Active Bat Roosts*; and MM-BIO-03, *Nesting Bird Surveys* would reduce impacts to less than significant levels.

USACE has expressed concern that the Project could conflict with the LARER project, which overlaps with the Project for approximately 2.3 miles, from approximately Elysian Valley (upstream of I-5) to First Street. This area is within LA River Reach 7 (I-5 to Main Street) and Reach 8 (Main Street to First Street). The Project includes PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* which involves continued coordination and consultation between Metro and USACE to identify opportunities where Project design could be refined to meet multi-agency objectives. MM-HWQ-04, *Fully Incised Path*, MM-HWQ-05, *Incised/Elevated Transition Widening*, MM-HWQ-06, *Elevated-in-Channel Incised Path*, and MM-HWQ-07, *Channel Daylight Crossing Structure* would reduce impacts related to conflicts with the LARER project to less than significant levels. The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, as both options include the same project features and would implement the same mitigation measures as the Proposed Project. Therefore, impacts to biological resources during construction would be less than significant with mitigation.

5.5.3.2 Operations and Maintenance

Impacts on special-status plants and special-status wildlife, including nesting birds and bats, during O&M activities and operation of the path would be less than significant. No impacts related to riparian and sensitive natural habitat and wetlands would occur during operation. O&M activities of the Proposed Project would not result in impacts to wildlife movement or roosting bats during operation.

Locally protected trees and shrubs are not expected to be removed or disturbed in the RSA during O&M activities and no impact is expected. No adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved conservation plan(s) are located within the RSA, and no impact to adopted plans is expected. Implementation of PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that O&M activities would not preclude implementation of planned LARER project improvements. Therefore, impacts to biological resources during operation would be less than significant.

5.5.4 Cultural Resources

5.5.4.1 Construction

Of the 49 built-environment historic resources identified within the area of potential impact (API), the Proposed Project would result in potentially significant impacts to up to 23 resources due to potential for vibration-related damage resulting from construction activities and alterations to the setting of historic bridges. Option 1 would potentially affect up to 29 built-environment historic resources due to additional properties potentially affected by construction-related vibration impacts. Option 2 would potentially affect up to 24 historic resources due to vibration-related damage. The Proposed Project, Option 1, and Option 2 would all have similar potentially significant impacts to historic bridges along the LA River, each affecting different bridges. The Proposed Project would result in potentially significant impacts to the Cesar E. Chavez Avenue Viaduct, First Street Viaduct, Washington Boulevard Bridge, and Atlantic Boulevard Bridge. Option 1 would result in potentially significant impacts to the North Main Street Bridge, Cesar E. Chavez Avenue Viaduct, First Street Viaduct, Washington Boulevard Bridge, and the Atlantic Boulevard Bridge. Option 2 would result in potentially significant impacts to the North Main Street Bridge, Cesar E. Chavez Avenue Viaduct, First Street Viaduct, and the Washington Boulevard Bridge. Implementation of MM-CUL-01, Co*nformance with the Secretary of the Interior's Standards for Rehabilitation*, MM-CUL-02, *Recordation of Existing Conditions*, MM-VIB-01, *Vibration Control Plan,* and MM-VIB-02, *Vibration Monitoring Plan* and compliance with applicable

regulations would minimize potential construction impacts on built-environment historic resources. Therefore, impacts to cultural resources during construction would be less than significant with mitigation.

Ground-disturbing and excavation activities during Proposed Project construction have the potential to directly and significantly impact seven known archaeological resources, as well as unknown archaeological resources or human remains. Implementation of MM-CUL-03, *Qualified Archaeologist* and MM-CUL-04, *Cultural Resources Mitigation Management Plan* would mitigate construction impacts on both known and unknown archaeological resources and any discovery of human remains. Incorporation of PF-AR-01, *Inadvertent Discovery of Human Remains*, would ensure the Proposed Project complies with state and local regulations and guidelines regarding the disclosure, recovery, relocation, and preservation of human remains as appropriate. The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, as both options include the same project features and would implement the same mitigation measures as the Proposed Project. Therefore, impacts to archaeological resources during construction would be less than significant with mitigation.

5.5.4.2 Operations and Maintenance

No potential impacts would occur to the built-environment historical resources during O&M activities. All impacts to built-environment historical resources would occur during the construction period. Therefore, impacts to cultural resources during operations would be less than significant with mitigation.

No impact would occur to archaeological resources during operations as O&M activities are not anticipated to entail ground disturbances to previously undisturbed soils. Therefore, no impact to cultural resources would occur during operations and maintenance.

5.5.5 Energy

5.5.5.1 Construction

Construction of the Proposed Project would not require new or expanded sources of energy or infrastructure to meet energy demands and would not result in the wasteful or inefficient use of energy. Construction activities would comply with Metro's *Green Construction Policy* (Metro 2011), CARB regulations, the Pavley and Low Carbon Fuel Standards, and the Corporate Average Fuel Economy Standards to reduce diesel fuel consumption by construction equipment and vehicles. Construction activities would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency or energy conservation plans. Therefore, energy impacts during construction would be less than significant.

5.5.5.2 Operations and Maintenance

The Proposed Project would not constitute a wasteful, inefficient, or unnecessary consumption of energy during operations and would not conflict with energy conversion goals or interfere with the energy supply and distribution. O&M activities of the Proposed Project would have no impact on the availability of regional energy resources land use and transportation development planning and implementation. The Proposed Project would indirectly reduce annual regional energy consumption

through VMT reduction, and would therefore be consistent with sustainability plans to reduce VMT. Therefore, energy impacts during operation would be less than significant.

5.5.6 Geology, Soils, and Paleontological Resources

5.5.6.1 Construction

Construction of the Proposed Project would not result in impacts related to the exposure of seismic hazards; risk of loss, injury, or death involving strong seismic ground shaking; risk of loss, injury, or death due to seismic-related ground failure including liquefaction, landslides, or seismically induced slope failures; or risks associated with on- or off-site ground failure or unstable soils. The Proposed Project may be subject to impacts from seismic ground shaking over time and seismic-related ground failure, including liquefaction. PF-GEO-01, *Final Geotechnical Report;* PF-GEO-02, *Construction Worker Safety;* PF-GEO-03, *Compliance with Federal, State, Regional, and Local Agencies;* and PF-GEO-04, *Construction Measures to Prevent Soil Caving,* and compliance with applicable regulations, requirements, and buildings codes would ensure that the Proposed Project reduces risks to workers on site; that design and construction requirements would be implemented; and that the risk of on- or off-site ground failure due to unstable soils would be reduced. Impacts related to erosion during construction would be less than significant and would be further minimized with integration of PF-HWQ-01, *Stormwater/Water Quality Management During Construction* and compliance with applicable regulations. The risk to life or property due to expansive soils during construction of the Proposed Project is less than significant. No construction impacts involving the adequacy of soils to support septic tanks or alternative waste disposal systems would occur.

Construction of the Proposed Project would require excavation, resulting in significant and unavoidable impacts to paleontological resources. Implementation of MM-PAL-01, *Prepare a Paleontological Resources Monitoring Plan;* MM-PAL-02, *Worker Environmental Awareness Program Training;* and MM-PAL-03, *Curation* would reduce construction risks to paleontological resources; however, impacts to paleontological resources would remain significant and unavoidable during construction. Therefore, construction impacts of the Proposed Project would be significant and unavoidable, even with mitigation.

5.5.6.2 Operations and Maintenance

No impact would occur during O&M activities related to fault rupture during operation. The potential for future land subsidence is low because groundwater withdrawal is restricted and managed. The Proposed Project would be designed in accordance with the recommendations set forth in the final geotechnical reports prepared pursuant to PF-GEO-01, *Final Geotechnical Report*. Therefore, impacts related to the exposure of seismic hazards; risk of loss, injury, or death involving strong seismic ground shaking; risk of loss, injury, or death due to seismic-related ground failure including liquefaction, landslides, or seismically induced slope failures; and risks associated with on- or off-site ground failure, unstable soils, or regional subsidence during operation would be less than significant.

O&M activities and operation of the Proposed Project would not result in impacts related to the potential for soil expansion. Integration of PF-HWQ-02, *Low-Impact Design Requirements* would ensure that O&M activities of the Proposed Project would not result in substantial soil erosion or loss of topsoil. The path would be designed in accordance with PF-GEO-01, *Final Geotechnical Report* and PF-GEO-03 *Compliance with Federal, State, Regional, and Local Agencies* to reduce risks related to expansive soils during operations. There are no operational impacts involving the adequacy of soils to support septic tanks or alternative waste disposal systems.

O&M activities and operation of the Proposed Project would not result in any impacts to the underlying geologic rock units that may contain paleontological resources. Therefore, geologic, subsurface, and seismic hazards impacts during operation would be less than significant.

5.5.7 Greenhouse Gas Emissions

5.5.7.1 Construction

The generation of GHG emissions during construction of the Proposed Project would not be considered significant as the construction of an active transportation path has been identified by state and regional agencies as an efficient method of reducing long-term regional GHG emissions. The Proposed Project would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG. Therefore, construction-related GHG emissions for the Proposed Project would be less than significant.

5.5.7.2 Operations and Maintenance

O&M activities of the Proposed Project would not be considered significant as the operation of an active transportation path has been identified as an efficient method of reducing GHG emissions. The Proposed Project would be consistent with the objectives of state plans and policies to reduce GHG emissions from passenger vehicles by providing alternative transportation modes for both local and regional trips. The Proposed Project would improve the multimodal transportation network and reduce on-road VMT, which is a key component of GHG reduction plans. Therefore, GHG emission impacts during operation would be less than significant.

5.5.8 Hazards and Hazardous Materials

5.5.8.1 Construction

Construction activities would result in less than significant impacts related to the transportation, use, and disposal of general construction materials; the accidental release of hazardous materials into the local environment; the treatment of contaminated groundwater; encountering hazardous materials during construction; and the release of pollutants. Approximately 33 sites of environmental concern were identified within the temporary footprint for the Proposed Project, Option 1 and Option 2. Of the 33 sites identified, 20 are considered recognized environmental condition (RECs) and 13 are considered historical recognized environmental condition (HRECs). Specifically, construction of the Proposed Project would require excavation and other ground-disturbing activities on 10 of the 33 sites of potential environmental concern within its footprint. Construction of Option 1 would require excavation and other ground-disturbing activities on 11 of the 33 sites of potential environmental concern within the Option 1 footprint. Construction of Option 2 would require excavation on 12 of the 33 sites of potential environmental concern within the Option 2 footprint.

Project features PF-HAZ-01, *Hazardous Materials and Waste Plan*; PF-HAZ-02, *Contractor-Generated Waste Management Plan*; PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan;* PF-HAZ-04, *Disposal of Groundwater,* PF-HAZ-05, *Halt Construction Work if Potentially Hazardous Materials are Encountered*, and PF-HWQ-01, *Stormwater/Water Quality Management During Construction* would be incorporated into the Proposed Project and its options that would reduce risks and impacts associated with hazards and hazardous materials. However, risk and impacts associated with the accidental release of hazardous materials at sites of environmental concern (including sies compiled pursuant to *Government Code* Section 65962.5) and within 0.25-mile of educational institutions may be significant without mitigation. Implementation of MM-HAZ-01, *Project-wide Phase II Environmental Site Assessment*, MM-HAZ-02, *Soil Management Plan Surveys,* and MM-HAZ-03, *Preconstruction Asbestos, Lead-Based Paint, and Universal Waste Surveys* would reduce construction impacts related to the accidental release of hazardous materials within 0.25-mile of educational institutions to less than significant levels.

No impacts related to public airports would occur during construction. Construction impacts to adopted emergency response plans or emergency evacuation routes would be less than significant. PF-TR-01, *Prepare and Implement Transportation Management Plan;* PF-TR-02, *Traffic Control Plan; and* PF-PS-01, *Emergency Service Coordination* would ensure construction activities are coordinated with police, fire, and emergency service providers prior to and during construction to maintain emergency access through construction work areas.

Construction impacts related to risk of loss, injury, or death involving wildland fires within the designated Very High Fire Hazard Severity Zone (VHFHSZ) would be less than significant. Construction activities would implement standard construction practices and comply with applicable regulations, including the California Fire Code and Fire Brush Clearance Zones requirements. The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, as both options include the same project features and would implement the same mitigation measures as the Proposed Project. Therefore, hazards and hazardous materials impacts during construction of the Proposed Project would be less than significant with mitigation.

5.5.8.2 Operations and Maintenance

O&M activities would not result in impacts related to the routine transport, use, or disposal of hazardous materials or wastes; would not involve any subsurface disturbance and would not create a significant hazard to the public or environment; is not expected to pose a risk to educational institutions within 0.25-mile of the Proposed Project; would not be located within an airport land use plan or within 2 miles of a public airport or public use airport; and would not obstruct the implementation of any adopted emergency response plans or emergency evacuation plans. The Proposed Project would comply with all applicable regulations associated with the handling, use, transport, and disposal of hazardous materials.

O&M activities are not anticipated to cause impacts related to a significant risk of loss, injury, or death involving wildland fires; would not expose people or structures in this area; and would not exacerbate wildfire risks in the areas within a VHFHSZ. Therefore, hazards and hazardous materials impacts during operations would be less than significant.

5.5.9 Hydrology and Water Quality

5.5.9.1 Construction

Construction activities would cause soil disturbances and generate dust and debris; may temporarily increase the impervious surface area around the Proposed Project site, thus altering the existing drainage patterns; would redirect the channel flow as required away from work zones; could encounter groundwater supplies requiring dewatering; could cause obstructions that could impede flood flows and increase flood risk; and could cause water level increases within a 100-year floodplain, resulting in impacts to hydrology and water quality. Specifically, the Proposed Project is a longitudinal encroachment into the LA River and construction work may require multiple simultaneous temporary diversion structures and/or cofferdams to protect the work zone. The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of soil disturbance during construction due to the varying geometry and facility locations required for each option compared to the Proposed Project.

Project features PF-HWQ-01, *Stormwater/Water Quality Management During Construction,* PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* PF-HAZ-03, *Contaminated Substances and Hazardous Substances Disposal Plan,* and PF-HAZ-04, *Disposal of Groundwater* and compliance with existing regulatory requirements, including National Pollutant Discharge Elimination System (NPDES) Permits, as well as MM-HWQ-01, *Temporary Water Diversion Plan*, would:

- Ensure the Proposed Project would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality
- Would reduce surface runoff and stormwater drainage; would appropriately treat and discharge contaminated groundwater in consultation with Los Angeles Regional Water Quality Control Board (LARWQCB)
- Ensure flood protection in a flood hazard event
- Comply with USACE requirements to redirect flood flows around construction zones

Implementation of MM-HWQ-02, *Construction Scheduling* would ensure that all areas of increased flood risk are identified and that a phased construction schedule is established to minimize the risk of adverse flood impacts during construction. USACE approval of a Section 408 permit would also impose *Channel Improvement Construction Limitations* (USACE 2008), which are incorporated into MM-HWQ-02, *Construction Scheduling.* This would reduce impacts related to flood flows and flood risk to less than significant levels. The Proposed Project, Option 1, and Option 2 include the same project features and would implement the same mitigation measures to reduce potential construction-related impacts to less than significant levels.

In addition, construction of the Proposed Project would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan. No impact related to the release of pollutants due to inundation or conflict with the LARER project would occur during construction.

Therefore, hydrology and water quality impacts during construction would be less than significant with mitigation measures incorporated.

5.5.9.2 Operations and Maintenance

The Proposed Project would result in impacts related to the permanent increase in the level of impervious surfaces in the RSA; surface runoff and stormwater drainage patterns; groundwater contamination; the impediment of flood flows; and modifications of local storm drain systems. Project features PF-HWQ-02, *Low-Impact Design Requirement* and PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement* would ensure that the Proposed Project:

- Would not violate any applicable water quality standards or wastewater discharge requirements, or otherwise substantially degrade surface water or groundwater quality
- Would not substantially alter the existing drainage pattern of the site or area in a manner that would result in a substantial increase in surface runoff or substantial erosion or siltation on- or off-site
- Would not impede flood flows
- Would not be subject to inundation by seiches, tsunamis, and dams
- Would minimize the potential to cause adverse impacts to operation or the integrity of the LA River through coordination with Metro and USACE during design development

In addition, USACE approval of the Section 408 Permit would also ensure that the design meets USACE standards, guidance, and complies with regulatory requirements. O&M activities and operation of the Proposed Project would not conflict with or obstruct implementation of the Central Basin *Groundwater Basins Master Plan* (WRD 2016) or the *Groundwater Quality Management Plan, San Fernando Valley Basin* (LADWP 1983). The Proposed Project would not be subject to inundation by seiches or tsunamis during operation.

The Proposed Project would place new structures within the LA River that could impede flood flows and could impact flood risk by causing localized increases in water levels. These water level changes could conflict with USACE's responsibilities to provide continued public safety, and to provide adequate O&M of a federal civil work (the LA River Channel), which would be a significant impact. Implementation of MM-HWQ-04, *Fully Incised Path;* MM-HWQ-05, *Incised/Elevation Transition Widening;* and MM-HWQ-06, *Elevated-in-Channel Incised Path* are proposed to mitigate the potential impacts to flood flows. MM-HWQ-08, *Streamlined Bridge Piers* would minimize flow turbulence, debris capture, and potential rise in water surface elevations. MM-HWQ-07, *Channel Daylight Crossing Structure* would accommodate surface flow features and would not preclude implementation of the daylight features proposed by the LARER project. MM-HWQ-03, *Advanced Hydraulic Analysis* would be implemented during the design phase to provide detailed hydraulic modeling of these improvements and mitigations. Two locations of concern were identified where the alignment for the Proposed Project, Option 1, and Option 2 is within the channel at locations of supercritical flows. These locations are near the SR-110 freeway/Arroyo Seco Confluence and Washington Boulevard. MM-HWQ-09, *Compliance with Section 408 Permit* would be implemented at these locations to ensure impacts would be mitigated and maintain channel performance standards consistent with the Section 408 permit. The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1 and Option 2. As the impacts from Option 1 and Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, impacts at these locations would be less than significant with mitigation incorporated.

The Proposed Project could impact the implementation of the LARER project by constructing improvements that could physically interfere with planned LARER project improvements or could cause adverse hydraulic impacts at locations near LARER project improvements. There are six modifications to the LA River in reaches designed for ecosystem restoration improvements as part of USACEs LARER project (LARER project Reach 7 and 8) under the Proposed Project. Option 1 would have five modifications to the LA River Reach 7 and 8 and Option 2 would have five modifications. Potential impacts related to these modifications would be less than significant with mitigation or less than significant without mitigation, with the exception of the modification to the LA River at the Arroyo Seco Confluence for the Proposed Project, Option 1, and Option 2. This modification would consist of new bridge supports within the channel that could cause adverse hydraulic conditions near the Arroyo Seco confluence, including increased water levels, velocities, and scour conditions. The Arroyo Seco Parkway (SR 110) design variation for the Proposed Project and its options would place a single elevated top-of-bank path starting north under the SR 110 bridge to just south of the freeway. This design variation would eliminate new structures in the channel, minimizing potential adverse hydraulic conditions. Impacts at this location would be less than significant with mitigation.

The impacts of Option 1 and Option 2 would be similar to those identified for the Proposed Project, with differences in the magnitude and location of the impacts due to the varying Proposed Project geometry and facility locations that are required by Option 1 and Option 2. As the impacts from Option 1 and Option 2 would be similar to the Proposed Project, similar project features and mitigations would be implemented. Therefore, hydrology and water quality impacts during operation would be less than significant with mitigation.

5.5.10 Land Use and Planning

5.5.10.1 Construction

Construction of the Proposed Project would result in impacts related to the installation of permanent easements for aerial and at-grade pathways, TCEs for construction activities, full acquisitions or TCE for construction laydown areas, as well as short-term partial or full roadway and lane closures. PF-TR-01, *Prepare and Implement Transportation Management Plan* would maintain proper traffic flow during temporary construction activities. Temporary construction-related street/lane detours and closures would be returned to preconstruction conditions once construction is completed, and long-term road closures are not expected.

Construction of the Proposed Project would not result in any incompatibilities with adjacent land uses or inconsistencies with applicable land use plans, policies, or regulations adopted for the purpose of avoiding an environmental impact. Construction activities would further the goals, objectives, and policies of Connect SoCal and other local land use plans related to alternative and efficient multimodal transportation. The Proposed Project would interact with and support the implementation of the LARER project, planned improvements at the Los Angeles State Historic Park, and wetland improvements in the area of Reaches 7 and 8.

The Proposed Project includes PF-HWQ-03, *Continued Los Angeles County Metropolitan Transportation Authority and US Army Corps of Engineers Engagement,* which involves continued coordination and consultation between Metro and USACE to identify opportunities where the Proposed Project and the LARER project can reach LARER project goals and provide the active transportation corridor and ecosystem restoration to the local and regional communities design. Therefore, land use and planning impacts during construction of the Proposed Project would be less than significant.

5.5.10.2 Operations and Maintenance

O&M activities of the Proposed Project would not result in any impacts related to dividing an established community. The Proposed Project would provide an interconnected pedestrian and bicycle path, incorporate access points to the LA River Path to connect the communities adjacent to the river path, and provide greater active transportation options and improved connectivity to community facilities, parks, and recreation facilities. Therefore, operation of the Proposed Project would not result in any incompatibilities with adjacent land uses or inconsistencies with applicable land use plans, policies, or regulations adopted for the purpose of avoiding an environmental impact, including Connect SoCal, Los Angeles County's *General Plan 2035* Mobility Element (Chapter 7; Los Angeles County 2015), and the *County of Los Angeles Bicycle Master Plan* (LACDPW 2012). Therefore, land use and planning impacts during operations of the Proposed Project would be less than significant.

5.5.11 Noise and Vibration

5.5.11.1 Construction

Construction of the Proposed Project would generate noise levels that would exceed the Federal Transit Administration (FTA) 8-hour daytime and nighttime construction noise criteria resulting in a significant and unavoidable impact. Potentially impacted noise-sensitive receptors would differ between the Proposed Project, Option 1, and Option 2 depending on their proximity to sensitive receptors. General construction activities would result in exceedances of the FTA 8-hour daytime or nighttime construction noise criteria at 14 receptors during construction of the Proposed Project, 17 receptors under Option 1, and 19 receptors under Option 2. The Proposed Project, Option 1, and Option 2 would each potentially result in noise impacts due to pile driving activities required for construction of certain path types. General construction vibration generating activities and pile driving for the Proposed Project, Option 1, and Option 2 would result in an exceedance of FTA vibration damage criteria. Vibration generated by the Proposed Project would potentially result in damage at 23 built-environment historic resources, Option 1 at 29 built-environment historic resources, and Option 2 at 24 built-environment historic resources. However, impacts would be reduced to less than significant with mitigation incorporated related to vibration damage. Ground-borne vibration levels would also exceed the FTA's ground-borne vibration annoyance criteria for the Proposed Project, Option 1, and Option 2, resulting in a significant and unavoidable impact. Implementation of the following mitigation measures would minimize significant noise and vibration impacts: MM-NOI-01, *Noise Control and Monitoring Plan;* MM-NOI-02, *Drill Piles Where Feasible;* MM-VIB-01, *Vibration Control Plan;* and MM-VIB-02, *Vibration Monitoring Plan*. Nonetheless, the Proposed Project would result in a significant and unavoidable impact related to noise and vibration annoyance during construction.

5.5.11.2 Operations and Maintenance

O&M activities of the Proposed Project would not generate noise and vibration levels that would exceed applicable criteria, including the FTA noise and vibration criteria. Operational noise would only be generated during periodic maintenance activities, and noise generated by pedestrians and bicyclists would be primarily associated with conversational noise. Therefore, noise and vibration impacts during operation of the Proposed Project would be less than significant.

5.5.12 Population and Housing

5.5.12.1 Construction

The Proposed Project would not construct any housing units nor displace substantial numbers of existing people or housing, and therefore would not result in impacts related to directly or indirectly induced unplanned population growth in the area. Construction workers are anticipated to not be required to move to the surrounding area for work. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with permanent easements for aerial and at-grade pathways. Population, housing, or employment growth is not expected to occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community. Therefore, population and housing impacts during construction would be less than significant.

5.5.12.2 Operations and Maintenance

No new housing, businesses, or other infrastructure improvements are proposed as part of the Proposed Project, and the Proposed Project would not result in substantial unplanned population growth in the area. Therefore, impacts from growth inducement would be less than significant. O&M activities would not displace people or housing; therefore, there would be no impact.

5.5.13 Public Services/Safety and Security

5.5.13.1 Construction

Construction of the Proposed Project would not result in any substantial adverse physical impacts associated with the construction of new or physically altered police protection and fire service facilities. No impacts on school and library facilities would occur during construction. Project features PF-PS-01, *Emergency Service Coordination;* PF-PS-02, *Construction Safety Measures*; PF-TR-01, *Prepare and Implement Transportation Management Plan*; and PF-TR-02, *Traffic Control Plan* and compliance with applicable regulations would ensure fire and emergency service response times, emergency access, and safety measures are maintained during construction to avoid impacts. Therefore, public services/safety and security impacts during construction would be less than significant.

5.5.13.2 Operations and Maintenance

O&M activities would result in less than significant impacts on police protection, fire protection, and emergency services. The Proposed Project would not induce population growth and no impacts on school and library facilities would occur during operations. O&M activities of the Proposed Project would not require the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. Therefore, public services/safety and security impacts during operation would be less than significant.

5.5.14 Recreation

5.5.14.1 Construction

Construction activities would not result in impacts related to the provision of new park facilities or result in the need for physically altered facilities to maintain service ratios. Construction activities of the Proposed Project would not result in changes to population, and therefore the use of and service ratio for parks and recreational facilities would remain similar to existing conditions. Construction activities would result in temporary impacts associated with intermittent increases in noise. Although noise impacts would not physically deteriorate existing parks and recreational facilities due to increased use of these facilities, implementation of MM-NOI-01, *Noise Control and Monitoring Plan* would reduce any effects of noise impacts related to construction. Construction activities have the potential to disrupt access to nearby parks, recreational facilities, and bikeways. PF-TR-01, *Prepare and Implement Transportation Management Plan* and PF-TR-02, *Traffic Control Plan* would maintain access to nearby parks and recreational facilities during construction. Therefore, recreation impacts during construction of the Proposed Project would be less than significant.

5.5.14.2 Operations and Maintenance

O&M activities would not result in impacts related to the increase of the use of existing neighborhood and regional parks or other recreational facilities in a manner that would accelerate or result in substantial physical deterioration of these facilities. O&M activities of the Proposed Project would not generate residents, and no impact would occur related to the increase the demand on existing parks or recreational facilities, or the construction of new or expanded existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities. Therefore, recreation impacts during operation would be less than significant.

5.5.15 Transportation

5.5.15.1 Construction

Overall, construction of the Proposed Project would result in less than significant impacts related to conflict with any programs, plans, or policies addressing the circulation system. Specifically, most construction activities for the Proposed Project are anticipated to occur outside of the public rights-of-way, primarily within the temporary footprint along the banks and inside the LA River, as well as within staging areas. Option 1 would cover a slightly larger area than the Proposed Project and could temporarily close roadway and sidewalk facilities along Avenue 18 and Baker Street due to its additional access points. Although Option 1 involves a larger area, it would use the same general construction equipment and activities as the Proposed Project. Option 2 would cover similar area as the Proposed Project, but could temporarily close roadway and sidewalk facilities along Avenue 18, Spring Street, and Broadway due to its slightly different access points. Despite the differences in access locations, Option 2 would also involve the same general construction equipment and activities as the Proposed Project. Project features PF-TR-01, *Prepare and Implement Transportation Management Plan* and PF-TR-02, *Traffic Control Plan* along with compliance with applicable regulations would ensure transportation effects during construction remain less than significant. The Proposed Project and its options include the same project features.

The Proposed Project would not result in impacts related to conflicts or inconsistencies with CEQA Guidelines Section 15064.3(b). The Proposed Project would have approximately 652 round trips per

day during construction divided among the river access locations because the active construction activities would be scattered along the LA River alignment. Option 1 is anticipated to have a slightly lower vehicle demand at 584 round trips per day and Option 2 is anticipated to have a slightly higher vehicle demand at 760 round trips per day Construction vehicle trips and associated increase in VMT would be temporary, and construction activities are not anticipated to substantively change the surrounding vehicle transportation system. When construction is completed, construction-related traffic would cease and VMT levels would return to pre-existing conditions.

Construction could result in impacts related to increased hazards due to geometric design features, and temporary roadway effects during construction may result in inadequate emergency access. Specifically, construction of the Proposed Project may result in short-term roadway effects at access points where the path connects to local roadways. Option 1 would cover slightly more area than the Proposed Project, providing more access locations and a longer path. Option 2 would cover a similar area as the Proposed Project, with the same number of access locations and a slightly shorter path. Both options would involve same general construction equipment and activities as the Proposed Project. Project features PF-TR-01, *Prepare and Implement Transportation Management Plan* and PF-TR-02, *Traffic Control Plan,* along with compliance with applicable regulations, would help manage transportation disruptions, ensure safe travels for roadway users, maintain connectivity for all modes of transportation, and address access and response time requirements. The Proposed Project and its options would incorporate these same project features and compliance obligations. Therefore, transportation impacts during construction would be less than significant.

5.5.15.2 Operations and Maintenance

O&M activities of the Proposed Project would not result in impacts related to conflicts with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the LA River; conflicts or inconsistencies with CEQA Guidelines Section 15064.3(b); hazardous designs or incompatible land uses; or inadequate emergency access. Access points for the Proposed Project would be strategically located along and adjacent to both sides of the river to allow people to travel along the LA River between San Fernando Valley and Long Beach and would provide access to many communities in between. Similarly, Option 1 would cover slightly more area than the Proposed Project, but the same general Project elements and operations are proposed while Option 2 would cover a similar area compared to the Proposed Project. The Proposed Project and its options would result in a reduction in VMT of 0.5% to more than 6% and would not conflict with any programs, plans, or policies addressing the circulation system.

All access points would be designed to comply with applicable federal, state, and local regulations serving people with disabilities, including the City of Los Angeles *Complete Streets Design Guide* (City of Los Angeles n.d.), and the *Citywide Design Guidelines* (City of Los Angeles 2019), and would incorporate design principles that serve people of all ages and abilities. The O&M plan would include standards and provisions to maintain emergency responder access to LA River. Therefore, transportation impacts during operation would be less than significant.

5.5.16 Tribal Cultural Resources

5.5.16.1 Construction

Construction of the Proposed Project could result in impacts to identified and unidentified tribal cultural resources (TCRs) in the RSA. Incorporation of PF-AR-01, *Inadvertent Discovery of Human Remains* would ensure that, if human remains are encountered during construction, the Proposed

Project would remain compliant with applicable state and local regulations and guidelines for the disclosure, recovery, relocation, and preservation of hu man remains as appropriate. However, there remains a potential for significant impacts. With implementation of MM-CUL-01, *Qualified Archaeologist;* MM-CUL-02, *Cultural Resources Mitigation and Management Plan*; and MM-TCR-01, *Tribal Monitoring,* potential significant impacts on TCRs would be reduced to less than significant. Therefore, impacts to TCRs during construction of the Proposed Project would be less than significant with mitigation incorporated.

5.5.16.2 Operations and Maintenance

Impacts to TCRs are anticipated to be limited to construction activities and operation of the Proposed Project is not expected to include ground disturbance in previously undisturbed soils. Therefore, no impact to TCRs would occur during operation.

5.5.17 Utilities and Service Systems

5.5.17.1 Construction

Construction of the Proposed Project would result in less than significant impacts related to temporary service disruptions caused by required modifications, relocations, or improvements of existing utilities; insufficient water supplies to service the RSA; wastewater disposal; and solid-waste disposal. Specifically, the Proposed Project would impact utilities at 34 locations, of which permanent modifications or improvements of approximately 27 storm drains and the permanent relocation of three overhead electrical lines would be required. Option 1 would impact utilities at approximately 28 locations, of which permanent modification or improvement of 16 storm drains and the permanent relocation of five overhead electrical lines would be required. Option 2 would impact utilities at approximately 31 locations, of which permanent modification or improvement of 19 storm drains and the relocation of five overhead electrical lines would be required.

Project features PF-UTL-01, *Utility Identification and Coordination;* PF-UTL-02, *Development of a Utility Relocation Plan;* and PF-UTL-03, *Service Interruption Notification,* and PF-UTL-04, *Solid-Waste Diversion and Disposal* and compliance with applicable regulations would address potential modifications to utilities infrastructure and ensure adequate water supplies, wastewater disposal, and solid-waste diversion and disposal. The Proposed Project and its options include the same project features. Therefore, utilities and system services impacts during construction would be less than significant.

5.5.17.2 Operations and Maintenance

O&M activities of the Proposed Project would not result in impact related to water supplies, wastewater disposal, or solid-waste disposal. O&M activities and operation of the Proposed Project would not require the relocation or construction of new or additional utilities; include a negligible amount of long-term, permanent source of water use; and would not significantly increase wastewater or solid waste. Therefore, impacts related to utilities and service systems impacts during operation would be less than significant.

5.5.18 Wildfire

5.5.18.1 Construction

The Proposed Project is partially located within a designated VHFHSZ, and construction of the Proposed Project could result in impacts related to risks from exposing people or structures to a significant risk of loss, injury, or death involving flooding as a result of post-fire slope instability or drainage changes. However, implementation PF-PS-01, *Emergency Service Coordination;* PF-PS-02, *Construction Safety Measures;* PF-TR-01, *Prepare and Implement Transportation Management Plan;* and PF-TR-02, *Traffic Control Plan* would protect construction workers and avoid exposing people or structures to a significant risk of loss, injury, or death involving flooding as a result of post-fire slope instability or drainage changes. Therefore, wildfire impacts during construction would be less than significant.

5.5.18.2 Operations and Maintenance

O&M activities would not result in activities that would substantially obstruct or interfere with emergency vehicles or impair emergency response or evacuation plans, impact adopted emergency plans, exacerbate wildfire or fire risks, or expose people or structures to significant flooding or landslides. Implementation of PF-WF-01, *Los Angeles County LA River Master Plan Compliance* would minimize wildfire risks through best practices and wildfire mitigation strategies. Therefore, wildfire impacts during operation would be less than significant.

