

West Santa Ana Branch Transit Corridor

Final Construction Methods Report



Metro®

WEST SANTA ANA BRANCH TRANSIT CORRIDOR PROJECT

Final Construction Methods Report

Prepared for:



Metro[®]

Los Angeles County
Metropolitan Transportation Authority

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March 2024

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AA	Alternatives Analysis
BMP	Best Management Practices
Cal/OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CIDH	cast-in-drilled-hole
EIR	environmental impact report
EIS	environmental impact statement
GO	General Orders
LA	Los Angeles
LPA	Locally Preferred Alternative
LRT	light rail transit
LRTP	Long Range Transportation Plan
LRV	light rail vehicle
Metro	Los Angeles County Metropolitan Transportation Authority
MRDC	Metro Rail Design Criteria
MSF	maintenance and storage facility
MWD	Metropolitan Water District
NEPA	National Environmental Policy Act
NFPA	National Fire Protection Association
NOP	Notice of Preparation
OCS	overhead catenary system
PEROW	Pacific Electric Right-of-Way
Project	West Santa Ana Branch Transit Corridor Project
ROW	right-of-way
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
TMP	Transportation Management Plan
TPSS	traction power substation
UPRR	Union Pacific Railroad

Acronyms and Abbreviations

Acronym	Definition
VMT	vehicle miles traveled
WSAB	West Santa Ana Branch

1 INTRODUCTION

1.1 Study Background

The West Santa Ana Branch (WSAB) Transit Corridor (Project) is a proposed light rail transit (LRT) line. In January 2022, the Los Angeles County Metropolitan Transportation Authority (Metro) Board of Directors identified the Locally Preferred Alternative (LPA), which will extend approximately 14.5 miles from the northern terminus in the City of Los Angeles/Florence-Firestone community of Los Angeles (LA) County to the southern terminus in the City of Artesia, traversing densely populated, low-income, and heavily transit-dependent communities. The Project will provide reliable, fixed-guideway transit service that will increase mobility and connectivity for historically underserved, transit-dependent, and environmental justice communities; reduce travel times on local and regional transportation networks; and accommodate substantial future employment and population growth.

1.2 Alternatives Evaluation, Screening, and Selection Process

A wide range of potential alternatives have been considered and screened through the alternatives analysis processes. In March 2010, the Southern California Association of Governments (SCAG) initiated the Pacific Electric Right-of-Way (PEROW)/WSAB Alternatives Analysis (AA) Study (SCAG 2013) in coordination with the relevant cities, the Orangeline Development Authority (renamed to Eco-Rapid Transit, which has since been dissolved), the Gateway Cities Council of Governments, Metro, the Orange County Transportation Authority, and the owners of the right-of-way (ROW)—Union Pacific Railroad (UPRR), BNSF Railway, and the Ports of Los Angeles and Long Beach. The AA Study evaluated a wide variety of transit connections and modes for a broader 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana in Orange County. In February 2013, SCAG completed the PEROW/WSAB Corridor Alternatives Analysis Report¹ and recommended two LRT alternatives for further study: West Bank 3 and the East Bank.

Following completion of the AA, Metro completed the *West Santa Ana Branch Transit Corridor Project Technical Refinement Study* (Metro 2015) in 2015 focusing on the design and feasibility of five key issue areas along the 19-mile portion of the WSAB Transit Corridor within LA County:

- Access to Union Station in downtown Los Angeles
- Northern Section options
- Huntington Park Alignment and Stations
- New C (Green) Line Station
- Southern Terminus at Pioneer Station in Artesia

In September 2016, Metro initiated the WSAB Transit Corridor Environmental Study (Environmental Study) with the goal of environmentally clearing the Project under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

¹ Initial concepts evaluated in the SCAG report included transit connections and modes for the 34-mile corridor from Union Station in downtown Los Angeles to the City of Santa Ana. Modes included low-speed magnetic levitation (maglev) heavy rail, light rail, and bus rapid transit.

Metro issued a Notice of Preparation (NOP) on May 25, 2017, with a revised NOP issued on June 14, 2017, extending the comment period to 60 days. In June 2017, Metro held public scoping meetings in the Cities of Bellflower, Los Angeles, South Gate, and Huntington Park. Metro provided project updates and information to stakeholders with the intent to receive comments and questions through a comment period that ended in August 2017. A total of 1,122 comments were received during the public scoping period from May through August 2017. The comments focused on concerns regarding the Northern Alignment options, with specific concerns related to potential impacts to Alameda Street with an aerial alignment. Given potential visual and construction issues raised through public scoping, additional Northern Alignment concepts were evaluated.

In February 2018, the Metro Board of Directors approved further study of the alignment in the Northern Section due to community input during the 2017 scoping meetings. A second alternatives screening process was initiated to evaluate the original four Northern Alignment options and four new Northern Alignment concepts. The *Final Northern Alignment Alternatives and Concepts Updated Screening Report* was completed in May 2018 (Metro 2018). The alternatives were further refined and, based on the findings of the second screening analysis and the input gathered from the public outreach meetings, the Metro Board of Directors approved Alternatives E and G for further evaluation.

On July 11, 2018, Metro issued a revised and recirculated CEQA NOP, thereby initiating a scoping comment period. The purpose of the revised NOP was to inform the public of the Metro Board's decision to carry forward Alternatives E and G into the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR). During the scoping period, one agency and three public scoping meetings were held in the Cities of Los Angeles, Cudahy, and Bellflower. The meetings provided project updates and information to stakeholders with the intent to receive comments and questions to support the environmental process. The comment period for scoping ended on August 24, 2018; more than 250 comments were received.

Following the July 2018 scoping period, a number of project refinements were made to address comments received, including additional grade separations, removing certain stations with low ridership, and removing the Bloomfield extension option. The Metro Board adopted these project refinements at its November 2018 meeting.

1.3 Draft Environmental Impact Statement/Environmental Impact Report

The Draft EIS/EIR and corresponding technical studies included evaluation of a No Build Alternative, four Build Alternatives, two station design options, and two site options for a maintenance and storage facility (MSF):

- Alternative 1: Los Angeles Union Station to Pioneer Station
 - Design Option 1: Los Angeles Union Station – Metropolitan Water District
 - Design Option 2: Addition of Little Tokyo Station
- Alternative 2: 7th St/Metro Center to Pioneer Station
- Alternative 3: Slauson/A Line (Blue) to Pioneer Station
- Alternative 4: I-105/C Line (Green) to Pioneer Station

- Paramount MSF site option
- Bellflower MSF site option

Figure 1-1 illustrates the Build Alternatives evaluated in the Draft EIS/EIR.

Figure 1-1. Draft EIS/EIR Build Alternatives



Source: Metro 2020

The Draft EIS/EIR was released for public review and comment in July 2021 for 45 days, which was then extended to a 60-day public review period through September 28, 2021, to provide additional time for the public to respond. Notices of the Draft EIS/EIR release were done in accordance with CEQA and NEPA regulations and included two rounds of notices to announce details of the release of the Draft EIS/EIR, as well as to provide information on the public hearings and comment methods. The Notice of Availability was distributed to 261 agencies via USB drives, which included an electronic copy of the Draft EIS/EIR.

During the 60-day public review period, Metro hosted four virtual public hearings, four virtual community information sessions, and over 19 pop-up booths for in-person engagement at locations throughout the project corridor. In addition, Metro held approximately 20 briefings to key stakeholders, elected officials, corridor cities, and other agencies. In total, approximately 450 submissions were received during the public review and comment period. In January 2022, the Metro Board of Directors identified Alternative 3 as the LPA. The LPA extends from a northern terminus at the Slauson/A Line Station located in the City of Los Angeles/Florence-Firestone unincorporated area of LA County to a southern terminus at the Pioneer Station located in Artesia for a total of 14.5 miles. With identification of the LPA, the Metro Board also identified the MSF site option located in the City of Bellflower as a component of the LPA.

1.4 Report Purpose

This report summarizes the anticipated construction methods for the LPA, including the MSF site. Construction of the LPA will employ conventional construction methods, techniques, and equipment typically used for the construction of other Metro LRT projects in the Los Angeles region. The analysis of construction impacts is included in the construction sections of each technical impact report.

2 PROJECT DESCRIPTION

This section describes the No Build Alternative and the LPA studied in the WSAB Transit Corridor Final EIS/EIR, including station locations, and the MSF. The LPA was developed through a comprehensive alternatives analysis process and meets the purpose and need of the Project.

The No Build Alternative and LPA are generally defined as follows:

- **No Build Alternative:** Reflects the transportation network in the 2042 horizon year without the LPA. The No Build Alternative includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained *Metro 2009 Long Range Transportation Plan (2009 LRTP)* (Metro 2009) and SCAG's *2016-2040 RTP/SCS (SCAG 2016)*, as well as additional projects funded by Measure M that would be completed by 2042.
- **LPA:** The LPA consists of a 14.5-mile LRT line that will extend from the northern terminus in the City of Los Angeles/Florence-Firestone community of LA County to a southern terminus in the City of Artesia.

Figure 2-1 illustrates the LPA. The northern terminus of the LPA will be located just south of the intersection of Long Beach Avenue and Slauson Avenue, connecting to the current Slauson/A Line Station. South of Slauson Avenue, the LPA will follow the UPRR-owned La Habra Branch² ROW east along Randolph Street. At the Ports-owned San Pedro Subdivision ROW, the LPA will turn southeast to follow the San Pedro Subdivision ROW and then transition to the PEROW south of the I-105 freeway. The LPA will then follow the Metro-owned PEROW to the southern terminus at the Pioneer Station in Artesia. Figure 2-2 depicts the alignment sections that will require freight track relocation. The LPA will be grade separated where warranted, as indicated on Figure 2-1.

² The La Habra Branch may also be referred to as the La Habra Subdivision. La Habra Branch is used within this document.

Figure 2-1. Locally Preferred Alternative Alignment by Grade



Source: WSP and TAHA 2023

Figure 2-2. Existing Rail Right-of-Way Ownership



Source: WSP and TAHA 2023

2.1 No Build Alternative

For the NEPA evaluation, the No Build Alternative is evaluated in the context of the existing transportation facilities in the project corridor (the corridor extends approximately 2 miles from each side of the four alternatives evaluated in the Draft EIS/EIR) and other capital transportation improvements and/or transit and highway operational enhancements that are reasonably foreseeable. Because the No Build Alternative provides the background transportation network against which the LPA's impacts are identified and evaluated, the No Build Alternative does not include the Project.

The No Build Alternative reflects the transportation network in 2042 and includes the existing transportation network along with planned transportation improvements that have been committed to and identified in the constrained Metro 2009 LRTP and the SCAG 2016 RTP/SCS, as well as additional projects funded by Measure M, a sales tax initiative approved by voters in November 2016. The No Build Alternative includes Measure M projects that are scheduled to be completed by 2042.

The required environmental baseline socioeconomic growth projections, including the reasonably foreseeable transportation network in 2042, were established in July 2017 when the preparation of the Draft EIS/EIR began. The SCAG 2016-2040 RTP/SCS was the adopted current regional growth forecast at the time the Draft EIS/EIR baseline was established. Specifically, the baseline year 2017 and future year 2042 population, housing, and employment are derived from the Transportation Analysis Zone-level estimates from the SCAG 2016-2040 RTP/SCS.

Table 2.1 lists the existing transportation network and planned improvements included as part of the No Build Alternative based on the Metro 2009 LRTP and SCAG 2016 RTP/SCS.

Table 2.1. No Build Alternative – Existing Transportation Network and Planned Improvements

Project	To / From	Location Relative to Study Area
Rail (Existing)		
Metro Rail System (LRT and Heavy Rail Transit)	Various locations	Within Study Area
Metrolink (Southern California Regional Rail Authority) System	Various locations	Within Study Area
Rail (Under Construction/Planned)¹		
Metro Westside D Line Extension	Wilshire/Western to Westwood/VA Hospital	Outside Study Area
Metro C Line Extension ² to Torrance	96th Street Station to Torrance	Outside Study Area
Metro C Line Extension	Norwalk to Expo/Crenshaw	Outside Study Area
Metro East-West Line/Regional Connector/Eastside Phase 2	Santa Monica to Lambert Road Santa Monica to Peck Road	Within Study Area
Metro North-South Line/Regional Connector/Foothill Extension to Claremont Phase 2B	Long Beach to Claremont	Within Study Area
Metro Sepulveda Transit Corridor	Metro G Line to Metro E Line	Outside Study Area

Project	To / From	Location Relative to Study Area
Metro East San Fernando Valley Transit Corridor	Sylmar to Metro G Line	Outside Study Area
Los Angeles World Airport Automated People Mover	96th Street Station to LAX Terminals	Outside Study Area
Metrolink Capital Improvement Projects	Various projects	Within Study Area
California High-Speed Rail	Burbank to LA LA to Anaheim	Within Study Area
Link US ³	LAUS	Within Study Area
Bus (Existing)		
Metro Bus System (including BRT, Express, and local)	Various locations	Within Study Area
Municipality Bus System ⁴	Various locations	Within Study Area
Bus (Under Construction/Planned)		
Metro G Line (BRT)	Del Mar (Pasadena) to Chatsworth Del Mar (Pasadena) to Canoga Canoga to Chatsworth	Outside Study Area
Vermont Transit Corridor (BRT)	120th Street to Sunset Boulevard	Outside Study Area
North San Fernando Valley BRT	Chatsworth to North Hollywood	Outside Study Area
North Hollywood to Pasadena	North Hollywood to Pasadena	Outside Study Area
Highway (Existing)		
Highway System	Various locations	Within Study Area
Highway (Under Construction/Planned)		
High Desert Multi-Purpose Corridor	SR-14 to SR-18	Outside Study Area
I-5 North Capacity Enhancements	SR-14 to Lake Hughes Road	Outside Study Area
SR-71 Gap Closure	I-10 to Rio Rancho Road	Outside Study Area
Sepulveda Pass Express Lane	I-10 to US-101	Outside Study Area
SR-57/SR-60 Interchange Improvements	SR-57/SR-60	Outside Study Area
I-710 South Corridor Project (Phases 1 and 2)	Ports of Long Beach and LA to SR-60	Within Study Area
I-105 Express Lane	I-405 to I-605	Within Study Area
I-5 Corridor Improvements	I-605 to I-710	Outside Study Area

Source: Metro 2018, WSP 2019

Notes: ¹ Where extensions are proposed for existing Metro rail lines, the origin/destination is defined for the operating scheme of the entire rail line following completion of the proposed extensions and not just the extension itself.

² The Metro C Line extension to Torrance includes new construction from Redondo Beach to Torrance; however, the line will operate from Torrance to 96th Street.

³ Link US rail walk times included only.

⁴ The municipality bus network system is based on service patterns for Bellflower Bus, Cerritos on Wheels, Cudahy Area Rapid Transit, Get Around Town Express, Huntington Park Express, La Campana, Long Beach Transit, Los Angeles Department of Transportation, Norwalk Transit System, and the Orange County Transportation Authority.

BRT = bus rapid transit; LA = Los Angeles; LAUS = Los Angeles Union Station; LAX = Los Angeles International Airport; LRT = light rail transit; SR = State Route; VA = Veterans Affairs

2.2 Locally Preferred Alternative

2.2.1 Refinements to the Locally Preferred Alternative

The LPA evaluated in this report is Alternative 3 from the Draft EIS/EIR with refinements to address stakeholder coordination and comments on the Draft EIS/EIR. Refinements to the LPA include the following:

- Shift the Slauson/A Line aerial station platform south and add a second set of vertical circulation and pedestrian circulation elements between the Slauson/A Line Station and the existing A Line Station. Additionally, a set of stairs was added between the A Line station and street level.
- Swap the location of the freight and LRT tracks within the La Habra Branch ROW compared to the Draft EIS/EIR design. Freight tracks will be located on the north side of the ROW and LRT tracks on the south side to accommodate potential freight connectivity to an existing industrial track on the north side of the ROW.
- Open or close at-grade crossings and implement left-turn restrictions over the LRT tracks in the City of Huntington Park:
 - Open crossings previously proposed for closure at Albany Street and Rugby Boulevard
 - Close crossings previously proposed to remain open at Malabar Street and Arbutus Avenue
 - Implement left-turn restrictions at Santa Fe Avenue, Pacific Boulevard, Miles Avenue, and State Street
- Modify roadway design at the southeast corner of Florence Avenue and California Avenue to avoid partial acquisition of infrastructure related to a water well.
- Redesign a freight spur track connection north of Rayo Avenue on the west side of the freight tracks to avoid impacts to a spur track.
- Close the private at-grade crossing at Miller Way. The private business will be displaced by the Project.
- Extend the LRT viaduct north of Imperial Highway to avoid impacts to a spur track and full acquisition of a property.
- Reconfigure the I-105/C Line Station parking facility by removing dedicated transit parking on the west side of the freight tracks and expanding the parking facility on the east side of the freight tracks to the north; also add a new driveway entrance to the parking facility at Century Boulevard.
- Eliminate demolition and reconstruction of the Arthur Avenue and Façade Avenue bridges; modify Façade Avenue to an emergency exit only from the I-105/C Line infill station (rather than a station entrance and exit).
- Modify the replacement freight bridge at I-105 to a four-span structure, consistent with the current bridge, rather than the previously proposed two-span structure.
- Replace the proposed pedestrian undercrossing with a pedestrian bridge at Paramount High School that will span the entire rail ROW.
- Realign the MSF site entrance on Somerset Boulevard to align with Bayou Avenue to allow for a signalized pedestrian crossing of Somerset Boulevard.
- Add protected left turn and a traffic signal on Clark Avenue at Los Angeles Street to accommodate dedicated turning movements to the community.

- Modify alignment of the LRT tracks and soundwall at the Bellflower Mobile Home Park to minimize parking loss and provide replacement parking elsewhere on the property to maintain the existing number of parking spaces.
- Redesign retaining walls on the southeast side of the 183rd Street/Gridley Road crossing from retained fill to columns.
- Incorporate the Artesia Historic District Recreation Trails as an existing, rather than future, condition in the Final EIS/EIR plan set.
- Add a design option that will close 186th Street but keep 187th Street open to traffic in the City of Artesia, and turn Corby Avenue into a cul-de-sac with an access driveway for the existing business.
- Modify the entrance to the Pioneer Station parking structure to align with Solana Place and shift structure north to provide alley egress resulting in an additional level on the Pioneer parking structure to maintain the number of parking spaces identified in the Draft EIS/EIR.
- Extend the median located north of the LRT tracks at the Pioneer Boulevard grade crossing to prohibit left turns from a shopping center driveway along the east side.
- Incorporate Mitigation Measures NOI-4 (Crossing Signal Bell Shrouds) and NOI-5 (Gate-Down-Bell-Stop Variance), recommended in the Draft EIS/EIR to further reduce noise at grade crossings, as Project Measure NOI PM-1 and NOI PM-2 in the Final EIS/EIR to be implemented as part of the LPA.
- Add Project Measure VA PM-8 (Residential Screening for Aerial Structures), which requires privacy screening along portions of the aerial structure adjacent to the rear of residential properties in the Cities of Paramount, Bellflower, and Cerritos if the soundwall in those locations will not be sufficiently tall to provide similar privacy screening.
- Add Project Measures BIO PM-1 (Invasive Plant Species Best Management Practices) and BIO PM-2 (Prohibition of Invasive Plant Species in Landscape Plans) to provide options to minimize the spread of invasive species during construction and prohibit the inclusion of invasive species in landscape plans; add Project Measure BIO PM-3 (LA Metro Tree Policy) to require adherence to LA Metro Tree Policy, adopted by Metro in October 2022.
- Add Project Measure CR PM-1 (Secretary of the Interior Standards Design Review), which requires review and approval of the design of the new LRT bridge and C Line station that will be constructed within the Century Freeway-Transitway Historic District and extension of the Union Pacific LA River Rail Bridge's existing concrete piers by a professional who meets the Secretary of the Interior's Professional Qualification Standards in architectural history, history, or architecture.

Refinements also included the following modifications to construction laydown/staging areas:

- Relocate the construction laydown area near State Street and Randolph Street to east of State Street in the railroad ROW.
- Relocate the laydown area at the southeast corner of Imperial Highway and Garfield Place to north of Imperial Highway within the San Pedro Subdivision ROW.
- Locate a construction laydown/staging area on the east side of the ROW between Rayo Avenue and Southern Avenue.

Additionally, refinements included changes to traction power substations (TPSS) site locations:

- Relocate TPSS Site 14 from the northwest corner of Randolph Street and State Street to the east within railroad ROW.
- Eliminate optional TPSS Sites 16E and 12E in the City of Huntington Park.
- Add Optional TPSS Site 7E within the reconfigured parking facility east of the tracks at the I-105/C Line Station parking facility.
- Relocate the proposed TPSS Site 2 from the northwest side of the intersection of 183rd Street/Gridley Road to the southeast side.

2.2.2 Alignment Configuration

This section summarizes the LPA alignment. The general characteristics of the LPA are summarized in Table 2.2. Figure 2-3 illustrates the freeway crossings along the alignment. Additionally, the LPA will require relocation of existing freight rail tracks within the ROW to maintain existing operations where freight tracks will be in a shared corridor with the LRT tracks. Figure 2-2 depicts the alignment sections that will require freight track relocation.

Table 2.2. Summary of LPA Components

Component	Quantity
Alignment length	14.5 miles
Length of at-grade and aerial	12.1 miles at-grade; 2.4 miles aerial ¹
Station configurations	9 along WSAB alignment, 1 at-grade infill station along C Line 3 aerial; 6 at-grade
Parking facilities	5 total: 4 surface lots and 1 parking structure (approximately 2,800 spaces)
At-grade crossings	30
Elevated street crossings	15
Freight crossings	6
Freeway crossings	4 (1 aerial/overcrossing at I-105; 3 freeway undercrossings ² at I-710, I-605, SR 91)
Freight realignment	8.7 miles
River crossings	3 (Rio Hondo, LA River and San Gabriel)
TPSS facilities	17
Maintenance and Storage Facility site	1 (City of Bellflower)

Source: WSP 2023

Notes: ¹ Alignment configuration measurements count retained fill embankments as at-grade.

² The light rail tracks crossing beneath freeway structures.

LA = Los Angeles; TPSS = traction power substation; WSAB = West Santa Ana Branch

Figure 2-3. Freeway Crossings



Source: WSP 2023

The total alignment length of the LPA will be approximately 14.5 miles, consisting of approximately 12.1 miles of at-grade and 2.4 miles of aerial alignment. The LPA will include nine new LRT stations along the WSAB alignment, of which six will be at-grade and three will be aerial. Additionally, the Project will add one new infill station along the C Line at I-105 to allow transfers between the WSAB alignment and the C Line. Five of the stations will include parking facilities, providing a total of approximately 2,800 dedicated transit parking spaces. Four of the parking facilities will be surface lots and the fifth will be a parking structure. The alignment will include 30 at-grade crossings, 4 freeway crossings (3 freeway undercrossings and 1 aerial freeway crossing), 3 river crossings, 15 aerial road crossings, and 6 freight crossings. The following further describes the LPA along the alignment.

Northern terminus (City of Los Angeles/Florence-Firestone community of LA County): The northern terminus of the LPA will begin at the Slauson/A Line Station, which will serve as a transfer point to the Metro A Line. Transfers between the Slauson/A Line Station and the existing Metro A Line will be accommodated via two pedestrian bridges between the two station platforms. The pedestrian bridges will be located at the southern and northern ends of the platforms and will be accessed by stairs, escalators, and/or elevators. Stairs, escalators, and/or elevators will also connect with the street level on the north side of the station, while stairs will connect with the street level on the south side of the station. An additional set of stairs will be added to the existing A Line Station providing access to street level. Tail tracks³ accommodating layover storage for a three-car train will extend approximately 1,000 feet north from the station.

La Habra Branch ROW⁴ (City of Huntington Park): South of the Slauson/A Line Station, the alignment will turn east along the existing UPRR owned La Habra Branch ROW in the median of Randolph Street. The alignment will be on the south side of the La Habra Branch ROW, and the freight tracks will be realigned but remain in the northern portion of the ROW. The alignment will transition to an at-grade configuration west of Alameda Street and will proceed east along the Randolph Street median. Wilmington Avenue, Regent Street, and Malabar Street will be closed to traffic crossing the ROW, altering the intersection design to a right-in, right-out configuration. The Pacific/Randolph Station will be located just east of Pacific Boulevard. From the Pacific/Randolph Station, the alignment will continue east at-grade. Arbutus Avenue and Rita Avenue will be closed to traffic crossing the ROW, altering the intersection design to a right-in, right-out configuration.