5.5.19 Summary of Impacts

The Proposed Project and its options would result in potentially significant impacts without mitigation under the following resource areas: biological resources, cultural resources (historical resources and archaeological resources), hazards and hazardous materials, hydrology and water quality, noise and vibration, paleontological resources, and TCRs. Implementation of mitigation measures would reduce most of these potentially significant impacts to less than significant. However, even with mitigation, construction of the Proposed Project and its options would result in significant impacts regarding noise and vibration (increase in ambient noise and vibration annoyance) and paleontological resources. There are no feasible mitigation measures that would reduce these impacts to less than significant. Therefore, the Proposed Project and its options would result in significant and unavoidable impacts regarding construction noise and vibration and paleontological resources.

Several environmental topics would result in no impact or less than significant impact, including: aesthetics/visual resources; air quality; biological resources (operation); cultural resources (operation); energy; geology and soils (operation); greenhouse gas emissions; hazards and hazardous materials (operation); land use and planning; noise and vibration (operation); population and housing; public services/safety and security; recreation; transportation; TCRs (operation); utilities and service systems; and wildfire.

5.6 Alternatives Analysis

As required by CEQA Guidelines Section 15126.6(d), each alternative is evaluated in sufficient detail to allow meaningful evaluation, analysis, and comparison with the Proposed Project and its options. To compare impacts of each alternative to the Proposed Project and its options, the alternatives analysis addresses the same environmental resource within the same RSA as that of the Proposed Project evaluated in Chapter 3, *Environmental Settings, Impacts, and Mitigation*. As discussed in Section 5.5, the Proposed Project and its options would result in substantially similar impacts with the same level of significance for each environmental topic. Therefore, analysis of the Proposed Project is inclusive of Option 1 and Option 2, unless otherwise described. The following sections summarize the analysis of the No Project Alternative, Mostly-East Bank Alternative, Mostly-West Bank Alternative, Shortened Northern Path Alternative, and the Shortened Southern Path Alternative.

5.6.1 No Project Alternative

The following provides an analysis of potential impacts of the No Project Alternative in comparison to the Proposed Project.

5.6.1.1 Aesthetics/Visual Quality

5.6.1.1.1 Construction

The No Project Alternative would not construct a new active transportation path along the LA River. No Project-related physical changes to the environment that would conflict with local land use plans regarding scenic quality or create glare would occur. There are no scenic resources or state scenic highways in the area. Therefore, the No Project Alternative would result in no impacts and have lesser impacts compared to the Proposed Project during construction.

5.6.1.1.2 Operation and Maintenance

The No Project Alternative would not have Project-related O&M activities along the LA River; however, projects around the LA River identified in the LARMP would continue to be developed that could bring visual quality improvements around the LA River. There are no scenic resources or state scenic highways in the area. The visual quality or character of historic resources would not be affected. Permanent Project-related physical changes to the environment would not occur, and new light and glare from the Proposed Project would not occur. Therefore, the No Project Alternative would result in no impact and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.2 Air Quality

5.6.1.2.1 Construction

The No Project Alternative would not construct a new active transportation path, would not result in Project-related temporary increases in criteria pollutants or emissions, and would not expose sensitive populations to concentrated pollutants during construction. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.2.2 Operation and Maintenance

The No Project Alternative would not have Project-related O&M activities and associated temporary operational air pollutant emissions. The No Project Alternative would not construct a new active transportation path, would not have Project-related reductions in VMT, and would have fewer O&M air quality benefits compared to the Proposed Project. Therefore, the No Project Alternative would result in less than significant impacts and would have greater impacts compared to the Proposed Project during operation.

5.6.1.3 Biological Resources

5.6.1.3.1 Construction

The No Project Alternative would not construct a new active transportation path and would not include Project-related construction impacts to protected trees, shrubs, and heritage trees; protected species include wildlife, migratory birds and nesting habitats, and bats and roosting habitats; and movement of fish and wildlife species. There are no riparian habitat/sensitive natural communities, wetlands, or habitat conservation plans in the Project area. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.3.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and would not result in Project-related impacts to special-status plants and special-status wildlife, including nesting birds and bats; locally protected trees and shrubs; and would not interfere with wildlife movements as a result of Project-related O&M activities and operation of the path. There are no riparian habitat/sensitive natural communities, wetlands, or habitat conservation plans in the Project area. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.4 Cultural Resources

5.6.1.4.1 Construction

The No Project Alternative would not construct a new active transportation path and would not include Project-related construction impacts to the identified built-environment historical resources within the Project API. Other development would continue as part of the LARMP and the LinkUS project that would cause construction impacts to built-environment historical resources, namely construction-related vibration impacts similar to the Proposed Project, and the demolition of the Kahn-Beck Co./Friedman Bag Co. Building as part of the LinkUS project. These projects are independent of the Proposed Project. Because no Project-related construction activity would occur, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

Regarding archaeological resources, the No Project Alternative would not involve any Project-related ground-disturbing or excavation activities that could impact archaeological resources. Other projects in the LARMP would continue to be developed, which could cause temporary construction impacts to archaeological resources independent of the No Project Alternative. Therefore, the No Project

Alternative would have no impacts to known or unknown archaeological resources or buried human remains and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.4.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities. Other projects identified in the LARMP and the LinkUS project would continue to be developed in this urbanized area independent of the No Project Alternative. Therefore, no impacts to historical resources or archaeological resources would result from the No Project Alternative and would have similar impacts compared to the Proposed Project during operation.

5.6.1.5 Energy

5.6.1.5.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related temporary increases in the annual diesel fuel consumption and annual gasoline fuel consumption during construction. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.5.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and would not benefit from the indirect reduction of annual regional energy consumption through VMT reduction from the Proposed Project. Therefore, the No Project Alternative would result in a less than significant impact and would have a somewhat greater impact compared to the Proposed Project during operation.

5.6.1.6 Geology, Soils, and Paleontological Resources

5.6.1.6.1 Construction

The No Project Alternative would not construct a new active transportation path and would not include Project-related construction impacts related to the exposure of seismic hazards; risk of loss, injury, or death involving strong seismic ground shaking; and risk of loss, injury, or death due to seismic-related ground failure including liquefaction, landslides, or seismically induced slope failures during construction; soil instability or encounter loose or water-saturated soils; or substantial excavations that would impact paleontological resources in the LA River. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.6.2 Operation and Maintenance

The No Project Alternative would not have Project-related O&M activities and would not result in Project-related impacts to geological and paleontological resources. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.7 Greenhouse Gas Emissions

5.6.1.7.1 Construction

The No Project Alternative would not involve construction of a new active transportation path and would not result in Project-related temporary GHG emissions. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.7.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and would not result in benefits from the reduction of GHG emissions through VMT reduction from the Proposed Project. Therefore, the No Project Alternative would result in a less than significant impact and would have a somewhat greater impact compared to the Proposed Project during operation.

5.6.1.8 Hazards and Hazardous Materials

5.6.1.8.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related hazards and hazardous materials impacts including the temporary use, routine transport, and disposal of hazardous materials; accidental release of asbestos, lead, and universal waste; disturbance of hazardous materials sites; impacts to emergency response plans or emergency evacuation routes; and impacts related to wildfire. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.8.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and would not result in Project-related hazards and hazardous materials impacts including the occasional use, storage, and disposal of hazardous materials; impacts to adopted emergency response plan or emergency evacuation plan; and wildfire impacts. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.9 Hydrology and Water Quality

5.6.1.9.1 Construction

The No Project Alternative would not involve construction of a new active transportation path and Project-related construction activities that would result in dust and debris that could impact and degrade water quality; impacts to groundwater supplies if groundwater needs to be dewatered; increase to impervious surface area; and obstructions in the LA River flood channel that could impede flood flows and flood risk. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.9.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities that would permanently increase the level of impervious surfaces within the Project area, impact water quality, alter stormwater drainage patterns, or result in groundwater contamination. The No Project Alternative would not include Project-related physical changes to the LA River and the hydrology characteristics of the LA River would remain unchanged. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.10 Land Use and Planning

5.6.1.10.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related temporary and permanent full and partial property acquisitions. No Project-related temporary construction- street/lane detours and closures would occur. Existing land uses along the LA River would remain unchanged. The No Project Alternative would not divide an established community and would not be inconsistent with applicable land use plans. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.10.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and the Project area would remain a flood channel. Abutting industrial uses in the Project area would remain unchanged. The No Project Alternative would be inconsistent with the LARMP's vision of a continuous route along the river and 51 miles of connected open space along the river. The No Project Alternative would not meet the objectives of the LARMP and other applicable regional and local plans to provide linkages and connections to nearby communities, encourage alternative modes of transportation, and provide safe bicycle facilities for people of all types and abilities. Therefore, the No Project Alternative would result in significant and unavoidable impacts during operation and would have greater impacts compared to the Proposed Project during operation.

5.6.1.11 Noise and Vibration

5.6.1.11.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related noise and vibration impacts. Existing noise and vibration sources such as traffic associated with freeways and local streets, MetroLink commuter rail, intermittent freight along railroad corridors, and industrial uses would continue to generate noise in the Project area independent of the Proposed Project. Therefore, the No Project Alternative would result in no impact related to both noise and vibration and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.11.2 Operation and Maintenance

The No Project Alternative would not include Project-related noise from maintenance activities and from users on a new active transportation path. Existing noise and vibration sources such as traffic associated with freeways and local streets, MetroLink commuter rail, intermittent freight along railroad

corridors, and industrial uses would continue to generate noise in the Project area independent of the Proposed Project. Under the No Project Alternative, the reduction in vehicular traffic and VMT would not occur. Traffic noise could be greater than Proposed Project, but would avoid O&M noise associated with the Proposed Project. Therefore, impacts related to noise and vibration would be less than significant impact and reduced compared to the Proposed Project during operation.

5.6.1.12 Population and Housing

5.6.1.12.1 Construction

The No Project Alternative would not construct a new active transportation path that would entail the need for temporary construction workers and Project-related activities and property acquisitions would not occur. Under the No Project Alternative, unplanned population growth in the area and the displacement of substantial numbers of existing people or housing during construction would not occur. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.12.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and permanent workers. Under the No Project Alternative, unplanned population growth in the area and the displacement of substantial numbers of existing people or housing during construction would not occur, similar to the Proposed Project. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.13 Public Services/Safety and Security

5.6.1.13.1 Construction

The No Project Alternative would not construct a new active transportation path and would not include Project-related physical changes that could affect public services, fire and emergency service response times, or emergency access. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.13.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and Project-related permanent physical changes that could affect public services, fire and emergency service response times, or emergency access would not occur. The No Project Alternative would not construct additional access points to the LA River, nor incorporate additional safety features along the LA River associated with the Proposed Project. This alternative would therefore reduce some of the safety and security benefits associated with the Proposed Project. Therefore, the No Project Alternative would result in less than significant impacts and would have greater impacts compared to the Proposed Project during operation.

5.6.1.14 Recreation

5.6.1.14.1 Construction

The No Project Alternative would not construct a new active transportation path and would not include Project-related physical changes that could affect parks and recreational facilities. Project-related construction activities would not occur, and would not result in physical impacts that could affect parks and recreational facilities; increase the use of existing neighborhood and regional parks or other recreational facilities resulting in permanent physical deterioration; or require new or expansion of parks or recreational facilities. Therefore, the No Project Alternative would result no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.14.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and Project-related permanent physical changes that could affect parks and recreational facilities would not occur. The No Project Alternative would not provide a new active transportation path to the surrounding communities and new access to existing parks and recreational facilities along the LA River, compared to the Proposed Project. The No Project Alternative would not result in permanent physical impacts that could affect parks and recreational facilities; increase the use of existing neighborhood and regional parks or other recreational facilities resulting in permanent physical deterioration; or require new or expansion of parks or recreational facilities. Therefore, the No Project Alternative would result in less than significant impacts and would have greater impacts compared to the Proposed Project during operation.

5.6.1.15 Transportation

5.6.1.15.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related construction activities that would increase vehicle delays due to construction traffic, lane reductions, and detours; temporary full and partial road and land closures; create hazards; or affect emergency access. The No Project Alternative would not include Project-related construction vehicle trips and associated VMTs. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.15.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities and would not have the overall reduction of vehicle travel and reductions in VMT from the Proposed Project. Therefore, the No Project Alternative would result in less than significant impacts and would have a somewhat greater impact compared to the Proposed Project during operation.

5.6.1.16 Tribal Cultural Resources

5.6.1.16.1 Construction

The No Project Alternative would not construct a new active transportation path and Project-related physical changes to the environment with the potential to impact unknown TCRs. Therefore, the No Project Alternative would result in no impacts and would have a lesser impact compared to the Proposed Project during construction.

5.6.1.16.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities, and no impacts related to TCRs would occur. Therefore, the No Project Alternative would result in no impacts and would have a similar impact compared to the Proposed Project during operation.

5.6.1.17 Utilities and Service Systems

5.6.1.17.1 Construction

The No Project Alternative would not construct a new active transportation path and would not result in Project-related modifications, relocations, or improvements of existing utilities that would result in temporary service disruptions. This alternative would not include Project-related temporary water use, or the generation of wastewater and solid waste generated during construction. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.17.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities that would require a slight but negligible increase in water use and electricity, and generation of wastewater and solid waste. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.1.18 Wildfire

5.6.1.18.1 Construction

The No Project Alternative would not construct a new active transportation path that would be within a VHFHSZ. The No Project Alternative would not include Project-related physical changes to the environment that could expose people or structures to a significant risk of loss, injury, or death involving flooding. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during construction.

5.6.1.18.2 Operation and Maintenance

The No Project Alternative would not include Project-related O&M activities that are partially within a VHFHSZ. Therefore, the No Project Alternative would result in no impacts and would have lesser impacts compared to the Proposed Project during operation.

5.6.2 Mostly-East Bank Alternative

The following provides an analysis of potential impacts of the Mostly-East Bank Alternative in comparison to the Proposed Project.

5.6.2.1 Aesthetics/Visual Quality

5.6.2.1.1 Construction

The Mostly-East Bank Alternative would be substantially within the same footprint as the Proposed Project and located along the same highly developed and well-lit stretch of the LA River. Construction would entail similar levels of lighting and glare as the Proposed Project and would not result in a substantial change in the area's lighting environment. As with the Proposed Project, no scenic vistas or scenic highways are visible from the Mostly-East Bank Alternative. In addition, temporary construction activities would not permanently affect the visual character of either the LA River Channel or SR-110, as this alternative would be elevated over the LA River channel and located below SR-110. Any potential light or glare from construction vehicles onto adjacent properties would be isolated and temporary. Daytime construction lighting would be minimal, and nighttime construction lighting would be focused on the immediate work area to minimize light and glare impacts on surrounding sensitive uses. This alternative includes the same project features as the Proposed Project. Therefore, impacts related to aesthetics/visual quality would be less than significant and similar to those of the Proposed Project during construction.

5.6.2.1.2 Operations and Maintenance

The Mostly-East Bank Alternative would be located along the same highly developed and well-lit stretch of LA River as the Proposed Project and would have the same visibility as the Proposed Project. Design of lighting would be similar to the Proposed Project. No scenic vistas or scenic highways are located in this area. Like the Proposed Project, changes in the visual character or quality of historic resources would not occur. Similar to the Proposed Project, the Mostly-East Bank Alternative would not represent a substantial change in the lighting environment of the area such that nighttime views that are currently available would become unavailable. Potential light or glare from O&M activities would be minimal and limited to those necessary for public safety. Therefore, impacts related to aesthetics/visual quality would be less than significant and similar to the Proposed Project during operation.

5.6.2.2 Air Quality

5.6.2.2.1 Construction

Similar to the Proposed Project, the Mostly-East Bank Alternative would be required to comply with applicable air quality regulations, thereby ensuring emissions would be controlled, would remain below the SCAQMD mass daily screening thresholds, and would minimize diesel PM emissions. Like the Proposed Project, construction-related odors would be minimized. Therefore, impacts related to air quality would be less than significant and similar to the Proposed Project during construction.

5.6.2.2.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Mostly-East Bank Alternative would introduce operational air pollutant emissions. However, as with the Proposed Project, these new sources of emissions would be partially offset with the reduction of passenger vehicle trips when people switch from driving to walking or biking to access the nearby destinations, resulting in VMT reduction and associated air pollutant emission decreases. With a similar alignment length as the Proposed Project, this alternative would result in similar VMT reduction and emission decreases. Long-term exposure of sensitive receptors to diesel PM from O&M activities would not occur. Therefore, impacts related to air quality would be less than significant and similar to the Proposed Project during operation.

5.6.2.3 Biological Resources

5.6.2.3.1 Construction

Similar to the Proposed Project, construction activities of the Mostly-East Bank Alternative may affect native tree and shrub species protected by local ordinances. These activities may also have the potential to directly and indirectly disturb or temporarily displace nesting birds and roosting bats, including maternity roosts, resulting in significant impacts. The Mostly-East Bank Alternative would implement the same mitigation measures as the Proposed Project to reduce impacts to migratory birds and roosting bats to less than significant levels. Unlike the Proposed Project, construction of this alternative would not require the removal of the southern California black walnut trees located along the western riverbank between the Riverside Drive Viaduct and the SR-110 Bridge, resulting in fewer impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats. As with the Proposed Project, this alternative would comply with all required applicable regulations related to native tree and shrub species, special-status species, and protected trees, and includes the same project features and would implement the same mitigation measures as the Proposed Project with respect to protected trees and shrubs. Therefore, impacts to biological resources would be less than significant with mitigation and less than those of the Proposed Project during construction.

5.6.2.3.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-East Bank Alternative would result in less than significant O&M impacts to protected species and the movement of fish and wildlife species. Similar to the Proposed Project, this alternative would result in no impacts to riparian habitats and other sensitive natural vegetation communities, wetlands, local, regional, and state plans, policies and/or ordinances. Like the Proposed Project, this alternative is located in a highly urban area and would not displace birds or bats from foraging, nesting, or roosting areas due to disturbance from noise and human activity associated with relatively minor O&M activities. Locally protected trees and shrubs are not expected to be removed or disturbed in the RSA during O&M activities for this alternative and no impact is expected. Therefore, impacts related to biological resources would be less than significant and similar to the Proposed Project during operation.

5.6.2.4 Cultural Resources

5.6.2.4.1 Construction

Numerous built-environment historical resources are situated on both sides of the LA River Channel and numerous historic bridges cross the channel. The Mostly-East Bank Alternative would be similar to the Proposed Project in its potential to impact historic bridges as the path would be perpendicular to identified historic bridges, requiring the path to pass under, over, or through these resources. The Mostly-East Bank Alternative alignment would differ from the Proposed Project between approximately south of Fourth Street and Washington Boulevard. Excluding historic bridges, there are nine identified historical resources that are situated along the west bank and two identified historical resources that are situated along the east bank through this area. Compared to the Proposed Project, the Mostly-East Bank Alternative would avoid the potential less than significant impacts to the property and historic setting of historical resource (HR)-44 and HR-33 that would occur under the Proposed Project. These historical resources may no longer be impacted as a result of pile driving no longer occurring in its vicinity. However, one additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank. Similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities which would generally involve those historical resources located along the east bank of the LA River Channel. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources. Therefore, impacts to cultural resources would be less than significant with mitigation and similar to the Proposed Project during construction.

Similar to the Proposed Project, the Mostly-East Bank Alternative would involve ground-disturbing and excavation activities and would therefore pose similar risk for causing significant direct and indirect impacts to known and unknown archaeological resources or human remains. This alternative would implement the same mitigation measures as the Proposed Project to avoid impacts on archaeological resources and impacts would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.2.4.2 Operations and Maintenance

Like the Proposed Project, O&M activities associated with the Mostly-East Bank Alternative are not expected to result in impacts to historical resources within the built-environment, as any potential impacts on such built-environment resources would occur exclusively during the construction period. Therefore, there would be no impact to built-environmental historical resources and impacts would be similar to the Proposed Project during operation.

Similar to the Proposed Project, O&M activities would not cause ground disturbance in areas of previously undisturbed soils, thereby avoiding impacts on archaeological resources. Similarly, this alternative would be required to comply with applicable federal, state, and local regulations to protect archaeological resources. Therefore, there would be no impacts to archaeological resources and impacts would be similar to the Proposed Project during operation.

5.6.2.5 Energy

5.6.2.5.1 Construction

Similar to the Proposed Project, construction-related equipment and vehicles associated with the Mostly-East Bank Alternative would comply with applicable federal, state, and local regulations and standards related to energy consumption and conservation. In addition, construction activities for this alternative would be consistent with the applicable energy-related goals and policies. Similarly, the one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to construct a pedestrian and bicycle path. Therefore, impacts to energy would be less than significant and similar to the Proposed Project during construction.

5.6.2.5.2 Operation and Maintenance

Similar to the Proposed Project, the Mostly-East Bank Alternative would have a similar alignment length and would consume similar amounts of petroleum-based energy during O&M activities as the Proposed Project. Like the Proposed Project, the Mostly-East Bank Alternative would provide an alternative mode of transportation that would reduce regional petroleum-based energy consumption and improve regional transportation energy efficiency. Therefore, this alternative would be consistent with local and regional energy consumption reduction goals. O&M activities for this alternative would not be considered a wasteful or inefficient use of nonrenewable resources. Therefore, impacts to energy would be less than significant and similar to the Proposed Project during operation.

5.6.2.6 Geology, Soils, and Paleontological Resources

5.6.2.6.1 Construction

Similar to the Proposed Project, the Mostly-East Bank Alternative would be located in an area susceptible to geological hazards, including seismic-related ground shaking and ground failure, such as liquefaction. This alternative would be required to comply with all prescribed building standards, requirements, and guidance related to geologic, subsurface, and seismic hazards. This alternative would be located substantially within the same area as the Project footprint, and similar to the Proposed Project, construction impacts of the Mostly-East Bank Alternative related to the exposure of geologic hazards would be less than significant and similar to the Proposed Project. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste disposal systems. Therefore, impacts to geology and soils would be less than significant and similar to the Proposed Project during construction.

Construction of this alternative may also directly impact important paleontological resources, similar to the Proposed Project. This alternative would implement the same mitigation measures to reduce construction impacts on paleontological resources but impacts to paleontological resources may remain. Therefore, construction-related impacts to paleontological resources would be significant and unavoidable, similar to the Proposed Project.

5.6.2.6.2 Operations and Maintenance

O&M activities for the Mostly-East Bank Alternative would be similar to the Proposed Project, with less than significant operation-related impacts related to geologic hazards. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste

disposal systems. Like the Proposed Project, O&M activities would take place above geologic rock units that may contain paleontological resources. After construction is completed, these geological units would be buried. No impacts to paleontological resources would occur, similar to the Proposed Project. Therefore, impacts to geology, soils, and paleontological resources would be less than significant and similar to the Proposed Project during operation.

5.6.2.7 Greenhouse Gas Emissions

5.6.2.7.1 Construction

Similar to the Proposed Project, construction activities associated with the Mostly-East Bank Alternative would be similar to the Proposed Project and would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, impacts related to GHG would be less than significant and similar to the Proposed Project during construction.

5.6.2.7.2 Operations and Maintenance

Similar to the Proposed Project, GHG emissions associated with O&M activities for the Mostly-East Bank Alternative would not be considered significant as increasing multimodal transportation networks and reducing on-road VMT is a key component of applicable GHG reduction plans. With a similar alignment length as the Proposed Project, this alternative would have similar VMT reductions and similar levels of O&M activities. Therefore, impacts related to GHG would be less than significant and similar to the Proposed Project during operation.

5.6.2.8 Hazards and Hazardous Materials

5.6.2.8.1 Construction

Similar to the Proposed Project, the Mostly-East Bank Alternative would have the same temporary and permanent footprints and would involve similar uses of hazardous materials during construction and would generate similar levels of hazardous wastes during operation as the Proposed Project. This alternative would be located within 0.25-mile of the same educational institutions as the Proposed Project, and would have the same sites of environmental concern. Additionally, like the Proposed Project, this alternative would not be located within an airport land use plan or within 2 miles of a public airport or public use airport. However, like the Proposed Project, this alternative would be located within a VHFHSZ. This alternative would implement the same construction-related project features as the Proposed Project. Therefore, like the Proposed Project, impacts related to transport, use, and disposal of general construction materials; adopted emergency response plans or emergency evacuation routes; and the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant and similar to the Proposed Project.

Impacts of this alternative associated with the accidental release of hazardous materials at sites of environmental concern and within 0.25-mile of educational institutions would be significant without mitigation, similar to the Proposed Project. The Mostly-East Bank Alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts to less than significant with mitigation. Therefore, impacts to hazards and hazardous materials would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.2.8.2 Operations and Maintenance

O&M activities of the Mostly-East Bank Alternative would not involve any subsurface disturbance and would not create a significant hazard to the public or environment; are not expected to pose a risk to educational institutions within 0.25-mile of the Proposed Project; and are not located within an airport land use plan or within 2 miles of a public airport or public use airport. Like the Proposed Project, there would be no impacts related to exposure to any potential hazardous materials. Impacts related to emergency access and wildland fire risks would be less than significant. Therefore, hazards and impacts to hazardous materials would be less than significant with mitigation and similar to the Proposed Project during operation.

5.6.2.9 Hydrology and Water Quality

5.6.2.9.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-East Bank Alternative may temporarily alter the existing drainage patterns and increase the impervious surface area. As with the Proposed Project, construction of this alternative would also require redirecting the channel flow as required away from work zones and adversely affect groundwater. This alternative would comply with the CGP and other resource agency permits and implement the same construction-related project features and mitigation measures as the Proposed Project. Impacts related to water quality standards or waste discharge requirements, erosion or siltation, the depletion of groundwater supplies, and surface runoff and stormwater drainage would be less than significant, similar to the Proposed Project. Similarly, construction of this alternative would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan and impacts related to conflicts with plans would be less than significant. In addition, this alternative would not be subject to inundation by seiches or tsunamis, and the risk of release of pollutants during construction due to inundation is less than significant, similar to the Proposed Project. No impact related to conflict with the LARER project would occur, similar to the Proposed Project.

Construction activities within the flood channel could also impede flood flows and increase flood risk, resulting in significant impacts, similar to the Proposed Project. However, this alternative would implement the same mitigation measures as the Proposed Project to reduce impacts related to flood flows, flood risk, and Section 408 permitting to less than significant levels, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.2.9.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-East Bank Alternative would require modifications to local storm drain systems but would not adversely affect these systems. New landscaped areas could also contribute contaminants due to the application of pesticides, herbicides, or fertilizers. This alternative, like the Proposed Project, would comply with regulatory standards, conditions, and permitting requirements and includes the same project features as the Proposed Project. Additionally, O&M activities would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan. The risk of release of pollutants due to inundation would be less than significant and similar to the Proposed Project during operation.

Similar to the Proposed Project, this alternative would construct incised and elevated-in-channel path segments which would increase the design water level in the channel, which is within nearby 100-year

and 500-year flood zones. This could impede flood flows in the channel and potentially result in significant flooding impacts during O&M activities, similar to the Proposed Project. Additionally, this alternative could conflict with the LARER project, resulting in potential significant impacts, similar to the Proposed Project. However, this alternative would implement the same mitigation measures as the Proposed Project to minimize potential impacts to less than significant levels, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and similar to the Proposed Project during operations.

5.6.2.10 Land Use and Planning

5.6.2.10.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-East Bank Alternative are temporary and would not physically result in impacts related to the divide of an established community nor directly conflict with applicable regional and local land use plans, policies, and regulations. Temporary partial or full roadway and lane closures may occur during construction of this alternative, similar to the Proposed Project. This alternative would incorporate the same construction-related project features to minimize temporary construction impacts to the surrounding area. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during construction.

5.6.2.10.2 Operations and Maintenance

Similar to the Proposed Project, new access points to the LA River Path and O&M activities for the Mostly-East Bank Alternative would not divide an established community. This alternative would provide an active transportation option connecting surrounding communities and would not conflict with applicable regional and local land use plans, policies, and regulations related to active transportation. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during operation.

5.6.2.11 Noise and Vibration

5.6.2.11.1 Construction

Construction of the Mostly-East Bank Alternative would result in a similar increase in noise and vibration levels in exceedance of FTA construction noise, vibration damage, and vibration annoyance criteria as the Proposed Project. The proximity of noise and vibration sensitive receptors may be affected because the path alignment would be predominantly on the east bank, but types of impacts would be similar as the Proposed Project. The path type near Receptors 17, 18, and 19 would no longer require pile driving and the severity of noise and vibration impacts may be reduced. General construction activity may still result in noise and vibration impacts at these receptors. The Mostly-East Bank Alternative alignment would differ from the Proposed Project between approximately south of Fourth Street and Washington Boulevard. No sensitive receptors have been identified in this location. However, one additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank and one historic property (HR-33) may no longer be impacted as a result of no pile driving occurring in its vicinity. Overall noise and vibration impacts during construction would be similar to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential significant vibration damage impacts

would be reduced with the implementation of mitigation measures similar to the Proposed Project. However, like the Proposed Project, construction of the Mostly-East Bank Alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Therefore, impacts related to noise and vibration annoyance would be significant and unavoidable and less than the Proposed Project during construction.

5.6.2.11.2 Operations and Maintenance

Similar to the Proposed Project, operational noise impacts of the Mostly-East Bank Alternative would arise from path users in the form of conversational noise by path users and maintenance activities involving the use of powered hand tools and maintenance equipment. However, O&M activity would be intermittent, occur along the LA River, and is expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Both path user and maintenance noise would be generally overshadowed by or similar to existing noise levels and impacts would be less than significant. Similar to the Proposed Project, O&M activities would occur within the confines of the bike path and sensitive structures would typically be located more than 25 feet away. The FTA vibration damage and annoyance criteria would not be exceeded. Therefore, impacts related to noise and vibration would be less than significant and similar to the Proposed Project during operation.

5.6.2.12 Population and Housing

5.6.2.12.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-East Bank Alternative would be temporary, would not directly or indirectly induce unplanned population growth in the area, and would not result in the displacement of housing. Construction workers are anticipated to be either existing contractors or new hires who live within driving distance to the job site, eliminating the need for them to relocate to the surrounding area for work. Similarly, population, housing, or employment growth would not occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community. Similar to the Proposed Project, this alternative would require permanent and temporary acquisitions that would affect existing industrial warehouse businesses. No residential uses, however, would be affected. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with this alternative. This alternative would not displace substantial numbers of existing people or housing. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during construction.

5.6.2.12.2 Operations and Maintenance

Similar to the Proposed Project, no new housing or businesses or other infrastructure improvements are proposed as part of the Mostly-East Bank Alternative. O&M activities would be conducted by existing staff members and would not induce substantial unplanned population growth to the area. Therefore, like the Proposed Project, operation of the Mostly-East Bank Alternative would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the area beyond adopted growth projections. O&M activities would occur substantially within the same footprint as the Proposed Project and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during operation.

5.6.2.13 Public Services/Safety and Security

5.6.2.13.1 Construction

Similar to the Proposed Project, construction activities associated with the Mostly-East Bank Alternative would not necessitate the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. Similarly, construction activities and temporary lane and street closures associated with this alternative would also temporarily affect the pedestrian and bicycle environment, motorist safety, school route safety, and emergency response services. This alternative would coordinate with police, medical, and fire services, develop construction staging plans, and comply with applicable regulations. This alternative would incorporate the same construction-related project features as the Proposed Project to ensure that fire and emergency service response times are maintained during construction. This alternative would not induce population growth that would impact public services and emergency services. No impacts would occur to schools or libraries during construction. Therefore, impacts related to public services/safety and security would be less than significant and similar to the Proposed Project during construction.

5.6.2.13.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities for the Mostly-East Bank Alternative would not necessitate new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. In addition, this alternative would not induce population growth and is not expected to increase the demand for school and library services. Therefore, impacts related to public services/safety and security would be less than significant and similar to the Proposed Project during operation.

5.6.2.14 Recreation

5.6.2.14.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-East Bank Alternative would not require additional new or expanded recreational facilities, the construction of which might have an adverse physical effect on the environment. This alternative would incorporate the same construction-related project features as the Proposed Project to maintain access to nearby parks and recreational facilities. Similar to the Proposed Project, construction activities are temporary and would not increase the use of existing neighborhood and regional parks or other recreational facilities; require additional construction or expansion of recreational facilities; result in changes to population; or require the provision of new park facilities or result in the need for physically altered facilities to maintain service ratios. Therefore, impacts to recreation would be less than significant and similar to the Proposed Project during construction.

5.6.2.14.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-East Bank Alternative would provide a new active transportation path that would connect the existing population to surrounding communities, parks, and recreational facilities. Similar to the Proposed Project, O&M activities for this alternative would not result in adverse physical effects on the environment beyond the effects of this alternative and would not require the construction of new or expanded existing parks, recreational facilities, and

bikeways to maintain service ratios of these facilities. Therefore, impacts recreation would be less than significant and similar to the Proposed Project during operation.

5.6.2.15 Transportation

5.6.2.15.1 Construction

Similar to the Proposed Project, temporary construction activities for the Mostly-East Bank Alternative could cause increased delays for drivers due to added construction traffic and lane reductions or longer travel distances due to detours. Construction activities may also result in temporary roadway effects that could result in increased hazards due to geometric design features. Construction activities for this alternative could also temporarily increase VMT; result in temporary transportation effects on roadway and pedestrian and bicycle facilities; and result in inadequate emergency access. This alternative would not conflict or be inconsistent with applicable plans. The Mostly-East Bank Alternative would incorporate the same construction-related project features as the Proposed Project to minimize construction-related transportation effects on roadways. Therefore, impacts to transportation would be less than significant and similar to the Proposed Project during construction.

5.6.2.15.2 Operations and Maintenance

The Mostly-East Bank Alternative would have a similar alignment length as the Proposed Project. Similar to the Proposed Project, the Mostly-East Bank Alternative is consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the LA River. Similar to the Proposed Project, this alternative would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in a way that would affect emergency response routes. This alternative would generate pedestrian and bicyclist activity along the LA River that could increase the demand for emergency services, particularly during rain events. An O&M plan would be developed to include standards and provisions to maintain these accesses to allow for emergency responders access to LA River, similar to the Proposed Project. Similar to the Proposed Project, this alternative would be designed in compliance with applicable federal, state, and local regulations serving people with disabilities that would ensure that impacts related to design hazards or incompatible land use would be less than significant. Therefore, impacts related to transportation would be less than significant and similar to the Proposed Project during operation.