San Pedro Subdivision ROW (Cities of Huntington Park, Bell, Cudahy, South Gate, Downey, and Paramount): At the San Pedro Subdivision ROW, the alignment will transition to an aerial configuration and turn south to cross over Randolph Street and the freight tracks, returning to an at-grade configuration north of Gage Avenue. The alignment will be located on the east side of the existing San Pedro Subdivision ROW freight tracks, and the existing track(s) will be relocated to the west side of the ROW. The alignment will continue at-grade within the San Pedro Subdivision ROW to the at-grade Florence/Salt Lake Station south of Florence Avenue.

³ Tail tracks are additional tracks that extend beyond the end of the mainline tracks and can be used for temporarily parking, storing, or reversing the direction of trains. While the tracks are designed to allow for layover if needed, trains will not sit at the end of the line.

⁴ The La Habra Branch may also be referred to as the La Habra Subdivision. La Habra Branch is used within this document.

The alignment will continue southeast from the at-grade Florence/Salt Lake Station within the San Pedro Subdivision ROW, crossing Otis Avenue, Santa Ana Street, and Ardine Street at-grade. The alignment will be located on the east side of the existing San Pedro Subdivision freight tracks, and the existing tracks will be relocated to the west side of the ROW. South of Ardine Street, the alignment will transition to an aerial structure to cross over the existing UPRR tracks and Atlantic Avenue. The Firestone Station will be located on an aerial structure between Atlantic Avenue and Firestone Boulevard. The Firestone Station will include a dedicated transit parking facility providing approximately 600 parking spaces with a vehicle underpass under the freight tracks to access the parking facility.

The alignment will then cross over Firestone Boulevard and transition back to an at-grade configuration prior to crossing Rayo Avenue at-grade. The alignment will continue south along the San Pedro Subdivision ROW, crossing Southern Avenue at-grade and continuing at-grade until it transitions to an aerial configuration to cross over the LA River. The LRT bridge will be constructed next to the existing freight bridge. South of the LA River, the alignment will transition to an at-grade configuration, then passing under the I-710 freeway through a new box tunnel structure. The alignment will then return to an aerial structure to cross over the Rio Hondo Channel. South of the Rio Hondo Channel, the alignment will transition to an aerial structure to cross over a realigned spur track, Imperial Highway and Garfield Avenue. South of Garfield Avenue, the alignment will transition to an at-grade configuration and serve the Gardendale Station north of Gardendale Street.

From the Gardendale Station, the alignment will continue south in an at-grade configuration, crossing Gardendale Street and Main Street to serve the I-105/C Line Station, which will be located at-grade north of Century Boulevard. The I-105/C Line Station will include a dedicated transit parking facility providing approximately 340 to 360 parking spaces, depending on the location of the TPSS. The alignment will continue at-grade, crossing Century Boulevard, then will cross over the I-105 freeway in an aerial configuration within the existing San Pedro Subdivision ROW bridge footprint. A new Metro C Line Station will be constructed in the median of the I-105 freeway. The I-105/C Line Station will be connected to the new infill C Line Station in the middle of the freeway via a pedestrian walkway on the new LRT bridge. Vertical pedestrian access will be provided from the LRT bridge to the new C Line Station platform via stairs, escalators, and/or elevators. Emergency egress from the C Line Station will also be provided at Façade Avenue via stairs and elevators. To accommodate construction of the new station platform, the existing Metro C Line tracks will be widened and, as part of the I-105 Express Lanes Project, the I-105 lanes will be reconfigured.

PEROW (Cities of Paramount, Bellflower, Cerritos, and Artesia): South of the I-105 freeway, the alignment will continue at-grade within the San Pedro Subdivision ROW. In order to maintain freight operations and allow for freight train crossings, the alignment will transition to an aerial configuration as it turns southeast and enter the PEROW. The existing freight track will cross beneath the aerial alignment and align on the north side of the PEROW east of the San Pedro Subdivision ROW. The Paramount/Rosecrans Station will be located in an aerial configuration west of Paramount Boulevard and north of Rosecrans Avenue. The existing freight track will be relocated to the northeast side of the alignment adjacent to the viaduct structure. The Paramount/Rosecrans Station will include a dedicated transit parking facility providing approximately 490 parking spaces located south of the alignment between Los Angeles Department of Water and Power property and Rosecrans Avenue.

The alignment will continue southeast in an aerial configuration over the Paramount Boulevard/Rosecrans Avenue intersection and descend to an at-grade configuration. The alignment will return to an aerial configuration to cross over Downey Avenue descending back to an at-grade configuration north of Somerset Boulevard. The existing Paramount High School pedestrian bridge will be reconstructed over the LPA and freight tracks to maintain the connection between Paramount High School and the athletics fields. One of the adjacent freight storage tracks at the World Energy facility will be relocated to accommodate the new LRT tracks and maintain storage capacity. There are no active freight tracks south of the World Energy facility (Somerset Boulevard).

The alignment will cross Somerset Boulevard at-grade. South of Somerset Boulevard, the at-grade alignment will parallel the existing Bellflower Bike Trail that is currently aligned on the south side of the PEROW. The alignment will continue at-grade crossing Lakewood Boulevard, Clark Avenue, and Alondra Boulevard. The at-grade Bellflower Station will be located west of Bellflower Boulevard. The Bellflower Station will include a dedicated transit parking facility providing approximately 260 parking spaces.

East of Bellflower Boulevard, the Bellflower Bike Trail will be realigned to the south side of the PEROW to accommodate an existing historic building located near the southeast corner of Bellflower Boulevard and the PEROW. The realigned bike trail will then match the existing bike trail east of the historic building near Bellflower Boulevard. The LRT alignment will continue southeast within the PEROW and transition to an aerial configuration near Cornuta Avenue, crossing over Flower Street and Woodruff Avenue. The alignment will return to an at-grade configuration south of Woodruff Avenue. South of Woodruff Avenue, the Bellflower Bike Trail will be realigned along the north side of the PEROW. Continuing southeast, the LRT alignment will cross under the SR-91 freeway in an existing undercrossing. The alignment will cross over the San Gabriel River on a new bridge, replacing the existing abandoned freight bridge. South of the San Gabriel River, the alignment will transition back to an at-grade configuration before crossing Artesia Boulevard at-grade.

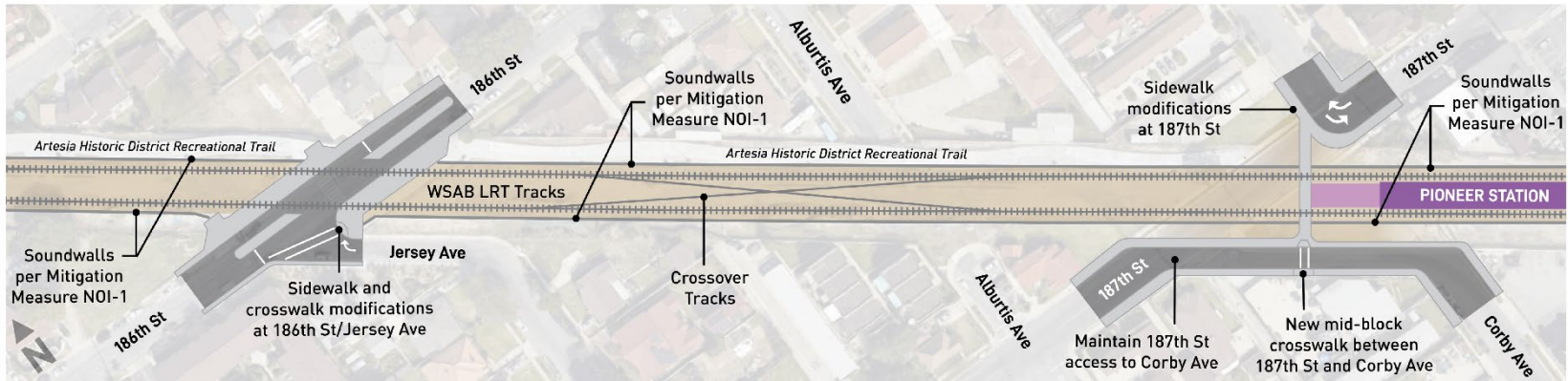
East of Artesia Boulevard, the alignment will cross beneath the I-605 freeway in an existing underpass. Southeast of the underpass, the alignment will continue at-grade, crossing Studebaker Road. North of Gridley Road, the alignment will transition to an aerial configuration to cross over 183rd Street and Gridley Road. The alignment will return to an at-grade configuration and cross 186th Street and 187th Street at-grade. The alignment will then pass through the Pioneer Station on the north side of Pioneer Boulevard at-grade. The Pioneer Station will include a dedicated transit parking facility providing approximately 1,100 parking spaces. Tail tracks accommodating layover storage for a three-car train will extend approximately 1,000 feet south from the station, crossing Pioneer Boulevard and terminating north of South Street.

2.2.3 Design Option – Close 186th Street

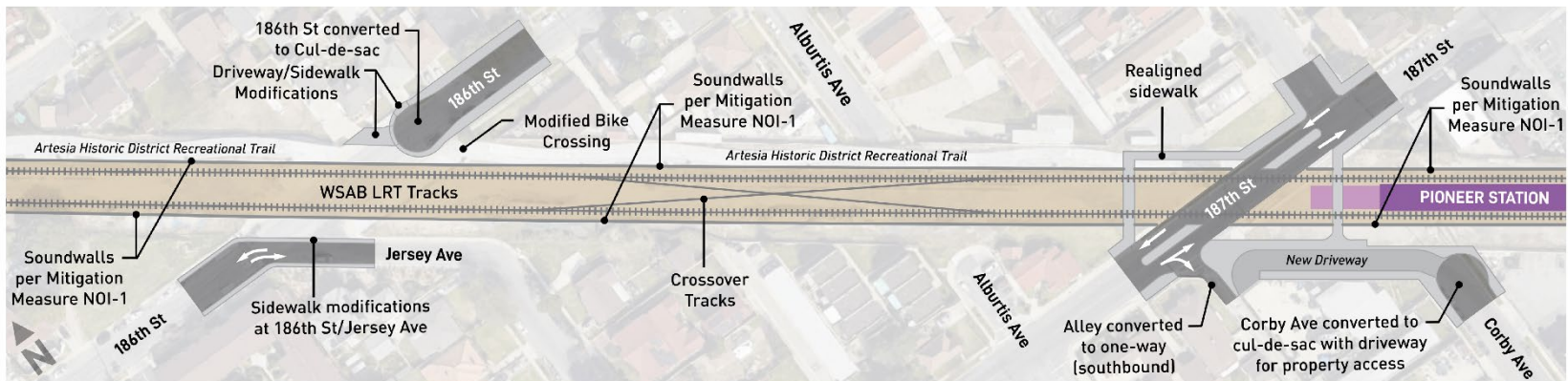
The LPA includes one design option:

- **Design Option:** Close 186th Street – The design option would close 186th Street but keep 187th Street open to traffic in the City of Artesia. Corby Avenue would become a cul-de-sac with an access driveway for the existing business (Figure 2-4).

Figure 2-4. Locally Preferred Alternative and Design Option: Close 186th Street



Locally Preferred Alternative



Design Option 1: Close 186th Street

Source: Cityworks Design and WSP 2023

2.2.4 Maintenance and Storage Facility

Generally, each LRT project requires an MSF facility to provide daily servicing and cleaning, inspection and repairs, and storage of light rail vehicles (LRVs). Activities may take place in the MSF throughout the day and night depending upon train schedules, workload, and the maintenance requirements.

In January 2022, the Metro Board identified the Bellflower MSF as the WSAB Project's MSF site. The MSF site is located in the City of Bellflower and is bounded by a mobile home community and industrial facilities to the west, Somerset Boulevard and apartment complexes to the north, residential homes to the east, and the PEROW and Bellflower Bike Trail to the south. Access to the site will be via a signalized driveway at Somerset Boulevard and Bayou Avenue (Figure 2-5). In total, the MSF site is approximately 21 acres and could accommodate up to 80 LRVs to serve the Project's operations plan.

The MSF will have storage tracks, each with sufficient length to store three-car train sets and a maintenance-of-way vehicle storage. The facility will include a main shop building with administrative offices, a cleaning platform, a TPSS, employee parking, a vehicle wash facility, a paint and body shop, and other facilities as needed. The east and west yard leads (i.e., the tracks leading from the mainline to the facility) will have sufficient length for a three-car train set.