5.6.2.16 Tribal Cultural Resources

5.6.2.16.1 Construction

Like the Proposed Project, the Mostly-East Bank Alternative would not have any identified TCRs in the area of direct impact. This alternative would incorporate the same construction-related project features and mitigation measures as the Proposed Project so that potential significant impacts on any previously undiscovered TCRs would be reduced to less than significant. Therefore, impacts to TCRs would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.2.16.2 Operations and Maintenance

Like the Proposed Project, O&M activities are not expected to include ground disturbance in previously undisturbed soils, and impacts to TCRs are anticipated to be limited to construction

activities. Therefore, no impact to TCRs would occur and would be similar to the Proposed Project during operation.

5.6.2.17 Utilities and Service Systems

5.6.2.17.1 Construction

The usage of utilities during construction of the Mostly-East Bank Alternative would be nominal and similar to the Proposed Project. This alternative would comply with applicable regulations and incorporate the same construction-related project features as the Proposed Project that ensure impacts on utilities and service systems are less than significant. Therefore, impacts to utilities and service systems would be less than significant and similar to the Proposed Project during construction.

5.6.2.17.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities would not require the relocation or construction of new or additional utilities; would include a negligible amount of long-term, permanent source of water use; and would not significantly increase wastewater or solid waste. The usage of utilities would be nominal. Therefore, impacts to utilities and service systems would be less than significant and similar to the Proposed Project during operation.

5.6.2.18 Wildfire

5.6.2.18.1 Construction

The Mostly-East Bank Alternative would be substantially within the same footprint as the Proposed Project and within the area north of North Broadway in a designated VHFHSZ. Similarly, this alternative would comply with applicable emergency response procedures and fire safety regulations. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during construction activities, or expose people or structures to significant flooding or landslides. This alternative would incorporate the same construction-related project features as the Proposed Project to ensure wildfire impacts are less than significant. Therefore, impacts related to wildfire would be less than significant and similar to the Proposed Project during construction.

5.6.2.18.2 Operations and Maintenance

O&M activities of the Mostly-East Bank Alternative would comply with applicable emergency response procedures. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during operation, or expose people or structures to significant flooding or landslides. This alternative would incorporate the same O&M project features as the Proposed Project to ensure wildfire impacts are less than significant. Therefore, impacts related to wildfire would be less than significant and similar to the Proposed Project during operation.

5.6.3 Mostly-West Bank Alternative

The following provides an analysis of potential impacts of the Mostly-West Bank Alternative in comparison to the Proposed Project.

5.6.3.1 Aesthetics/Visual Quality

5.6.3.1.1 Construction

The Mostly-West Bank Alternative would be located substantially within the same footprint as the Proposed Project. This alternative would be located along the same highly developed and well-lit stretch of the LA River as the Proposed Project. Similarly, construction would entail similar levels of lighting and glare and would not represent a substantial change in the lighting environment of the area. Similar to the Proposed Project, no scenic vistas and no scenic highways are visible from this alternative in the Project area. In addition, temporary construction activities would not permanently affect the visual character of either the LA River Channel or SR-110 as this alternative would be elevated over the LA River channel and located below SR-110. Potential light or glare from construction vehicles onto adjacent properties would be isolated and temporary. Daytime construction lighting would be minimal, and nighttime construction lighting would be focused on the immediate work environment to minimize light and glare impacts on surrounding sensitive uses. This alternative would incorporate the same construction-related project features as the Proposed Project. Therefore, impacts related to aesthetics/visual quality would be less than significant and similar to the Proposed Project during construction.

5.6.3.1.2 Operations and Maintenance

The Mostly-West Bank Alternative would be located along the same highly developed and well-lit stretch of the LA River and would have the same visibility as the Proposed Project. Design of lighting would be similar to the Proposed Project. No scenic vistas or scenic highways are located in this area. Like the Proposed Project, changes in the visual character or quality of historic resources would not occur. Similar to the Proposed Project, the Mostly-West Bank Alternative would not represent a substantial change in the lighting environment of the area such that nighttime views that are currently available would become unavailable. Potential light or glare from O&M activities would be minimal and limited to those necessary for public safety. Therefore, impacts related to aesthetics/visual quality would be less than significant and similar to the Proposed Project during operation.

5.6.3.2 Air Quality

5.6.3.2.1 Construction

Similar to the Proposed Project, the Mostly-West Bank Alternative would be required to comply with applicable air quality regulations, thereby ensuring emissions would be controlled, would remain below the SCAQMD mass daily screening thresholds, and would minimize diesel PM emissions. Like the Proposed Project, construction-related odors would be minimized. Therefore, impacts related to air quality would be less than significant and similar to the Proposed Project during construction.

5.6.3.2.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Mostly-West Bank Alternative would introduce operational air pollutant emissions. However, as with the Proposed Project, these new sources of emissions would be partially offset with the reduction of passenger vehicle trips when people switch from driving to walking or biking to access the nearby destinations, resulting in VMT reduction and associated air pollutant emission decreases. With a similar alignment length as the Proposed Project, this alternative would result in similar VMT reduction and emission decreases. Long-term exposure of

sensitive receptors to diesel PM from O&M activities would not occur. Therefore, impacts related to air quality would be less than significant and similar to the Proposed Project during operation.

5.6.3.3 Biological Resources

5.6.3.3.1 Construction

Similar to the Proposed Project, construction activities of the Mostly-West Bank Alternative may result in impacts on native tree and shrub species protected by local ordinances. Construction activities may also have the potential to directly and indirectly disturb or temporarily displace nesting birds and roosting bats, including maternity roosts resulting in significant impacts. This alternative would implement the same mitigation measures as the Proposed Project to reduce impacts to migratory birds and roosting bats to less than significant levels. Construction of this alternative would require the removal of a similar number of trees as the Proposed Project, resulting in similar impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats as the Proposed Project. Similar to the Proposed Project, this alternative would comply with all required applicable regulations to reduce potentially significant impacts related to native tree and shrub species, special-status species, and protected trees, and would implement the same mitigation measures as the Proposed Project to mitigate impacts to protected trees and shrubs. Therefore, impacts related to biological resources would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.3.3.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-West Bank Alternative would result in less than significant O&M impacts to protected species and the movement of fish and wildlife species. Similar to the Proposed Project, this alternative would not result in impacts to riparian habitats, other sensitive natural vegetation communities, or wetlands, and would not conflict with local, regional, and state plans, policies and/or ordinances. Like the Proposed Project, this alternative is located in a highly disturbed urban area and would not displace birds or bats from foraging, nesting, or roosting areas due to from noise and human activity associated with minor O&M activities. Locally protected trees and shrubs are not expected to be removed or disturbed in the RSA during O&M activities for this alternative and no impact is expected. Therefore, impacts to biological resources would be less than significant and similar to the Proposed Project during operation.

5.6.3.4 Cultural Resources

5.6.3.4.1 Construction

Numerous built-environment historical resources are situated on both sides of the LA River Channel as well as numerous historic bridges that cross the channel. The Mostly-West Bank Alternative would be similar to the Proposed Project in its potential to impact historic bridges as the path would be perpendicular to identified historic bridges requiring the path to pass under, over, or through these resources. Similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities, which would generally involve those historical resources located along the west bank of the LA River Channel. Compared to the Proposed Project, the Mostly-West Bank Alternative would have potential less than significant impacts to the historic setting of HR-47 as the path alignment would be situated along the opposite side of the LA River; however, new potential impacts to HR-26 may occur. Such impacts to

HR-26 would be similar to those described for Option 2 and would be less than significant. Compared to the Proposed Project, a reduction in vibration impacts at one historic property (HR-33) would also occur due to increased distance from construction activity. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources. Therefore, impacts to cultural resources would be less than significant with mitigation and similar to the Proposed Project during construction.

Similar to the Proposed Project, the Mostly-West Bank Alternative would involve ground-disturbing and excavation activities and would therefore pose similar risk for causing significant direct and indirect impacts to known and unknown archaeological resources or human remains. This alternative would implement the same mitigation measures as the Proposed Project to avoid impacts on archaeological resources and impacts would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.3.4.2 Operations and Maintenance

Like the Proposed Project, O&M activities associated with the Mostly-West Bank Alternative are not expected to result in impacts to historical resources within the built-environment historical resources, as any potential impacts on such built-environment resources occur during the construction period. Therefore, there would be no impact to built-environmental historical resources and impacts would be similar to the Proposed Project during operation.

Similar to the Proposed Project, O&M activities would not cause ground disturbance in areas of previously undisturbed soils, thereby avoiding impacts on archaeological resources. Similar to the Proposed Project, this alternative would comply with applicable federal, state, and local regulations to protect archaeological resources. Therefore, no impacts to archaeological resources would occur and would be similar to the Proposed Project during operation.

5.6.3.5 Energy

5.6.3.5.1 Construction

Similar to the Proposed Project, construction-related equipment and vehicles associated with the Mostly-West Bank Alternative would comply with applicable federal, state, and local regulations and standards related to energy consumption and conservation. In addition, construction activities for this alternative would be consistent with the applicable energy-related goals and policies. Similarly, the one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to construct a pedestrian and bicycle path. Therefore, impacts to energy would be less than significant and similar to the Proposed Project during construction.

5.6.3.5.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-West Bank Alternative would have a similar alignment length and would consume similar amounts of petroleum-based energy during O&M activities as the Proposed Project. Like the Proposed Project, this alternative would provide an alternative mode of transportation that would reduce regional petroleum-based energy consumption and would improve regional transportation energy efficiency. Therefore, this alternative would be consistent with local and regional energy consumption reduction goals. O&M activities for this alternative would not be

considered a wasteful or inefficient use of nonrenewable resources. Therefore, impacts to energy would be less than significant and similar to the Proposed Project during operation.

5.6.3.6 Geology, Soils, and Paleontological Resources

5.6.3.6.1 Construction

Similar to the Proposed Project, the Mostly-West Bank Alternative would be located in an area susceptible to geological hazards, including seismic-related ground shaking and ground failure, such as liquefaction. This alternative would be required to comply with all prescribed building standards, requirements, and guidance related to geologic, subsurface, and seismic hazards. This alternative would be located substantially within the same footprint as the Project; construction impacts of the Mostly-West Bank Alternative related to the exposure of geologic hazards would be less than significant and similar to the Proposed Project. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste disposal systems. Therefore, impacts to geology and soils would be less than significant and similar to the Proposed Project during construction.

Construction of this alternative may directly impact to important paleontological resources, similar to the Proposed Project. This alternative would implement the same mitigation measures to reduce construction impacts on paleontological resources but impacts to paleontological resources may remain. Therefore, construction-related impacts to paleontological resource would be significant and unavoidable and similar to the Proposed Project during construction.

5.6.3.6.2 Operations and Maintenance

O&M activities for the Mostly-West Bank Alternative would be similar to the Proposed Project, with less than significant operation-related impacts related to geologic hazards. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste disposal systems. Like the Proposed Project, O&M activities would take place above geologic rock units that may contain paleontological resources. After construction is completed, these geological units would be buried. No impacts to paleontological resources would occur, similar to the Proposed Project. Therefore, impacts to geology, soils, and paleontological resources would be less than significant and similar to the Proposed Project during operation.

5.6.3.7 Greenhouse Gas Emissions

5.6.3.7.1 Construction

Similar to the Proposed Project, construction activities associated with the Mostly-West Bank Alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. Therefore, impacts related to GHG would be less than significant and similar to the Proposed Project during construction.

5.6.3.7.2 Operations and Maintenance

Similar to the Proposed Project, GHG emissions associated with O&M activities for the Mostly-West Bank Alternative would not be considered significant as increasing multimodal transportation networks and reducing on-road VMT is a key component of applicable GHG reduction plans. With a

similar alignment length as the Proposed Project, this alternative would have similar VMT reductions and similar levels of O&M activities. Therefore, operational impacts would be less than significant and similar to the Proposed Project.

5.6.3.8 Hazards and Hazardous Materials

5.6.3.8.1 Construction

Similar to the Proposed Project, the Mostly-West Bank Alternative would have the same temporary and permanent footprints and would involve similar uses of hazardous materials during construction and would generate similar levels of hazardous wastes during operation as the Proposed Project. This alternative would be located within 0.25-mile of the same education institutions as the Proposed Project, and would have the same sites of environmental concern. Additionally, like the Proposed Project, this alternative would not be located within an airport land use plan or within 2 miles of a public airport or public use airport. It would, however, be located within a VHFHSZ, similar to the Proposed Project. This alternative would incorporate the same construction-related project features as the Proposed Project. Therefore, like the Proposed Project, impacts related to transport, use, and disposal of general construction materials; adopted emergency response plans or emergency evacuation routes; and the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant and similar to the Proposed Project.

Impacts of this alternative associated with the accidental release of hazardous materials at sites of environmental concern and within 0.25-mile of educational institutions would be significant without mitigation, similar to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts to less than significant with mitigation. Therefore, impacts to hazards and hazardous materials would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.3.8.2 Operations and Maintenance

O&M activities of the Mostly-West Bank Alternative would not involve any subsurface disturbance and would not create a significant hazard to the public or environment; are not expected to pose a risk to educational institutions within 0.25-mile of the Proposed Project; and are not located within an airport land use plan or within 2 miles of a public airport or public use airport. Like the Proposed Project, there would be no impacts related to exposure to any potential hazardous materials. Impacts related to emergency access and wildland fire risks would be less than significant, similar to the Proposed Project. Therefore, impacts to hazards and hazardous materials would be less than significant with mitigation and similar to the Proposed Project during operation.

5.6.3.9 Hydrology and Water Quality

5.6.3.9.1 Construction

Similar to the Proposed Project, construction activities Mostly-West Bank Alternative may temporarily alter the existing drainage patterns and increase the impervious surface area. As with the Proposed Project, construction of this alternative would also redirect the channel flow as required away from work zones and adversely affect groundwater. This alternative would comply with the CGP and other resource agency permits and incorporate the same construction-related project features and mitigation measures as the Proposed Project. Impacts associated with the violation of water quality

standards or waste discharge requirements, erosion or siltation on- or off-site, the depletion of groundwater supplies, surface runoff and stormwater drainage would be less than significant, similar to the Proposed Project. Similarly, construction of this alternative would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan and impacts related to conflicts with plans would be less than significant. In addition, this alternative would not be subject to inundation by seiches or tsunamis, and the risk of release of pollutants during construction due to inundation is less than significant, similar to the Proposed Project. No impact related to conflict with the LARER project would occur, similar to the Proposed Project.

Construction activities within the flood channel could also impede flood flows and increase flood risk, resulting in significant impacts, similar to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce impacts related to flood flows, flood risk, and Section 408 permitting to less than significant levels, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.3.9.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-West Bank Alternative would require modifications of local storm drain systems but would not adversely affect these systems. New landscaped areas could also contribute contaminants due to the application of pesticides, herbicides, or fertilizers. Similarly, this alternative would be subject to regulatory standards, conditions, and permitting requirements and would incorporate the same O&M project features as the Proposed Project. Similarly, O&M activities would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan; and the risk of release of pollutants due to inundation would be less than significant and similar to the Proposed Project during operation.

Similar to the Proposed Project, this alternative would construct incised and elevated-in-channel path segments that would increase the design water level in the channel, which is within nearby 100-year and 500-year flood zones. This could impede flood flows in the channel, potentially resulting in significant flooding impacts during O&M activities, similar to the Proposed Project. Additionally, this alternative could conflict with the LARER project, resulting in potentially significant impacts similar to the Proposed Project. This alternative includes the same project features and would implement the same mitigation measures as the Proposed Project. With mitigation, operational impacts to flood flows, flood risk, and conflicts with the LARER project would be reduced to less than significant levels, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and similar to the Proposed Project during operations.

5.6.3.10 Land Use and Planning

5.6.3.10.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-West Bank Alternative would be temporary and would not physically result in the division of an established community or directly conflict with applicable regional and local land use plans, policies, and regulations. Temporary partial or full roadway and lane closures may occur during construction, similar to the Proposed Project. This alternative includes the same project features to help manage temporary construction disruptions in the surrounding area. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during construction.

5.6.3.10.2 Operations and Maintenance

Similar to the Proposed Project, new access points to the LA River Path and O&M activities for the Mostly-West Bank Alternative would not divide an established community. This alternative would provide an active transportation option connecting surrounding communities and would not conflict with applicable regional and local land use plans, policies, and regulations related to active transportation. Therefore, impacts to land use and planning for the Mostly-West Bank Alternative would be less than significant and similar to the Proposed Project during operation.

5.6.3.11 Noise and Vibration

5.6.3.11.1 Construction

Construction activities for the Mostly-West Bank Alternative would have similar construction activities and result in a similar increase in noise and vibration levels in exceedance of FTA construction noise, vibration damage, and vibration annoyance criteria as the Proposed Project. Fewer noise and vibration sensitive receptors would be affected because the path alignment would be predominantly on the west bank where sensitive receptors are sporadically located within primarily industrials uses. Furthermore, as the construction activity would primarily occur on the west bank, sensitive receptors on the east bank would be less impacted by construction noise and vibration. Specifically, residences located between the US-101 freeway and Second Street (Receptors 17, 18, and 19) on the east bank would receive a reduction in noise and vibration impacts as a result of the increased distance and path type no longer requiring pile driving. The One Santa Fe Apartments (Receptor 20) may experience increased construction noise and vibration due to construction activity occurring at a closer distance than with the Proposed Project. A reduction in vibration impacts at one historic property (HR-33) would also occur due to increased distance from construction activity. The types of impacts would be similar as the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential significant vibration damage impacts would be reduced with the implementation of similar mitigation measures to the Proposed Project. However, like the Proposed Project, construction of this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Therefore, impacts related to noise and vibration annoyance would be significant and unavoidable and less than the Proposed Project during construction.

5.6.3.11.2 Operations and Maintenance

Similar to the Proposed Project, operational noise of the Mostly-West Bank Alternative would arise in the form of conversational noise by path users and maintenance activities involving the use of powered hand tools and maintenance equipment. However, O&M activity would be intermittent, would occur along the LA River, and would be expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Both path user and maintenance noise would generally be overshadowed by or similar to existing noise levels and impacts would be less than significant. Maintenance activities would generate vibration, but path users would not. Similar to the Proposed Project, maintenance activities would occur within the confines of the bike path and sensitive structures would typically be located more than 25 feet away. The FTA vibration damage and annoyance criteria would not be exceeded. Therefore, impacts related to noise and vibration would be less than significant and similar to the Proposed Project during operation.

5.6.3.12 Population and Housing

5.6.3.12.1 Construction

Similar to the Proposed Project, the Mostly-West Bank Alternative construction activities would be temporary, would not directly or indirectly induce unplanned population growth in the area, and would not result in the displacement of housing. Construction workers are anticipated to be either existing contractors or new hires who live within driving distance to the job site, eliminating the need for them to relocate to the surrounding area for work. Similarly, population, housing, or employment growth would not occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community. Similar to the Proposed Project, the Mostly-West Bank Alternative would require permanent and temporary acquisitions that would affect existing industrial warehouse businesses. No residential uses, however, would be affected. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with this alternative. This alternative would not displace substantial numbers of existing people or housing. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during construction.

5.6.3.12.2 Operations and Maintenance

Similar to the Proposed Project, no new housing or businesses or other infrastructure improvements are proposed as part of the Mostly-West Bank Alternative. O&M activities would be conducted by existing staff members and would not induce substantial unplanned population growth to the area. Therefore, like the Proposed Project, operation of this alternative would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the area beyond adopted growth projections. O&M activities would occur substantially within the same footprint as the Proposed Project and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during operation.

5.6.3.13 Public Services/Safety and Security

5.6.3.13.1 Construction

Similar to the Proposed Project, construction activities associated with the Mostly-West Bank Alternative would not necessitate the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. Similar to the Proposed Project, construction activities and temporary lane and street closures could temporarily affect the pedestrian and bicycle environment, motorist safety, school route safety, and emergency response services. This alternative would coordinate with police, medical, and fire services, develop construction staging plans, and comply with applicable regulations. This alternative would incorporate the same construction-related project features as the Proposed Project to ensure that fire and emergency service response times are maintained during construction. This alternative would not induce population growth that would impact public services and emergency services. No impacts would occur to schools or libraries during construction. Therefore, impacts related to public services/safety and security would be less than significant and similar to the Proposed Project during construction.

5.6.3.13.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities for the Mostly-West Bank Alternative would not necessitate the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. In addition, this alternative would not induce population growth and is not expected to increase the demand for school and library services. Therefore, impacts related to public services/safety and security would be less than significant and similar to the Proposed Project during operation.

5.6.3.14 Recreation

5.6.3.14.1 Construction

Similar to the Proposed Project, construction activities for the Mostly-West Bank Alternative would not require additional new or expanded recreational facilities, the construction of which might have an adverse physical effect on the environment. This alternative includes the same project features as the Proposed Project to maintain access to nearby parks and recreational facilities. As with the Proposed Project, construction activities would be temporary and would not increase the use of existing neighborhood and regional parks or other recreational facilities, require additional construction or expansion of recreational facilities, result in changes to population, or necessitate new or altered park facilities to maintain service ratios. Therefore, impacts to recreation would be less than significant and similar to those of the Proposed Project during construction.

5.6.3.14.2 Operations and Maintenance

Similar to the Proposed Project, the Mostly-West Bank Alternative would provide a new active transportation path that would connect the existing population to surrounding communities, parks, and recreational facilities. O&M activities would not result in adverse physical effects on the environment beyond the effects of this alternative. O&M activities for this alternative would not require the construction of new or expanded existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities. Therefore, impacts to recreation would be less than significant and similar to the Proposed Project during operation.

5.6.3.15 Transportation

5.6.3.15.1 Construction

Similar to the Proposed Project, temporary construction activities for the Mostly-West Bank Alternative could cause increased delays for drivers due to added construction traffic, lane reductions, or longer travel distances due to detours. Construction activities may also temporarily affect roadways, potentially increasing hazards due to geometric design features. Additionally, construction of this alternative could temporarily increase VMT, temporarily affect roadway and pedestrian and bicycle facilities, and result in inadequate emergency access. This alternative would not, however, conflict or be inconsistent with applicable plans. The Mostly-West Bank Alternative includes the same project features as the Proposed Project to help manage construction-related transportation disruptions. Therefore, impacts to transportation would be less than significant and similar to the Proposed Project during construction.

5.6.3.15.2 Operations and Maintenance

The Mostly-West Bank Alternative would have a similar alignment length as the Proposed Project. Similar to the Proposed Project, the Mostly-West Bank Alternative is consistent with the transportation goals, policies, and plans of the cities and agencies in the vicinity of the LA River. Similar to the Proposed Project, this alternative would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in a way that would affect emergency response routes. This alternative would generate pedestrian and bicyclist activity along the LA River which could increase the demand for emergency services, particularly during rain events. An O&M plan would be developed to include standards and provisions to maintain these accesses to allow for emergency responders access to LA River, similar to the Proposed Project. Similar to the Proposed Project, this alternative would be designed in compliance with applicable federal, state, and local regulations serving people with disabilities that would ensure that impacts related to design hazards or incompatible land use would be less than significant. Therefore, impacts related to transportation would be less than significant and similar to the Proposed Project during operation.

5.6.3.16 Tribal Cultural Resources

5.6.3.16.1 Construction

Like the Proposed Project, the Mostly-West Bank Alternative would not have any identified TCRs in the area of direct impact. This alternative would incorporate the same construction-related project features and mitigation measures as the Proposed Project so that potential significant impacts on any previously undiscovered TCRs would be reduced to less than significant. Therefore, impacts to TCRs would be less than significant with mitigation and similar to the Proposed Project during construction.

5.6.3.16.2 Operations and Maintenance

Like the Proposed Project, O&M activities for the Mostly-West Bank Alternative would not be expected to include ground disturbance in previously undisturbed soils and impacts to TCRs would be limited to construction activities. Therefore, no impact to TCRs would occur and would be similar to the Proposed Project during operation.

5.6.3.17 Utilities and Service Systems

5.6.3.17.1 Construction

The usage of utilities during construction of the Mostly-West Bank Alternative would be nominal and similar to the Proposed Project. This alternative would comply with applicable regulations and would incorporate the same construction-related project features as the Proposed Project that ensure impacts on utilities and service systems are to less than significant. Therefore, impacts to utilities and service systems would be less than significant and similar to the Proposed Project during construction.

5.6.3.17.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities for the Mostly-West Bank Alternative would not require the relocation or construction of new or additional utilities; would include a negligible amount of long-term, permanent source of water use; and would not significantly increase wastewater or solid

waste. The usage of utilities would be nominal. Therefore, impacts to utilities and service systems would be less than significant and similar to the Proposed Project during operation.

5.6.3.18 Wildfire

5.6.3.18.1 Construction

The Mostly-West Bank Alternative would be substantially within the same footprint as the Proposed Project and within the area north of North Broadway in a designated VHFHSZ. Similarly, this alternative would comply with applicable emergency response procedures and fire safety regulations. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during construction activities, or expose people or structures to significant flooding or landslides. This alternative would incorporate the same construction-related project features as the Proposed Project to ensure wildfire impacts are less than significant. Therefore, impacts related to wildfire would be less than significant and similar to the Proposed Project during construction.

5.6.3.18.2 Operations and Maintenance

O&M activities for the Mostly-West Bank Alternative would comply with applicable emergency response procedures. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during operation, or expose people or structures to significant flooding or landslides. This alternative includes the same project features as the Proposed Project to ensure wildfire risks are adequately managed. Therefore, impacts related to wildfire would be less than significant and similar to the Proposed Project during operation.

5.6.4 Shortened Northern Path Alternative

The following provides an analysis of potential impacts of the Shortened Northern Path Alternative in comparison to the Proposed Project.

5.6.4.1 Aesthetics/Visual Quality

5.6.4.1.1 Construction

Similar to the Proposed Project, the Shortened Northern Path Alternative would be located in a highly developed and well-lit area and would not represent a substantial change in the lighting environment of the area. This alternative would have a shorter alignment and fewer river crossings compared to the Proposed Project. This alternative would be within the same footprint as the Proposed Project from the northern terminus of the existing LA River Greenway Trail to Sixth Street. This alternative would have similar impacts to the Proposed Project within this area. No construction activities and hence no aesthetic impacts would occur south of Sixth Street for this alternative.

Construction would entail lesser levels of lighting and glare and would not represent a substantial change in the lighting environment of the area. No scenic vistas and no scenic highways are visible from this alternative in the Project area. In addition, temporary construction activities would not permanently affect the visual character of either the LA River Channel or SR-110 as this alternative would be elevated over the LA River channel and located below SR-110. Potential light or glare from construction vehicles onto adjacent properties would be isolated and temporary. This alternative would incorporate the same construction-related project features as the Proposed Project. Therefore,

impacts to aesthetics/visual quality would be less than significant and less than the Proposed Project during construction.

5.6.4.1.2 Operations and Maintenance

Compared to the Proposed Project, this alternative is a shortened alignment and would have fewer river crossings that could result in fewer visual impacts along the LA River compared to the Proposed Project. Changes in the visual character or quality of historic resources would not occur and would be similar to the Proposed Project north of Sixth Street. Like the Proposed Project, permanent visual features would be included along the LA River but to a lesser extent because of the shorter alignment and fewer river crossings. Further, this alternative would not represent a substantial change in the lighting environment of the area to the extent that nighttime views that are currently available would become unavailable. With the shorter alignment, potential light or glare from O&M activities would be less than the Proposed Project and limited to those necessary for public safety. Therefore, impacts to aesthetics/visual quality would be less than significant and less than the Proposed Project during operation.

5.6.4.2 Air Quality

5.6.4.2.1 Construction

The Shortened Northern Path Alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration than the Proposed Project. No construction activities would occur south of Sixth Street for this alternative. As a result, this alternative would result in fewer construction-related emissions and reduced levels of construction-related odors than the Proposed Project. Similar to the Proposed Project, this alternative would be required to comply with applicable air quality regulations, thereby ensuring emissions would be controlled, would remain below the SCAQMD mass daily screening thresholds, and would minimize diesel PM emissions. Therefore, impacts to air quality would be less than significant and less than the Proposed Project during construction.

5.6.4.2.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Northern Path Alternative would introduce operational air pollutant emissions associated with the O&M activities during long-term operations. However, as with the Proposed Project, these new sources of emissions would be partially offset with the reduction of passenger vehicle trips when people switch from driving to walking or biking to access the nearby destinations, resulting in VMT reduction and associated air pollutant emission decreases. However, because the Shortened Northern Path Alternative would construct a shorter bicycle path compared to the Proposed Project, this alternative would not reduce VMT to the same degree as the Proposed Project. Similar to the Proposed Project, long-term exposure of sensitive receptors to diesel PM from O&M activities would not occur. Therefore, impacts to air quality would be less than significant and greater than the Proposed Project during operation.

5.6.4.3 Biological Resources

5.6.4.3.1 Construction

The Shortened Northern Path Alternative would result in similar impacts to the protected trees located on the west bank of the LA River between SR-110 and the Riverside Drive Bridge as the Proposed Project. The Shortened Northern Path Alternative would comply with all required applicable regulations and includes the same project features as the Proposed Project related to native tree and shrub species, special-status species, and protected trees. No construction activities would occur south of Sixth Street under this alternative, thereby avoiding impacts to heritage trees near the Downey Recreation Center. As a result, there would be reduced impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats compared to the Proposed Project. Construction activities may also have the potential to directly and indirectly disturb or temporarily displace nesting birds and roosting bats, including maternity roosts resulting in significant impacts. This alternative would implement the same mitigation measures as the Proposed Project to reduce impacts to migratory birds and roosting bats to less than significant levels. Therefore, impacts to biological resources would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.4.3.2 Operations and Maintenance

The Shortened Northern Path Alternative would result in similar impacts to biological resources during operation and O&M activities as the Proposed Project, but at reduced levels because of the shorter alignment and reduced O&M activities. This alternative would result in less than significant O&M impacts to protected species and the movement of fish and wildlife species. Similar to the Proposed Project, this alternative would result in no impacts to riparian habitats and other sensitive natural vegetation communities, wetlands, local, regional, and state plans, policies and/or ordinances. Like the Proposed Project, this alternative is located in a highly urban area and would not displace birds or bats from foraging, nesting, or roosting areas due to disturbance from noise and human activity associated with relatively minor O&M activities. Locally protected trees and shrubs are not expected to be removed or disturbed during O&M activities for this alternative and no impact is expected. Therefore, impacts to biological resources would be less than significant and less than the Proposed Project during operation.

5.6.4.4 Cultural Resources

5.6.4.4.1 Construction

Numerous built-environment historical resources are situated on both sides of the LA River Channel as well as numerous historic bridges that cross the channel. The Shortened Northern Path Alternative would be similar to the Proposed Project in having potential to impact historic bridges as the path would be perpendicular to identified historic bridges requiring the path to pass under, over, or through these resources. However, unlike the Proposed Project, the Shortened Northern Path Alternative would avoid potentially significant impacts to the Washington Boulevard Bridge and Atlantic Boulevard Bridge associated with the path alignment of the Proposed Project. The Shortened Northern Path Alternative would result in construction-related vibration impacts to historic resources located primarily along the west bank of the LA River Channel in proximity to construction activities. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties compared to the Proposed Project. This alternative would implement the

same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts to historic resources would be less than significant with mitigation and less than the Proposed Project during construction.

The Shortened Northern Path Alternative would involve ground-disturbing and excavation activities and pose similar risk for causing significant direct and indirect impacts to known and unknown archaeological resources or human remains. Construction activities would only occur between the northern terminus at the existing LA River Greenway Trail and the southern terminus at Sixth Street, resulting in a smaller area of construction impacts and ground disturbance compared to the Proposed Project. No construction activities would occur south of Sixth Street for this alternative. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on archaeological resources. Therefore, impacts to archaeological resource would be less than significant with mitigation and less than the Proposed Project.

5.6.4.4.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities associated with the Shortened Northern Path Alternative are not expected to result in impacts to historical resources within the built-environment, as any potential impacts on such built-environment resources would occur exclusively during the construction period. Therefore, there would be no impact to built-environmental historical resources and impacts would be similar to the Proposed Project during operation.

Similar to the Proposed Project, O&M activities would not cause ground disturbance in areas of previously undisturbed soils, thereby avoiding impacts on archaeological resources. Similarly, this alternative would comply with applicable federal, state, and local regulations to protect archaeological resources. Therefore, no impacts to archaeological resources would occur and would be similar to the Proposed Project during operation.

5.6.4.5 Energy

5.6.4.5.1 Construction

Similar to the Proposed Project, construction-related equipment and vehicles associated with the Shortened Northern Path Alternative would comply with applicable federal, state, and local regulations and standards related to energy consumption and conservation. The one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to construct a pedestrian and bicycle path. This alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration compared to the Proposed Project, resulting in the consumption of less fuel during construction. Therefore, impacts to energy would be less than significant and less than the Proposed Project during construction.

5.6.4.5.2 Operations and Maintenance

This alternative would have a shorter alignment and the extent of O&M activities and operation of the path would be reduced compared to the Proposed Project, resulting in less petroleum-based energy use during O&M activities. This alternative would be consistent with local and regional energy consumption reduction goals, but not to the same extent as the Proposed Project. Regardless, O&M activities for this alternative would not be considered a wasteful or inefficient use of nonrenewable resources. Because the Shortened Northern Path Alternative would construct a shorter bicycle path

compared to the Proposed Project, O&M activities of this alternative would result in comparatively less VMT reduction and comparatively greater levels of petroleum-based energy consumption. Therefore, impacts to energy would be less than significant and slightly greater than the Proposed Project during operation.

5.6.4.6 Geology, Soils, and Paleontological Resources

5.6.4.6.1 Construction

Similar to the Proposed Project, the Shortened Northern Path Alternative would be located in an area susceptible to geological hazards and would comply with all applicable building standards and requirements. This alternative would be located substantially within the same area as the Project footprint from the northern terminus at the existing LA River Greenway Trail to Sixth Street. With a shorter alignment, this alternative would result in fewer construction activities and fewer construction impacts compared to the Proposed Project as it relates to geological hazards. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste disposal systems. Therefore, impacts to geology and soils would be less than significant and less than to the Proposed Project during construction.

Construction activities may also result in potential direct impacts to important paleontological resources like the Proposed Project. However, this alternative would construct a shorter bicycle path than the Proposed Project and would therefore have fewer ground-disturbing construction activities and resulting in potentially fewer impacts to paleontological resources. This alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts on paleontological resources; however, impacts to paleontological resources may remain. Therefore, impacts to paleontological resources would be significant and unavoidable and have lesser impacts compared to the Proposed Project during construction.

5.6.4.6.2 Operations and Maintenance

The Shortened Northern Path Alternative would have a shorter alignment and the extent of O&M activities would be reduced compared to the Proposed Project. Thus, operation-related impacts of this alternative related to the exposure of geologic hazards would be less than the Proposed Project. No impacts related to the ability of soils to support septic tanks or alternative waste disposal systems would occur, similar to the Proposed Project. Therefore, impacts to geology and soils would be less than significant and less than the Proposed Project during operation.

Similar to the Proposed Project, O&M activities for this alternative would occur above the underlying geologic rock units that may contain paleontological resources. After construction is completed, these geological units would be buried. Therefore, no impacts to paleontological resources would occur, similar to the Proposed Project, during operation.

5.6.4.7 Greenhouse Gas Emissions

5.6.4.7.1 Construction

Similar to the Proposed Project, construction activities of the Shortened Northern Path Alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG. No construction activities would occur south of Sixth Street for this alternative.

This alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration compared to the Proposed Project, resulting in fewer construction-related GHG emissions. Therefore, impacts related to GHG emissions would be less than significant and less than the Proposed Project during construction.

5.6.4.7.2 Operations and Maintenance

Like the Proposed Project, GHG emissions associated O&M activities for the Shortened Northern Path Alternative would not be considered significant as increasing multimodal transportation networks and reducing on-road VMT is a key component of GHG reduction plans. This alternative would construct a shorter bicycle path compared to the Proposed Project and O&M activities would be reduced, resulting in comparatively less VMT reduction and comparatively greater transportation related GHG emissions. Therefore, impacts related to GHG would be less than significant and greater than the Proposed Project during operation.

5.6.4.8 Hazards and Hazardous Materials

5.6.4.8.1 Construction

The Shortened Northern Path Alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a smaller construction footprint compared to the Proposed Project. No construction activities would occur south of Sixth Street for this alternative. As such, this alternative would require similar uses of hazardous materials during construction but in smaller quantities and would generate lower levels of hazardous wastes. Similar to the Proposed Project, the Shortened Northern Path Alternative would not be located within an airport land use plan or within 2 miles of a public airport or public use airport and would be located within a VHFHSZ. This alternative would incorporate the same construction-related project features as the Proposed Project. Therefore, impacts related to transport, use, and disposal of general construction materials; adopted emergency response plans or emergency evacuation routes; and the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant and have would have lesser impacts compared to the Proposed Project.

Similar to the Proposed Project, impacts associated with the accidental release of hazardous materials at sites of environmental concern and within 0.25 mile of educational institutions may be significant without mitigation, similar to the Proposed Project. Four fewer educational institutions are located within 0.25-mile of this alternative compared to the Proposed Project. In addition, this alternative would have fewer sites of environmental concern than the Proposed Project due to its shorter length. This alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts to less than significant with mitigation. Therefore, impacts to hazards and hazardous materials would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.4.8.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Northern Path Alternative would not involve any subsurface disturbance and would not create a significant hazard to the public or environment; would not be expected to pose a risk to educational institutions within 0.25-mile of the Proposed Project; and would not be located within an airport land use plan or within 2 miles of a public airport or public use airport. Impacts related to emergency access and wildland fire risks would be less than significant. This alternative would construct a shorter bicycle path compared to the

Proposed Project and O&M activities would be reduced. Four fewer educational institutions are located within 0.25-mile of this alternative, which would also have fewer sites of environmental concern than the Proposed Project. Therefore, impacts to hazards and hazardous materials would be less than significant and less than the Proposed Project during operation.

5.6.4.9 Hydrology and Water Quality

5.6.4.9.1 Construction

The Shortened Northern Path Alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration compared to the Proposed Project, thereby resulting in reduced construction activities and a smaller construction footprint. This alternative would not involve construction activities south of Sixth Street and would avoid hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points. However, this alternative would still be located within Reaches 7 and 8 of the LA River, which is the location of the LARER project. Nonetheless, the same mitigation measures as the Proposed Project would be implemented to reduce impacts to the LARER project. In addition, this alternative would be located within a 100-year flood zone.

Similar to the Proposed Project, this alternative would comply with the CGP and other resource agency permits and incorporate the same construction-related project features and mitigation measures as the Proposed Project. As a result, this alternative would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan; impacts related to conflicts with plans would be less than significant. This alternative would not be subject to inundation by seiches or tsunamis, and the risk of release of pollutants during construction is less than significant, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.4.9.2 Operations and Maintenance

The Shortened Northern Path Alternative would construct a shorter bicycle path compared to the Proposed Project, with reduced O&M activities. As a result, this alternative would create fewer new impervious areas that could contribute to nonpoint source stormwater pollution. Therefore, this alternative would require fewer modifications of local storm drain systems and involve the construction of fewer new landscaped areas than the Proposed Project. This alternative would be subject to the same regulatory standards, conditions, and permitting requirements as the Proposed Project, and it includes the same project features as the Proposed Project.

Similar to the Proposed Project, O&M activities would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan; risk of release of pollutants due to inundation would be less than significant.

The Shortened Northern Path Alternative would construct shorter incised and elevated-in-channel path segments than the Proposed Project, resulting in the need for fewer piers to support elevated crossings over the LA River. This alternative would therefore result in a smaller increase in design water level in the channel and fewer impacts on 100-year flood zones than the Proposed Project. With mitigation incorporated, operational impacts to flood flows and flood risk would be reduced to less than significant levels, and this alternative would have fewer impacts compared to the Proposed Project. However, this alternative could still present a conflict with the LARER project, resulting in

significant impacts similar to the Proposed Project. The same mitigation measures as the Proposed Project would be implemented to minimize these impacts. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and less than the Proposed Project during operations.

5.6.4.10 Land Use and Planning

5.6.4.10.1 Construction

Similar to the Proposed Project, construction activities for the Shortened Northern Path Alternative are temporary and would not divide an established community or directly conflict with applicable regional and local land use plans, policies, and regulations. Temporary partial or full roadway and lane closures may occur during construction of this alternative, similar to the Proposed Project. This alternative includes the same project features as the Proposed Project to ensure that construction conflicts in the surrounding area do not occur. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during construction.

5.6.4.10.2 Operations and Maintenance

Similar to the Proposed Project, new access points to the LA River Path and O&M activities for the Shortened Northern Path Alternative would not divide an established community. This alternative would provide an active transportation option connecting surrounding communities and would connect to the existing LA River Greenway Trail to the north and the Class IV separated bikeway located on the Sixth Street Bridge to the south with limited connections to surrounding communities via this access point. Land uses south of Sixth Street would be unchanged compared to the Proposed Project. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during operation.

5.6.4.11 Noise and Vibration

5.6.4.11.1 Construction

Construction activities for the Shortened Northern Path Alternative would be the same for this alternative from the northern terminus of the existing LA River Greenway Trail to Sixth Street as the Proposed Project. This alternative would result in a similar increase in noise and vibration levels in exceedance of FTA construction noise, vibration damage, and vibration annoyance criteria as the Proposed Project. However, due to its shorter alignment, reduction in construction activities, and no construction south of Sixth Street, the number of noise and vibration sensitive receptors affected would be reduced by three sensitive receptors compared to the Proposed Project. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts would also be able to be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Therefore, impacts related to noise and vibration annoyance would be significant and unavoidable and less than the Proposed Project during construction.

5.6.4.11.2 Operations and Maintenance

Similar to the Proposed Project, operational noise of the Shortened Northern Path Alternative would arise in the form of conversational noise by path users and maintenance activities that would generate noise through the use of powered hand tools and maintenance equipment. Similarly, O&M activity would be intermittent, would occur along the LA River, and would be expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Both path user and maintenance noise would generally be overshadowed by or similar to existing noise levels and impacts would be less than significant. O&M activities would generate vibration, but path users would not. Similar to the Proposed Project, maintenance activities would occur within the confines of the bike path and sensitive structures would typically be located more than 25 feet away. The FTA vibration damage and annoyance criteria would not be exceeded. However, with a shorter alignment from the northern terminus of the existing LA River Greenway Trail to Sixth Street, the number of noise and vibration sensitive receptors exposed to operational noise would be reduced compared to the Proposed Project. Therefore, impacts related to noise and vibration would be less than significant and less than the Proposed Project during operation.

5.6.4.12 Population and Housing

5.6.4.12.1 Construction

Similar to the Proposed Project, construction activities for the Shortened Northern Path Alternative would be temporary, would not directly or indirectly induce unplanned population growth in the area, and would not result in the displacement of housing. Construction workers are anticipated to be existing contractors or new hires who live within driving distance to the job site, eliminating the need for them to relocation, and would not require moving to the surrounding area for work. Population, housing, or employment growth would not be expected to occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community.

This alternative would require fewer permanent and temporary acquisitions compared to the Proposed Project because of the shortened alignment; however, no residential uses would be affected. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with this alternative. This alternative would not displace substantial numbers of existing people or housing. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during construction.

5.6.4.12.2 Operations and Maintenance

Similar to the Proposed Project, no new housing or businesses or other infrastructure improvements are proposed for the Shortened Northern Path Alternative. O&M activities would be conducted by existing staff members and would not induce substantial unplanned population growth to the area. Therefore, like the Proposed Project, operation of this Alternative would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the area beyond adopted growth projections. O&M activities would occur substantially within the same footprint as the Proposed Project from the northern terminus at the existing LA River Greenway Trail to the southern terminus at Sixth Street and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during operation.

5.6.4.13 Public Services/Safety and Security

5.6.4.13.1 Construction

Similar to the Proposed Project, construction activities of the Shortened Northern Path Alternative would not necessitate new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. With a shorter alignment, fewer construction activities, a smaller construction footprint, and a shorter construction duration, this alternative would have reduced impacts compared to the Proposed Project. No construction activities would occur south of Sixth Street for this alternative. Temporary lane and street closures could temporarily affect the pedestrian and bicycle environment, motorist safety, school route safety, and emergency response services, though to a lesser extent than the Proposed Project. This alternative would coordinate with police, medical, and fire services, develop construction staging plans, and comply with applicable regulations. This alternative includes the same project features as the Proposed Project to maintain fire and emergency service response times during construction. This alternative would not induce population growth that would impact public services and emergency services. No impacts would occur to schools or libraries during construction. Therefore, impacts related to public services/safety and security would be less than significant and less than the Proposed Project during construction.

5.6.4.13.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities for the Shortened Northern Path Alternative would not necessitate new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. This alternative would not induce population growth and would not be expected to increase the demand for school and library services. The extent of potential impacts related to public service facilities and services, emergency response, and performance objectives would be reduced compared to the Proposed Project as a result of the reduced length of this alternative. Therefore, impacts to public services/safety and security would be less than significant and less than the Proposed Project during operation.

5.6.4.14 Recreation

5.6.4.14.1 Construction

Similar to the Proposed Project, construction activities of the Shortened Northern Path Alternative would not require the provision of new park recreational facilities to maintain service ratios. This alternative would have a shorter alignment and would require fewer construction activities and a shorter construction duration compared to the Proposed Project. No construction activities would occur south of Sixth Street for this alternative. Construction activities and temporary lane and street closures could temporarily impact parks and recreational facilities, similar to the Proposed Project but to a lesser extent. This alternative includes the same project features as the Proposed Project to maintain access to nearby parks and recreational facilities. This alternative would not induce population growth that would impact demand for parks and recreational facilities. Therefore, impacts related to parks and recreation would be less than significant and less than the Proposed Project during construction.

5.6.4.14.2 Operations and Maintenance

Similar to the Proposed Project, the Shortened Northern Path Alternative would provide a new active transportation path that would connect the existing population to surrounding communities, parks, and recreational facilities. The improved connections and the associated impacts to existing recreation facilities would be reduced compared to the Proposed Project because of the shorter path length. O&M activities would not result in adverse physical effects on the environment beyond the effects of this alternative and would not require the construction of new or expanded existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities. Therefore, impacts to recreation would be less than significant and less than the Proposed Project during operation.

5.6.4.15 Transportation

5.6.4.15.1 Construction

Similar to the Proposed Project, temporary construction activities for the Shortened Northern Path Alternative could cause increased delays for drivers due to added construction traffic and lane reductions or longer travel distances due to detours. Construction activities could also result in temporary roadway effects that could result in increased hazards due to geometric design features; temporarily increase VMT; result in temporary transportation effects on roadway and pedestrian and bicycle facilities; and result in inadequate emergency access. This alternative would not conflict or be inconsistent with applicable plans. With a shorter alignment, this alternative would have fewer construction activities compared to the Proposed Project, and the increase in temporary VMT would be less compared to the Proposed Project. The area affected by temporary construction traffic would also be reduced compared to the Proposed Project. Like the Proposed Project, the Shortened Northern Path Alternative includes the same project features as the Proposed Project to manage construction-related transportation disruptions on roadways. Therefore, overall impacts related to transportation would be less than significant and less than the Proposed Project during construction.

5.6.4.15.2 Operations and Maintenance

Similar to the Proposed Project, the Shortened Northern Path Alternative is consistent with applicable transportation goals, policies, and plans. Similar to the Proposed Project, this alternative would not conflict with any programs, plans, or policies addressing the circulation system. This alternative is anticipated to result in an overall reduction of vehicle travel and direct reduction in VMT. However, this alternative would not connect to existing bike facilities south of Sixth Street and would therefore result in less VMT reduction than the Proposed Project.

Similar to the Proposed Project, this alternative would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in a way that would affect emergency response routes. The O&M plan would include standards and provisions to maintain these accesses to allow for emergency responders access to LA River. Similar to the Proposed Project, this alternative would be designed in compliance with applicable federal, state, and local regulations serving people with disabilities that would ensure that impacts related to design hazards or incompatible land use would be less than significant. Therefore, due to the lower reduction in VMTs, overall impacts related to transportation would be less than significant and slightly greater than the Proposed Project during operation.

5.6.4.16 Tribal Cultural Resources

5.6.4.16.1 Construction

Like the Proposed Project, the Shortened Northern Path Alternative would not have any identified TCRs in the area of direct impact. This alternative would implement the same mitigation measures as the Proposed Project so that potential significant impacts on any previously undiscovered TCRs would be reduced to less than significant. In addition, this alternative would have a smaller project footprint compared to the Proposed Project. Therefore, impacts to TCRs would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.4.16.2 Operations and Maintenance

Like the Proposed Project, O&M activities for the Shortened Northern Path Alternative are not expected to include ground disturbance in previously undisturbed soils. Impacts to TCRs are anticipated to be limited to construction activities. Therefore, no impact to TCRs would occur and would be similar to the Proposed Project during operation.

5.6.4.17 Utilities and Service Systems

5.6.4.17.1 Construction

The usage of utilities during construction of the Shortened Northern Path Alternative would be nominal and reduced compared to the Proposed Project because this alternative would have a shorter alignment and fewer construction activities and a smaller construction area. This alternative would comply with applicable regulations and include the same project features as the Proposed Project so that extended disruptions to utilities and service systems would not occur. Therefore, impacts to utilities and service systems would be less than significant and less severe than the Proposed Project during construction.

5.6.4.17.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Northern Path Alternative would not require the relocation or construction of new or additional utilities; would include a negligible amount of long-term, permanent source of water use; and would not significantly increase wastewater or solid waste. The usage of utilities would be nominal and reduced compared to the Proposed Project because of the shorter alignment. Therefore, impacts to utilities and service systems would be less than significant and less than the Proposed Project during operation.

5.6.4.18 Wildfire

5.6.4.18.1 Construction

The Shortened Northern Path Alternative would be within the same footprint as the Proposed Project from the northern terminus at the existing LA River Greenway Trail to the southern terminus at Sixth Street. This includes the area north of North Broadway that is in a designated VHFHSZ. Similarly, this alternative would comply with applicable emergency response procedures and fire safety regulations. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during construction activities, or expose people or structures to significant flooding or landslides. This

alternative also includes the same project features as the Proposed Project. Therefore, impacts to wildfire would be less than significant and similar to the Proposed Project during construction.

5.6.4.18.2 Operations and Maintenance

O&M activities of the Shortened Northern Path Alternative would comply with applicable emergency response procedures. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during operation, or expose people or structures to significant flooding or landslides. This alternative includes the same project features as the Proposed Project to effectively manage wildfire risks. Therefore, wildlife impacts during operation would be less than significant and similar to the Proposed Project.

5.6.5 Shortened Southern Path Alternative

The following provides an analysis of potential impacts of the Shortened Southern Path Alternative in comparison to the Proposed Project.

5.6.5.1 Aesthetics/Visual Quality

5.6.5.1.1 Construction

Similar to the Proposed Project, the Shortened Southern Path Alternative would be located in a highly developed and well-lit area and would not represent a substantial change in the lighting environment of the area. This alternative would have a shorter alignment and fewer river crossings compared to the Proposed Project. This alternative would have its footprint within the same footprint as the Proposed Project from First Street to the southern terminus at Atlantic Boulevard. This alternative would have similar impacts to the Proposed Project within this area. No construction activities would occur north of First Street for this alternative.

Construction would entail lower levels of lighting and glare and would not result in a substantial change in the area's lighting environment. No scenic vistas or scenic highways are visible from this alternative. In addition, the uses along the LA River and within the footprint of this alternative are primarily industrial, and sensitive uses and scenic resources would not be impacted. Any potential light or glare from construction vehicles onto adjacent properties would be isolated and temporary. This alternative also includes the same project features as the Proposed Project to enhance aesthetics. Therefore, impacts related to aesthetics/visual quality would be less than significant and less than the Proposed Project during construction.

5.6.5.1.2 Operations and Maintenance

Compared to the Proposed Project, the Shortened Southern Path Alternative would be a shortened alignment and would have fewer river crossings that could result in fewer visual impacts along the LA River compared to the Proposed Project. North of First Street, changes in the visual character or quality of historic resources would not occur. Like the Proposed Project, permanent visual features would be included along the LA River south of First Street. Further, this alternative would not represent a substantial change in the lighting environment of the area to the extent that nighttime views that are currently available would become unavailable. Similar to the Proposed Project, lighting would be limited to that necessary for public safety. With the shorter alignment, potential light or glare from O&M activities would be less than the Proposed Project. Therefore, impacts related to

aesthetic/visual quality would be less than significant and less than the Proposed Project during operation.

5.6.5.2 Air Quality

5.6.5.2.1 Construction

Compared to the Proposed Project, the Shortened Southern Path Alternative would have a shorter alignment with fewer river crossings and would require fewer construction activities and a shorter construction duration than the Proposed Project. No construction activities would occur north of First Street for this alternative. As a result, this alternative would result in fewer construction-related emissions and reduced levels of construction-related odors than the Proposed Project. Similar to the Proposed Project, this alternative would be required to comply with applicable air quality regulations, thereby ensuring emissions would be controlled, would remain below the SCAQMD mass daily screening thresholds, and would minimize diesel PM emissions. Therefore, impacts related to air emissions would be less than significant and less than the Proposed Project during construction.

5.6.5.2.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Southern Path Alternative would introduce long-term operational air pollutant emissions. However, as with the Proposed Project, these new sources of emissions would be partially offset with the reduction of passenger vehicle trips, resulting in VMT reduction and associated air emission pollutant decreases. However, because of the Shortened Southern Path Alternative, this alternative would not reduce VMT to the same degree as the Proposed Project. Similar to the Proposed Project, long-term exposure of sensitive receptors to diesel PM from O&M activities would not occur. Therefore, impacts related to air quality would be less than significant and greater compared to the Proposed Project during operation.

5.6.5.3 Biological Resources

5.6.5.3.1 Construction

The Shortened Southern Path Alternative would result in similar impacts as the Proposed Project to the heritage trees located near the Downey Recreation Center. The Shortened Southern Path Alternative would comply with all required applicable regulations and includes the same project features as the Proposed Project related to native tree and shrub species, special-status species, and protected trees. No construction activities would occur north of First Street for this alternative and would not impact protected trees located on the west bank of the LA River between SR-110 and the Riverside Drive Bridge. Thus, this alternative would require fewer tree removals than the Proposed Project, resulting in slightly lesser impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats as the Proposed Project. Construction activities may also have the potential to directly and indirectly disturb or temporarily displace nesting birds and roosting bats, including maternity roosts resulting in significant impacts. This alternative would implement the same mitigation measures as the Proposed Project to reduce impacts to migratory birds and roosting bats to less than significant levels. Therefore, impacts related to biological resources would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.5.3.2 Operations and Maintenance

The Shortened Southern Path Alternative would result in similar impacts to biological resources during O&M activities as the Proposed Project but at reduced levels because of the shorter alignment and reduced O&M activities. This alternative would result in less than significant O&M impacts to protected species and the movement of fish and wildlife species. Similar to the Proposed Project, this alternative would result in no impacts to riparian habitats and other sensitive natural vegetation communities and wetlands, and would not conflict with local, regional, and state plans, policies and/or ordinances. Like the Proposed Project, this alternative is located in a highly urbanized area and would not impact bats or birds. Locally protected trees and shrubs are not expected to be removed or disturbed during O&M activities for this alternative and no impact is expected. Therefore, impacts related to biological resources impacts would be less than significant and less than the Proposed Project during operation.

5.6.5.4 Cultural Resources

5.6.5.4.1 Construction

Numerous built-environment historical resources are situated on both sides of the LA River Channel as well as numerous historic bridges that cross the channel. The Shortened Southern Path Alternative would be similar to the Proposed Project in its potential to impact historic bridges as the path would be perpendicular to identified historic bridges requiring the path to pass under, over, or through these resources. However, compared to the Proposed Project, potentially significant impacts to the North Main Street Bridge and Cesar E Chavez Viaduct associated with the path alignment of the Proposed Project would be avoided by this alternative. The Shortened Southern Path Alternative would result in construction-related vibration impacts to historic resources located primarily along the west bank of the LA River Channel in proximity to construction activities. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by 15 properties compared to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts related to cultural resources would be less than significant with mitigation and less than the Proposed Project during construction.

The Shortened Southern Path Alternative would involve ground-disturbing and excavation activities and pose similar risk for causing significant direct and indirect impacts to known and unknown archaeological resources or human remains. Construction activities would only occur between the northern terminus at First Street to the southern terminus at Atlantic Boulevard. No construction activities would occur north of First Street for this alternative. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on archaeological resources. Therefore, impacts related to archaeological resources would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.5.4.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Southern Path Alternative are not expected to result in impacts to historical resources within the built-environment, as all potential impacts on such built-environment resources would occur exclusively during the construction period. Therefore, there would be no impact to built-environmental historical resources and impacts would be similar to the Proposed Project during operation.

Similar to the Proposed Project, O&M activities would not cause ground disturbance in areas of previously undisturbed soils, thereby avoiding impacts on archaeological resources. Similarly, this alternative would comply with applicable federal, state, and local regulations to protect archaeological resources. Therefore, no impacts to archaeological resources would occur and would be similar to the Proposed Project during operation.

5.6.5.5 Energy

5.6.5.5.1 Construction

Similar to the Proposed Project, construction-related equipment and vehicles associated with the Shortened Southern Path Alternative would comply with applicable federal, state, and local regulations and standards related to energy consumption and conservation. The one-time expenditure of fuel is not considered a wasteful or inefficient use of nonrenewable resources as the fuel is being used to construct a pedestrian and bicycle path. This alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration compared to the Proposed Project, resulting in the consumption of less fuel during construction. Therefore, impacts to energy would be less than significant and less than Proposed Project during construction.

5.6.5.5.2 Operations and Maintenance

This alternative would have a shorter alignment and the extent of O&M activities would be reduced compared to the Proposed Project, resulting in less petroleum-based energy use during O&M activities. This alternative would be consistent with local and regional energy consumption reduction goals, but not to the same extent as the Proposed Project. Regardless, O&M activities for this alternative would not be considered a wasteful or inefficient use of nonrenewable resources. Because the Shortened Southern Path Alternative would construct a shorter bicycle path compared to the Proposed Project, operation of this alternative would result in comparatively less VMT reduction and comparatively greater levels of petroleum-based energy consumption. Therefore, impacts to energy would be less than significant and slightly greater than the Proposed Project during operation.

5.6.5.6 Geology, Soils, and Paleontological Resources

5.6.5.6.1 Construction

Similar to the Proposed Project, the Shortened Southern Path Alternative would be located in an area susceptible to geological hazards and would comply with all applicable building standards and requirements. This alternative would be located substantially within the same area as the Project footprint from the northern terminus at First Street to the southern terminus at Atlantic Boulevard. With a shorter alignment, this alternative would result in fewer construction activities and fewer construction impacts compared to the Proposed Project as it relates to geological hazards. Similar to the Proposed Project, there would be no impacts related to the ability of soils to support septic tanks or alternative waste disposal systems. Therefore, impacts to geology and soils would be less than significant and less than the Proposed Project during construction.

Construction activities may also result in potential direct impacts to important paleontological resources, similar to the Proposed Project. However, this alternative would construct a shorter bicycle path than the Proposed Project and would therefore have fewer ground-disturbing construction

activities and result in potentially fewer impacts to paleontological resources. This alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts on paleontological resources; however, impacts to paleontological resources may remain. Therefore, impacts to paleontological resources would be significant and unavoidable and less than the Proposed Project during construction.

5.6.5.6.2 Operations and Maintenance

This alternative would have a shorter alignment and the extent of O&M activities would be reduced compared to the Proposed Project. Thus, operation-related impacts of this alternative related to the exposure of geologic hazards would be less than the Proposed Project. No impacts related to the ability of soils to support septic tanks or alternative waste disposal systems would occur, similar to the Proposed Project. Therefore, impacts to geology and soils impacts would be less than significant and less than the Proposed Project during operation.

Similar to the Proposed Project, O&M activities would occur above the underlying geologic rock units that may contain paleontological resources. After construction is completed, these geological units would be buried. Therefore, like the Proposed Project, no impacts to paleontological resources would occur during operation.

5.6.5.7 Greenhouse Gas Emissions

5.6.5.7.1 Construction

Similar to the Proposed Project, construction activities of the Shortened Southern Path Alternative would not conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing emissions of GHG. No construction activities would occur north of First Street for this alternative. This alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities and a shorter construction duration compared to the Proposed Project, resulting in fewer construction-related GHG emissions. Therefore, impacts related to GHG emissions would be less than significant and less than the Proposed Project during construction.

5.6.5.7.2 Operation and Maintenance

Like the Proposed Project, GHG emissions associated with O&M activities for the Shortened Southern Path Alternative would not be considered significant as increasing multimodal transportation networks and reducing on-road VMT is a key component of GHG reduction plans. This alternative would have reduced O&M activities but would construct a shorter bicycle path compared to the Proposed Project, resulting in comparatively less VMT reduction and comparatively greater transportation related GHG emissions. Therefore, impacts related to GHG would be less than significant and greater than the Proposed Project during operation.

5.6.5.8 Hazards and Hazardous Materials

5.6.5.8.1 Construction

The Shortened Southern Path Alternative would have a shorter alignment with fewer river crossings that would require reduced construction activities, a smaller construction footprint, and a shorter construction duration compared to the Proposed Project. No construction activities would occur north

of First Street for this alternative. As such, this alternative would require similar uses of hazardous materials during construction but in smaller quantities and would generate lower levels of hazardous wastes. Similar to the Proposed Project, this alternative would not be located within an airport land use plan or within 2 miles of a public airport or public use airport. Unlike the Proposed Project, this alternative would not be located within a VHFHSZ. This alternative would incorporate the same construction-related project features as the Proposed Project. Therefore, impacts related to transport, use, and disposal of general construction materials; adopted emergency response plans or emergency evacuation routes; and the exposure of people or structures to a significant risk of loss, injury, or death involving wildland fires would be less than significant and less than the Proposed Project.

Similar to the Proposed Project, impacts associated with the accidental release of hazardous materials at sites of environmental concern and within 0.25 mile of educational institutions may be significant without mitigation, similar to the Proposed Project. Eight fewer educational institutions would be located within 0.25-mile of this alternative and fewer sites of environmental concern would be present than for the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce construction impacts to less than significant with mitigation. Therefore, impacts to hazards and hazardous materials would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.5.8.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Southern Path Alternative would not involve any subsurface disturbance and would not create a significant hazard to the public or environment; would not be expected to pose a risk to educational institutions within 0.25-mile of the Proposed Project; and would not be located within an airport land use plan or within 2 miles of a public airport or public use airport. This alternative would construct a shorter bicycle path compared to the Proposed Project and O&M activities and would not be located within a VHFHSZ. Thus, impacts related to emergency access and wildland fire risks would be less than the Proposed Project. Eight fewer educational institutions are located within 0.25-mile of this alternative and fewer sites of environmental concern would be present than for the Proposed Project. Therefore, impacts to hazards and hazardous materials would be less than significant and less than the Proposed Project during operation.

5.6.5.9 Hydrology and Water Quality

5.6.5.9.1 Construction

The Shortened Southern Path Alternative would have a shorter alignment with fewer river crossings that would require fewer construction activities, a smaller construction footprint, and a shorter construction duration compared to the Proposed Project, thereby resulting in reduced construction activities and a smaller construction footprint. This alternative would be located substantially within the same area as the Project footprint from the northern terminus at First Street to the southern terminus at Atlantic Boulevard. The Shortened Southern Path would not involve construction activities north of First Street and would avoid hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project near the Albion Park, Mission Road/Cesar E Chavez Avenue, and Union Station access points. This alternative would avoid Reach 7 and Reach 8 of the LA River and conflicts with the LARER project. However, hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points would still occur. This alternative would not be located within a 100-year flood zone. Nonetheless, the same

mitigation measures related to construction as the Proposed Project would be implemented for this alternative.

Similar to the Proposed Project, this alternative would comply with the CGP and other resource agency permits and would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan, and impacts related to conflicts with plans would be less than significant. This alternative would not be subject to inundation by seiches or tsunamis, and the risk of release of pollutants during construction is less than significant with mitigation, similar to the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and less than the Proposed Project during construction.

5.6.5.9.2 Operations and Maintenance

The Shortened Southern Path Alternative would construct a shorter bicycle path compared to the Proposed Project and O&M activities would be reduced. As a result, this alternative would have fewer new impervious areas that could contribute to nonpoint source stormwater pollution compared to the Proposed Project. Therefore, this alternative would require fewer modifications of local storm drain systems and construct fewer new landscaped areas than the Proposed Project.

Similar to the Proposed Project, O&M activities would not conflict with or obstruct implementation of the applicable water quality control plan or sustainable groundwater management plan. The risk of release of pollutants due to inundation would be less than significant and less than the Proposed Project during operation.

The Shortened Southern Path Alternative would construct shorter incised and elevated-in-channel path segments than the Proposed Project and would result in the construction of fewer piers to support elevated crossings over the LA River. Unlike the Proposed Project, the Shortened Southern Path Alternative would not operate within a 100-year flood zone and would result in a smaller design water level increase compared to the Proposed Project. Operational impacts to flood flows and flood risk would be reduced to a level of less than significant with mitigation incorporated, and this alternative would have lesser impacts compared to the Proposed Project. Additionally, this alternative would not be within Reach 7 and Reach 8 of the LA River and would not conflict with the LARER project, and no impact would occur. With the exception of project features and mitigation measures related to LARER project, this alternative includes the same project features and would implement the same mitigation measures as the Proposed Project. Therefore, impacts to hydrology and water quality would be less than significant with mitigation and less than the Proposed Project during operations.

5.6.5.10 Land Use and Planning

5.6.5.10.1 Construction

Similar to the Proposed Project, construction activities for the Shortened Southern Path Alternative are temporary and would not result in impacts related to the division of an established community nor directly conflict with applicable regional and local land use plans, policies, and regulations. Temporary partial or full roadway and lane closures may occur during construction of this alternative. This alternative includes the same project features as the Proposed Project to help manage temporary construction disruptions to the surrounding area. Therefore, impacts to land use and planning would be less than significant and similar to the Proposed Project during construction.

5.6.5.10.2 Operations and Maintenance

Similar to the Proposed Project, new access points to the LA River Path and O&M activities for the Shortened Southern Path Alternative would not divide an established community. This alternative would provide an active transportation option connecting surrounding communities, and would connect the existing Class II bicycle path on the First Street Bridge and the Metro E Line Little Tokyo Station to the north to the existing Atlantic Boulevard LA River Path access point to the south. This would also create connections to surrounding communities via this access point. No impacts to land use would occur north of First Street. Therefore, impacts to land use would be less than significant and similar to the Proposed Project during operation.

5.6.5.11 Noise and Vibration

5.6.5.11.1 Construction

Construction activities for the Shortened Southern Path Alternative would be the same from First Street to the southern terminus at Atlantic Boulevard as the Proposed Project. This alternative would result in a similar increase in noise and vibration levels in exceedance of FTA construction noise, vibration damage, and vibration annoyance criteria as the Proposed Project. However, due to its shorter alignment with no construction north of First Street, the number of noise and vibration sensitive receptors affected would be reduced by 19 sensitive receptors compared to the Proposed Project. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by 15 properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts could also be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Therefore, impacts to noise and vibration annoyance would be significant and unavoidable, but less than the Proposed Project during construction.

5.6.5.11.2 Operations and Maintenance

Similar to the Proposed Project, operational noise of the Shortened Southern Path Alternative would arise in the form of conversational noise by path users and maintenance activities that would generate noise through the use of powered hand tools and maintenance equipment. However, O&M activity would be intermittent, occur along the LA River, and is expected to be of short duration and limited to daytime hours when near noise-sensitive uses. Both path user and maintenance noise would generally be overshadowed by or similar to existing noise levels and impacts would be less than significant. Maintenance activities would generate vibration, but path users would not. Similar to the Proposed Project, maintenance activities would occur within the confines of the bike path and sensitive structures would typically be located more than 25 feet away. The FTA vibration damage and annoyance criteria would not be exceeded. It is anticipated that the number of noise and vibration sensitive receptors exposed to operational noise would be reduced compared to the Proposed Project as a result of the shortened length from First Street to the southern terminus at Atlantic Boulevard. Therefore, impacts related to noise and vibration would be less than significant and less than the Proposed Project during operation.