Figure 2-5. Maintenance and Storage Facility Site



Source: WSP and TAHA 2023

3 REGULATORY FRAMEWORK

Construction activities will occur within the jurisdictions of Los Angeles County and the Cities of Los Angeles, Vernon, Huntington Park, Bell, Cudahy, South Gate, Downey, Paramount, Bellflower, Cerritos, and Artesia. Construction of the LPA will employ conventional construction methods, techniques, and equipment typically used for Metro LRT construction. Construction-related activities will comply with applicable federal, state, regional, and local regulations, including building and safety requirements of the California Occupational Safety and Health Administration (Cal/OSHA). All construction activities are subject to existing regulatory requirements and Best Management Practices (BMPs) for construction materials, waste management, erosion and sediment control, as well as construction of structures that are necessary for the LPA, which will follow all applicable State of California codes, including the latest seismic design requirements.

Each technical impact analysis report also includes a discussion of the federal, state, regional, and local regulations applicable to that topic.

3.1 Federal

The following federal regulations apply to construction of the LPA:

- National Electrical Code (National Fire Protection Association [NFPA] 70)
- Standard for Fixed Guideway Transit and Passenger Rail Systems
- American Railway Engineering and Maintenance of Way Association Guidelines
- American Association of State Highway and Transportation Officials
- Standard Urban Stormwater Mitigation Plan
- Stormwater Pollution Prevention Plan
- Federal Clean Air Act
- Federal Clean Air Act Conformity Requirement
- National Ambient Air Quality Standards
- Section 404 of the Clean Water Act
- Section 408 of the Rivers and Harbors Appropriation Act of 1899
- National Pollutant Discharge Elimination System
- Federal Noise Control Act
- Resource Conservation and Recovery Act of 1976
- Toxic Substances Control Act of 1976
- Comprehensive Environmental Response, Compensation, and Liability Act
- Federal Railroad Administration Regulation 49 Code of Federal Regulations 200-299: Transportation
- Uniform Fire Code
- Americans with Disabilities Act of 1990
- NFPA 101 Life Safety Code and NFPA 130

3.2 State

The following state regulations apply to construction of the LPA:

- California Building Code
- California Department of Transportation (Caltrans) Highway Design Manual
- California Public Utility Commission General Orders (GO) including but not limited to:
 - GO 33-B—Construction, Reconstruction, Maintenance, and Storage of Interlocking Plants of Railroads
 - GO 52—Construction and Operation of Power and Communication Lines for the Prevention or Mitigation of Inductive Interference
 - GO 72-B—Standard Types of Pavement Construction at Railroad Grade Crossings
 - GO 88—Rules for Altering Public Highway-Rail Crossings
 - GO 95—Overhead Electric Line Construction
 - GO 118—Construction, Reconstruction, and Maintenance of Walkways and Control of Vegetation Adjacent to Railroad Tracks
 - GO 128—Construction of Underground Electric Supply and Communication Systems
 - GO 131-D—Planning and Construction of Facilities for the Generation of Electricity and Certain Electric Transmission Facilities
 - GO 143-B—Design, Construction, and Operation of light rail transit systems
- California Ambient Air Quality Standards
- State Water Resources Control Board/Regional Water Quality Control Board
- Cal/OSHA
- California Manual on Uniform Traffic Control Devices

3.3 Local and Regional

At the local level, construction of the LPA will require compliance with the following regional regulations and guidelines, as well as city policies and ordinances:

- South Coast Air Quality Management District (SCAQMD) Rule 403
- SCAQMD Clean Air Act Rule 1403—asbestos regulation
- City of Los Angeles General Plan
- City of Los Angeles Construction Noise Ordinance
- City of Vernon General Plan
- City of Huntington Park General Plan
- City of Huntington Park Construction Noise Ordinance
- Los Angeles County General Plan 2035
- Los Angeles County Community Standards District
- County of Los Angeles Construction Noise Ordinance
- City of Bell 2030 General Plan
- City of Cudahy 2040 General Plan
- City of Cudahy Construction Noise Ordinance
- City of South Gate General Plan 2035

- City of South Gate Construction Noise Ordinance
- City of Downey Construction Noise Ordinance
- City of Paramount General Plan
- City of Paramount Construction Noise Ordinance
- City of Bellflower General Plan: 1995-2010
- City of Bellflower Construction Noise Ordinance
- City of Artesia General Plan 2030
- City of Artesia Construction Noise Ordinance
- City of Cerritos General Plan
- City of Cerritos Construction Noise Ordinance
- Metro Rail Design Criteria
- Metro Green Construction Policy

4 CONSTRUCTION METHODS/AFFECTED ENVIRONMENT

This section provides an overview of typical construction activities required to build an LRT system and associated stations, systems, and other supporting facilities. The activities summarized in this section are based on information known to date about construction of the LPA. Actual construction methods and materials will be site specific and at the discretion of the contractor. All construction methods and materials will be conducted per the Metro Rail Design Criteria (MRDC) or equivalent, and will comply with all regulatory requirements. The final means and methods may differ from what is included in this analysis. Construction sequencing and methods will largely be adopted during final design and may depend on the requirements of a delivery method deemed suitable for the Project, including a potential public-private partnership. During final design and prior to construction, preconstruction evaluations will be completed to determine existing conditions that will affect construction methods and timing. An environmental reevaluation will be conducted as applicable if construction means and methods vary from what was described in this report.

4.1 Construction Sequencing and Duration

Construction activities for the LPA are anticipated to commence in 2024 and continue through 2032, with system testing beginning in 2034 and revenue service beginning in 2035. There may be periods during which various components of the LPA are under construction concurrently throughout the 14.5-mile alignment. Additionally, some portions may be constructed in phases with activities occurring progressively from south to north along the alignment or vice versa. A construction plan will be developed during the final design phase of the LPA to further detail the construction durations, schedule, and sequencing. Metro will continue to coordinate with local jurisdictions as applicable to the construction schedule as the construction plan is developed. Major components of the LPA include the construction of guideways and trackwork (at-grade and aerial), grade separations, roadway modifications, utility relocations, station platforms (at-grade and aerial), an MSF, parking facilities, and supporting systems facilities (e.g., TPSSs).

After the release of the Draft EIS/EIR, coordination with key stakeholders continued, resulting in refinements to the LPA and a better understanding of project risks. Given the freight and utility conflicts throughout the corridor, it was determined that implementing a strategy to address these items in advance of constructing the LRT will reduce overall risks to the Project. The use of multiple contract packages and receipt of additional stakeholder feedback have allowed staff to reassess the schedule duration. As such, the construction schedule has been modified from six years, as shown in the Draft EIS/EIR, to approximately eight years. Construction durations are approximate and activities are summarized in Table 4.1 and in the subsections that follow. Figure 4-1 identifies the LPA alignment location and configuration.

Working hours of construction will vary to meet the type of work being performed and to meet local ordinance restrictions. LPA construction will predominantly occur on weekdays between 8 a.m. and 7 p.m. Nighttime and/or weekend construction may be required to minimize impacts, such as minimizing roadway/lane closures during peak periods.

Table 4.1. General Sequence of Construction Activities and Equipment

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Demolition Activities			
At-grade guideway	6-25	Clear and grub ROW, remove and abate contaminated soil/hazardous material, remove abandoned track and abandoned utilities Remove existing freight tracks once new tracks are completed (see Freight Rail Line Relocation)	Bulldozers, excavators, backhoes, loaders, bobcats, dump trucks
Stations and parking facilities		Demolish existing structures, pavement, clear and grub site, remove abandoned utilities	Bulldozers, excavators, cranes, bobcats, backhoes, loaders, dump trucks
Maintenance facility		Demolish existing structures, pavement, clear and grub site, remove abandoned utilities	Bulldozers, excavators, cranes, bobcats, backhoes, loaders, dump trucks
Paramount High School pedestrian bridge		Demolish existing structures, pavement, clear and grub site, remove abandoned utilities	Bulldozers, excavators, cranes, bobcats, backhoes, loaders, dump trucks
Utility Relocation			
Utilities	39-42	Relocate or temporarily reroute utilities; typically will not exceed 5 to 10 feet in depth of disturbance Protect in place utilities that will not be relocated	Trench excavators, loaders, jackhammers, pavement saws, haul trucks, excavator/backhoes, trucks, cranes, and generator/compressors, concrete trucks, rollers, and power compactors, trenchers, concrete pavers, rollers

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Freight Rail Line Relocation			
At-grade freight tracks	26-36	Relocate existing freight tracks, including preparation of track bed, construct new rail and shoo-flies as necessary. Includes ballast track construction. At-grade crossing construction related to street and traffic modifications, and installation of pedestrian safety equipment.	Rubber-tired graders, bulldozers, excavators, loaders, compactors, and water trucks for dust control, metal wheel compactors, road rollers, in addition to specialized equipment to handle and install rail, ties, and ballast
New freight bridge over I-105		Construction of new four-span freight bridge over I-105 using precast concrete beams. Existing railroad bridge demolition to occur after completion of the new bridge and associated trackwork	Cranes, air compressors, loaders, trucks, specialized water jet excavators, drilling rigs, hauling trucks, transit mix concrete trucks and concrete pumps, specialized trucks to deliver precast girders, forms, reinforcing steel, pavement saws, pre-stressed concrete post tensioning strands, jacks and related equipment
At-grade LRT			
Guideway	18-36	Preparation of track bed, construction of the supporting track slab, laying of rail surface track work. At-grade crossing construction related to street and traffic modifications, and installation of pedestrian safety equipment.	Rubber-tired graders, bulldozers, excavators, loaders, compactors, and water trucks for dust control, metal wheel compactors, road rollers, in addition to specialized equipment to handle and install rail, ties, and ballast
		Concrete jacked box tunnel for I-710 crossing. Excavate ground and concurrently jack concrete box support, which is the permanent structure.	For jacked box tunnel: box shield, hydraulic jacks and pump, grouting equipment, welders, cranes, drill rigs, jackhammers, flatbed trucks, concrete delivery truck and pumping equipment, ventilation equipment, and dump trucks

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Stations	18-24	<p>Potential for concurrent construction with guideway segments using standard building materials.</p> <p>Construction of supporting station elements such as foundation, columns, walls, platform slab, and canopies</p>	<p>Forklifts, generator sets, loaders, small to mid-size cranes, welders, bulldozers, water trucks for dust control, trucks for the removal of excavated material, transit mix concrete trucks and pumps, trucks to deliver forms, reinforcing steel, and other building materials</p>
Surface parking facilities	4-6	<p>Site grading, preparation, paving, and striping. Install concrete curbs, lighting, driveways, sidewalks, and landscaping as necessary</p>	<p>Jackhammers, air compressors, concrete pumping equipment, paving machines, rollers, dump trucks, front-end loaders, forklifts, crawler cranes, crawler bulldozers/loaders, rubber-tired loader/bobcats, trucks, and water trucks for dust control</p>
Parking structure facility	8-12	<p>Site grading, preparation, parking structure foundations, cast-in-place concrete columns, concrete slabs, installation of precast structural elements. Structural finishes, elevators, electrical, signage, and parking systems installation. Paving and striping, as needed. Install concrete curbs, lighting, driveways, sidewalks, and landscaping as necessary</p>	<p>Jackhammers, air compressors, concrete pumping equipment, paving machines, rollers dump trucks, front-end loaders, forklifts, large crawler cranes, crawler bulldozers/loaders, rubber-tired loader/bobcats, trucks, and water trucks for dust control, soil augurs, pile drivers and associated equipment</p>

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Aerial LRT			
Guideway	18-36	<p>Construction of foundation columns and elevated sections, rail fastened with plinth directly to the top slab of cast-in-place/pre-stressed concrete bridge, or separately placed slab on a steel beam bridge, or a precast concrete bridge</p> <p>Includes ascending/ descending retaining walls and fill before and after elevated sections</p>	<p>Cranes, air compressors, loaders, trucks, backhoes and bulldozers for excavation, vibratory or pile driving equipment, rubber-tired and sheep's-foot rollers, water trucks for dust control, specialized water jet excavators, drilling rigs, hauling trucks, transit mix concrete trucks and concrete pumps, specialized trucks to deliver precast girders, forms, reinforcing steel, pavement saws, pre-stressed concrete post tensioning strands, jacks and related equipment</p>
Stations	18-30	<p>Foundations, columns, and/or elevated sections constructed to support platform, track slabs, station amenities, and vertical circulation elements</p> <p>Construction of pedestrian bridge connections as shown for Slauson/A Line Station</p>	<p>Trucks for the removal of excavated soil and surface material, trucks to deliver forms, forklifts, backhoes, welders, drilling rigs, cranes, possibly specialized water jet excavators, vibratory equipment, transit mix concrete trucks and concrete pumps, specialized truck trailers to deliver precast concrete beams (if used), pre-stressed concrete post tensioning strands, water trucks for dust control, and related equipment</p>
Surface parking facilities	4-6	<p>Site grading, preparation, paving, and striping. Concrete curbs, lighting, driveways, sidewalks, and landscaping will be installed as necessary</p>	<p>Jackhammers, air compressors, concrete pumping equipment, paving machines, rollers dump trucks, front-end loaders, forklifts, crawler cranes, crawler bulldozers/loaders, rubber-tired loader/bobcats, trucks, and water trucks for dust control</p>