5.6.5.12 Population and Housing

5.6.5.12.1 Construction

Similar to the Proposed Project, construction activities for the Shortened Southern Path Alternative would be temporary, would not directly or indirectly induce unplanned population growth in the area, and would not result in the displacement of housing. Construction workers are anticipated to be existing contractors or new hires who live within driving distance to the job site, eliminating the need for them to relocate to the surrounding area for work. Population, housing, or employment growth is not expected to occur directly or indirectly beyond that already anticipated in the SCAG growth projections for the region and in local community.

This alternative would require fewer permanent and temporary acquisitions compared to the Proposed Project because of the shortened alignment. Full compliance with the California Relocation Act, Metro relocation policies and procedures, and other applicable policies would minimize displacement impacts associated with this alternative. This alternative would not displace substantial numbers of existing people or housing. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during construction.

5.6.5.12.2 Operations and Maintenance

Similar to the Proposed Project, no new housing or businesses, or other infrastructure improvements are proposed for the Shortened Southern Path Alternative. O&M activities would be conducted by existing staff members and would not induce substantial unplanned population growth to the area. Therefore, like the Proposed Project, operation of this alternative would not directly or indirectly induce substantial unplanned population, housing, or employment growth in the area beyond adopted growth projections. O&M activities would be located substantially within the same footprint as the Proposed Project from the northern terminus at the First Street to the southern terminus at Atlantic Boulevard and would not displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere. Therefore, impacts to population and housing would be less than significant and similar to the Proposed Project during operation.

5.6.5.13 Public Services/Safety and Security

5.6.5.13.1 Construction

Similar to the Proposed Project, construction activities for the Shortened Southern Path Alternative would not require the need for new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. This alternative would have a shorter alignment and would require fewer construction activities, a smaller construction footprint, and a shorter construction duration compared to the Proposed Project. No construction activities would occur north of First Street for this alternative. Construction activities and temporary lane and street closures could temporarily affect the pedestrian and bicycle environment, motorist safety, school route safety, and emergency response services, similar to the Proposed Project but to a lesser extent. This alternative would coordinate with police, medical, and fire services, develop construction staging plans, and comply with applicable regulations. This alternative includes the same project features as the Proposed Project to help maintain fire and emergency service response times during construction. This alternative would not induce population growth that would impact public services and emergency services. No impacts would occur to schools or libraries during construction. Therefore, impacts

related to public services/safety and security would be less than significant and less than the Proposed Project during construction.

5.6.5.13.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities for the Shortened Southern Path Alternative would not necessitate new or physically altered public service facilities to maintain acceptable service ratios, response times, and other performance objectives. This alternative would not induce population growth and is not expected to increase the demand for school and library services. The extent of potential impacts related to public service facilities and services, emergency response, and performance objectives would be reduced compared to the Proposed Project as a result of the reduced length of this alternative. Therefore, impacts to public services/safety and security would be less than significant and less than the Proposed Project during operation.

5.6.5.14 Recreation

5.6.5.14.1 Construction

Similar to the Proposed Project, construction activities of the Shortened Southern Path Alternative would not require the provision of new park or recreational facilities to maintain service ratios. This alternative would have a shorter alignment and would require fewer construction activities and a shorter construction duration compared to the Proposed Project. No construction activities would occur north of First Street for this alternative. Construction activities and temporary lane and street closures could temporarily impact parks and recreational facilities, similar to the Proposed Project but to a lesser extent. This alternative includes the same project features as the Proposed Project to maintain access to nearby parks and recreational facilities. This alternative would not induce population growth that would impact demand for parks and recreational facilities. Therefore, impacts related to parks and recreation would be less than significant and less than the Proposed Project during construction.

5.6.5.14.2 Operations and Maintenance

Similar to the Proposed Project, the Shortened Southern Path Alternative would provide a new active transportation path that would connect the existing population to surrounding communities, parks, and recreational facilities. The improved connections and the associated impacts to existing recreation facilities would be reduced compared to the Proposed Project because of the shorter path length. O&M activities would not result in adverse physical effects on the environment beyond the effects of this alternative and would not require the construction of new or expanded existing parks, recreational facilities, and bikeways to maintain service ratios of these facilities. Therefore, impacts to recreation would be less than significant and less than the Proposed Project during operation.

5.6.5.15 Transportation

5.6.5.15.1 Construction

Similar to the Proposed Project, temporary construction activities for the Shortened Southern Path Alternative could cause increased delays for drivers due to added construction traffic and lane reductions or longer travel distances due to detours. This alternative may also result in temporary roadway effects that could result in increased hazards due to geometric design features; temporarily increased VMT; temporary transportation effects on roadway and pedestrian and bicycle facilities; and

inadequate emergency access. This alternative would not conflict or be inconsistent with applicable plans. As this alternative would have fewer construction activities compared to the Proposed Project, the increase in temporary VMT would be less compared to the Proposed Project and the area affected by temporary construction traffic would be reduced compared to the Proposed Project. Like the Proposed Project, the Shortened Southern Path Alternative includes the same project features to manage transportation during construction. Therefore, impacts related to transportation would be less than significant and less than the Proposed Project during construction.

5.6.5.15.2 Operations and Maintenance

Similar to the Proposed Project, the Shortened Southern Path Alternative is consistent with applicable transportation goals, policies, and plans. Similar to the Proposed Project, this alternative would not conflict with any programs, plans, or policies addressing the circulation system. This alternative is anticipated to result in an overall reduction of vehicle travel and direct reduction in VMT. However, this alternative would result in a reduction of connections to existing bike facilities north of First Street and would therefore result in less VMT reduction than the Proposed Project.

Similar to the Proposed Project, this alternative would not introduce new streets, involve permanent street closures, or otherwise alter the existing roadway network in a way that would affect emergency response routes. The O&M plan would include standards and provisions to maintain these accesses to allow for emergency responders access to LA River. Similar to the Proposed Project, this alternative would be designed in compliance with applicable federal, state, and local regulations serving people with disabilities that would ensure that impacts related to design hazards or incompatible land use would be less than significant. Therefore, due to the smaller reduction in VMT, overall impacts related to transportation would be less than significant with slightly greater impacts compared to the Proposed Project during operation.

5.6.5.16 Tribal Cultural Resources

5.6.5.16.1 Construction

Like the Proposed Project, the Shortened Southern Path Alternative would not have any identified TCRs in the area of direct impact. This alternative would implement the same mitigation measures as the Proposed Project so that potential significant impacts on any previously undiscovered TCRs would be reduced to less than significant levels. In addition, this alternative would have a smaller project footprint compared to the Proposed Project. Therefore, impacts to TCRs would be less than significant with mitigation and less severe than the Proposed Project during construction.

5.6.5.16.2 Operations and Maintenance

Like the Proposed Project, O&M activities for the Shortened Southern Path Alternative are not expected to include ground disturbance in previously undisturbed soils. Impacts to TCRs are anticipated to be limited to construction activities. Therefore, no impact to TCRs would occur during operation and would be similar to the Proposed Project during operation.

5.6.5.17 Utilities and Service Systems

5.6.5.17.1 Construction

The usage of utilities during construction of the Shortened Southern Path Alternative would be nominal and lower than the Proposed Project due to its shorter alignment, reduced construction activities, and smaller construction footprint. This alternative would comply with applicable regulations and include the same project features as the Proposed Project, ensuring that substantial conflicts with utilities and service systems would not occur. Therefore, impacts to utilities and service systems would be less than significant and less than the Proposed Project during construction.

5.6.5.17.2 Operations and Maintenance

Similar to the Proposed Project, O&M activities of the Shortened Southern Path Alternative would not require the relocation or construction of new or additional utilities; would include a negligible amount of long-term, permanent source of water use; and would not significantly increase wastewater or solid waste. The usage of utilities would be nominal but reduced because of the shorter alignment. Therefore, impacts to utilities and service systems would be less than significant and less than the Proposed Project during operation.

5.6.5.18 Wildfire

5.6.5.18.1 Construction

The Shortened Southern Path Alternative would be within the same footprint as the Proposed Project south of First Street and would not be located within a designated VHFHSZ. This alternative would therefore not have the wildfire impacts associated with the VHFHSZ that the Proposed Project does. This alternative would comply with applicable emergency response procedures and fire safety regulations. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during construction activities, or expose people or structures to significant flooding or landslides. This alternative would not incorporate wildfire-related project features as the Proposed Project does. Therefore, no impacts to wildfire would occur and impacts are less than the Proposed Project during construction.

5.6.5.18.2 Operations and Maintenance

O&M activities of the Shortened Southern Path Alternative would comply with applicable emergency response procedures. This alternative would not impact adopted emergency plans, exacerbate wildfire or fire risks during operation, or expose people or structures to significant flooding or landslides. This alternative would not include wildfire-related project features. Therefore, no impacts to wildfire would occur and impacts are less than the Proposed Project during operation.

5.7 Comparison of Alternatives

Table 5-1 summarizes the environmental impacts of the alternatives compared to the Proposed Project and identifies if the alternatives would have greater, lesser, or similar impacts compared to the Proposed Project.

Table 5-1. Alternatives Comparison of Environmental Impacts Relative to the Proposed Project

Environmental Topics	Construction/ Operation	Proposed Project	No Project Alternative	Mostly-East Bank Alternative	Mostly-West Bank Alternative	Shortened Northern Path Alternative	Shortened Southern Path Alternative
Aesthetics/Visual Resources	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Air Quality	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Biological Resources	Construction	LTSM	↓	↓	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Cultural Resources	Construction	LTSM	↓	=	=	↓	↓
	Operation	NI	=	=	=	=	=
Energy	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Geology, Soils, and Paleontological Resources	Construction	**SU**	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Greenhouse Gas Emissions	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Hazards and Hazardous Materials	Construction	LTSM	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Hydrology and Water Quality	Construction	LTSM	↓	=	=	↓	↓
	Operation	LTSM	↓	=	=	↓	↓
Land Use and Planning	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↑	=	=	=	=
Noise and Vibration	Construction	**SU**	↓	↓	↓	↓	↓
	Operation	LTS	=	=	=	↓	↓
Population and Housing	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↓	=	=	=	=
Public Services/ Safety and Security	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↓	↓
Recreation	Construction	LTS	↓	=	=	=	=
	Operation	LTS	↑	=	=	↓	↓
Transportation	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↑	=	=	↑	↑
Tribal Cultural Resources	Construction	LTSM	↓	=	=	↓	↓
	Operation	NI	=	=	=	=	=

Table 5-1. Alternatives Comparison of Environmental Impacts Relative to the Proposed Project

Environmental Topics	Construction/ Operation	Proposed Project	No Project Alternative	Mostly-East Bank Alternative	Mostly-West Bank Alternative	Shortened Northern Path Alternative	Shortened Southern Path Alternative
Utilities and Service Systems	Construction	LTS	↓	=	=	↓	↓
	Operation	LTS	↓	=	=	↓	↓
Wildfire	Construction	LTS	↓	=	=	=	↓
	Operation	LTS	↓	=	=	=	↓

Notes:

LTS = Less Than Significant

LTSM = Less Than Significant with Measures Incorporated

NI = No Impact

SU = Significant and Unavoidable

↑: Greater Impacts compared to the Proposed Project

↓: Lesser Impacts compared to the Proposed Project

=: Similar Impacts compared to the Proposed Project

5.7.1 No Project Alternative

The No Project Alternative would have similar impacts compared to the Proposed Project for cultural resources (operation), TCRs (operation), and noise and vibration (operation). The No Project Alternative would not include O&M activities that would disturb cultural resources and TCRs and would result in no impacts. Under the No Project Alternative, impacts for noise and vibration (operation) would be less than significant and have similar impacts to the Proposed Project. The reduction in vehicular traffic associated with the Proposed Project would not occur as a result of the No Project Alternative and VMT would not be reduced. Traffic noise could be greater than Proposed Project, but the No Project Alternative would avoid minor O&M noises associated with the Proposed Project. Therefore, the No Project Alternative would result in less than significant impact related to both noise and vibration, similar to the Proposed Project during operation.

The No Project Alternative would not result in Project-related construction and O&M activities and would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetics/visual resources; air quality (construction); biological resources; cultural resources (construction); energy (construction); geology, soils, and paleontological resources; GHG (construction); hazards and hazardous materials; hydrology and water quality; land use and planning (construction); noise and vibration (construction); population and housing; public services/safety and security (construction); recreation (construction); transportation (construction); TCRs (construction); utilities and service systems; and wildfire.

The No Project Alternative would have greater impacts compared to the Proposed Project for the following environmental resources: air quality (operation), energy (operation), GHG (operation), land use (operation), public services/safety and security (operation), recreation (operation), and transportation (operation). Air quality (operation), energy (operation), GHG (operation), and transportation (operation) impacts would be greater than the Proposed Project as a result having lower VMT reductions compared to the Proposed Project. Land use (operation) impacts would be greater than the Proposed Project because the No Project Alternative would not meet the objectives of the LA River Revitalization Master Plan and other applicable regional and local plans to provide linkages and connections to nearby communities, encourage alternative modes of transportation, and

provide safe bicycle facilities for people of all types and abilities. Public services/safety and security (operation) and recreation (operation) impacts would be greater than the Proposed Project because the No Project Alternative would not construct additional access points to the LA River, nor incorporate additional safety features along the LA River associated with the Proposed Project.

5.7.2 Mostly-East Bank Alternative

The Mostly-East Bank Alternative would have similar impacts for almost all environmental resources compared to the Proposed Project. Impacts to cultural resources (construction) would be less than significant with mitigation and similar to the Proposed Project during construction. Excluding historic bridges, nine identified historical resources are situated along the west bank and two identified historical resources are situated along the east bank through this area. Compared to the Proposed Project, this alternative would avoid potential less than significant impacts to the property and historic setting of HR-44. However, compared to the Proposed Project one additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank and one historic property (HR-33) may no longer be impacted as a result of pile driving no longer occurring in its vicinity. As a result, similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities, which would generally involve those historical resources located along the east bank of the LA River Channel. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources.

This alternative would have fewer impacts related to biological resources (construction) and noise and vibration (construction annoyance). This alternative would have fewer impacts related to biological resources (construction) because it may not require the removal of the southern California black walnut trees located along the western river bank between the Riverside Drive Viaduct and the SR-110 Bridge and would therefore result in fewer impacts related to the removal of protected trees, migratory birds, and loss of nesting habitats than the Proposed Project.

Impacts related to noise and vibration (construction annoyance) would be significant and unavoidable and less than the Proposed Project during construction. The path type near Receptors 17, 18, and 19 would no longer require pile driving and the severity of noise and vibration impacts may be reduced. General construction activity may still result in noise and vibration impacts at these receptors. One additional historic property (HR-38) may be impacted by construction vibration due to the closer proximity of construction activity on the east bank and one historic property (HR-33) may not be impacted as a result of pile driving no longer occurring in its vicinity, compared to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential significant vibration damage impacts would be reduced with the implementation of mitigation measures similar to the Proposed Project. However, like the Proposed Project, construction of the Mostly-East Bank Alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers.

This alternative would not have greater impacts compared to the Proposed Project.

5.7.3 Mostly-West Bank Alternative

The Mostly-West Bank Alternative would have similar impacts for almost all environmental resources compared to the Proposed Project.

Impacts to cultural resources (construction) would be less than significant with mitigation and similar to the Proposed Project during construction. This alternative would have potential less than significant impacts to the historic setting of HR-47 because the path alignment would be situated along the opposite side of the LA River; however, new potential impacts to HR-26 may occur. Such impacts to HR-26 would be similar to those described for Option 2 and would be less than significant. A reduction in vibration impacts at one historic property (HR-33) would also occur due to increased distance from construction activity. As a result, similar to the Proposed Project, this alternative would result in construction-related vibration impacts to historic resources located in close proximity to construction activities which would generally involve those historical resources located along the west bank of the LA River Channel. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources.

Impacts related to noise and vibration (construction annoyance) would be significant and unavoidable and less than the Proposed Project during construction. This path alignment would be predominantly on the west bank where sensitive receptors are sporadically located within primarily industrials uses. As the construction activity would primarily occur on the west bank, sensitive receptors on the east bank would be less impacted by construction noise and vibration. Specifically, residences located between the US-101 freeway and Second Street (Receptors 17, 18, and 19) on the east bank would receive a reduction in noise and vibration impacts as a result of the increased distance and path type no longer requiring pile driving. The One Santa Fe Apartments (Receptor 20) may experience increased construction noise and vibration due to construction activity occurring at a closer distance than under the Proposed Project. A reduction in vibration impacts at HR-33 would also occur due to increased distance from construction activity, compared to the Proposed Project. Potential significant vibration damage impacts would be reduced with the implementation of mitigation measures similar to the Proposed Project. However, like the Proposed Project, construction of the Mostly-West Bank Alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers.

This alternative would not have greater impacts compared to the Proposed Project.

5.7.4 Shortened Northern Path Alternative

The Shortened Northern Path Alternative would have similar impact compared to the Proposed Project for cultural resources (operation), land use planning, population and housing, recreation, TCRs (operation), and wildlife.

As a result of a shortened alignment, this alternative would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction) geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction) and utilities and service systems. In particular, cultural resources (construction) would have reduced impacts because this alignment would avoid potentially significant impacts to the Washington Boulevard Bridge and Atlantic Boulevard Bridge associated with the path alignment of the Proposed Project. The number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties compared to the Proposed Project. This alternative would implement the same mitigation measures as the Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts to historic resources would be less than significant with mitigation and less than the Proposed Project during construction.

Significant and unavoidable impacts related to paleontological resources (construction) and noise and vibration impacts (construction) would be reduced under this alternative, compared to the Proposed Project, due to the shorter alignment and reduced construction activities. However, these impacts would remain significant and unavoidable even after implementation of mitigation measures, though to a lesser extent compared to the Proposed Project. In particular, noise and vibration (construction) would have reduced impacts due to its shorter alignment. The number of noise and vibration sensitive receptors affected would be reduced by three sensitive receptors compared to the Proposed Project and the number of historic properties that would be potentially exposed to excessive vibration would be reduced by six properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts would also be able to be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Impacts to noise and vibration annoyance (construction) would be significant and unavoidable but less than the Proposed Project during construction.

In addition, this alternative would result in fewer impacts for hydrological impacts compared to the Proposed Project. However, this alternative would still be located within LA River Reaches 7 and 8 in conjunction with the LARER project and within a 100-year flood zone, thus requiring mitigation measure specific to Reaches 7 and 8, similar to the Proposed Project. This alternative would not avoid hydrological impacts at Reaches 7 and 8. Nonetheless, this alternative would result in lesser impacts to hydrological resources compared to the Proposed Project because of the shorter alignment and avoidance of hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project south of Sixth Street and near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points.

Similar to the Proposed Project, this alternative would be an active transportation path that would result in a reduction of passenger vehicle trips to the region and in a reduction in VMT. However, as a result of the shortened alignment from the northern terminus of the existing LA River Greenway Trail to Sixth Street, this alternative would not reduce VMTs to the same level as the Proposed Project. As a result, the alternative would have greater levels of impact compared to the Proposed Project for air quality (operation), energy (operation), GHG (operation), and transportation (operation).

5.7.5 Shortened Southern Path Alternative

The Shortened Southern Path Alternative would have similar impacts compared to the Proposed Project for cultural resources (operation), land use planning, population and housing, recreation, and TCRs (operation).

As a result of a shortened alignment from the First Street to southern terminus at Atlantic Boulevard, this alternative would have fewer impacts compared to the Proposed Project for the following environmental resources: aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction) geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction), utilities and service systems, and wildfire. In particular, cultural resources (construction) would have reduced impacts because potentially significant impacts to the North Main Street Bridge and Cesar E Chavez Viaduct associated with the path alignment of the Proposed Project would be avoided by this alternative. The number of historic properties potentially exposed to excessive vibration would be reduced by 15 properties. This alternative would implement the same mitigation measures as the

Proposed Project to avoid construction impacts on built-environment historical resources and impacts. Therefore, impacts to historic resources would be less than significant with mitigation and less than the Proposed Project during construction.

Significant and unavoidable impacts related to paleontological resources (construction) and noise and vibration impacts (construction) would be reduced under this alternative due to the shorter alignment and reduced construction activities compared to the Proposed Project. However, these impacts would remain significant and unavoidable even after implementation of mitigation measures, though to a lesser extent compared to the Proposed Project. In particular, noise and vibration (construction) would have reduced impacts due to its shorter alignment, reduction in construction activities, and no construction north of First Street. The number of noise and vibration sensitive receptors affected would be reduced by 19 sensitive receptors compared to the Proposed Project and the number of historic properties that would be potentially exposed to excessive vibration would be reduced by 15 properties. This alternative would implement the same mitigation measures as the Proposed Project to reduce noise and vibration impacts during construction. It is anticipated that potential vibration damage impacts would also be able to be mitigated. However, like the Proposed Project, this alternative may still result in noise and vibration annoyance impacts due to the proximity of adjacent sensitive receptors and the potential use of pile drivers. Impacts to noise and vibration annoyance (construction) would be significant and unavoidable but less than the Proposed Project during construction.

This alternative would result in lesser impacts for hydrological impacts compared to the Proposed Project. This alternative would not be located within LA River Reaches 7 and 8 in conjunction with the LARER project and would not be within a 100-year flood zone. Thus, the Proposed Project's mitigation measure specific to Reaches 7 and 8 and the LARER project would not be required, and fewer hydrology mitigation measures are needed compared to the Proposed Project. This alternative would still have hydrological impacts associated with the construction of piers and elevated crossings related to the Proposed Project south of Sixth Street and near the Washington Boulevard (Redondo Junction), Bandini-Soto Triangle, and Atlantic Boulevard access points. However, hydrological impacts are reduced because of the shorter alignment and would result in lesser impacts to hydrological resources compared to the Proposed Project. In addition, this alternative would be substantially within the same footprint as the Proposed Project south of First Street and would not be located within a designated VHFHSZ, resulting in no wildfire impacts compared to the Proposed Project.

Similar to the Proposed Project, this alternative would be an active transportation path that would result in a reduction of passenger vehicle trips to the region and in a reduction in VMT. However, as a result of the shortened alignment from the First Street to the southern terminus at Atlantic Boulevard, this alternative would not reduce VMTs to the same level as the Proposed Project. As a result, the alternative would have greater levels of impact compared to the Proposed Project for air quality (operation), energy (operation), GHG (operation), and transportation (operation).

5.8 Environmentally Superior Alternative

According to CEQA Guidelines Section 15126.6(a), a Draft EIR must identify an "environmentally superior alternative" to determine which alternative possesses an overall environmental advantage when compared to all other alternatives evaluated in the Draft EIR. If the environmentally superior alternative is the No Project Alternative, CEQA requires the identification of an environmentally superior alternative other than the No Project Alternative. The environmentally superior alternative can inform decision-makers as part of the project approval process; however, Metro is not required by CEQA to select the environmentally superior alternative as the locally approved project.

As shown in Table 5-1, the No Project Alternative would avoid, have similar, or have reduced significant impacts for almost all environmental resources associated with the Proposed Project, but may have a slightly greater impact related to air quality (operation), energy (operation), GHG (operation), land use and planning (operation), noise and vibration (operation), public services/safety and security (operations), and transportation (operation).

The Shortened Southern Path Alternative would have the greatest reductions in impacts to environmental resources compared to the other alternatives aside from the No Project Alternative. Therefore, the Shortened Southern Path Alternative is the environmentally superior alternative as it would further reduce impacts to aesthetic/visual resources, air quality (construction), biological resources, cultural resources (construction), energy (construction), geology, soils, and paleontological resources, GHG (construction), hazards and hazardous materials, hydrology and water quality, noise and vibration, public services/safety and security, transportation (construction), TCRs (construction), utilities and service systems, and wildfire compared to the Proposed Project.

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CHAPTER 7 REFERENCES

7.1 Chapter 1, Introduction

Los Angeles County Metropolitan Transportation Authority (Metro). 2016. *Los Angeles River Bike Path Gap Closure Feasibility Study*. May 31. https://libraryarchives.metro.net/dpgtl/lariver/20170712-la-river-bike-path-gap-closure-feasibility-study-updated.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Conceptual Design Report: LA River Path*. September. https://www.dropbox.com/scl/fi/78uqw9ywqe8ecz3hiu6tb/190912_LAR_Concept_Design_Report_Final.pdf?rlkey=f3k1it8ddnmi1to45ypab0u60&dl=0.

7.2 Chapter 2, Project Description

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case CPC-2009-871-GPA. https://nacto.org/wp-content/uploads/2012/05/LA-CITY-BICYCLE-PLAN-TDH.pdf.

City of Los Angeles Department of City Planning. 2016. *Mobility Plan 2035: An Element of the General Plan*. Approved by City Planning Commission June 23, 2016. City Plan Case CPC-2013-0910-GPA-SPCA-MSC. Adopted by City Council September 7, 2016. Council File 15-0719-S15. https://planning.lacity.gov/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

Los Angeles County Department of Public Works (LACDPW). 2012. *County of Los Angeles Bicycle Master Plan: Final Plan – March 2012*. March. Prepared by Alta Planning + Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2016. *Los Angeles River Bike Path Gap Closure Feasibility Study*. May 31. https://libraryarchives.metro.net/dpgtl/lariver/20170712-la-river-bike-path-gap-closure-feasibility-study-updated.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Conceptual Design Report: LA River Path*. September. https://www.dropbox.com/scl/fi/78uqw9ywqe8ecz3hiu6tb/190912_LAR_Concept_Design_Report_Final.pdf?rlkey=f3k1it8ddnmi1to45ypab0u60&e=1&dl=0.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2023. *Active Transportation Strategic Plan*. November. https://www.metro.net/projects/active-transportation-strategic-plan-atsp/.

River LA. 2013. "Greenway 2020." https://www.riverla.org/pastprojects/greenway2020-sz8wl-pkz6s.

South Coast Air Quality Management District. 2008. Proposal: *Interim CEQA GHG Significance Threshold for Stationary Sources, Rules and Plans*. Board Agenda 31. December 5. https://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/ghgboardsynopsis.pdf?sfvrsn=2.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

US Army Corps of Engineers (USACE). 2015. *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report*. September. Prepared by USACE Los Angeles District. Record RN 735-17c https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2339.

US Census Bureau. 2019a. "2015–2019 ACS 5-year Estimates." https://www.census.gov/programs-surveys/acs/technical-documentation/table-and-geography-changes/2019/5-year.html.

US Census Bureau. 2019b. "Means of Transportation to Work." Public Transportation Commuters 16 years and Over. https://www.census.gov/library/visualizations/2021/comm/transportation-to-work.html.

US Department of Housing and Urban Development. 2020. "Income Limits." https://www.huduser.gov/portal/datasets/il.html#year2020.

7.3 Chapter 3, Environmental Settings, Impacts, and Mitigations

7.3.1 Section 3.1, Introduction to Environmental Analysis

(No references listed)

7.3.2 Section 3.2, Aesthetics and Visual Resources

Chilhand, Elijah. 2019. "See the LA River cresting toward capacity." *Curbed Los Angeles*. February 5. https://la.curbed.com/2019/2/5/18212575/los-angeles-rain-photos-la-river-levels.

City of Los Angeles. 2018. *One Water LA 2040 Plan*. Volume 4, *LA River Flow Study*. April. Final Draft. Prepared by Carollo in collaboration with SEITec, CDM Smith, CH2M, Geosyntec Consultants, and Tetratech. https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdmw/~edisp/cnt030189.pdf.

City of Los Angeles. 2021b. Generalized Zoning Map. http://zimas.lacity.org/.

City of Los Angeles Department of City Planning. 1996. *Alameda District Specific Plan*. June 18. Ordinance 171,139. Specific Plan Procedures amended September 22, 2000. https://planning.lacity.org/odocument/11788e44-7659-4e6f-95d6-4b5d5861b1ba/Alameda_District_Specific_Plan.pdf.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. City Plan Case 87-0242 CPR. Council File 99-0711. https://planning.lacity.org/odocument/e2b4c459-cfc2-48f5-ace9-8a86c1afd246/Northeast_Los_Angeles_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2000. *Central City North Community Plan*. December 15. City Plan Case 95-0352 CPU. Council File 97-0282. https://planning.lacity.org/odocument/e06434a6-341a-48ed-97dc-8f6a85780951/Central_City_North_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2004. *Silver Lake – Echo Park – Elysian Valley Community Plan*. August 11. City Plan Case 1995-0357 CPU. Council File 00-2217. https://planning.lacity.org/odocument/e87507ac-8c40-49a0-aa1c-21df963f2298/Silver_Lake-Echo_Park-Elysian_Valley_Community_Plan.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Los Angeles Department of City Planning. 2020. *Boyle Heights Community Plan*.

City of Los Angeles Department of City Planning. 2023. *Boyle Heights Community Plan Update*. https://planning.lacity.gov/odocument/443f5a38-73b3-420f-8d84-6ff4a5c5aad7/BHCPU%20Plan%20Text%20082023.pdf.

City of Los Angeles Department of City Planning. 2021. *Cornfield Arroyo Seco Specific Plan*. August. https://planning.lacity.org/odocument/9d013e0f-452b-4857-86d5-fcd357b27a4d.

City of Maywood. 2023. Land Use Element in *Maywood General Plan*. Updated November.

Federal Highway Administration (FHWA). 1988. *Visual Impact Assessment for Highway Projects*. Publication Number FHWA-HI-88-054.

Federal Highway Administration (FHWA). 2015. *Guidelines for the Visual Impact Assessment of Highway Projects*. Document FHWA-HEP-15-029. January. https://www.environment.fhwa.dot.gov/env_topics/other_topics/VIA_Guidelines_for_Highway_Projects.aspx#chap23

Federal Highway Administration (FHWA). n.d. b. *Arroyo Seco Historic Parkway - Route 110*. https://fhwaapps.fhwa.dot.gov/bywaysp/StateMaps/Show/byway/10246.

Guerin, Emily. 2018. "LA Explained: The Los Angeles River." *Southern California Public Radio*. June 22. https://laist.com/news/climate-environment/los-angeles-river-explained

California Department of Transportation (Caltrans). 2012. *Historic Arroyo Seco Parkway Corridor Partnership Plan*. Initial Report. October. Prepared by IBI Group, The Arroyo Guild, AFSHA Consulting, Inc., Cardno ENTRIX, Paul Daniel Marriott + Associates, and Sharon Lowe for California Department of Transportation District 7 and California State Scenic Byways Program through a cooperative agreement with the Southern California Association of Governments (SCAG). https://scag.ca.gov/sites/default/files/old/file-attachments/arroyoseco_20121120.pdf?1604988187=.

International Dark Sky Association. n.d. *Find a Dark Sky Place*. https://darksky.org/what-we-do/international-dark-sky-places/all-places/.

Los Angeles County. 2015. *Los Angeles County General Plan*. October 6. Accessed May 20, 2021. https://file.lacounty.gov/SDSInter/bos/supdocs/92401.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Department of Public Works (LACDPW). 2024. History of the Los Angeles River. https://ladpw.org/wmd/watershed/LA/History.cfm.

Los Angeles County Department of Regional Planning. 2022. *General Plan 2023*. https://case.planning.lacounty.gov/assets/upl/project/gp_final-general-plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020. *Metro Art Program*. For Fiscal Year 2021. https://www.dropbox.com/s/pmrhq56u8dsf3qg/MetroArtPolicy_FY2021.pdf?e=1&dl=0

Los Angeles City Planning. 2021. Community Plan Areas map. Accessed May 20, 2021. https://planning.lacity.gov/resources/maps.

Mountains Recreation and Conservation Authority (MRCA). 2021. *The Los Angeles River, Overview*. https://mrca.ca.gov/los-angeles-river/.

National Park Service (NPS). n.d. *California: Arroyo Seco Parkway*. https://www.nps.gov/places/arroyo-seco-parkway.htm.

CommercialLEDLights.com. 2023. Website. https://commercialledlights.com/commercial-applications/exterior-building-lighting/

Kellwood Lighting. 2024. Website. https://www.kellwoodlighting.co.uk/sectors/external/railway-yards

7.3.3 Section 3.3, Air Quality

California Air Pollution Control Officers Association (CAPCOA). 2022. *California Emissions Estimator Model (CalEEMod) User Guide Version 2022.1*. April. https://www.caleemod.com/user-guide.

California Air Resources Board (CARB). 2008. Website: *California Air Resources Board: Truck and Bus Regulation*. https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation.

California Air Resources Board (CARB). 2016a. *Ambient Air Quality Standards*. May 4. https://www.arb.ca.gov/research/aaqs/aaqs2.pdf.

California Air Resources Board (CARB). 2016b. *Diesel Risk Reduction Plan*. https://ww2.arb.ca.gov/our-work/programs/diesel-risk-reduction-plan.

California Air Resources Board (CARB). 2019. *Summaries of Historical Area Designations for State Standards*. July. https://ww2.arb.ca.gov/our-work/programs/state-and-federal-area-designations/state-area-designations.

California Air Resources Board (CARB). 2021. *EMFAC2021*. https://content.govdelivery.com/accounts/CARB/bulletins/2b62927.

California Air Resources Board (CARB). 2023. *iADAM: Air Quality Data Statistics*. https://www.arb.ca.gov/.

County of Los Angeles Department of Regional Planning. 2015. *Los Angeles County General Plan*. Revised Draft. March. https://file.lacounty.gov/SDSInter/bos/supdocs/92401.pdf.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Federal Highway Administration (FHWA). 2021. *CMAQ Emissions Calculator Toolkit*. https://rosap.ntl.bts.gov/view/dot/53727/dot_53727_DS2.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011. *Green Construction Policy*. July. http://www.aqmd.gov/docs/default-source/Agendas/aqmp/control-strategy-symposium/construction-wyenn.pdf?sfvrsn=2.

Los Angeles County Metropolitan Transportation Authority (Metro). 2021. *Transportation Impact Analysis Report.*

Occupational Safety and Health Administration (OSHA). 2023. *Hazard Alert.* https://www.osha.gov/sites/default/files/publications/OSHA-3590.pdf.

South Coast Air Quality Management District (SCAQMD). 2003. *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution, Appendix D Cumulative Impact Analysis Requirements Pursuant to CEQA*. http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper.pdf.

South Coast Air Quality Management District (SCAQMD). 2009. *Localized Significance Thresholds*. http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook/localized-significance-thresholds.

South Coast Air Quality Management District (SCAQMD). 2017. *Final 2016 Air Quality Management Plan*. March. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf.

South Coast Air Quality Management District (SCAQMD). 2019. *South Coast AQMD Air Quality Significance Thresholds*.