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Systems			
Signals (LRT Train Control Signals, LRT Crossing Signals, and Freight Rail Crossing Signals)	12-18	Construction of foundations and conduit for electrical and signaling equipment and relocation of existing signal infrastructure as needed for freight crossings. Construction of signal infrastructure for LRT will follow completion of freight construction activities.	High-rail vehicles, bobcats, forklifts, trench diggers, backhoes, and cranes, material/equipment trucks
OCS	8-12	Construction of foundations for the OCS poles, duct banks and conduit for underground electrical feeder lines from TPSSs, followed by installation of the OCS poles. Final stage includes installation of TPSS feeder cables and overhead catenary lines	High-rail vehicles, trench diggers, backhoes, bobcats, forklifts, cranes, material/equipment trucks, drill rigs, concrete trucks, and other equipment needed for foundations
TPSS	8-12	Grounding mat, prefabricated structure containing electrical and electronic equipment for traction power systems, communications equipment	Backhoes, bobcats, forklifts, cranes, material/equipment trucks
Systems testing and pre-revenue operations	15	Test and integrate system once construction is completed. Test power, communications, signaling, and ventilation systems; train operators and maintenance personnel	Small equipment, service vehicles, and rail vehicles

Activity	Approximate Duration (Months) ¹	Description	Equipment Required
Maintenance and Storage Facility			
Maintenance and storage facility	25	Construct maintenance facility structures, rail vehicle storage yard and connecting tracks, parking facilities and site roadways, and lead track connections to mainline. Lead tracks may include at-grade rail crossings, retaining walls, and bridge and trench structures. Shop of concrete block, corrugated metal, or similar industrial materials. Storage track and trackway to allow for movement of LRVs from mainline track to maintenance facility area. Vehicle wash, TPSS, parking facility	Bulldozers, tractor trailer rigs, loaders, earthmovers, graders, bobcats, forklifts, cranes, concrete trucks, excavators, paving machines, rollers, and materials/equipment trucks
Paramount High School Pedestrian Bridge			
Paramount High School pedestrian bridge	8-12	Grade, prepare foundations, cast-in-place concrete columns and slabs, install precast structural elements. Install lighting, sidewalks, and landscaping	Cranes, air compressors, loaders, trucks, backhoes and bulldozers for excavation, vibratory or pile-driving equipment, rubber-tired and sheep's-foot rollers, water trucks for dust control, specialized water jet excavators, drilling rigs, hauling trucks, transit mix concrete trucks and concrete pumps, material and equipment delivery trucks, jacks and related equipment

Source: Metro 2023

Notes: ¹ Portions of activities will be conducted at the same time as other activities. Therefore, the total cumulative duration will be less than the sum of the individual activities.

LRT = light rail transit; LRV = light rail vehicle; OCS = overhead catenary system; ROW = right-of-way; TPSS = traction power substation

Figure 4-1. Station Configurations



Source: WSP 2023

Preconstruction evaluations will be completed prior to construction to determine existing conditions that could affect construction methods and timing, including geotechnical investigations that will evaluate geology, groundwater, and seismic conditions; structure and building analysis that will influence the method of excavation and type of support systems; and utility investigations to determine if an existing utility will be protected in place, relocated, or modified. In addition, a transportation management plan (TMP) and traffic control plan will be prepared for construction activities where street closures, detours, and excessive truck traffic will disrupt normal street operations. Street closures are discussed in more detail in Section 4.1.8.2. The TMP will provide measures that are designed, approved, and implemented to ensure a safe working environment with traffic control and detours, where appropriate, to protect roadway users and reduce capacity impacts.

4.1.1 Demolition

Prior to construction, contractors will prepare work sites for workers, equipment, and materials. This will include clearing, grubbing, soil remediation/abatement, and grading, followed by mobilization of initial equipment and materials. At some construction staging

sites, building demolition may be required to provide space for construction or construction work areas. Demolition will include strict controls to ensure that adjacent buildings and infrastructure are not damaged or otherwise affected. These controls could include the installation of fencing and barricades, environmental monitoring, and restrictions on the types of equipment and demolition procedures used. For demolition equipment typically used, see Table 4.1.

4.1.2 Utility Relocation

To the extent possible, the LPA will be designed to avoid conflicts with existing major utilities. Nevertheless, construction of the LPA may require the relocation, modification, or protection in place of utilities. Utility relocation work will generally occur within the affected ROW and on adjacent and nearby streets. Affected utilities will include storm drains, sanitary sewers, power lines, gas pipelines, electrical duct banks, oil pipelines, electrical transmission lines, lighting, irrigation pipelines, water lines, fiber optic lines, telephone, and cable lines. Relocation of utilities will generally be performed before construction of other project elements. Protection-in-place is the method of choice, as this is less disruptive to service and less costly. To accommodate the aerial guideway, relocation of existing utility support poles will be required to reroute the utility lines around the LPA. Poles may also be removed and electrical lines relocated underground. Metro will coordinate utility relocations under the terms of each provider's franchise or other agreements defining the provisions for relocation work. In addition to relocation, various new utilities will be installed as part of the LPA.

In the event undocumented utilities are encountered during construction, they will be potholed to determine approximate depth, orientation, and, if possible, type, material, and size. Based on this information, likely utility owners in the area will be contacted to verify this information and to confirm if the utility is active. If the utility is active, a relocation plan will be developed, and relocation will be performed by the contractor or the utility owner. If the utility is determined to be inactive, it will be removed or abandoned in place by the contractor following standard procedures.

Relocation and protection of underground utilities will require several types of construction activities, including, but not limited to, excavation of soil to the depth of the existing utility line (typically not to exceed 5 to 10 feet); installation of a replacement utility in a new location or protection of existing utility; traffic management and control plans; backfill of soil; and reconstruction of pavement or surface improvements above the excavation. Disturbed ground will be backfilled with either the same material or imported material that has been tested for hazardous materials. Concrete encasement of duct banks will be provided where needed. The equipment required for utility relocations is provided in Table 4.1.

It is anticipated that the number of utility conflicts will be refined throughout the design process. Table 4.2 identifies the major potential utility relocations and removals that could occur to support relocation of freight and construction of the LPA. The utility conflict matrix included in Appendix A identifies other relocations as well as utility conflicts that will be protected in place.

Table 4.2. Major Utility Conflicts

Owner	Size	Status	Nearest Cross Street	Disposition
Central Basin Municipal Water (Reclaimed)	18"	Active	Randolph St & State St	Pending
Central Basin Municipal Water (Reclaimed)	18"	Active	Atlantic Ave	Pending
Central Basin Municipal Water (Reclaimed)	24"	Active	Rose St to Rosecrans Ave	No Conflict
Central Basin Municipal Water (Reclaimed)	24"	Active	Paramount	No Conflict
Central Basin Municipal Water (Reclaimed)	24"	Active	Rosecrans Ave to Somerset Blvd	Conflict
Central Basin Municipal Water (Reclaimed)	24"	Active	Downey Ave to Somerset Ave	N/A
Central Basin Municipal Water (Reclaimed)	24"	Active	Flora Vista St	No Conflict
Century Link/Level 3	Unknown	Active	Randolph St & Alameda St	Pending
City of Bellflower	18"	Active	Alondra Blvd & Flora Vista St.	Pending
City of Cerritos	24"	Active	Studebaker Rd	No Conflict
City of Cerritos	36"	Active	Studebaker Rd	No conflict
City of Huntington Park	63"	Active	Randolph St & Seville Ave	Pending
City of LA	21"	Active	E 57th St	Pending
City of Paramount	69"	Active	Downey Ave	No Conflict
City of South Gate	15" VCP in 16' 36" Casting	Active	Rayo Ave	Pending
Kinder Morgan Pipeline	24"	Active	Flora Vista St	Conflict
SFPP, Line LS-120/1 Watson-Colton Kinder Morgan Pipeline	16"	Active	Alondra Blvd to Artesia Blvd	N/A
LACFCO	36"	Active	Slauson Ave	Pending
LACFCO	60"	Active	Slauson Ave	Pending
LACFCO	75"	Active	Randolph St & Albany St	Pending

Owner	Size	Status	Nearest Cross Street	Disposition
LACFCD	8'-0"H X 4'-9"W (Double)	Active	Randolph St & Alcoa	Pending
LACFCD	10'-9"H X 7'-0" RCB	Active	Salt Lake Ave & Florence Ave	Pending
LACFCD	39"	Active	Salt Lake Ave & Live Oak St	Pending
LACFCD	30"	Active	Salt Lake Ave & Olive St	Pending
LACFCD	30"	Active	Salt Lake Ave & Broadway Ave	Pending
LACFCD	8'-6"H X 7'-9" W (Double)	Active	Salt Lake Ave & Santa Ana St	Pending
LACFCD	30"	Active	Salt Lake Ave & Cecilia St	Pending
LACFCD	24"	Active	Salt Lake Ave & Ardine St	Pending
LACFCD	51"	Active	Salt Lake Ave & Southern Pacific RR	Pending
LACFCD	57"	Active	Salt Lake Ave & Southern Ave	Pending
LACFCD	7'-3"W X 7'-0"H	Active	Gardendale St	Pending
LACFCD	57"	Active	Century Blvd	Conflict
LACFCD	7'-3"W X 4'-0"H (Double)	Active	Century Blvd	Pending
LACFCD	8'-0"W X 6'-0"H (Double)	Active	Arthur Ave	No Conflict
LACFCD	48"	Active	Racine Ave	No Conflict
LACFCD	8'-0"W X 6'-0"H	Active	Arthur Ave & Rose St	No conflict
LACFCD	10' X 6'	Active	Rosecrans & Paramount Blvd	Protect in Place
LACFCD	30"	Active	Rosecrans Ave	Conflict
LACFCD	90"	Active	Downey Ave	No Conflict
LACFCD	30"	Active	Somerset Blvd & Hayter Ave	No Conflict
LACFCD	30"	Active	Lakewood Blvd	No Conflict
LACFCD	66"	Active	Clark Ave & Flora Vista St	No Conflict
LACFCD	12"H X 72"W	Active	Clark Ave & Flora Vista St	Conflict
LACFCD	72"	Active	Alondra Blvd & Flora Vista St	No Conflict
LACFCD	24"	Active	Alondra Blvd & Flora Vista St	No Conflict
LACFCD	36"X22"	Abandoned	Woodruff Ave & Flora St	No Conflict
LACFCD	72"	Active	Beach St	Conflict
LACFCD	24"	Active	Artesia Blvd	No Conflict

4 Construction Methods/Affected Environment

Owner	Size	Status	Nearest Cross Street	Disposition
LACFCD	93"	Active	183rd St & Gridley Ave	No Conflict
LACFCD	81"	Active	Alburtis Ave	No Conflict
LACPWD	48"	Abandoned	Alburtis Ave	No Conflict
LACPWD (SMD)	4' MH	Active	Rosecrans Ave	Conflict
LA County Department of Sanitation	42"	Active	Alameda/Randolph St/ Rugby Ave	Pending
LA County Department of Sanitation	42"	Active	Pacific Blvd/Randolph St/Stafford Ave	Pending
LA County Department of Sanitation	42"	Active	Stafford Ave/Randolph St/Arbutus Ave	Pending
LA County Department of Sanitation	24"	Active	Randolph St/Alcoa	Pending
LA County Department of Sanitation	24"	Active	Salt Lake Ave/Santa Ana St	Pending
LA County Department of Sanitation	36"	Active	Salt Lake Ave/Cecilia St	Pending
LA County Department of Sanitation	36"	Active	Salt Lake Ave/Cecilia St	Pending
LA County Department of Sanitation	27"	Active	Atlantic Ave	Pending
LA County Department of Sanitation	18"	Active	Neville Ave	Pending
LA County Department of Sanitation	21"	Active	Neville Ave	Pending
LA County Department of Sanitation	78"	Active	West of Rio Hondo	Pending
LA County Department of Sanitation	90"	Active	West of Rio Hondo	Pending
LA County Department of Sanitation	42"	Active	Flores St	Pending

Owner	Size	Status	Nearest Cross Street	Disposition
LA County Department of Sanitation	66"	Active	Gardendale St	Pending
LA County Department of Sanitation	54"	Active	Main St	Pending
LA County Department of Sanitation	18"	Active	I-105 Freeway	No conflict
LA County Department of Sanitation	21"	Active	Arthur Ave/Rose St	No Conflict
LA County Department of Sanitation	24"	Active	Clark Ave	No conflict
LADWP	230 kV	Active	Randolph St & Bissell St	Pending
LADWP	287 kV	Active	LADWP R/W	Pending
MWD	48"	Active	Woodruff Ave	No conflict
MWD	79"x 23/32"	Active	LADWP R/W	Pending
MWD	73"	Active	East of Rio Hondo	Pending
MWD	67"	Active	Garfield Ave	Pending
SCE	16 kV	Active	Randolph St & Wilmington Ave	Pending
SCE	Guy Wire	Active	Randolph St & Alameda St	Pending
SCE	16 kV	Active	Randolph St & Alameda St	Pending
SCE	16 kV	Active	Randolph St & Alameda St	Pending
SCE	16kV	Active	Randolph St & Santa Fe Ave	Pending
SCE	Guy Wire	Active	Randolph St & Miles Ave	Pending
SCE	4.16 & 16 kV	Active	Randolph St & Miles Ave	Pending
SCE	16 kV	Active	Randolph St & Arbutus Ave	Pending
SCE	16 & 66 kV	Active	Randolph St & State St	Pending
SCE	16 & 2-66 kV	Active	Randolph St & UPRR	Pending
SCE	16 & 2-66 kV	Active	Randolph St & UPRR R/W	Pending
SCE	16 kV in 20" Casing	Active	Salt Lake Ave & Gage St	Pending
SCE	4.16 & 16 kV	Active	Salt Lake Ave & Florence Ave	Pending
SCE	16 kV	Active	Randolph St & Walnut St	Pending
SCE	66 kV	Active	Salt Lake Ave & Grand Ave	Pending

4 Construction Methods/Affected Environment

Owner	Size	Status	Nearest Cross Street	Disposition
SCE	16 kV	Active	Salt Lake Ave & Broadway Ave	Pending
SCE	16 kV in Casing	Active	Salt Lake Ave & Otis Ave	Pending
SCE	16 kV	Active	Salt Lake Ave & Otis Ave	Pending
SCE	16 kV	Active	Salt Lake Ave & Broadway Ave	Pending
SCE	16 kV in 20" Casing	Active	Firestone Blvd	Pending
SCE	16 kV	Active	Rayo Ave	Pending
SCE	16 and 66 kV	Active	Salt Lake Ave & Southern Ave	Pending
SCE	230 kV	Active	LA River	Pending
SCE	12 kV	Active	Century Blvd	No Conflict
SCE	12 kV	Active	Rosecrans Blvd	Protect in Place
SCE	12 kV	Active	Rosecrans Blvd	Protect in Place
SCE	12 kV	Active	Downey Ave	Conflict
SCE	12 kV	Active	Downey Ave	Conflict
SCE	66 kV	Active	Downey Ave	No Conflict
SCE	12 kV	Active	Somerset Blvd	No Conflict
SCE	4.2 kV, 12 kV	Active	Lakewood Blvd	No Conflict
SCE	12 kV	Active	Clark Ave	No Conflict
SCE	4.2 kV, 12 kV	Active	Alondra Ave	Conflict
SCE	Unknown	Active	Bellflower Blvd	Conflict
SCE	Unknown	Active	Bellflower Blvd	Conflict
SCE	Unknown	Active	Bellflower Blvd	Conflict
SCE	12 kV	Active	Cornuta Ave	No Conflict
SCE	12 kV	Active	Woodruff Ave	Conflict
SCE	66 kV	Active	Walnut St & California Ave	Pending
SCE	2-230 kV	Active	San Gabriel River	No Conflict
SCE	66 kV	Active	San Gabriel River	No conflict
SCE	66 kV	Active	Artesia Blvd	No conflict
SCE	12 kV	Active	Artesia Blvd	No Conflict
SCE	12 kV	Active	Studebaker Rd	Conflict
SCE	66 kV	Active	Studebaker Rd	Conflict
SCE	12 kV	Active	Gridley Rd	No conflict
SCE	12 kV	Active	183rd St	No Conflict
SCE	12 kV	Active	187th St	No Conflict
SCE	66 kV	Active	I-710	Pending

Owner	Size	Status	Nearest Cross Street	Disposition
SCE	4-220 kV	Active	East of Rio Hondo	Pending
SCE	66 kV	Active	East of Rio Hondo	Pending
SCE	12 kV	Active	Imperial Highway	No Conflict
SCE	12 kV	Active	Garfield Ave	Pending
SCE	4.16 and 12 kV	Active	Gardendale St	Pending
SCG	26"	Active	Randolph St & Bissell St	Pending
SCG	26"	Abandoned	Randolph St & UPRR	Pending
SCG	30"	Active	Salt Lake Ave & Santa Ana St	Pending
SCG	26"	Active	Salt Lake Ave & Santa Ana St	Pending
SCG	26"	Active	Atlantic Ave	Pending
Crimson Pipeline	12"	Active	Downey Ave to Somerset Blvd	Conflict
Crimson Pipeline	6"	Idle	Downey Ave to Somerset Blvd	Pending
Crimson Pipeline	8"	Active	Downey Ave to Somerset Blvd	No Conflict
Crimson Pipeline	10"	Active	Downey Ave	Pending

Source: BA Inc. 2023

Notes: kV = kilovolt; LACFCD = Los Angeles County Flood Control District; LACPWD = Los Angeles County Public Works Department; LADWP = Los Angeles Department of Water and Power; MH = manhole; MWD = Metropolitan Water District; RCP = reinforced concrete pipe; SCE = Southern California Edison; SCG = Southern California Gas; SFPP = Santa Fe Pacific Pipeline; VCP = Vitrified Clay Pipe; UPRR = Union Pacific Railroad

4.1.3 Freight Rail Line Relocation

Portions of the LPA will share the rail ROW with active freight operations and require relocation of freight tracks. The areas of relocation are shown on Figure 4-2, and the lengths of relocation are identified in Table 4.3. Metro will continue to coordinate with the rail operator to maintain freight operations during construction activities of the LPA to the extent feasible.

Table 4.3. Length of Freight Relocation

Rail ROW	Total Relocation along ROW (miles)
Wilmington Branch	0.1
La Habra Branch	2.3
San Pedro Subdivision	5.5
Metro-owned PEROW	0.8
Total	8.7

Source: WSP 2023

Note: PEROW = Pacific Electric Right-of-Way; ROW = right-of-way

Figure 4-2. Existing Rail Right-of-Way Ownership and Relocations



Source: WSP 2023

To minimize disruptions and maintain active freight operations, new freight track(s), storage, and/or siding tracks will be constructed first. In locations where the new freight track(s) are within the fouling envelope of the existing freight tracks, either the existing tracks will be reconstructed in the new location using specialty track alignment equipment, or temporary detour tracks will be constructed beyond the fouling envelope of the new freight alignment. At the completion of construction of the new freight infrastructure, existing freight operations will be transferred to the new freight track. The existing freight track will be demolished to allow space for the construction of the new LRT tracks. At this point, the construction of the new LRT tracks will commence as described in Section 4.1.4.1 for the at-grade guideway and Section 4.1.5.1 for the aerial guideway. Coordination with the existing freight operator will be required.

At grade crossings, the first activity for freight relocation will be to perform sidewalk work, install new gates foundations for both freight track and LRT tracks, and install new signal houses outside of the existing freight track dynamic envelope for all quadrants with new improvements. After this activity there will be two potential scenarios depending on the grade crossing configuration:

- If the new freight track conflicts with existing freight track operations, a shoofly track will be needed. In this case, new LRT track grade crossing concrete panels will be installed. After this, freight operations will be cutover from the existing track to the shoofly track. This cutover will also involve the installation of new vehicular gates and pedestrian gates for freight track and LRT tracks, as well as testing. The next activity will comprise construction of the new freight track at the grade crossing. Finally, operations from the shoofly track will be cutover to the new freight track.
- If the new freight track is not in conflict with existing track operations, grade crossing concrete panels for the new freight will be installed. After this, freight operations will be cutover from the existing track to the new track. This cutover will also involve the installation of new vehicular gates and pedestrian gates for freight track and LRT tracks, as well as testing.

Over the I-105 freeway, the bridge for the LRT alignment will be required in nearly the same location as the existing freight bridge. A new freight bridge will be constructed west of the existing bridge. Once this is complete, freight service will be relocated to the new bridge and the existing freight bridge will be demolished. The new freight bridge will be a four-span structure similar to the current four-span structure over the freeway. Temporary closures will be required during the erection of the precast girders of the bridge. Additional information regarding construction activities at the I-105 freeway is provided in Section 4.1.7.

4.1.4 At-Grade Construction Activities

4.1.4.1 Guideway

The LPA will include at-grade guideway construction, as shown in Figure 2-1. The following sections provide information about construction of the at-grade guideway in rail right-of-way and within city streets.

Construction Methods within Rail ROW

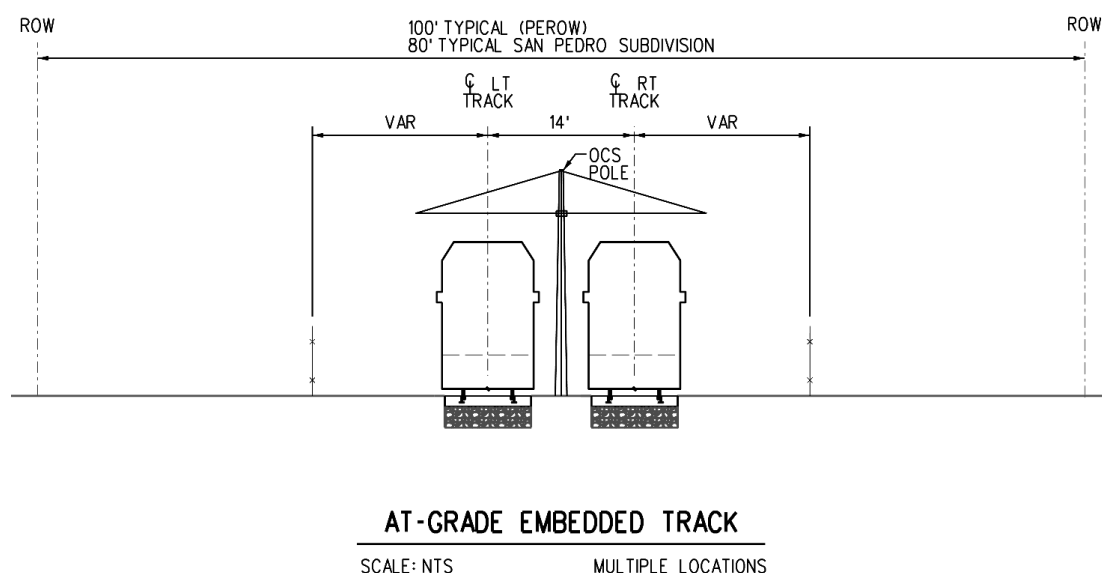
Construction activities for the LRT tracks will occur within active and inactive rail corridors, depending on the location. Refer to Section 4.1.3 for information regarding freight relocation. Construction activities will include the preparation of the track bed, installation of the supporting base, and rail track laydown. The supporting base for the ties and rails consists of compacted material and hard rock (ballast). Rail, ties, and other track material will be installed with specialized equipment. The compacted material and ballast will be imported to the site by trucks and placed with rubber-tired equipment. Ballast material may be delivered by rail using specialized rail cars. Rubber-tired or tracked equipment will be used to remove the existing rail tracks as needed, and earth removal equipment will be used to remove surface material, such as existing ballast gravel. As applicable, utility relocations within the freight rail ROW and construction of the new LRT tracks will occur, as described in Section 4.1.2.

Construction Methods within City Streets

The at-grade guideway within city streets, including at-grade crossings, will use embedded tracks. The construction method for embedded tracks will begin with the demolition of the existing median and/or roadway where the LRT tracks will be built and freight relocated, the preparation of the rail track bed, installation of the supporting track slab, and laying of the rail tracks. Grade crossings will be constructed using prefabricated panels that incorporate the rails and roadway surface. Section 4.1.3 describes the construction sequencing for at-grade crossings within city streets.