South Coast Air Quality Management District (SCAQMD). 2022. *2022 Air Quality Management Plan*. December. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

US Environmental Protection Agency (EPA). 2021. *Nonattainment Areas for Criteria Pollutants (Green Book)*. https://www.epa.gov/green-book.

7.3.4 Section 3.4, Biological Resources

AECOM. 2012. Section 3.3—*Biological Resources in Final Environmental Impact Report Los Angeles State Historic Park Master Development Plan Phase 1 Implementation (State Clearinghouse No.: 2008111064)*. Prepared for California Department of Parks and Recreation, Southern Service Center, San Diego, California. April.

Calflora. 2021. Calflora. www.calflora.org.

California Department of Fish and Wildlife (CDFW). 2021a. *Biogeographic Information and Observation System (BIOS)*. https://wildlife.ca.gov/Data/BIOS.

California Department of Fish and Wildlife (CDFW). 2021b. *California Natural Diversity Database (CNDDB)—Commercial version*. May. https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx.

California Native Plant Society (CNPS). 2021. Inventory of Rare and Endangered Plants. https://www.cnps.org/rare-plants/cnps-inventory-of-rare-plants.

City of Bell. 2018. *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Los Angeles. 1973. *Open Space Element* in *City of Los Angeles General Plan*. June. https://planning.lacity.org/odocument/01ea5f66-3281-488a-930b-f523712fef07/Open_Space_Element.pdf.

City of Los Angeles. 2001. *Conservation Element* in *City of Los Angeles General Plan*. Adopted by the City Council September 26, 2001. Approved by the City Planning Commission March 10, 2001. https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

City of Maywood. 1990a. *Maywood General Plan: Conservation Element.* https://www.cityofmaywood.com/DocumentCenter/View/411/Conservation-Element-PDF.

City of Maywood. 1990b. *Maywood General Plan: Open Space Element.* https://www.cityofmaywood.com/DocumentCenter/View/414/Open-Space-Element-PDF.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/government/planning-division.

City of Vernon. 2022. *Standard Tree Planting Plan*. Standard Plan MV 1891. August. https://www.cityofvernon.org/home/showpublisheddocument/2694/637973625187930000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Friends of the Los Angeles River. 2008. *State of the River 2: The Fish Study*. September. https://folar.org/wp-content/uploads/2017/04/FOLAR_Fish_Study_2008.pdf.

Garrett, K. 1993. T*he Biota of the Los Angeles River*. Natural History Museum of Los Angeles County and California Department of Fish and Game. P. 120.

iNaturalist. 2021. iNaturalist. www.inaturalist.org.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2019. *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. https://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/basin_plan_documentation.html.

Penrod, K., R. Hunter, and M. Merrifield. 2001. *Missing Linkages: Restoring Connectivity to the California Landscape*. Conference Proceedings. Co-sponsored by California Wilderness Coalition, The Nature Conservancy, US Geological Survey, Center for Reproduction of Endangered Species, and California State Parks.

Remington, S. and D.S. Cooper. 2014. "Bat survey of Griffith Park, Los Angeles, California." *The Southwestern Naturalis*. 59(4):473–479.

Sawyer, J.O., T. Keeler-Wolf, and J.M. Evens. 2009. *A Manual of California Vegetation.* Second edition. California Native Plant Society, Sacramento, CA. https://wildlife.ca.gov/Data/VegCAMP/Publications-and-Protocols/Vegetation-Manual.

Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. *California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California*. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

US Army Corps of Engineers (USACE). 2008. R*egional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (Version 2.0*). US Army Engineer Research and Development Center, Vicksburg, Mississippi. September.

US Army Corps of Engineers (USACE). 2015. *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report*. September. Prepared by USACE Los Angeles District. Record RN 735-17c https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2339.

US Army Corps of Engineers (USACE). 2022. Correspondence letter to Ms. Mitali Gupta/Metro.

US Environmental Protection Agency (EPA). 2010. *Special Case Evaluation Regarding Status of the Los Angeles River, California, as a Traditional Navigable Water.* July 1.

US Fish and Wildlife Service (USFWS). 2021a. *Birds of Conservation Concern 2008*. US Department of Interior, Fish and Wildlife Service, Division of Migratory Bird Management, Arlington, Virginia. http://www.fws.gov/migratorybirds/.

US Fish and Wildlife Service (USFWS). 2021b. *Environmental Conservation Online System – Information, Planning, and Conservation (IPaC) online screening tool*. https://ecos.fws.gov/ipac/.

US Fish and Wildlife Service (USFWS). 2021c. Environmental Conservation Online System – Threatened & Endangered Species Active Critical Habitat Report. https://ecos.fws.gov/ecp/report/table/critical-habitat.html.

Verna Jigour Associates. 2005. *Elysian Park Natural Resources.* Prepared for Withers & Sandgren, Ltd. May. Updated July 2006.

7.3.5 Section 3.5, Cultural Resources

7.3.5.1 Archeological Resources

AECOM. 2012. *Los Angeles State Historic Park Master Development Plan, Final Environmental Impact Report.* April.

AECOM. 2014. *Archaeological Record for P-19-187085*. On file with South Central Coastal Information Center, California State University, Fullerton. Prepared by Marc A. Beherec.

Bean, Lowell John. 1974. *Mukat's People: The Cahuilla Indians of Southern California*. University of California Press.

Bedrossian, T.L., P.D. Roffers, C.A. Hayhurst, J.T. Lancaster, and W.R. Short. 2012. *Geologic Composition of Quaternary Surficial Deposits in Southern California*. California Geological Survey Special Report 217 (Revised).

Bureau of Land Management (BLM). 1868. *General Land Office Township 2 South Range 13 West, Original Survey Map*. https://glorecords.blm.gov/details/survey/default.aspx?dm_id=291091&sid=vgfke2qu.1zq&surveyDetailsTabIndex=1.

Bureau of Land Management (BLM). 1870. *General Land Office Township 1 South Range 13 West, Original Survey Map*. https://glorecords.blm.gov/details/survey/default.aspx?dm_id=291087&sid=oluljgic.q4f&surveyDetailsTabIndex=1.

Bureau of Land Management (BLM). 1872. *General Land Office Township 1 South Range 13 West, Original Survey Map*. https://glorecords.blm.gov/details/survey/default.aspx?dm_id=291089&sid=oluljgic.q4f&surveyDetailsTabIndex=1.

Bureau of Land Management (BLM). 1874. *General Land Office Township 2 South Range 13 West, Original Survey Map*. https://glorecords.blm.gov/details/survey/default.aspx?dm_id=291093&sid=vgfke2qu.1zq&surveyDetailsTabIndex=1.

Byrd, Brian F. and L. Mark Raab. 2007. *Prehistory of the Southern Bight: Models for a New Millennium. In California Prehistory, Colonization, Culture, and Complexity*. Terry L. Jones and Kathryn A. Klar, eds. AltaMira Press, Lanham. pp. 215-217.

Ciolek-Torrelo, Richard. 1998. Chapter 12, *Architecture and Site Structure*. In *House Pits and Middens: A Methodological Study of Site Structure and Formation Processes at CA-ORA-116, Newport Bay, Orange County, California*. Donn R. Grenda, Christopher J. Doolittle and Jeffrey H. Altschul, eds. Technical Series 69. Statistical Research, Inc., Tucson, Arizona and Redlands, California.

City of Los Angeles Department of City Planning. 2001. *Conservation Element of the Los Angeles General Plan.* City Plan Case No. 2001-0413-GPA. Council File No. 01-1094. Adopted September 26. https://planning.lacity.gov/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

City of Maywood. 2007. *Maywood General Plan: Conservation Element.* https://www.cityofmaywood.com/DocumentCenter/View/411/Conservation-Element-PDF.

City of Vernon. 2007. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

Greenwood & Associates. 1990. *Archaeological Investigations at 811 North Catalina Avenue for the Proposed Commercial/Industrial Mini-Storage Located in Redondo Beach, Los Angeles County, California*. Prepared by Gwendolyn Romani. Prepared for DJM Company and the City of Redondo Beach. On file at the South Central Coastal Information Center, California State University Fullerton, Fullerton, California.

Greenwood & Associates. 1994. *Alameda District Plan, Los Angeles California: Prehistoric and Early Historic Archaeological Research. Pacific Palisades, California. Environmental Impact Statement*. Prepared by Brian D. Dillon.

King, Chester. 1971. "Chumash Inter-Village Economic Exchange." *The Indian Historian,* 4(1):31–34. San Francisco: American Indian Historical Society.

McCawley, William. 1996. *The First Angelinos: The Gabrieleño Indians of Los Angeles*. Morongo Indian Reservation, California. Malki Museum Press/Ballena Press.

Moratto, Michael J. 2004. *California Archaeology*. Academic Press, San Diego.

National Park Service (NPS). n.d. *Arlington Man*. http://www.nps.gov/chis/historyculture/arlington.htm.

National Park Service (NPS). 1997. *How to Apply the National Register Criteria for Evaluation*. National Register Bulletin. U.S. Department of the Interior, National Park Service, Cultural Resources.

Saucedo, G.J., G.H. Greene, M.P. Kennedy, and S.P. Bezore. 2016. *Preliminary Geologic Map of the Long Beach 30' x 60' Quadrangle, California*. Version 2.0.

Strudwick, Ivan. 2005. T*he Use of Fired Clay Daub From CA-ORA-269 In the Identification of Prehistoric Dwelling Construction Methods, San Joaquin Hills, Orange County, California*.

Tartaglia, Louis James. 1976. *Prehistoric Maritime Adaptations in Southern California. University of Southern California*.

TKC and SRI. 2005. *Archaeological Evaluation of the Tomato Springs Site (CA-ORA-244)*. On file at the South Central Coastal Information Center, California State University Fullerton, Fullerton, California.

US Geological Survey (USGS). 1894. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1896. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1900a. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1900b. *7.5 minute quadrangle map* [map]. Quadrangle Pasadena, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1901. *7.5 minute quadrangle map* [map]. Quadrangle Southern California Sheet No 1, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1904. *7.5 minute quadrangle map* [map]. Quadrangle Southern California Sheet No 1, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1928. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1966. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1972. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1979. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

US Geological Survey (USGS). 1981. *7.5 minute quadrangle map* [map]. Quadrangle Los Angeles, California. https://livingatlas.arcgis.com/topoexplorer/index.html.

Wallace, William J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology*. 11(3): 214–230.

Wallace, William. J. 1978. "Post-Pleistocene Archaeology, 9000 to 2000 B.C." *Handbook of North American Indians*. R. F. Heizer, ed. 8:25–36. Washington, D.C.: Smithsonian Institute Press.

Warren, Claude N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." *Archaic Prehistory in the Western United States*. Symposium of the Society for American Archaeology, Santa Fe. Eastern New Mexico University Contributions in Anthropology. C. Irwin-Williams, ed. 1(3).

Warren, Claude N. 1984. "The Desert Region." *California Archaeology*. San Diego, California: Academic Press, Inc. pp. 339-430.

7.3.5.2 Built-Environment Historical Resources

AECOM. 2012. *Los Angeles State Historic Park Master Development Plan, Final Environmental Impact Report*. April.

Alameda Corridor Transportation Authority (ACTA). 2021. *Alameda Corridor North*. https://www.acta.org/about/projects/completed-projects/alameda-corridor-north/.

Amtrak. 2021. *1970s–The Journey Forward*. https://history.amtrak.com/amtraks-history/1970s.

Architectural Resources Group (ARG). 2012. *Garden Apartments of Los Angeles Historic Context Statement*. Prepared for the Los Angeles Conservancy. October.

Architectural Resources Group (ARG). 2014. *SurveyLA Historic Resources Survey Report: Boyle Heights Community Plan Area*. Prepared for the City of Los Angeles, Department of City Planning, Office of Historic Resources. December 30, 2014. https://planning.lacity.gov/odocument/b31b12ce-5c90-4165-bd8e-a899ce940b64/BoyleHeights_SurveyReport.pdf.

Architectural Resources Group (ARG). 2016. *SurveyLA Historic Resources Survey Report: Central City Community Plan Area*. Prepared for the City of Los Angeles, Department of City Planning, Office of Historic Resources. September 2016. https://planning.lacity.gov/odocument/55d383ee-3403-41fb-9b63-5c60afa4a170/SurveyLACentralCity_SurveyReport.pdf.

California Department of Parks and Recreation (California DPR). 2011. *Los Angeles State Historic Park Cultural History and Archaeology Report*. August.

California Department of Transportation (Caltrans). 1986. *Request for Determination of Eligibility for Inclusion in the National Register of Historic Places/Historic Bridges in California: Concrete Arch, Suspension, Steel Girder and Steel Arch*. Prepared by John W. Snyder, Stephen Mikesell and Diane Pierzinski.

California Department of Transportation (Caltrans). 1990. *Historic Highway Bridges of California*.

California Department of Transportation (Caltrans). 2000. *Negative Archaeological Survey Report--Highway Project Description*. Prepared by Noelle Storey.

California Department of Transportation (Caltrans). n.d. Historic Bridge Inventories. https://dot.ca.gov/programs/environmental-analysis/cultural-studies/california-historical-bridges-tunnels.

California Department of Transportation District 7 Environmental Planning Branch (Caltrans District 7). 1978. *Archaeological Survey Report for the El Monte Busway Extension in the City of Los Angeles, Los Angeles County, California*. Prepared by Gene Huey.

California State Parks. 2005. *Los Angeles State Historic Park General Plan and Final Environmental Impact Report*. June 10.

Chattel, Inc. 2013. *National Register of Historic Places Nomination Form: Boyle Hotel – Cummings Block*. US Department of the Interior. National Park Service. February 4.

City of Bell. 2018. City of Bell 2030 General Plan. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Los Angeles Department of City Planning. 2001. *Conservation Element of the Los Angeles General Plan.* City Plan Case No. 2001-0413-GPA. Council File No. 01-1094. Adopted September 26. https://planning.lacity.gov/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Los Angeles Department of Public Works. Sixth Street Viaduct Replacement Project. 2021. https://engineering.lacity.gov/about-us/major-projects/sixth-street-viaduct-replacement-project.

City of Los Angeles Department of City Planning. 2021. *Historic-Cultural Monument List, City Declared Monuments*. Updated May 5.

City of Maywood. *Maywood General Plan: Conservation Element*. https://www.cityofmaywood.com/DocumentCenter/View/411/Conservation-Element-PDF.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/long-range-planning/general-plan/general-plan-elements/.

Friends of the LA River (FoLAR). 2021. FoLAR.org. https://folar.org/.

Geosyntec. 2021. L.A. River Master Plan, Public Draft. Geosyntec, OLIN, and Gehry Partners, LLP. Prepared for Los Angeles County and Los Angeles County Public Works. Accessed May 17, 2021. https://www.larivermasterplan.org/.

GPA Consulting, Inc. 2014. *SurveyLA Historic Resources Report: Silver Lake–Echo Park–Elysian Valley Community Plan Area*. Prepared for the City of Los Angeles, Department of City Planning, Office of Historic Resources. May. https://planning.lacity.gov/odocument/1473a5d4-1e90-4000-9b7b-110d08c8488a/SLEPEV_Historic_Resources_Survey_Report_HPLAEdit_%200.pdf.

Historic American Engineering Record (HAER). 2002. *Los Angeles River Bridges, HAER No. CA-271. Washington, D.C.: US Department of the Interior*. National Park Service. https://cdm16436.contentdm.oclc.org/digital/collection/p16436coll2/id/1319/rec/1.

Historic Resources Group and Galvin Preservation Associates. 2012. *Historic Resources Survey Report: Northeast Los Angeles River Revitalization Area*. Prepared for the City of Los Angeles Community Redevelopment Agency. June. https://planning.lacity.gov/odocument/be122b0d-298e-4c2f-b723-d3728b38ba7f/NELARRAReportFinal6-12.pdf.

Historic Resources Group. 2016. *SurveyLA Historic Resources Survey Report: Central City North Community Plan Area*. Prepared for the City of Los Angeles, Department of City Planning, Office of Historic Resources. September. https://planning.lacity.gov/odocument/4004f839-e03a-43a2-a759-7ad60d40f19b/SurveyLACentralCityNorth_SurveyReport_RevMay18.pdf.

Historic Resources Group. 2017. *SurveyLA Historic Resources Report: Northeast Los Angeles Community Plan Area*. Prepared for the City of Los Angeles, Department of City Planning, Office of Historic Resources. February. https://planning.lacity.gov/odocument/%20853c78a4-1dff-4abc-ab4d-2ba08e4c7dbd/SurveyLANortheastLosAngeles_SurveyReport_.pdf.

JRP Historical Consulting. 2004. *City of Los Angeles Monumental Bridges, 1900-1950*. Prepared for the State of California Department of Transportation. May.

"Junction Rail Line Operates." 1925. *Los Angeles Times*. September 4.

Los Angeles Conservancy. 2008. *Spanning History: The Bridges of the Los Angeles River*.

Los Angeles County Department of Public Works (LACDPW). 1996. *Los Angeles River Master Plan*. Prepared by the Los Angeles County Departments of Public Works, Parks and Recreation, and Regional Planning, with the National Park Service and the Los Angeles River Advisory Committee. June. https://ladpw.org/wmd/watershed/LA/LARMP/.

Los Angeles County Department of Public Works (LACDPW). 2021. *History of the Los Angeles River*. https://ladpw.org/wmd/watershed/LA/History.cfm

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Link Union Station Cultural Resources Impact Assessment Report*. Prepared for the Los Angeles County Metropolitan Transportation Authority. June 2019. https://www.dropbox.com/sh/ww8jq3dved2q3o1/AABHUgaTcMUaofkuDOJPi9Pva/Reports/CEQA/Draft%20EIR?dl=0&preview=Link US%E2%80%93DraftEIR.pdf&subfolder_nav_tracking=1.

"Los Angeles Junction." 1955. *Los Angeles Times.* March 7.

"L.A. River Revitalization Ideas Once Included a Freeway." 2015. *Los Angeles Times.* August 13. https://www.latimes.com/local/california/la-me-la-river-freeway-20150813-story.html.

LSA Associates, Inc. 2011. *Historic Resources Survey, Cornfield Arroyo Seco Specific Plan Area, City of Los Angeles, Los Angeles County, California*. June 3. https://planning.lacity.gov/odocument/69e7fc7f-101f-4488-8c92-48d1059120b0/Cornfield_Arroyo_Seco_Specific_Plan_Historic_Resources_Survey_-_2011.pdf.

McMillan, Penelope. 1987. "Elysian Valley: Frogtown Holds Bucolic 'Secret' Minutes From Downtown L.A." *Los Angeles Times*. March 8. https://www.latimes.com/archives/la xpm 1987 03 08 me 13698-story.html.

National Park Service (NPS). 1997. National Register Bulletin: How to Apply the National Register Criteria for Evaluation. https://www.nps.gov/subjects/nationalregister/upload/NRB-15_web508.pdf.

National Park Service (NPS). 2021. *Juan Bautista de Anza National Historic Trail*. https://www.nps.gov/juba/learn/historyculture/people.htm.

National Register of Historic Places (NRHP) *Digital Archive*. https://npgallery.nps.gov/NRHP.

"New $3,000,000 Union Pacific Freight Terminal." 1959. *Los Angeles Times.* October 13.

"New District for Industry." 1906. *Los Angeles Times.* February 6.

Orsi, Jared. 2004. *Hazardous Metropolis: Flooding and Urban Ecology in Los Angeles*. Berkeley, CA: University of California Press.

Office of Historic Resources, City of Los Angeles Department of City Planning (OHR). 2018. *SurveyLA Historic Resources Survey: Los Angeles Citywide Historic Context Statement. Context: Chinese Americans in Los Angeles, 1850-1980*. October.

PCR Services Corporation. 2008. I*ntensive Historic Resources Survey, Adelante Eastside Redevelopment Area, Los Angeles, California*. Prepared for the Community Redevelopment Agency, City of Los Angeles. July. https://planning.lacity.gov/odocument/3af5db3a-d7cd-4ea7-86d9-28f7f1893647/Adelante_Draft_Report_revised_FINAL_print_0.pdf.

Railway Signaling. 1939. *Mission Tower Interlocking at Los Angeles*. July. https://www.jonroma.net/media/signaling/railway-signaling/1939/Mission%20Tower%20Interlocking%20at%20Los%20Angeles.pdf.

Salazar, David. 2013. *The LA River and the Corps: A Brief History*. USACE, Los Angeles District. October 3. https://www.spl.usace.army.mil/ Media/News-Stories/Article/477249/ the-la-river-and-the-corps-a-brief-history/.

Secretary of Interior (SOI). 2017. *Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings.* https://www.nps.gov/orgs/1739/secretary-standards-treatment-historic-properties.htm#:~:text=The%20purpose%20of%20The%20Secretary,managers%2C%20preservation%20consultants%2C%20architects%2C.

Stevenson, H.J. 1884. *Map of the City of Los Angeles, California, 1884.* Los Angeles Public Library. https://tessa2.lapl.org/digital/collection/maps/id/39.

Turhollow, Anthony F. 1975. *A History of the Los Angeles District, US Army Corps of Engineers, 1898-1965*. Los Angeles: US Army Engineer District. https://usace.contentdm.oclc.org/digital/collection/p16021coll4/id/55/.

US Army Corps of Engineers (USACE). 2015. *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report*. September. Prepared by USACE Los Angeles District. Record RN 735-17c https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2339.

"Union Stockyard Breathing Last." 1960. *Los Angeles Times.* April 29.

"Vernon: The Implausible History of an Industrial Wasteland." 2017. *Curbed Los Angeles*. May 19.

Water and Power Associates. 2021. L*os Angeles River – The Unpredictable!* https://waterandpower.org/museum/Los_Angeles_River_The_Unpredictable!.html.

7.3.6 Section 3.6, Energy

California Air Pollution Control Officers Association (CAPCOA). 2022. *California Emissions Estimator Model (CalEEMod) User Guide Version 2022.1* April. https://www.caleemod.com/user-guide

California Energy Commission (CEC). 2019. *Staff Report: Review of Los Angeles Department of Water and Power's 2017 Power Integrated Resource Plan*. https://www.energy.ca.gov/filebrowser/download/1901.

California Energy Commission (CEC). 2022a. *California Retail Fuel Outlet Annual Reporting (CEC-A15) Results*. https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting.

California Energy Commission (CEC). 2022b. *Electricity Consumption by County*. https://ecdms.energy.ca.gov/elecbycounty.aspx/.

Center for Land Use Interpretation (CLUI). 2013. *Sources of Power*. https://clui.org/projects/ladwp-power/sources-power-0.

The Climate Registry. 2023. *General Reporting Protocol*. https://theclimateregistry.org/registries resources/protocols/.

City of Los Angeles. 2015. *2015 Sustainable City pLAn*. April 8. https://plan.mayor.lacity.gov/sites/g/files/wph2176/files/2022-12/the-plan.pdf.

City of Los Angeles. 2018. *One Water LA 2040 Plan*. Volume 4, *LA River Flow Study*. April. Final Draft. Prepared by Carollo in collaboration with SEITec, CDM Smith, CH2M, Geosyntec Consultants, and Tetratech. https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdmw/~edisp/cnt030189.pdf.

City of Los Angeles. 2019. *L.A.'s Green New Deal: Sustainable City pLAn*. https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

City of Los Angeles Department of City Planning. 2016. *Mobility Plan 2035: An Element of the General Plan*. Approved by City Planning Commission June 23, 2016. City Plan Case CPC-2013-0910-GPA-SPCA-MSC. Adopted by City Council September 7, 2016. Council File 15-0719-S15. https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

City of Maywood. 2021. *Maywood General Plan*. Amended 2021. https://www.cityofmaywood.com/273/General-Plan.

City of Vernon. 2023. *2023 Environmental Sustainability Action Plan*. Adopted December 2023. https://www.cityofvernon.org/home/showpublisheddocument/3760/638451480761370000.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

Los Angeles County. 2019. *OurCounty: The Los Angeles Countywide Sustainability Plan*. Adopted August 6. https://ourcountyla.lacounty.gov/.

Los Angeles County Metropolitan Transit Authority (Metro). 2007. *Energy and Sustainability Policy*. Adopted June 28. https://libraryarchives.metro.net/DB_Attachments/BP-Links/policy-2007-06-28-energy-and-sustainability-policy.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011a. *Green Construction Policy*. July. https://boardarchives.metro.net/Items/2011/07_July/20110720CONItem48.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011b. E*nergy Conservation and Management Plan*. September. https://boardarchives.metro.net/BoardBox/BB2011/2011_09_Sep/110930_Metro_Energy_%20Conservation_%20and_%20Mgmt_%20Plan.pdf.

Los Angeles County Metropolitan Transit Authority (Metro). 2012. *Metro Climate Action and Adaptation Plan*. June 29. https://media.metro.net/projects_studies/sustainability/images/Climate_Action_Plan.pdf.

Los Angeles County Metropolitan Transit Authority (Metro). 2019a. *2019 Energy and Resource Report*. September. https://boardarchives.metro.net/BoardBox/2019/190918_2019_Energy_and_Resource_Report.pdf

Los Angeles County Metropolitan Transportation Authority (Metro). 2019b. *Metro Climate Action and Adaptation Plan 2019*. https://media.metro.net/projects_studies/sustainability/images/Climate_Action_Plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020. *Sustainability Strategic Plan 2020: Moving Beyond Sustainability*. September. https://www.transit.dot.gov/sites/fta.dot.gov/files/2022-03/LA-Metro-Sustainability-Strategic-Plan-2020.pdf.

Los Angeles Department of Water and Power (LADWP). 2013. *Facts & Figures*. https://planning.lacity.org/eir/CrossroadsHwd/deir/files/references/M420.pdf.

South Coast Air Quality Management District (SCAQMD). 2017. *Final 2016 Air Quality Management Plan*. March. http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/final2016aqmp.pdf.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

Southern California Edison (SCE). 2019. *Southern California Edison's Service Area*. Updated April 25. https://download.newsroom.edison.com/create_memory_file/?f_id=5cc32d492cfac24d21aecf4c&content_verified=True.

Southern California Edison (SCE). 2020. *2020 Prospective Product Content Label*. https://www.sce.com/sites/default/files/inline-files/SCE_Green_Rate_PPCL%202020.pdf.

Southern California Edison (SCE). 2021. *Who We Are*. https://www.sce.com/ja/about-us/who-we-are/.

US Energy Information Administration (EIA). 2023. *State Energy Data System (SEDS)*. https://www.eia.gov/state/seds/.

US Environmental Protection Agency (EPA). 2016. *Final Rule for Phase 2 Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles*. August. https://www.epa.gov/regulations-emissions-vehicles-and-engines/final-rule-phase-2-greenhouse-gas-emissions-standards.

US Environmental Protection Agency (EPA). 2020. *Emissions & Generation Resource Integrated Database (eGRID)*. https://www.epa.gov/egrid.

7.3.7 Section 3.7, Geology, Soils, and Paleontological Resources

7.3.7.1 Geology and Soils

Alameda Corridor Transportation Authority (ACTA). 1996. As-Built LOTB, UPRR LA River Bridge

American Association of State Highway and Transportation Officials (AASHTO). 2017. *Load and Resistance Factor Design (LRFD) Bridge Design Specifications*. 9th Edition. https://store.transportation.org/item/collectiondetail/202.

Bedrossian, T.L., P.D. Roffers, C.A. Hayhurst, J.T. Lancaster, and W.R. Short. 2012. *Geologic Composition of Quaternary Surficial Deposits in Southern California*. California Geological Survey Special Report 217 (Revised). December.

California Code of Regulations, 2022, Title 24, Part 2, California Building Code

California Department of Transportation (Caltrans). 1952. As-Built LOTB, US 101 Viaduct Over the Los-Angeles River, Bridge No. 53-0405.

California Department of Transportation (Caltrans). 1956. As-Built LOTB, I-10 Santa Monica Viaduct – Los-Angeles River Bridge and Overhead, Bridge No. 53-1301.

California Department of Transportation (Caltrans). 1957. As-Built LOTB, I-5 Elysian Viaduct, Bridge No. 53-1424.

California Department of Transportation (Caltrans). 1985. As-Built LOTB, Los-Angeles River Busway and Overhead, Bridge No. 53-2673.

California Department of Transportation (Caltrans). 1993. As-Built LOTB, I-5 Elysian Viaduct, Bridge No. 53-1424.

California Department of Transportation (Caltrans). 1995. As-Built LOTB, Los-Angeles River Busway and Overhead, Bridge No. 53-2673.

California Department of Transportation (Caltrans). 2019a. *Seismic Design Criteria, Version 2.0.* https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/seismicdesigncriteria-sdc/202007-seismicdesigncriteria-v2-a11y.pdf.

California Department of Transportation (Caltrans). 2019b. *Highway Design Manual, Seventh Edition*. https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm.

California Department of Transportation (Caltrans). 2021. ARS Online Tool. Version 3.0.2. https://arsonline.dot.ca.gov/. Accessed February 18.

California Department of Transportation (Caltrans). 2023. *California Amendments to the AASHTO LRFD Bridge Design Specifications (Eighth Edition)*. Updated December. https://dot.ca.gov/-/media/dot-media/programs/engineering/documents/caamendments/202205-aashto-lrfd-8th-ca-amendments-a11y.pdf.

California Department of Water Resources (DWR). 2014. *Summary of Recent, Historical, and Estimated Potential for Future Land Subsidence in California*.

California Geologic Energy Management Division (CalGEM). 2018. Interactive Well Finder. https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx.

California Geological Survey (CGS). 1977. Earthquake Fault Hazard Zones Map for the Los-Angeles Quadrangle.

California Geological Survey (CGS). 1998a. *Seismic Hazard Zone Report for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California. Seismic Hazard Report 029.*

California Geological Survey (CGS). 1998b. *Seismic Hazard Zone Report for the South Gate 7.5-Minute Quadrangle, Los Angeles County, California. Seismic Hazard Report 034.*

California Geological Survey (CGS). 1999a. *Seismic Hazard Zones Map for the Los Angeles Quadrangle.*

California Geological Survey (CGS). 1999b. *Seismic Hazard Zones Map for the South Gate Quadrangle.*

California Geological Survey (CGS). 2008. *Guidelines for Evaluating and Mitigating Seismic Hazards in California*. Special Publication 117A.

California Geological Survey (CGS). 2018. *Earthquake Fault Zones, A Guide for Government Agencies, Property Owners/Developers, and Geoscience Practitioners for Assessing Fault Rupture Hazards in California*. CGS Special Publication 42.

Campbell, R.H., C.J. Wills, P.J. Irvine, and B.J. Swanson (Campbell et al.). 2014. Preliminary Geologic Map of the Los-Angeles 30' x 60' Quadrangle, California. Version 2.1.

City of Los-Angeles. 1992. As-Built LOTB, First Street Viaduct Over the LAR, Bridge No. 53C1166.

City of Los-Angeles. 1993a. As-Built LOTB, Cesar Chavez Avenue Viaduct Over the Los-Angeles River, Bridge No. 53C0131.

City of Los-Angeles. 1993b. As-Built LOTB, Olympic Boulevard Bridge Over the Los-Angeles River, Bridge No. 53C0163.

City of Los-Angeles. 1993c. As-Built LOTB, Washington Boulevard Bridge Over the Los-Angeles River, Bridge No. 53C1375.

City of Los-Angeles. 1994. As-Built LOTB, North Broadway Viaduct Over the Los-Angeles River, Bridge No. 53C0545.

City of Los-Angeles. 2004. Methane and Methane Buffer Zones Map, City of Los-Angeles. March 31.

City of Los-Angeles. 2005. As-Built LOTB, North Spring Street Bridge Over the Los-Angeles River, Bridge No. 53C0859.

City of Los-Angeles. 2010. As-Built LOTB, Riverside Drive Viaduct Over the Los-Angeles River, Bridge No. 53C2355.

City of Los-Angeles. 2015. As-Built LOTB, Sixth Street Viaduct, Bridge No. 53C-2329.

City of Los-Angeles. 2016. Oil Wells, Oil Fields, And Landfill Sites Map, City of Los-Angeles. July 13.

City of Los-Angeles. 2018. City of Los Angeles 2018 Local Hazard Mitigation Plan. January.

City of Vernon. 1966. As-Built LOTB, Bandini Boulevard Bridge Over the Los-Angeles River, Bridge No. 53C0827.

City of Vernon. 2017. As-Built LOTB, Atlantic Boulevard Bridge Over the Los-Angeles River, Bridge No. 53C0252

Dibblee, Thomas W. 1989. *Geologic Map of the Los Angeles Quadrangle, Los Angeles County, California*. Dibblee Geology Center Map #DF-22. Scale 1:24,000. Helmut E. Ehrenspeck, 1989, ed. J.A. Minch, 2006, ed.

Lamar, D.L. 1970. *Geology of the Elysian Park-Repetto Hills Area, Los Angeles County, California*. California Division of Mines and Geology, Special Report 101, Geologic Map Scale 1:24,000.

Los Angeles County. 1978. As-Built LOTB, Downey Road Over the Los-Angeles River, Bridge No. 53C0576.

Los Angeles County. 1985. As-Built LOTB, Soto Street Over the Los-Angeles River, Bridge No. 53C0867.

Los Angeles County. 2012. "Figure 9.4: Dam and Reservoir Inundation Routes Map." *Draft General Plan.*

Los Angeles County. 2022. General Plan: Chapter 12: Safety Element. Available at: https://planning.lacounty.gov/long-range-planning/general-plan/general-plan-elements/. Updated July 12.

Los Angeles County Metropolitan Transportation Authority (Metro). 2010. *Metro Rail Design Criteria*. January. https://partners.skanska.com/usa/projects/098010/Q/C0980%20Conformed%20Contract%20Documents/5._Project_Def_Docs_of_equal_precedence/5b._Metro_Rail_Design_Criteria/1_Metro_Design_Criteria/MRDC_Section_01_General_Rev_0_011910.pdf.

Oskin, M., K. Sieh, T. Rockwell, G. Miller, P. Guptill, M. Curtis, S. McArdle, and P. Elliot. 2000. "Active Parasitic Folds on the Elysian Park anticline: Implications for Seismic Hazard in Central Los Angeles, California." *Geological Society of America Bulletin*. 112:693–707.

Saucedo, G.J., G.H. Greene, M.P. Kennedy, and S.P. Bezore. 2016. *Preliminary Geologic Map of the Long Beach 30' x 60' Quadrangle, California*. Version 2.0.

Shaw, J.H. and J. Suppe. 1996. "Earthquake Hazards of Active Blind-Thrust Faults Under the Central Los Angeles Basin California." *Journal of Geophysical Research*. 101(B4):8623–8642.

Shaw, J.H. A. Plesch, J.F. Dolan, T.L. Pratt, and P. Fiore. 2002. "Puente Hills Blind-Thrust System, Los Angeles, California." *Bulletin of the Seismological Society of America*. 92:2946–2960.

Southern California Earthquake Data Center (SCEDC). 2021. *Earthquake Information: Historical Earthquakes & Significant Faults in Southern CA.* https://scedc.caltech.edu/earthquake/significant.html.

Southern California Regional Rail Authority. 1993. As-Built LOTB, LA River - Downey Bridge. Contract C6250

Southern California Regional Rail Authority. 1996. As-Built LOTB, Redondo Junction Grade Separation, Bridge No. 53C2081

US Army Corps of Engineers (USACE). 2022. Engineer Manual 1110-2-2502, *Retaining and Flood Walls*. August. https://www.publications.usace.army.mil/portals/76/publications/engineermanuals/em_1110-2-2502.pdf.

US Geological Survey and California Geological Survey (USGS and CGS). 2022. *Quaternary Fault and Fold Database for the United States*. https://www.usgs.gov/programs/earthquake-hazards/faults.

Yerkes, R.F., T.H. McCulloh, J.E. Schoellhamer, and J.G. Vedder. 1965. *Geology of the Los Angeles Basin, California – An Introduction: United States Geological Survey Professional Paper* 420-A. p. 57.

Yerkes, R. F., J. C. Tinsley, and K. M. Williams. 1977. *Geologic Aspects of Tunneling in the Los Angeles Area: United States Geological Survey Map MF-866 and Report*. p. 67.

7.3.7.2 Paleontological Resources

Bedrossian, T.L., P.D. Roffers, C.A. Hayhurst, J.T. Lancaster, and W.R. Short. 2012. *Geologic Composition of Quaternary Surficial Deposits in Southern California*. California Geological Survey Special Report 217 (Revised).

Natural History Museum of Los Angeles County (NHMLA). 2021. *Paleontological resources for the L.A. River Path Project, Jacobs Project in the City of Los Angeles, Los Angeles County*. Prepared by A. Bell. Submitted July 22 to Jacobs.

Dibblee, Thomas W. 1989. *Geologic Map of the Los Angeles Quadrangle, Los Angeles County, California*. Dibblee Geology Center Map #DF-22. Scale 1:24,000. Helmut E. Ehrenspeck, 1989, ed. J.A. Minch, 2006, ed.

Lamar, D.L. 1970. *Geology of the Elysian Park-Repetto Hills Area, Los Angeles County, California*. California Division of Mines and Geology, Special Report 101, Geologic Map Scale 1:24,000.

Paleo Solutions. 2018. *Paleontological Resources Assessment for the Solano Project, City of Torrance, Los Angeles County, California*. Prepared for Reylenn Properties, LLC.

Society of Vertebrate Paleontology (SVP). 1995. "Assessment and mitigation of adverse impacts to nonrenewable paleontological resources – standard guidelines." *Society of Vertebrate Paleontology News Bulletin*. 163:22-27.

Society of Vertebrate Paleontology (SVP). 1996. "Conditions of receivership for paleontological salvage collections." *Society of Vertebrate Paleontology News Bulletin*. 166:31-32.

Society of Vertebrate Paleontology (SVP). 2010. *Standard Procedures for the Assessment and Mitigation of Adverse Impacts to Paleontological Resources: Society of Vertebrate Paleontology Impact Mitigation Guidelines Revision Committee*.

SWCA Environmental Consultants (SWCA). 2003. *Paleontological Assessment Report for the Viejo Substation and Transmission Line Project, Orange County, California*. Prepared for AMEC Earth & Environmental.

University of California Museum of Paleontology (UCMP). 2021. *Online Resources-Records Search*. https://ucmp.berkeley.edu/collections/data-requests/.

Yerkes, R.F., J.C. Tinsley, and K.M. Williams. 1977. *Geologic Aspects of Tunneling in the Los Angeles Area: United States Geological Survey Map MF-866 and Report*, p. 67.

7.3.8 Section 3.8, Greenhouse Gas Emissions

California Air Pollution Control Officers Association (CAPCOA). 2022. *California Emissions Estimator Model (CalEEMod) User Guide Version 2022.1*. April https:/www.caleemod.com/user-guide.

California Air Resources Board (CARB). 2022. *2000–2020 GHG Inventory (2022 Edition)*. https://ww2.arb.ca.gov/sites/default/files/classic/cc/inventory/ghg_inventory_scopingplan_sum_2000-20.pdf.

California Air Resources Board (CARB). 2021. *EMFAC2021 Volume III Technical Document Version 1.0.1*. April 2021.

California Air Resources Board (CARB). 2022. *2022 Scoping Plan for Achieving Carbon Neutrality*. November. https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf.

City of Los Angeles. 2007. *GreenLA: An Action Plan to Lead the Nation in Fighting Global Warming*. May. https://planning.lacity.org/EIR/8150Sunset/References/4.E.%20Greenhouse%20Gas%20Emissions/GHG.26_City%20LA%20GreenLA%20ActionPlan.pdf.

City of Los Angeles. 2015. *2015 Sustainable City pLAn*. April 8. https://plan.mayor.lacity.gov/sites/g/files/wph2176/files/2022-12/the-plan.pdf.

City of Los Angeles. 2021. *2018 Community Greenhouse Gas Emissions Inventory Report*. https://www.lacitysan.org/san/sandocview?docname=cnt058946.

City of Vernon. 2021. *Vernon Climate Action Plan*. April. Prepared by the Community Energy Association, Flipside Sustainability, and All One Sky Foundation. Vernon, California. https://www.vernon.ca/sites/default/files/docs/Sustainability/Climate-Action/210408_cap_full_final.pdf.

Council on Environmental Quality (CEQ). 2023. *National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions and Climate Change*. *Federal Register*. Vol. 88, No. 5. January 9. https://www.govinfo.gov/content/pkg/FR-2023-01-09/pdf/2023-00158.pdf.

County of Los Angeles. 2020. *Unincorporated Los Angeles County Community Climate Action Plan*. Adopted in October 2015. Updated in 2020.

County of Los Angeles. 2023. *Draft 2045 Los Angeles County Climate Action Plan*. https://planning.lacounty.gov/long-range-planning/climate-action-plan/.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Governor's Office of Planning and Research. 2018. *CEQA and Climate Change (Discussion Draft)*. December. https://opr.ca.gov/docs/20181228-Discussion_Draft_Climate_Change_Adivsory.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011a. *Green Construction Policy*. July. http://www.aqmd.gov/docs/default-source/Agendas/aqmp/control-strategy-symposium/construction-wyenn.pdf?sfvrsn=2.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011b. Energy Conservation and Management Plan. September. https://boardarchives.metro.net/BoardBox/BB2011/2011_09_Sep/110930_Metro_Energy_%20Conservation_%20and_%20Mgmt_%20Plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2012. *Metro Climate Action and Adaptation Plan*. June 29.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Metro Climate Action and Adaptation Plan 2019*. https://media.metro.net/projects_studies/sustainability/images/Climate_Action_Plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020a. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020b. *Sustainability Strategic Plan 2020: Moving Beyond Sustainability*. September. https://www.transit.dot.gov/sites/fta.dot.gov/files/2022-03/LA-Metro-Sustainability-Strategic-Plan-2020.pdf.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

US Environmental Protection Agency (EPA). 2009. *Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*. https://www.epa.gov/sites/default/files/2021-05/documents/federal_register-epa-hq-oar-2009-0171-dec.15-09.pdf

US Environmental Protection Agency (EPA). 2018. *Midterm Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-Duty Vehicles*. *Federal Register*. Vol. 83, No. 16077. April.

US Environmental Protection Agency (EPA). 2020. *eGrid Summary Tables 2018*. March 9. https://www.epa.gov/sites/default/files/2020-01/documents/egrid2018_summary_tables.pdf.

US Environmental Protection Agency (EPA). 2021. *Regulations for Greenhouse Gas Emissions from Commercial Trucks & Buses*. https://www.epa.gov/regulations-emissions-vehicles-and-engines/regulations-greenhouse-gas-emissions-commercial-trucks.

7.3.9 Section 3.9, Hazard and Hazardous Materials

Apex Companies, LLC (Apex). 2022. *Former Welch's Uniform, 3505 Pasadena Avenue, Los Angeles, California*. April 4.

Arcadis. 2012. *Environmental Site Characterization, Albion Dairy Remediation Project, 1739 Albion Street, Los Angeles, CA*. August 23.

ASTM International (ASTM). 2014. Standard 1528-14, *Standard Practice for Limited Environment Due Diligence: Transaction Screen Process*.

ASTM International (ASTM). 2021. *Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process*. Standard E1527-21. November 1. https://www.astm.org/e1527-21.html.

Avocet Environmental, Inc. (Avocet). 2007. *Soil Gas Verification Report*. Former Aliso Street MGP Facility, Sector C, Block N. April 26.

Avocet Environmental, Inc. (Avocet). 2014. *Additional Site Characterization Report. 590 South Santa Fe Avenue Los Angeles, CA*. March 7.

California Department of Toxic Substances Control (DTSC). 2001. *Voluntary Cleanup Agreement. Southern California Gas Company Aliso Street Former Manufacture Gas Plant Site Los Angeles, California*. January 19.

California Department of Toxic Substances Control (DTSC). 2007. *Partial Site Certification for Soil: West Parcel, Aliso Street Manufactured Gas Plant Letter*. February 1.

California Department of Toxic Substances Control (DTSC). 2011. *Removal Action Completion Report, Southern California Regional Rail Authority Track Extension Letter*. May 19.

California Department of Toxic Substances Control (DTSC). 2017. *Approval of Remedial Action Plan---Ramirez Street Area Former Aliso MGP Letter*. April 13.

California Department of Toxic Substances Control (DTSC). 2018. *Preliminary Assessment/Site Inspection Cooperative Agreement, Bell Army Reserve*. EPA Assistance Agreement #99T42901-3. Signed September 10.

California Department of Toxic Substances Control (DTSC). 2022. *EnviroStor*. https://www.envirostor.dtsc.ca.gov/public/.

California Department of Transportation (Caltrans). 2023. Caltrans Bridge Removal Manual, Chapter 7.

California Geologic Energy Management Division (CalGEM) 2018. *Interactive Well Finder*. https://maps.conservation.ca.gov/doggr/wellfinder.

California Geological Survey (CGS). 1998a. Seismic Hazard Zone Report for the Los Angeles 7.5-Minute Quadrangle, Los Angeles County, California. Seismic Hazard Report 029.

California Geological Survey (CGS). 1998b. Seismic Hazard Zone Report for the South Gate 7.5-Minute Quadrangle, Los Angeles County, California. Seismic Hazard Report 034.

California State Water Resources Control Board (SWRCB). 2014. Former Albion Dairy, Underground Storage Tank Low Risk Case Review Form, November 19.

California State Water Resources Control Board (SWRCB). 2022. *GeoTracker*. https://geotracker.waterboards.ca.gov/.

City of Bell. 2018. *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Bell. 2021. General Plan, Health and Safety Element.

City of Los Angeles. 2004. Methane and Methane Buffer Zones Map, Department of Public Works. March 31.

City of Los Angeles. 2018. *City of Los Angeles 2018 Local Hazard Mitigation Plan*. January. https://emergency.lacity.org/sites/g/files/wph1791/files/2021-10/2018_LA_HMP_Final_with_maps_2018-02-09.pdf.

City of Los Angeles. 2021. *Los Angeles Safety Element of the General Plan*. Adopted November 24. https://planning.lacity.gov/odocument/31b07c9a-7eea-4694-9899-f00265b2dc0d/Safety_Element.pdf.

City of Maywood. 2007. Maywood General Plan. Safety Element. https://www.cityofmaywood.com/273/General-Plan.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2016. Referral Notification for Transfer of Oversight, Service Oil, Inc. May 26.

City of Vernon. 2023. 2023 Local Hazard Mitigation Plan. Adopted April 4. https://www.cityofvernon.org/government/city-clerk/local-hazard-mitigation-plan.

Environmental Data Resources, Inc. 2022. Environmental Database Report. Inquiry Number : 6427695.1s. January 24.

Geosyntec Consultants. 2021. *Feasibility Study and Remedial Action Plan, Former Soco-Lynch Facility, 3270 East Washington Boulevard, Vernon, California*. November 30.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011. *Green Construction Policy*. July. http://media.metro.net/projects_studies/sustainability/images/Green_Construction_Policy.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2024. *Draft Final Phase I Environmental Assessment for Hazards and Hazardous Materials*. April.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2002. No Further Action (NFA) Determination Letter, Alameda Corridor North-End, Permanent Easement Portion of the City of Los Angeles Refuse Vehicle Storage Yard. September 24.

Los Angeles Regional Water Quality Control Board (LARWQCB) 2003. *Site Closure—Lawry's California Center, Former Chromal Plating Facility Letter*. June 19.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2012. No Further Action (NFA) Determination Letter, Former Burlington Northern and Santa Fe (BNSF) Railway Company Mission Tower Site. September 25.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2014. *No Further Action (NFA) Determination Letter, Former Albion Dairy*. January 29.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2015. Underground Storage Tank Case Referral Response, Regional Rebuild Center. November 6.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2017. No Further Action (NFA) Determination Letter, City of Los Angeles Consolidated Facilities. November 14.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2021. *Underground Storage Tank Low Risk Case Review Form, Piper Technical Center*. November 5.

National Pipeline Mapping System. 2022. https://www.npms.phmsa.dot.gov/.

NOREAS, Inc. (NOREAS). 2021a. *Five-Year Review Sector A (Denny's Parcel), Former Aliso Manufacture Gas Plant*. May 21.

NOREAS, Inc. (NOREAS). 2021b. *Five-Year Review. Block K, Sector C, Former Aliso Street Manufactured Gas Plant*. May 21.

PIC Environmental Services (PIC). 2005. *Phase I and Phase II Environmental Site Assessment Report*. Former Thermador Facility. October 19.

Sullivan International Group. 2006. Remedial Investigation Report, Main Street Former Manufactured Gas Plan Site, Los Angeles, California. November.

Tetra Tech. 2003. *Final Removal Action Workplan for Aliso Street (Sector A) East parcel Former Manufactured Gas Plant Site*. July.

Tetra Tech. 2004a. *Remedial Investigation Report for Sector E—Former Aliso Street MGP*. May.

Tetra Tech. 2004b. *Removal Action Workplan. 490 Bauchet Street (Sector E). Former Aliso Street Manufactured Gas Plant*. December.

Tetra Tech. 2004c. *Remedial Investigation Report for Block G of Sector C—Former Aliso Street MGP Site Los Angeles, California*. March.

Tetra Tech. 2005. *Remedial Investigation Report for Sector D—Former Aliso Street MGP Site*. January.

Tetra Tech. 2008. *Draft Site Closure Report, Former Bortz Oil Company*. October 31.

Tetra Tech. 2013a. *Remedial Investigation Report for Block R of Sector C. Former Aliso Street MGP Site.* September 4.

Tetra Tech. 2013b. *Supplemental Site Investigation Report. Former Aliso Sector C, Block Q*. June 26

Tetra Tech. 2014. Final Site Investigation Report—Aliso Streets, Former Aliso Street MGP Site. September.

Tetra Tech. 2018. *2018 Annual Groundwater Monitoring Report, Former Aliso Street MGP Site, Los Angeles, California.* June.

TRC Companies. 2004. *Removal Documentation Report. Former Aliso Street MGP Site Sector C—Block L.* June 25.

TRC Companies (TRC). 2014. *First Five-Year Review Report. Former ANR Freight Property and Former Ferro Union Property.* June 26.

URS Corporation (URS). 2008. *Phase II Investigation, International Aluminum Facility, 3663 Bandini Boulevard, Vernon, Los Angeles County, California*. February 21.

URS Corporation (URS). 2014. *Soil Management Plan, BNSF Railway Company, 3667 Bandini Boulevard (Lot 8)*. March 6.

Weston Solutions, Inc. (Weston). 2018. *Final Phase II Investigation Targeted Brownfields Assessment Report*. Former Lincoln Heights Jail. February.

7.3.10 Section 3.10, Hydrology and Water Quality

California Department of Water Resources (DWR). 2003. *California's Groundwater Bulletin 118, Update 2003*. October. Sacramento, California. Updated February 27, 2004. https://water.ca.gov/-/media/dwr-website/web-pages/programs/groundwater-management/bulletin-118/files/statewide-reports/bulletin_118_update_2003.pdf.

California Department of Water Resources (DWR). 2019. *SGMA Basin Prioritization Dashboard.* https://gis.water.ca.gov/app/bp-dashboard/final/.

California Department of Water Resources (DWR). 2021. Groundwater Sustainability Agencies. Sacramento, California. https://water.ca.gov/Programs/Groundwater-Management/SGMA-Groundwater-Management/Groundwater-Sustainable-Agencies.

California Department of Water Resources (DWR). 2022. *SGMA Groundwater Management Act.* Sacramento, California. Updated August 2023. https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Sustainable-Groundwater-Management/Files/SGMA-Brochure_Online-Version_FINAL_updated.pdf.

California Geological Survey (CGS). 2009. *Los Angeles County Tsunami Hazard Area Maps*. https://www.conservation.ca.gov/cgs/tsunami/maps/los-angeles.

City of Bell. 2010. *City of Bell 2010 General Plan.* https://www.cityofbell.org/home/showpublisheddocument/714/634904930163130000.

City of Los Angeles. 2001. *Conservation Element* in *City of Los Angeles General Plan*. Adopted by the City Council September 26. Approved by the City Planning Commission March 10. https://planning.lacity.org/odocument/28af7e21-ffdd-4f26-84e6-dfa967b2a1ee/Conservation_Element.pdf.

City of Los Angeles. 2018. *One Water LA 2040 Plan*. Volume 6, *Climate Risk Assessment for Wastewater and Stormwater Infrastructure*. Final Draft. April. Prepared by CH2M and Carollo. https://www.lacitysan.org/cs/groups/sg_owla/documents/document/y250/mdmw/~edisp/cnt030192.pdf.

City of Los Angeles. 2020. *2020 Floodplain Management Plan*. September. Agency Submittal Draft. https://eng2.lacity.org/projects/fmp/pdf/2020FMPSubmittalDraft.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Maywood. 2023. *City of Maywood General Plan's Land Use Element.* November. https://www.cityofmaywood.com/DocumentCenter/View/2777/Land-Use---Final2?bidId=

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

County of Los Angeles. 2009. *Stormwater Best Management Practice Design and Maintenance Manual.* May. https://ladpw.org/ldd/lib/pdf/manuals/Stormwater%20BMP%20Design%20and%20Maintenance%20Manual.pdf.

Federal Emergency Management Agency (FEMA). 2015. Executive Order 13690. January. https://www.federalregister.gov/documents/2015/02/04/2015-02379/establishing-a-federal-flood-risk-management-standard-and-a-process-for-further-soliciting-and#print.

Los Angeles County Department of Public Works (LACDPW). 2006a. *Hydrology Manual*. January. http://www.ladpw.org/wrd/Publication/engineering/2006_Hydrology_Manual.pdf.

Los Angeles County Department of Public Works (LACDPW). 2006b. *San Gabriel River Corridor Master Plan*. June. https://dpw.lacounty.gov/wmd/watershed/sg/mp/docs/SGR_MP.pdf.

Los Angeles County Department of Public Works (LACDPW). 2017. *Dam Safety Program Report to the Board*. March. http://file.lacounty.gov/SDSInter/bos/supdocs/111735.pdf.

Los Angeles County Department of Public Works (LACDPW). 2021a. *Enterprise GIS Hub*. https://egis-lacounty.hub.arcgis.com/.

Los Angeles County Department of Public Works (LACDPW). 2021b. *Los Angeles River Watershed*. https://dpw.lacounty.gov/wmd/watershed/la/.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Flood Control District (LACFCD). 2016. *Water Diversion Manual and Best Management Practices.* July. https://www.waterboards.ca.gov/losangeles/water_issues/programs/401_water_quality_certification/Flood_Control/2018/AttachmentD2016WaterDiversionManual.pdf.

Los Angeles County Flood Control District (LACFCD). 2021. *Water Resources*. https://dpw.lacounty.gov/wrd/index.cfm.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019a. *Metro Climate Action and Adaptation Plan 2019*. https://media.metro.net/projects_studies/sustainability/images/Climate_Action_Plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019b. *Final LA River Path Right of-Way Existing Conditions Assessment*. June 20.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020. *Moving Beyond Sustainability Plan*. https://www.metro.net/about/plans/moving-beyond-sustainability/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2022. Final *Advanced Hydraulic Analysis Report*. May. Prepared by the Jacobs Alta Team.

Los Angeles Department of Water and Power (LADWP). 1983. *Groundwater Quality Management Plan San Fernando Valley Basin*. July. https://semspub.epa.gov/work/09/88129435.pdf.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2012. Order R4-2012-0175 as amended by State Water Board Order WQ 2015-0075 and Los Angeles Water Board Order R4 2012-0175-A01; NPDES Permit CAS004001, *Waste Discharge Requirements for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles County, Except those Discharges Originating from the City of Long Beach MS4*. Updated 2016. https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/los_angeles_ms4/2016/OrderR4-2012-0175_corrected_120216.pdf.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2019. *Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*. https://www.waterboards.ca.gov/water_issues/programs/tmdl/docs/303d_policydocs/233.pdf.

Los Angeles Regional Water Quality Control Board (LARWQCB). 2021. *Los Angeles River Watershed*. https://www.waterboards.ca.gov/rwqcb4/water_issues/programs/regional_program/Water_Quality_and_Watersheds/los_angeles_river_watershed/la_summary.shtml.

Metropolitan Water District of Southern California (MWD). 2007. *Groundwater Assessment Study*.

National Oceanic and Atmospheric Administration (NOAA). 2010. *Climate Data Online Search*. https://www.ncdc.noaa.gov/cdo-web/search?datasetid=NORMAL_ANN.

State Water Resources Control Board (SWRCB). 2012. *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*. Order 2009-0009-DWQ, as amended by Orders 2014-0014-DWQ and 2012-0006-DWQ. Effective July 17. https://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.html.

State Water Resources Control Board (SWRCB). 2018. *California 2018 Integrated Report (Clean Water Act Section 303(d) List/305(b) Report)*. https://www.waterboards.ca.gov/water_issues/programs/water_quality_assessment/2018_integrated_report.html.

State Water Resources Control Board (SWRCB). 2021. *Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for Municipal Separate Storm Sewer System (MS4) Discharges within the Coastal Watersheds of Los Angeles and Ventura Counties*. Order R4-2021-0105. https://www.waterboards.ca.gov/losangeles/water_issues/programs/stormwater/municipal/public_docs/2022/1_Order(ACC-RPSignature).pdf.

State Water Resources Control Board (SWRCB). 2022. *National Pollutant Discharge Elimination System (NPDES) General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities*. Order WQ 2022-0057-DWQ, NPDES No. CAS000002. Effective September 2023. https://www.waterboards.ca.gov/board_decisions/adopted_orders/water_quality/2022/wqo_2022-0057-dwq.pdf.

US Army Corps of Engineers (USACE). 1994. Engineer Manual 1110-2-1601, *Hydraulic Design of Flood Control Channels*. July 1. https://www.publications.usace.army.mil/Portals/76/Publications/EngineerManuals/EM_1110-2-1601.pdf

US Army Corps of Engineers (USACE). 2005. *Los Angeles County Drainage Area Upper Los Angeles River and Tujunga Wash HEC-RAS Hydraulic Models Final Report*. July.

US Army Corps of Engineers (USACE). 2008. *2008 Channel Improvement Limitations for Permits, CESPL-ED-HH*. Published April 29. https://www.spl.usace.army.mil/Portals/17/408%20Permits/Channel%20Improvement%20Construction%20Limitations.pdf?ver=fU3HYze0zcw1mNMA6kFqCA%3d%3d.

US Army Corps of Engineers (USACE). 2015. *Los Angeles River Ecosystem Restoration Final Integrated Feasibility Report and Final Environmental Impact Statement/Environmental Impact Report, Appendix A: Design.* September. https://usace.contentdm.oclc.org/digital/collection/p16021coll7/id/2339.

US Army Corps of Engineers (USACE). 2020. *Memorandum for Record: Hydrology & Hydraulics (H&H) Branch Policy Memorandum #3 "Hydraulic Design and Criteria for Underpasses and Access Ramps"*. September 3. https://www.spl.usace.army.mil/Portals/17/408%20Permits/HH%20Policy%20No.%203.pdf?ver=tDg-R2yEZCg_x81VWBUqzw%3d%3d.

US Army Corps of Engineers (USACE). 2021. *USACE Dam Safety Program*. December 16. https://www.usace.army.mil/Missions/Civil-Works/Dam-Safety-Program/.

US Army Corps of Engineers (USACE). 2022. *Department of the Army Letter to Metro*. October 11.

Water Replenishment District of Southern California (WRD). 2016. *Groundwater Basins Master Plan*. https://www.wrd.org/files/a784a9e7b/Groundwater+Basins+Master+Plan%2C+2016.pdf.

Water Replenishment District of Southern California (WRD). 2021. *Regional Groundwater Monitoring Report Water Year 2019–2020.* https://www.wrd.org/files/01d7a23c4/Regional+Groundwater+Monitoring+Report+2019-2020.pdf.

7.3.11 Section 3.11, Land Use and Planning

City of Bell. 2016. *City of Bell Bicycle Master Plan.* June. https://bicycleinfrastructuremanuals.com/manuals3/BellBMP2016.pdf.

City of Bell. 2018. *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Los Angeles. 1973. *Land Use Element* in *City of Los Angeles General Plan*.

City of Los Angeles. 1999. *Redevelopment Plan for the Adelante Eastside Redevelopment Project*. Adopted March. Amended June 2009. https://planning.lacity.org/odocument/00f3a669-c925-40bb-80be-898672b19d25/Adelante-Eastside-Redevelopment-Plan.pdf.

City of Los Angeles. 2001. *Framework Element of the City of Los Angeles General Plan.* https://planning.lacity.org/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.

City of Los Angeles. 2019. *L.A.'s Green New Deal Sustainable City pLAn 2019.* https://plan.lamayor.org/sites/default/files/pLAn_2019_final.pdf.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. City Plan Case 87-0242 CPR. Council File 99-0711. https://planning.lacity.org/odocument/e2b4c459-cfc2-48f5-ace9-8a86c1afd246/Northeast_Los_Angeles_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2000. *Central City North Community Plan*. December 15. City Plan Case 95-0352 CPU. Council File 97-0282. https://planning.lacity.org/odocument/e06434a6-341a-48ed-97dc-8f6a85780951/Central_City_North_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2003. *Central City Community Plan*. January. https://planning.lacity.org/odocument/2ddbdde0-a8fb-46e3-a151-f52fd09cc084/Central_City_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2004. *Silver Lake–Echo Park–Elysian Valley Community Plan*. August 11. City Plan Case 1995-0357 CPU. Council File 00-2217. https://planning.lacity.org/odocument/e87507ac-8c40-49a0-aa1c-21df963f2298/Silver_Lake-Echo_Park-Elysian_Valley_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case CPC-2009-871-GPA. https://nacto.org/wp-content/uploads/2012/05/LA-CITY-BICYCLE-PLAN-TDH.pdf.

City of Los Angeles Department of City Planning. 2016. *Mobility Plan 2035: An Element of the General Plan*. Approved by City Planning Commission June 23, 2016. City Plan Case CPC-2013-0910-GPA-SPCA-MSC. Adopted by City Council September 7, 2016. Council File 15-0719-S15. https://planning.lacity.org/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

City of Los Angeles Department of City Planning. 2021. *Cornfield Arroyo Seco Specific Plan*. August. https://planning.lacity.org/odocument/9d013e0f-452b-4857-86d5-fcd357b27a4d.

City of Los Angeles Department of City Planning. 2023. *Boyle Heights Community Plan Update*. https://planning.lacity.gov/odocument/443f5a38-73b3-420f-8d84-6ff4a5c5aad7/BHCPU%20Plan%20Text%20082023.pdf.

City of Los Angeles Department of Transportation (LADOT). 2018. *Great Streets for Los Angeles 2018–2020 Strategic Plan*. https://ladot.lacity.org/sites/default/files/documents/strategicplan-2018-2020.pdf.

City of Maywood. 2007. *Maywood General Plan*. https://www.cityofmaywood.com/273/General-Plan.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

County of Los Angeles Public Works. 2012. *County of Los Angeles Bicycle Master Plan: Final Plan – March 2012*. March. Prepared by Alta Planning +Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2012. *Metro Countywide Sustainability Planning Policy & Implementation Plan*. December. http://libraryarchives.metro.net/DPGTL/publications/2013-countywide-sustainability-planning-policy-and-implementation-plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2014. *Metro Complete Streets Policy*. September. http://media.metro.net/board/Items/2014/10_october/20141015ahsitem7.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2015. *Connect US Action Plan*. https://www.metro.net/about/union-station/connect-us-action-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2018. *Metro Vision 2028 Strategic Plan*. June. https://www.metro.net/about/plans/metro-strategic-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020a. *Moving Beyond Sustainability Strategic Plan 2020*. https://www.dropbox.com/s/e6o3317f5qf6fjt/Moving-Beyond-Sustainability-Strategic-Plan-2020.pdf?dl=0.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020b. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/

Los Angeles County Metropolitan Transportation Authority (Metro). 2021. *First/Last Mile Guidelines*. May. https://libraryarchives.metro.net/DB_Attachments/BP-Links/policy-2021-05-first-last-mile-guidelines.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2023. *Active Transportation Strategic Plan*. November. https://www.metro.net/projects/active-transportation-strategic-plan-atsp/.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

7.3.12 Section 3.12, Noise

American National Standards Institute (ANSI). 2013. *Quantities and Procedures for Description and Measurement of Environmental Sound—Part 3: Short-term Measurements with an Observer Present*. Standard S12.9-2013. Annex C. January. Prepared by Acoustical Society of America. Melville, NY.

California Department of Transportation (Caltrans). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. September. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf.

California Department of Transportation (Caltrans). 2018. "Section 14-8.02: Noise Control." *Standard Specifications*. https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications.

California Department of Transportation (Caltrans). 2020. *Transportation and Construction Vibration Guidance Manual*. https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf.

City of Bell. 1998. *Municipal Code*. Bell, California. https://library.qcode.us/lib/bell_ca/pub/municipal_code.

City of Bell. 2018. *Health & Safety Element* in *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Los Angeles. 1998. *Noise Element of the General Plan*. November. https://planning.lacity.org/odocument/b49a8631-19b2-4477-8c7f-08b48093cddd/Noise_Element.pdf.

City of Los Angeles. 2017. "4.9 Noise." *Exposition Corridor Transit Neighborhood Plan Draft EIR*. https://planning.lacity.gov/eir/ExpositionCorridor/deir/files/4.9%20Noise.pdf.

City of Los Angeles. 2021. *Los Angeles Municipal Code*. March. https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-107363.

City of Maywood. 2007. *Maywood General Plan. Noise Element.* https://www.cityofmaywood.com/273/General-Plan.

City of Maywood. 2021. *Municipal Code*. Maywood, California. May. https://library.municode.com/ca/maywood/codes/municipal_code?nodeId=TIT5PUWEMOCO_CH23NOCO_5-23.11EX.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2022. *California Charter and City Code*. Vernon, California. https://content.qcode.us/lib/vernon_ca/pub/city_code/files/crossrefs.pdf.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Federal Highway Administration (FHWA). 2006. *Roadway Construction Noise Model*. https://www.fhwa.dot.gov/environment/noise/construction_noise/rcnm/.

Federal Transit Administration (FTA). 2018. *Transit Noise and Vibration Impact Assessment Manual*. September. Cambridge, Massachusetts. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf.

Governor's Office of Planning and Research. 2017. *State of California General Plan Guidelines*. July 31. Sacramento, California. https://www.opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf.

LA River Master Plan Final Program Environmental Impact Report (LACDPW). 2022. Prepared for Los Angeles County Public Works. Prepared by CF. March. https://pw.lacounty.gov/uploads/swq/LARMP-FEIR-0322.pdf

Los Angeles County Code. 2024. Chapter 12.08, *Noise Control*. https://library.municode.com/ca/los_angeles_county/codes/code_of_ordinances?nodeId=TIT12ENPR_CH12.08NOCO.

7.3.13 Section 3.13, Population and Housing

City of Los Angeles. 1973. *City of Los Angeles General Plan*.

City of Los Angeles. 2001. *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*. https://planning.lacity.gov/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case CPC-2009-871-GPA. https://nacto.org/wp-content/uploads/2012/05/LA-CITY-BICYCLE-PLAN-TDH.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Los Angeles Department of Transportation (LADOT). 2018. *Great Streets for Los Angeles 2018–2020 Strategic Plan*. https://ladot.lacity.org/sites/default/files/documents/strategicplan-2018-2020.pdf.

City of Maywood. 2007. *Maywood General Plan*. https://www.cityofmaywood.com/273/General-Plan.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

County of Los Angeles Department of Regional Planning. 2022a. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

County of Los Angeles Department of Regional Planning. 2022b. *2021–2029 Housing Element* in *General Plan 2035*. Adopted November 24, 2021. Updated June 14, 2022. https://planning.lacity.gov/plans-policies/housing-element.

Federal Transit Administration (FTA). 2011. *Final Policy Statement on the Eligibility of Pedestrian and Bicycle Improvements Under Federal Transit Law*. Federal Register 76:161.https://www.govinfo.gov/content/pkg/FR-2011-08-19/pdf/2011-21273.pdf.

Los Angeles County. 1996. *LA River Master Plan*. Los Angeles County, California. https://larivermasterplan.org/about/master-plan-2022/1996-master-plan-summary/.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2014. *First-Last Mile Strategic Plan & Planning Guidelines.* March.https://www.dropbox.com/sh/55dbbcvb9eifv9s/AADa3c0J6VsktS5iDSEnEY7Wa/Key%20Guidance?dl=0&preview=Metro-FLM-Guidelines.pdf&subfolder_nav_tracking=1.