Construction activities at-grade may include excavation of the existing roadway and surface material in certain locations. Removal of surface material that cannot be used will be handled in accordance with the appropriate regulatory requirements. Typically, the surface material will be excavated and loaded onto trucks for disposal at a determined disposal site. Figure 4-3 illustrates typical at-grade guideway cross sections of embedded track.

Figure 4-3. Typical Cross Section of an At-Grade Guideway with Embedded Track



Source: WSP 2020

Street Reconfiguration and Reconstruction

To accommodate the guideway, street sections may require reconfiguration and/or reconstruction. Street reconstruction activities will be required at proposed at-grade crossing locations. Street reconstruction will allow for track slab placement, both LRT and freight railroad signal equipment (crossing gates and flashers), traffic signals, and rails.

Street reconfiguration and/or reconstruction activities will also provide infrastructure modifications to the existing street elements, such as street curbs, gutters, medians, and sidewalks that will be affected by the proposed rail grade crossings and/or street reconfiguration. Construction of new curbs and gutters, medians, sidewalks, and traffic lanes will be followed by the installation of lighting, signage, striping, street furniture, traffic signals, and landscaping. Property acquisition and the removal of structures and vegetation may also be required.

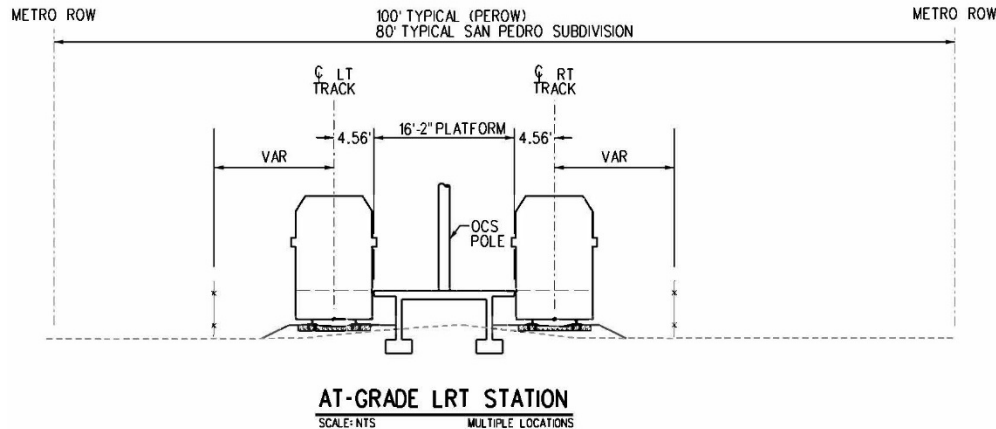
Grade crossing improvements and reconfiguration related to freight are discussed in Section 4.1.3.

4.1.4.2 At-Grade Stations

At-grade station locations will have a center platform configuration within the rail ROW, with the exception of the I-105/C Line Station which will have a side-platform configuration. Per the MRDC, the platforms will be approximately 270 feet long, with an additional approximately 105 feet for the entrance area that will consist of map cases, ticket vending machines, and ramps. The station platform will have a minimum width of approximately 16 feet.

Construction of the at-grade stations will involve cast-in-place concrete or precast panels to construct an approximately 40-inch-high platform along with ramps and stairs. Station furnishings will include canopies, railings, lighting, seating, signage, artwork, bike racks, and fare vending equipment. The at-grade stations will be constructed of standard building materials such as concrete, steel, and other materials. Steel-wheeled or rubber-tired compactors, graders, and small bulldozers will be required for subgrade preparation below the platform. All station design will comply with MRDC/Systemwide Station Design and the Americans with Disabilities Act requirements. For typical construction durations and equipment used for at-grade stations, refer to Table 4.1. The locations of the at-grade stations are presented in Figure 4-1. Figure 4-4 shows an example and dimensions of an at-grade LRT station.

Figure 4-4. At-Grade LRT Station



Source: WSP 2020

4.1.4.3 Parking Facilities

Surface parking facilities will be constructed at four station locations: Firestone, I-105/C Line, Paramount/Rosecrans, and Bellflower. Additionally, a five-level parking structure will be constructed at Pioneer Station. Proposed parking locations are shown in Figure 2-1.

Construction of the surface parking facilities will involve initial demolition of each site where existing structures, utilities, and pavement are present, subgrade preparation of the parking area, paving, and striping. Concrete curbs, lighting, driveways, sidewalks, and landscaping will be installed, as necessary. Access to the surface parking facility at the Firestone Station will be via a driveway along Atlantic Avenue connecting to a tunnel beneath the freight tracks and station. The parking structure at Pioneer Station will also require installation of new concrete foundations, cast-in-place structural columns, and installation of precast parking structure elements. Elevators, electrical, signage, and parking systems will also be installed. For typical construction durations and equipment used for construction of surface parking facilities, refer to Table 4.1.

4.1.5 Aerial Construction Activities

4.1.5.1 Guideway

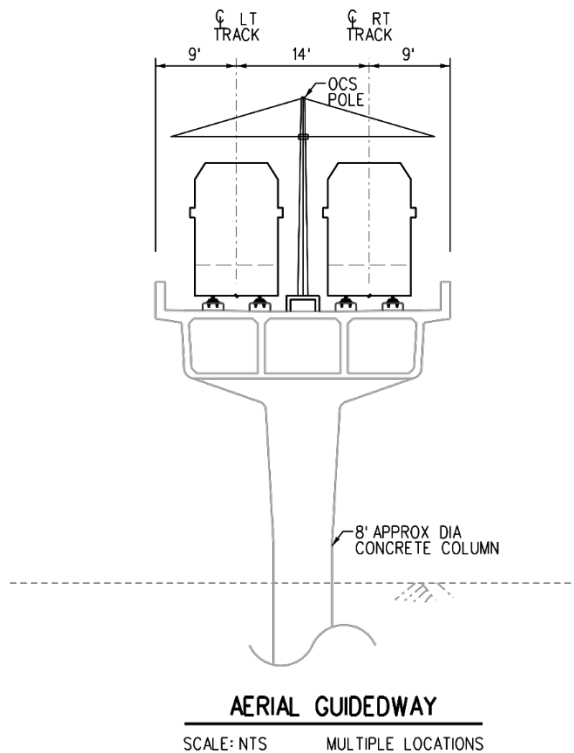
The LPA will include aerial guideway construction, as shown in Figure 2-1. Aerial LRT structures are typically constructed of concrete in several stages. Aerial LRT guideway rails will be fastened with plinths directly to either the top of the slab of a cast-in-place/prestressed concrete box structure, precast concrete structure, or a separately placed slab or plinths on a steel beam structure. Aerial LRT guideway also carry the overhead catenary system (OCS) with foundation, system duck bank, and signal equipment.

Construction of an LRT aerial guideway will begin with the installation of piles for columns and piers that support the structure and loads that will be carried on it. Pile-supported columns will be constructed in two main stages. In the first stage, piles made from steel or concrete, typically about 12 to 15 inches in diameter, will be driven into the ground by vibratory or pile driving equipment or, alternatively, cast-in-drilled-hole (CIDH) piles. The second stage joins the piles with the construction of the pile cap, typically a 4- to 5-foot-thick

slab of reinforced concrete. The pile cap will be constructed to distribute the structural load to two or more piles.

Large diameter CIDH pile construction consists of drilling shafts that are up to 8 feet in diameter, or larger, with the placement of a rebar cage inside the shaft, and then filling it with concrete. The diameter of the CIDH piles will depend on the structural load limit to be supported. Driven piles and regular CIDH piles require a pile cap. Large diameter CIDH piles do not require a pile cap and can be as large as, or larger than, the column it supports. Figure 4-5 illustrates a typical cross section of an aerial LRT guideway.

Figure 4-5. Typical Cross Section of an Aerial Guideway



Source: WSP 2020

Reinforced concrete columns are constructed in numerous sizes and can be poured inside reusable steel forms. To support the aerial guideway, the columns will be large in diameter, such as 8 feet or larger. The shape of the columns is generally circular but can vary. Once the reinforced concrete columns are constructed, the horizontal support of the guideway with the aerial girders and bent/pier cap will be constructed. Cast-in-place concrete spans will require the construction of falsework (temporary framing) to support the forms into which concrete is poured and the post-tensioning spans after. The depth of the falsework is determined by the length of the spans and can be several feet deep. If a bridge will span an active roadway, the bridge will be designed with sufficient clearance under the falsework to allow traffic to pass. If required, clearance may be temporarily reduced during construction and trucks and other vehicles may need to be detoured.

Alternatively, precast methods can be used to construct the aerial guideways. Precast elements require the use of large cranes; therefore, construction staging areas close to the construction site will be used to set up the cranes and to temporarily store the precast and steel girders. Placement of girders over active roads may occur at night to minimize impacts to traffic. Once the girders have been placed on the columns, a concrete slab will be built to secure the girders, and then the rail with plinth is attached to the slab.

At a few locations along the LPA alignment, straddle bents will be used when a singular column supporting the aerial guideway is not feasible. Straddle bents consist of two large diameter columns, offset from the row of center columns, with a beam between them and the aerial guideway on top of the beam or integrated within the beam. For typical construction durations and equipment used for aerial guideway construction, refer to Table 4.1.

4.1.5.2 River Crossings

The LRT will span the Los Angeles River, Rio Hondo channel, and San Gabriel River on an aerial guideway. Crossings over the Los Angeles River and Rio Hondo channel will require construction of new bridges parallel to the existing active freight bridges. At the San Gabriel River, an existing abandoned freight structure owned by Metro will be demolished and replaced with a new LRT structure.

Construction will occur during dry seasons to the extent feasible. Construction within these concrete-lined channels may require the use of temporary coffer dams that will create an enclosed area where dry season low-flow water could be pumped out as needed to facilitate the construction of the new foundations for the structures. Once the foundations are completed, piers and bent caps to support the structure will be constructed. The channels will then be repaved around the piers, and the coffer dams will be removed.

At the Los Angeles River and Rio Hondo channel, extended piers will be tied to existing piers by drill and bond or other method selected during the design phase and supported by pile foundations. The extended piers will be designed per current design codes. During the final design phases, pile foundations and piers will be designed for resisting possible forces and combinations per the requirements of the American Association of State Highway and Transportation Officials, the American Railway Engineering and Maintenance of Way Association, and the U.S. Army Corps of Engineers, for service, strength, extreme events, and stability while meeting hydraulic requirements. For excavation calculations, see Table 4.7.

After substructures and piers are completed and cured, there are two methods that could be employed to construct the superstructure. Precast spliced girders and falsework or mid-span construction towers are not anticipated. However, precast spliced girders could be an alternative for longer spans in a future design phase and, if used, would require mid-span construction towers at splice locations.

For non-spliced precast girders, precast/pre-stressed girders will be transported to the job site and erected onto the bent caps. After girders are erected on bent caps, stay-in-place steel/or precast panels will be used for casting deck slabs, so no falsework will be required. This method will minimize the impact to the river.

4.1.5.3 Retained Cut and Fill Guideway

Retained fill guideway will be constructed where there is a transition between the aerial and at-grade guideway, for instance near Wilmington Avenue and Randolph Street. Retained cut will be required in areas for aerial structure supports and the underground construction at the I-710. These sections are required to transfer between at-grade and underground/aerial alignments. A typical transition section area is about 500 to 700 feet in length. Retained fill guideway sections travel on embankment materials contained by retaining walls above the existing ground. This embankment material will be generated by retained cut activities elsewhere along the LPA or imported from another site and/or project. Imported embankment materials will be tested to confirm the absence of hazardous materials and usability. These materials will be stockpiled on designated construction laydown sites prior to placement. See Section 4.4 for additional details regarding storage of excavated and fill material.

At several locations along the corridor, freight realignment will require retained fill supported by retaining walls due to the constrained ROW, for example, along the San Pedro Subdivision where Salt Lake Avenue is parallel to the tracks along the west side of the ROW. The retaining walls are required to avoid or minimize impacts to the roadway.