Los Angeles County Metropolitan Transportation Authority (Metro). 2015. *Connect US Action Plan*. https://libraryarchives.metro.net/DB_Attachments/150520_Connect_US_Master_Plan.pdf

Los Angeles County Metropolitan Transportation Authority (Metro). 2018. *Metro Vision 2028 Strategic Plan*. June. https://www.metro.net/about/plans/metro-strategic-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020a. *Moving Beyond Sustainability Strategic Plan 2020*. https://www.dropbox.com/s/e6o3317f5qf6fjt/Moving-Beyond-Sustainability-Strategic-Plan-2020.pdf?dl=0.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020b. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2021. *First/Last Mile Guidelines*. May. https://libraryarchives.metro.net/DB_Attachments/BP-Links/policy-2021-05-first-last-mile-guidelines.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2023. *Active Transportation Strategic Plan*. November. https://www.metro.net/projects/active-transportation-strategic-plan-atsp/.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

7.3.14 Section 3.14, Public Services/Safety and Security

Bell Police Department. 2021. *Police*. https://www.cityofbell.org/?NavID=106.

City of Los Angeles. 2001. *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*. https://planning.lacity.gov/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.

City of Los Angeles. 2021. *Los Angeles Safety Element of the General Plan*. Adopted November 24. https://planning.lacity.gov/odocument/31b07c9a-7eea-4694-9899-f00265b2dc0d/Safety_Element.pdf.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. City Plan Case 87-0242 CPR. Council File 99-0711. https://planning.lacity.org/odocument/e2b4c459-cfc2-48f5-ace9-8a86c1afd246/Northeast_Los_Angeles_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2000. *Central City North Community Plan*. December 15. City Plan Case 95-0352 CPU. Council File 97-0282. https://planning.lacity.org/odocument/e06434a6-341a-48ed-97dc-8f6a85780951/Central_City_North_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2004. *Silver Lake–Echo Park–Elysian Valley Community Plan*. August 11. City Plan Case 1995-0357 CPU. Council File 00-2217. https://planning.lacity.org/odocument/e87507ac-8c40-49a0-aa1c-21df963f2298/Silver_Lake-Echo_Park-Elysian_Valley_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case No. CPC-2009-871-GPA. https://nacto.org/wp-content/uploads/2012/05/LA-CITY-BICYCLE-PLAN-TDH.pdf.

City of Los Angeles Department of City Planning. 2016. *Mobility Plan 2035: An Element of the General Plan*. Adopted September 7. Council File No. 15-0719-S1. City Plan Case No. CPC-2013-0910-GPA-SPCA-MSC. https://planning.lacity.gov/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

City of Los Angeles Department of City Planning. 2023. *Boyle Heights Community Plan Update*. https://planning.lacity.gov/odocument/443f5a38-73b3-420f-8d84-6ff4a5c5aad7/BHCPU%20Plan%20Text%20082023.pdf.

City of Maywood. 2007. *Maywood General Plan*. https://www.cityofmaywood.com/273/General-Plan.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2012. *County of Los Angeles Bicycle Master Plan: Final Plan – March 2012*. March. Prepared by Alta Planning +Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Fire Department (LACoFD). 2021. *LACoFD Fire Station Boundaries*. https://hub.arcgis.com/datasets/lacounty::lacofd-fire-station-boundaries-feature-layer-?geometry=-118.279%2C33.979%2C-118.079%2C34.029.

Los Angeles County Metropolitan Transportation Authority (Metro). 2017. *Project Labor Agreement & Construction Careers Policy*. Renewed January. https://www.metro.net/about/placcp/.

Los Angeles County Open Data. 2018. *DHS Facilities*. April. https://data.lacounty.gov/dataset/DHS-Facilities/xku5-45w4.

Los Angeles County Sheriff's Department (LASD). 2021. *East Los Angeles Sheriff's Station*. https://lasd.org/east-los-angeles/.

Los Angeles Fire Department (LAFD). 2018. *Third-Party Deployment of Fire Resources Study and Strategic Plan 2018–2020: A Safer City 2.0*. March. Prepared by PA Consulting Group. Prepared for the Office of the City Administration Officer. https://issuu.com/lafd/docs/strategic_plan_final_2018.02.09?e=17034503/59029441

Los Angeles Fire Department (LAFD). 2021a. *Our Mission*. https://www.lafd.org/about/about-lafd/our-mission.

Los Angeles Fire Department (LAFD). 2021b. *Find Your Station*. https://www.lafd.org/fire-stations/station-results.

Los Angeles Police Department (LAPD). 2021a. *Crime Mapping and COMPSTAT*. https://www.lapdonline.org/office-of-the-chief-of-police/office-of-special-operations/detective-bureau/crime-mapping-and-compstat/.

Los Angeles Police Department (LAPD). 2021b. *Sworn and Civilian Report*. https://lapdonlinestrgeacc.blob.core.usgovcloudapi.net/lapdonlinemedia/rpt13_PR91-3.pdf.

Los Angeles Public Library (LAPL). 2015. *Los Angeles Public Library Strategic Plan 2015–2020: Creating Opportunity, Building Community, Inspiring Innovation*. June. https://www.lapl.org/sites/default/files/media/pdf/about/LAPL_Strategic_Plan_2015-2020.pdf

Los Angeles Public Library (LAPL). 2023. LAPL.org. https://www.lapl.org/branches.

Los Angeles Unified School District (LAUSD). 2020. *Facilities Services Division Strategic Execution Plan*. https://www.laschools.org/new-site/sep/

Los Angeles Unified School District (LAUSD). 2021. *School Directory*. https://schooldirectory.lausd.net/schooldirectory/.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

Vernon Police Department. 2021. *E-Services & Location*. https://www.cityofvernon.org/government/police-department/e-services-location.

Watershed Conservation Authority (WCA). 2019. *Los Angeles River Ranger Program Establishment Plan*. Prepared by San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy and the Santa Monica Mountains Conservancy. May. https://www.wca.ca.gov/los_angeles_river_ranger_program_establishment_plan2.

7.3.15 Section 3.15, Recreation

California Department of Transportation (Caltrans). 2016. *Caltrans Highway Design Manual*. Seventh Edition. Sacramento, California. https://dot.ca.gov/programs/design/manual-highway-design-manual-hdm.

City of Bell. 2016. *City of Bell Bicycle Master Plan*. June. https://bicycleinfrastructuremanuals.com/manuals3/BellBMP2016.pdf.

City of Bell. 2018. *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Los Angeles. 1973. *Open Space Plan*. Element in *City of Los Angeles General Plan*. June. https://planning.lacity.org/odocument/01ea5f66-3281-488a-930b-f523712fef07/Open_Space_Element.pdf.

City of Los Angeles. 1980. *Public Recreation Plan*: *Service Systems Element* of the *Los Angeles General Plan*. https://planning.lacity.gov/Code_Studies/GeneralElement/PublicRecreationPlan.pdf.

City of Los Angeles. 2001. *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*. https://planning.lacity.gov/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf.

City of Los Angeles. 2003. *Central City Community Plan*. January. https://planning.lacity.org/odocument/2ddbdde0-a8fb-46e3-a151-f52fd09cc084/Central_City_Community_Plan.pdf.

City of Los Angeles. 2009. *2009 Citywide Community Needs Assessment*. Final Report. https://www.laparks.org/sites/default/files/projects/2009%20Community%20Needs%20Assessment%20-%20Final.pdf.

City of Los Angeles. 2015. *Plan for a Healthy Los Angeles: A Health and Wellness Element of the General Plan. An Element of the General Plan*. March. https://planning.lacity.org/odocument/7f065983-ff10-4e76-81e5-e166c9b78a9e/Plan_for_a_Healthy_Los_Angeles.pdf.

City of Los Angeles. 2019. *LA's Green New Deal Sustainability City pLAn*. https://plan.mayor.lacity.gov/sites/g/files/wph2176/files/2022-12/pLAn_2019_final.pdf.

City of Los Angeles. 2021. *City of Los Angeles Bikeways*. June 9. https://geohub.lacity.org/datasets/ladot::city-of-los-angeles-bikeways-1/explore?location=34.020042%2C-118.413073%2C10.68.

City of Los Angeles Department of City Planning. 1996. *Alameda District Specific Plan*. June 18. Ordinance 171,139. Specific Plan Procedures amended September 22, 2000. https://planning.lacity.org/odocument/11788e44-7659-4e6f-95d6-4b5d5861b1ba/Alameda_District_Specific_Plan.pdf.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. City Plan Case 87-0242 CPR. Council File 99-0711. https://planning.lacity.org/odocument/e2b4c459-cfc2-48f5-ace9-8a86c1afd246/Northeast_Los_Angeles_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2000. *Central City North Community Plan*. December 15. City Plan Case 95-0352 CPU. Council File 97-0282. https://planning.lacity.org/odocument/e06434a6-341a-48ed-97dc-8f6a85780951/Central_City_North_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2004. *Silver Lake–Echo Park–Elysian Valley Community Plan*. August 11. City Plan Case 1995-0357 CPU. Council File 00-2217. https://planning.lacity.org/odocument/e87507ac-8c40-49a0-aa1c-21df963f2298/Silver_Lake-Echo_Park-Elysian_Valley_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case CPC-2009-871-GPA. https://nacto.org/wp-content/uploads/2012/05/LA-CITY-BICYCLE-PLAN-TDH.pdf.

City of Los Angeles Department of City Planning. 2023. *Boyle Heights Community Plan Update*. https://planning.lacity.gov/odocument/443f5a38-73b3-420f-8d84-6ff4a5c5aad7/BHCPU%20Plan%20Text%20082023.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Los Angeles Department of Transportation (LADOT). 2018. *Great Streets for Los Angeles 2018–2020 Strategic Plan*. https://ladot.lacity.org/sites/default/files/documents/strategicplan-2018-2020.pdf.

City of Maywood. 2007. *Maywood General Plan*. https://www.cityofmaywood.com/273/General-Plan

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/long-range-planning/general-plan/general-plan-elements/.

Los Angeles County Department of Parks and Recreation (LADRP). 2016. *Los Angeles Countywide Comprehensive Parks & Recreation Needs Assessment*. May. Los Angeles County, CA. https://lacountyparkneeds.org/wp-content/uploads/2016/06/FinalReport.pdf.

Los Angeles County Department of Public Works (LACDPW). 1996. *Los Angeles River Master Plan*. June. https://larivermasterplan.org/about/master-plan-2022/1996-master-plan-summary/.

Los Angeles County Department of Public Works (LACDPW). 2012. *County of Los Angeles Bicycle Master Plan: Final Plan – March 2012*. March. Prepared by Alta Planning +Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2006. *Bicycle Transportation Strategic Plan*. June. https://libraryarchives.metro.net/board/Items/2006/02_february/20060215P&PItem6%20Atta.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2012. *Metro Countywide Sustainability Planning Policy & Implementation Plan*. December. http://libraryarchives.metro.net/DPGTL/publications/2013-countywide-sustainability-planning-policy-and-implementation-plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2014. M*etro Complete Streets Policy*. September. http://media.metro.net/board/Items/2014/10_october/20141015ahsitem7.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2015. *Connect US Action Plan*. https://www.metro.net/about/union-station/connect-us-action-plan/

Los Angeles County Metropolitan Transportation Authority (Metro). 2018. *Metro Vision 2028 Strategic Plan*. June. https://www.metro.net/about/plans/metro-strategic-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020a. *Countywide Sustainability Strategic Plan (Moving Beyond Sustainability)*. September. https://www.metro.net/about/plans/moving-beyond-sustainability/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020b. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2021. *First/Last Mile Guidelines*. May. https://libraryarchives.metro.net/DB_Attachments/BP-Links/policy 2021 05 first last mile-guidelines.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2023. *Active Transportation Strategic Plan*. November. https://www.metro.net/projects/active-transportation-strategic-plan-atsp/.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

7.3.16 Section 3.16, Transportation

Alta Planning + Design (Alta). 2024. LA River Path Draft Network Demand Memorandum. Originally submitted July 2021. Amended March 2024.

Amtrak. 2021. *Amtrak Train Destinations*. https://www.amtrak.com/routes.html.

California Air Pollution Control Officers Association. 2021. *Handbook for Analyzing Greenhouse Gas Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity*. https://caleemod.com/documents/handbook/full_handbook.pdf

California Department of Transportation (Caltrans) and City of Los Angeles. 2011. *6th Street Viaduct Seismic Improvement Project Final Environmental Impact Report/Environmental Impact Statement and Section 4(f) Evaluation*. October. https://clkrep.lacity.org/onlinedocs/2011/11-1789_RPT_BOE_10-19-11-1.pdf.

City of Commerce. 2008. *City of Commerce 2020 General Plan*. January 2008. https://www.ci.commerce.ca.us/Home/ShowDocument?id=76.

City of Huntington Park. 2017. *City of Huntington Park 2030 General Plan – Mobility and Circulation Element*. November. http://media.metro.net/projects_studies/tod/images/r3_Huntington_Park.pdf.

City of Los Angeles. n.d. *City of Los Angeles Complete Streets Design Guide*. https://planning.lacity.org/odocument/c9596f05-0f3a-4ada-93aa-e70bbde68b0b/Complete_Street_Design_Guide.pdf.

City of Los Angeles. 2017. *Vision Zero*. January. https://view.joomag.com/vision-zero-action-plan-2017/0893807001485436685?short.

City of Los Angeles. 2019. *Citywide Design Guidelines*. October. https://planning.lacity.gov/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf.

City of Los Angeles. 2019. *L.A.'s Green New Deal: Sustainable City pLAn*. https://plan.mayor.lacity.gov/sites/g/files/wph2176/files/2022-12/pLAn_2019_final.pdf.

City of Los Angeles Department of City Planning. 2011. *2010 Bicycle Plan: A Component of the City of Los Angeles Transportation Element*. Adopted March 1. Council File 10-2385-S2. City Plan Case CPC-2009-871-GPA. https://planning.lacity.gov/odocument/1378be7a-c7e2-4941-b2e2-937f929c17c2/Bicycle%20Plan%20-%202010.pdf.

City of Los Angeles Department of City Planning. 2016. *Mobility Plan 2035: An Element of the General Plan*. Approved by City Planning Commission June 23. City Plan Case CPC-2013-0910-GPA-SPCA-MSC. Adopted by City Council September 7. Council File 15-0719-S15. https://planning.lacity.gov/odocument/523f2a95-9d72-41d7-aba5-1972f84c1d36/Mobility_Plan_2035.pdf.

City of Los Angeles Department of Public Works. 2007. *Los Angeles River Revitalization Master Plan*. April. https://apps.engineering.lacity.gov/lariverrmp/CommunityOutreach/masterplan_download.htm.

City of Maywood. 2008. *Maywood General Plan: Circulation2019 Element.* https://www.cityofmaywood.com/DocumentCenter/View/344/Transportation-Element-PDF.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

City of Vernon. 2017. *City of Vernon Bicycle Master Plan*. December. Prepared by Alta Planning + Design. https://www.cityofvernon.org/home/showpublisheddocument/1308/637635880856030000.

Governor's Office of Planning and Research. 2018. *Technical Advisory on Evaluating Transportation Impacts in CEQA*. December. https://opr.ca.gov/docs/20180416-743_Technical_Advisory_4.16.18.pdf.

Los Angeles County Department of Public Works (LACDPW). 1996. *Los Angeles River Master Plan*. June. https://ladpw.org/wmd/watershed/LA/LARMP/.

Los Angeles County Department of Public Works (LACDPW). 2012. *County of Los Angeles Bicycle Master Plan: Final Plan --March 2012*. March. Prepared by Alta Planning +Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Department of Regional Planning. 2022. *2035 General Plan*. https://planning.lacounty.gov/long-range-planning/general-plan/general-plan-elements/

Los Angeles County Metropolitan Transportation Authority (Metro). 2014. M*etro Complete Streets Policy*. September. http://media.metro.net/board/Items/2014/10_october/20141015ahsitem7.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2015. *Connect US Action Plan.* May 20. https://libraryarchives.metro.net/DB_Attachments/150520_Connect_US_Master_Plan.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2018. *Metro Vision 2028 Strategic Plan*. June. https://www.metro.net/about/plans/metro-strategic-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *LA River Path Access + Accessibility Assessment*. September.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020a. *Long Range Transportation Plan*. March. https://www.metro.net/about/plans/long-range-transportation-plan/.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020b. *Sustainability Strategic Plan 2020: Moving Beyond Sustainability*. September. https://www.transit.dot.gov/sites/fta.dot.gov/files/2022-03/LA-Metro-Sustainability-Strategic-Plan-2020.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2020c. *LA River Path Origin and Destination + Demand Analyses*. February 19.

Los Angeles County Metropolitan Transportation Authority (Metro). 2023. *Active Transportation Strategic Plan*. November. https://www.metro.net/projects/active-transportation-strategic-plan-atsp/.

Los Angeles Department of Transportation (LADOT). 2020. *Transportation Assessment Guidelines.* July. https://ladot.lacity.gov/sites/default/files/documents/2020-transportation-assessment-guidelines_final_2020.07.27.pdf.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

Southern California Association of Governments (SCAG). 2020b. *Demographics and Growth Forecast.* September 3. https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocal_demographics-and-growth-forecast.pdf.

US Department of Justice, Civil Rights Division (DOJ). 2010. *2010 ADA Standards for Accessible Design*. https://www.ada.gov/regs2010/2010ADAStandards/2010ADAstandards.htm #designconstruction.

7.3.17 Section 3.17, Tribal Cultural Resources

Byrd, Brian F., and L. Mark Raab. 2007. *Prehistory of the Southern Bight: Models for a New Millennium. In California Prehistory, Colonization, Culture, and Complexity.* Terry L. Jones and Kathryn A. Klar, eds. AltaMira Press, Lanham. pp. 215–227.

Earle, David D. and Stephen O'Neal. 1994. *Newport Coast Archaeological Project: An Ethnohistoric Analysis of Population, Settlement, and Social Organization in Coastal Orange County at the End of the Late Prehistoric Period*. Prepared by the Keith Companies, Irvine, California. On file at the South Central Coastal Information Center, California State University Fullerton, Fullerton, California.

King, Chester. 1971. "Chumash Inter-Village Economic Exchange." *The Indian Historian,* 4(1):31–34. San Francisco: American Indian Historical Society.

Los Angeles County Metropolitan Transportation Authority (Metro). 2022. *LA River Path Archaeological Resources Impact Analysis Report*. Draft Final. Prepared by Jacobs.

McCawley, William. 1996. *The First Angelinos: The Gabrieleño Indians of Los Angeles*. Morongo Indian Reservation, California. Malki Museum Press/Ballena Press.

Moratto, Michael J. 2004. *California Archaeology*. Academic Press, San Diego, California.

National Park Service (NPS). n.d. *Arlington Man*. http://www.nps.gov/chis/historyculture/arlington.htm.

Romani, Gwendolyn. 1990. *Archaeological Investigations at 811 North Catalina Avenue for the Proposed Commercial/Industrial Mini-Storage Located in Redondo Beach, Los Angeles County, California*. Prepared by Greenwood and Associates, Pacific Palisades, California. Prepared for DJM Company and the City of Redondo Beach. On file at the South Central Coastal Information Center, California State University Fullerton, Fullerton, California.

Sorrell, Tanya, Jenna Snow, Shane Swerdlow, Marissa Moshier, Kathryn McGee, Sylvia Schweri, April Sommer Rabnera, Jennifer Thornton, and Mary Ringhoff. 2018. SurveyLA, Los Angeles Historic Resources Survey, Los Angeles Citywide Historic Context Statement, Context: Industrial Development, 1850-1980. Prepared by LSA Associates, Inc and Chattel Architecture, Planning, and Preservation. Prepared for City of Los Angeles Department of City Planning Office of Historic Resources. https://planning.lacity.org/odocument/ad40500b-cf5a-436e-8c80-a81606544c01/IndustrialDevelopment_1850-1980.pdf.

Tartaglia, Louis James. 1976. *Prehistoric Maritime Adaptions in Southern California*. University of Southern California.

TKC and SRI. 2005. *Archaeological Evaluation of the Tomato Springs Site (CA-ORA-244)*. On file at the South Central Coastal Information Center, California State University Fullerton, Fullerton, California.

Wallace, William J. 1955. "A Suggested Chronology for Southern California Coastal Archaeology." *Southwestern Journal of Anthropology*. 11(3): 214–230.

Wallace, William. J. 1978. "Post-Pleistocene Archaeology, 9000 to 2000 B.C." *Handbook of North American Indians*. R. F. Heizer, ed. 8:25–36. Washington, D.C.: Smithsonian Institute Press.

Warren, Claude N. 1968. "Cultural Tradition and Ecological Adaptation on the Southern California Coast." *Archaic Prehistory in the Western United States*. Symposium of the Society for American Archaeology, Santa Fe. Eastern New Mexico University Contributions in Anthropology. C. Irwin-Williams, ed. 1(3).

Warren, Claude N. 1984. "The Desert Region." *California Archaeology*. San Diego, California: Academic Press, Inc. pp. 339-430.

7.3.18 Section 3.18 Utilities and Service Systems

California Department of Water Resources (DWR). 1991. *California Well Standards*. June. https://archive.org/details/protectwellst7490calirich.

City of Los Angeles. 1996. *Safety Element of the Los Angeles General Plan*. November.

City of Los Angeles. 2013. *Solid Waste Integrated Resources Plan—A Zero Waste Master Plan*. October. https://www.lacitysan.org/san/sandocview?docname=cnt012522.

City of Los Angeles Bureau of Sanitation (LASAN). 2021a. *Hyperion Water Reclamation Plant*. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-cw/s-lsh-wwd-cw-p/s-lsh-wwd-cw-p-hwrp?_adf.ctrl-state=n2lrmqufv_226&_afrLoop=14020590712809087#!.

City of Los Angeles Bureau of Sanitation (LASAN). 2021b. *Construction and Demolition Recycling*. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r/s-lsh-wwd-s-r-cdr?_adf.ctrl-state=n2lrmqufv_5&_afrLoop=14020358660055000#!.

City of Los Angeles Bureau of Sanitation (LASAN). 2023a. *LA Sanitation City of Los Angeles: What We Do*. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd?_adf.ctrl-state=yyy0wm7db_5&_afrLoop=20525751128020341#!.

City of Los Angeles Bureau of Sanitation (LASAN). 2023b. *Solid Resources*. https://www.lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s?_adf.ctrl-state=1552crdoen_238&_afrLoop=20060417331394155#!.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended February 23, 2009, February 5, 2013, and April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

Los Angeles County Department of Public Works (LACDPW). 2023. *County of Los Angeles Active Wells*. https://egis-lacounty.hub.arcgis.com/apps/lacounty::active-wells/about

Los Angeles County Metropolitan Transportation Authority (Metro). 2007. *Metro Construction and Demolition Debris Recycling and Reuse Policy*. Gen 51. December. https://libraryarchives.metro.net/dpgtl/papers/Construction_and_Demolition_Debris_Recycling_Reuse_Policy_GEN51.pdf

Los Angeles County Metropolitan Transportation Authority (Metro). 2009. *Water Quality and Conservation Policy*. https://sustainabilityreporting.metro.net/water-quality-and-conservation

Los Angeles County Metropolitan Transportation Authority (Metro). 2010. *Rail Design Criteria*. January.

Los Angeles County Metropolitan Transportation Authority (Metro). 2010. *Water Action Plan*. June Prepared by ICF International and Brezack & Associates Planning. https://libraryarchives.metro.net/DB_Attachments/120215_Water_Plan2010_0825.pdf

Los Angeles County Metropolitan Transportation Authority (Metro). 2020. *Moving Beyond Sustainability Strategic Plan 2020*. https://www.dropbox.com/s/e6o3317f5qf6fjt/Moving-Beyond-Sustainability-Strategic-Plan-2020.pdf?dl=0.

Los Angeles County Sanitation Districts (LACSD). 2021. *Los Coyotes Water Reclamation Plant*. https://www.lacsd.org/services/wastewater-sewage/facilities/los-coyotes-water-reclamation-plant.

Metropolitan Water District of Southern California (MWD). 1999. *Water Surplus and Drought Management Plan.* Report 1150. August. https://www.mwdh2o.com/media/20239/24_water_supply_drought_management_plan.pdf?keywords=Water%20Surplus%20and%20Drought%20Management%20Plan.

Metropolitan Water District of Southern California (MWD). 2011. *Long-Term Conservation Plan*. August. https://www.mwdh2o.com/media/11753/064759198.pdf?keywords=Long-Term%20Conservation%20Plan.

Metropolitan Water District of Southern California (MWD). 2020. *2020 Integrated Water Resource Plan*. November. https://www.mwdh2o.com/how-we-plan/integrated-resource-plan/.

Metropolitan Water District of Southern California (MWD). 2021. *2020 Urban Water Management Plan*. Draft. March. https://www.mwdh2o.com/media/18118/draft_metropolitan_2020_uwmp_march_2021.pdf.

Metropolitan Water District of Southern California (MWD). 2023. T*he Metropolitan Water District of Southern California: Member Agencies*. https://www.mwdh2o.com/member-agencies/.

US Environmental Protection Agency (EPA). 2023. *National Pollutant Discharge Elimination System (NPDES): Secondary Treatment Standards*. https://www.epa.gov/npdes/secondary-treatment-standards.

7.3.19 Section 3.19, Wildfire

California Department of Forestry and Fire Protection (CAL FIRE). 2019. S*trategic Plan 2019*. January. https://www.placer.ca.gov/DocumentCenter/View/60678/DeptForestryFire_StrategicPlan_2019-2023?bidId.

California Office of the State Fire Marshal (OSFM). 2021. *Wildfire Protection*. https://osfm.fire.ca.gov/.

California Office of the State Fire Marshal (OSFM). 2023. Fire Hazard Severity Zones mapping tool. https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones.

City of Los Angeles. 1996. *Safety Element of the Los Angeles General Plan*. November. https://planning.lacity.gov/odocument/bf51ae04-1c7b-4931-9a29-d46209998b89/Safety_Element.pdf.

City of Los Angeles. 2001. *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*. https://planning.lacity.org/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf/.

City of Los Angeles. 2011. *Los Angeles River Design Guidelines*. December. https://lariver.org/blog/la-river-design-guidebook.

City of Los Angeles. 2018a. *City of Los Angeles 2018 Local Hazard Mitigation Plan*. January. https://emergency.lacity.org/sites/g/files/wph1791/files/2021-10/2018_LA_HMP_Final_with_maps_2018-02-09.pdf.

City of Los Angeles. 2021. *City of Los Angeles Municipal Code*. https://codelibrary.amlegal.com/codes/los_angeles/latest/lamc/0-0-0-107363.

City of Los Angeles Emergency Management Department. 2021. *Emergency Plans and Annexes*. https://emergency.lacity.org/resources/emergency-plans-and-annexes.

Los Angeles City Council. 2018. *Ordinance 185789*. October 17. https://issuu.com/lafd/docs/ordinance_no_185789__mayor_signatur.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles Fire Department (LAFD). 2018. *Strategic Plan 2018–2020: A Safer City 2.0*. https://issuu.com/lafd/docs/strategic_plan_final_2018.02.09?e=17034503/59029441.

7.4 Chapter 4, Other CEQA Required Sections

City of Bell. 2018. *City of Bell 2030 Comprehensive General Plan*. May. https://www.cityofbell.org/home/showpublisheddocument/14770/637490821578330000.

City of Bell Gardens. 1995. *City of Bell Gardens General Plan*. Bell Gardens, California. July. https://www.bellgardens.org/government/city-departments/community-development/planning/general-plan.

City of Commerce. 2008. *City of Commerce 2020 General Plan*. January. https://www.ci.commerce.ca.us/Home/ShowDocument?id=76.

City of Cudahy. 2018. *Cudahy 2040 General Plan*. Cudahy, California. March. https://www.cityofcudahy.com/DocumentCenter/View/216/Cudahy-General-Plan-2040-PDF.

City of Downey. 2005. *City of Downey Vision 2025 General Plan*. Downey, California. January. https://www.downeyca.org/our-city/departments/community-development/planning/general-plan-map.

City of Huntington Park. 1991. *City of Huntington Park General Plan*. Huntington Park, California. https://www.hpca.gov/DocumentCenter/View/407/HP-General-Plan?bidId.

City of Los Angeles. 1973. *City of Los Angeles General Plan*.

City of Los Angeles. 2001. *The Citywide General Plan Framework: An Element of the City of Los Angeles General Plan*. https://planning.lacity.org/odocument/513c3139-81df-4c82-9787-78f677da1561/Framework_Element.pdf/.

City of Los Angeles. 2003. *Central City Community Plan*. January. https://planning.lacity.org/odocument/2ddbdde0-a8fb-46e3-a151-f52fd09cc084/Central_City_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 1999. *Northeast Los Angeles Community Plan*. June 15. City Plan Case 87-0242 CPR. Council File 99-0711. https://planning.lacity.org/odocument/e2b4c459-cfc2-48f5-ace9-8a86c1afd246/Northeast_Los_Angeles_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2000. *Central City North Community Plan*. December 15. City Plan Case 95-0352 CPU. Council File 97-0282. https://planning.lacity.org/odocument/e06434a6-341a-48ed-97dc-8f6a85780951/Central_City_North_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2004. *Silver Lake–Echo Park–Elysian Valley Community Plan*. August 11. City Plan Case 1995-0357 CPU. Council File 00-2217. https://planning.lacity.org/odocument/e87507ac-8c40-49a0-aa1c-21df963f2298/Silver_Lake-Echo_Park-Elysian_Valley_Community_Plan.pdf.

City of Los Angeles Department of City Planning. 2023. *Boyle Heights Community Plan Update*. https://planning.lacity.gov/odocument/443f5a38-73b3-420f-8d84-6ff4a5c5aad7/BHCPU%20Plan%20Text%20082023.pdf.

City of Maywood. *Maywood General Plan: Conservation Element*. https://www.cityofmaywood.com/DocumentCenter/View/411/Conservation-Element-PDF.

City of Montebello. 2024. *City of Montebello General Plan*. Montebello, California. June. https://acrobat.adobe.com/id/urn:aaid:sc:US:8e768e88-7102-49cb-b2de-13e735b06ed4.

City of South Gate. 2009. *City of South Gate General Plan 2035*. South Gate, California. December. https://www.cityofsouthgate.org/Business-Development/City-Growth-Plans-Strategy/General-Plan-2035.

City of South Pasadena. 1998. *City of South Pasadena General Plan*. South Pasadena, California. October. https://spdca.prod.govaccess.org/government/departments/community-development-department/general-plan-downtown-specific-plan/general-plan-1998.

City of Vernon. 2015. *City of Vernon General Plan*. Adopted December 3, 2007. Amended April 7, 2015. https://www.cityofvernon.org/home/showpublisheddocument/1306/637635880850570000.

County of Los Angeles Department of Regional Planning. 2022. *General Plan 2035*. October. Updated July 2022. https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf.

Los Angeles County. 1987. *Walnut Park Neighborhood Plan*. September. https://case.planning.lacounty.gov/assets/upl/data/pd_walnut-park.pdf.

Los Angeles County. 1988. *East Los Angeles Community Plan*. March. https://case.planning.lacounty.gov/assets/upl/data/pd_east-la.pdf.

Los Angeles County. 2019. *Florence-Firestone Community Plan*. September. https://planning.lacounty.gov/wp-content/uploads/2022/10/Summary-Sheet-English.pdf.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

US Census Bureau. 2010. *2010 Decennial Census of Population and Housing*. Washington, D.C. https://www.census.gov/library/publications/2012/dec/cph-2.html.

US Census Bureau. 2020. *OnTheMap* [map]. https://onthemap.ces.census.gov/.

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California Air Resources Board (CARB). 2008. Website: *California Air Resources Board: Truck and Bus Regulation*. https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation.

City of Los Angeles. 2019. *Citywide Design Guidelines*. October. https://planning.lacity.gov/odocument/f6608be7-d5fe-4187-bea6-20618eec5049/Citywide_Design_Guidelines.pdf.

City of Los Angeles. n.d. *City of Los Angeles Complete Streets Design Guide*. https://planning.lacity.org/odocument/c9596f05-0f3a-4ada-93aa-e70bbde68b0b/Complete_Street_Design_Guide.pdf.

Los Angeles County Department of Public Works (LACDPW). 2012. *County of Los Angeles Bicycle Master Plan: Final Plan – March 2012*. March. Prepared by Alta Planning + Design. https://pw.lacounty.gov/tpp/bike/docs/bmp/FINAL%20Bicycle%20Master%20Plan.pdf.

Los Angeles County Department of Public Works (LACDPW). 2022. *LA River Master Plan*. June. Prepared by Geosyntec, Olin and Gehry Partners, LLP. https://pw.lacounty.gov/uploads/swp/LARiverMasterPlan-FINAL-DIGITAL-COMPRESSED.pdf.

Los Angeles County Department of Regional Planning. 2015. Chapter 7, *Mobility Element* in *General Plan 2035*. October. https://case.planning.lacounty.gov/assets/upl/project/gp_final-general-plan-ch7.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2016. *Los Angeles River Bike Path Gap Closure Feasibility Study*. May 31. https://libraryarchives.metro.net/dpgtl/lariver/20170712-la-river-bike-path-gap-closure-feasibility-study-updated.pdf.

Los Angeles County Metropolitan Transportation Authority (Metro). 2019. *Conceptual Design Report: LA River Path*. September. https://www.dropbox.com/scl/fi/78uqw9ywqe8ecz3hiu6tb/190912_LAR_Concept_Design_Report_Final.pdf?rlkey=f3k1it8ddnmi1to45ypab0u60&dl=0.

Los Angeles County Metropolitan Transportation Authority (Metro). 2011. *Green Construction Policy*. July. http://www.aqmd.gov/docs/default-source/Agendas/aqmp/control-strategy-symposium/construction-wyenn.pdf?sfvrsn=2.

Los Angeles Department of Water and Power (LADWP). 1983. *Groundwater Quality Management Plan, San Fernando Valley Basin*. SFUND Records Center ID 88129435. July. https://semspub.epa.gov/work/09/88129435.pdf.

South Coast Air Quality Management District (SCAQMD). 2022. *2022 Air Quality Management Plan*. December. https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan.

Southern California Association of Governments (SCAG). 2020. *Connect SoCal—The 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy*. September. https://scag.ca.gov/connect-socal.

Water Replenishment District of Southern California (WRD). 2016. *Groundwater Basins Master Plan*. https://www.wrd.org/sites/pr/files/GBMP_FinalReport_Text%20and%20Appendicies.pdf.