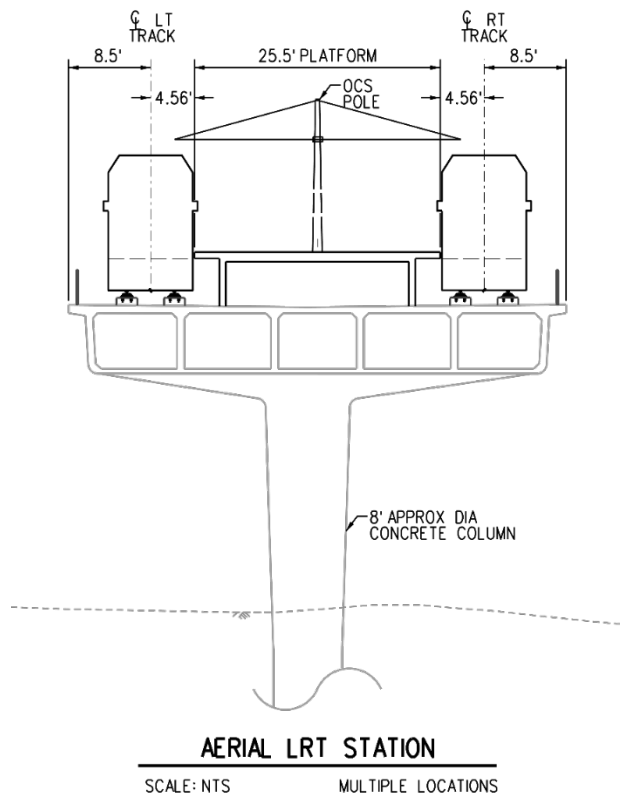
Typical equipment used to construct retained fill include backhoes and bulldozers for excavation, vibratory or pile driving equipment, loaders, cranes, rubber-tired and sheep's-foot rollers, hauling trucks, transit mix concrete trucks, concrete pumps, and water trucks for dust control.

4.1.5.4 Aerial Stations

Figure 4-1 identifies the location of aerial stations along the LPA alignment. Station design will comply with the requirements of the MRDC/Systemwide Station Design and the Americans with Disabilities Act requirements. Specifically, the aerial stations will be approximately 22 to 42 feet above the existing ground and will have a center platform configuration. The platforms will be approximately 270 feet long and 25 feet, 6 inches wide. Figure 4-6 shows an example of an aerial LRT station.

Construction of aerial stations will involve construction techniques similar to those for aerial guideways, as described in Section 4.1.5.1. Foundations and columns will be constructed to support the platform. The station platform will typically be constructed of cast-in-place concrete with falsework. Forms will be erected, reinforcing steel put in place, and concrete will be placed into the forms to construct the columns and the platform slab. Ancillary facilities will then be added, including stairs, elevators, canopy, railings, lighting, seating, signage, and fare vending equipment. For excavation calculations see Table 4.7. For typical construction durations and equipment used for aerial structures see Table 4.1.

Figure 4-6. Typical Aerial LRT Station



Source: WSP 2020

4.1.5.5 Slauson/A Line Station

The project alignment will be elevated and adjacent to the A (Blue) Line just east of the A (Blue) Line Slauson Station. The WSAB Slauson/A Line Station will be an independent structure from the existing A (Blue) Line Station but will be accessed either at ground level or by two new pedestrian bridges crossing between the two platforms and above the freight track.

The basic steps for reconfiguring the existing station and approximate construction durations for constructing the new station are shown below, including approximate durations. Some tasks can be performed concurrently. A bus bridge for the A (Blue) Line during construction may be needed for approximately six months. Construction near or above the freight railroad tracks will require coordination with the operating railroad.

- Construct the project viaduct and the station frames (30 months)
- Construct the new vertical circulation and pedestrian bridge columns at existing A (Blue) Line Station and install pedestrian bridges with bus bridges (six months)
- Construct the proposed Slauson/A Line Station, including platform, vertical circulation, pedestrian bridge column, and station finishes (18 months)
- Construct viaduct tracks (12 months)
- WSAB and A (Blue) Line systems integration and testing (12 months)

4.1.6 Maintenance and Storages Facility

The MSF will be constructed as part of the LPA and will involve the following construction phases:

- Demolition and site preparation and grading
- Installation of foundations for new buildings
- Erection of buildings with steel framing, masonry blocks, and building aesthetic materials
- Preparation of the rail track bed, installation of the supporting track slab, and laying of the rail tracks for the LRT storage area
- Construction of roadway and parking facilities, including concrete curbs, lighting, driveways, and sidewalks as necessary
- Site aesthetic improvements such as landscaping

Typical equipment could include excavators, loaders, lifts, backhoes, bulldozers, compactors, cranes, saws, compressors, pneumatic equipment, pavers, and graders. For typical construction durations and equipment used for construction of the Bellflower MSF, see Table 4.1.

4.1.7 Freeway Crossings

The LPA will cross the I-710, I-105, SR-91, and I-605 freeways. At the SR-91 and I-605 freeway crossings, the existing bridge structures contain sufficient space to accommodate the LRT tracks. Construction will occur below the existing bridges and will not impact the existing freeway travel lanes.

4.1.7.1 I-710

At I-710, there is insufficient horizontal clearance for the new LRT tracks in the existing freight opening, so a new opening will be constructed just to the north through the embankment. One approach will be to install a jacked box structure underneath the freeway. This approach is not anticipated to impact peak freeway operations, although ground improvements from the surface of the freeway may be needed to maintain support. It is anticipated the freeway lanes will remain open during this process, although there may be temporary closures to install ground-monitoring instruments and/or ground support infrastructure in the median. The basic steps of a jacked box structure are as follows:

- Construct jacked box structure segments in-line with and adjacent to the freeway embankment and a thrust block
- Perform ground improvements and/or install structural ground support along the entire jacked tunnel alignment from either the surface and/or sides
- Install a tunnel shield at the front end of the box with hydraulic jacks provided at the rear
- Excavate ground from within the shield and jacking the box forward
- Repeat the preceding steps until the new box structure is in the final position

Excavation and jacking are typically carried out alternately in 2- to 4-foot increments. The I-710 freeway may require ground monitoring to measure potential settlement that may occur during the jacking and excavation operations.

4.1.7.2 I-105

At I-105, a new infill Metro C (Green) Line Station will be constructed in the median of the I-105 freeway as part of the LPA. Vertical pedestrian access will be provided from the LRT bridge to the proposed I-105/C Line Station platform via stairs, escalators, and/or elevators. On the west end of the platform, an emergency-only exit will be provided from the I-105/C Line infill station to the Façade Avenue overpass bridge, although design does not preclude an entrance. To accommodate construction of the new infill station platform, the existing Metro C (Green) Line tracks will be realigned and the I-105 lanes would be shifted within the existing Caltrans ROW for approximately 2,500 feet. The realigned I-105 lanes would allow for a wider median to accommodate the WSAB Project.

As a separate project, Metro and Caltrans have completed the Final EIR/Environmental Assessment for the I-105 ExpressLanes Project. The selected alternative converts the existing high-occupancy vehicle lane(s) on the I-105 freeway to two ExpressLanes. If construction of the I-105 ExpressLanes Project is concurrent with the WSAB Project, lane reconfiguration would not be required for WSAB because the I-105 ExpressLanes Project would reconfigure the I-105 lanes. If WSAB construction occurs prior to construction of the ExpressLanes Project, the lanes would be shifted as part of WSAB construction activities.

Three existing structures cross I-105 in the area of the C (Green) Line infill station:

- Century Boulevard Overpass, which carries one heavy-rail track for UPRR
- Façade Avenue Overcrossing, located approximately 186 feet west of the Century Boulevard Underpass, that carries one lane of vehicular traffic in each direction
- Arthur Avenue Pedestrian Overcrossing, located approximately 250 feet east of the Century Boulevard Overpass, carries a 12-foot-wide pedestrian path, a sewer line and casing, and a storm drain

The Draft EIS/EIR identified demolition and reconstruction of the Arthur Avenue Pedestrian Overcrossing and the Façade Avenue Overcrossing to accommodate the infill station. However, the demolition and reconstruction of these bridges are no longer required because these existing four-span bridges can accommodate both the I-105 ExpressLanes Project and the infill Metro C (Green) Line Station. Additionally, comments received on the Draft EIS/EIR requested that the western station entrance location for the infill station be modified to emergency egress only. Vertical circulation at this location but will be limited to emergency egress only. Emergency egress gates will be constructed along the existing Façade Avenue Overcrossing and along the western end of the infill station platform. Minor construction impacts will occur at Façade Avenue to add the emergency egress and vertical circulation elements, but impacts will be limited to the western portion of the bridge, and travel lanes will not be affected. Future escalators and ticket vending machines will not be precluded and could be constructed at a future date.

To accommodate the construction activities needed for the new freight and LRT bridges and LRT infill station, the C (Green) Line transit operations will be temporarily suspended in this area and a bus bridge may be provided to maintain connectivity for approximately 22 months. Alternatively, Metro is considering single-track operations along the Metro C (Green) Line, which would reduce the duration of the bus bridge but could increase the overall duration of construction in this location. Many of the construction activities associated with the new

bridges and LRT infill station may occur concurrently. The basic steps for construction within and over the freeway are as follows:

- Remove existing C (Green) Line tracks and establish construction area (two months)
- Construct new freight bridge (21 months)
 - Construct falsework and then a cast-in-place concrete bridge over the freeway lanes and frontage roads, maintaining vehicular access to the extent feasible
- Shift the existing freight operations to the new bridge and demolish the existing bridge (three months)
- Construct new two-span LRT bridge (21 months)
 - Construct median column(s) and abutments for the LRT bridge
 - Construct falsework and then a cast-in-place concrete bridge, including a pedestrian walkway, over the freeway lanes and frontage roads, maintaining vehicular access
 - Connect the pedestrian walkway to the new C (Green) Line Station platform
- Realign the C (Green) Line tracks to the final location for the station (six months)
- Construct infill C (Green) Line station and vertical circulation elements at either end (four months)

During construction, the width of the shoulder lanes may decrease to accommodate falsework or other construction elements. In general, vehicular traffic on the freeway and frontage roads will be maintained during the duration of construction. Temporary freeway and frontage road closures, with appropriate detours, may be required during off-peak hours for the demolition of the existing freight bridge and if the final design calls for placement of precast structural beams across the roadways. Construction methods will be considered further during the advancement of design. Construction activities for the WSAB Project will be coordinated with the I-105 ExpressLanes Project as applicable depending on the construction schedule of the two projects.

4.1.8 Other Construction Activities

4.1.8.1 Systems

Traction Power Substations

The TPSS sites will be placed along the alignment at designated locations, typically near stations to provide the electric power needed for the LRVs. TPSSs are electrical substations that distribute power to the LRVs. A TPSS is typically a metal prefabricated building approximately 15 feet wide by 40 feet long by 15 feet high. The TPSS site will include a perimeter barrier and space for utility equipment, manholes, and pull boxes, and will allow vehicle access. The entire TPSS site will require an area approximately 80 feet by 45 feet or equivalent in different configurations. The actual size of the site will also depend on ROW considerations.

Each TPSS site will be cleared and graded, and a concrete slab will be constructed with the appropriate underground utility connections, as needed. The TPSS structure will be delivered, mounted on the slab and then connected to the utilities. Fencing or another type of barrier will be installed around the perimeter of the site, and architectural and landscaping

treatments will be applied, as feasible. Typical equipment used to construct TPSSs include graders, backhoes, bobcats, forklifts, cranes, and concrete and materials/equipment trucks.

Seventeen at-grade TPSS sites are required along the alignment, as listed in Table 4.4. For some of the sites, alternate locations have been identified and are noted with “(e)*”, but only one TPSS per pair will be constructed as part of the LPA. Final locations are subject to refinement during the advancement of design.

Table 4.4. Proposed TPSS Locations (North to South)

TPSS ID	Description	LRT Stationing
17 Slauson	South of Slauson Ave and west of Randolph Ave within Union Pacific Railroad property	670+50
16	West of Regent St and north of Randolph St within private property	694+25
15	North of Randolph St and west of Seville Ave within private property	729+00
15(e)*	East of Stafford Ave and north of Randolph St within private property	737+75
14	East of State St and north of Randolph St within Union Pacific Railroad property	768+46
13	North of Randolph Ave and Bissel Pl within Union Pacific Railroad property	787+00
12	North of Walnut St and east of Salt Lake Ave within private property	834+75
11	North of Cecilia St and east of Salt Lake Ave within private property	887+00
10	South of Firestone Blvd and east of Branyon Ave within private property	938+75
9	Between Miller Way and the I-710 Freeway and north of the existing tracks within private property	987+75
9(e)*	Southeast of the Rio Hondo Channel and north of Meadow Rd within private property	998+75
8	North of Laurel St within a vacant, privately owned property	1044+75
8(e)*	South of Gardendale and adjacent to the west side of Dakota Ave within private property	1052+25
7(e1)*	West of Industrial Ave and Lincoln Ave within private property in the proposed parking facility	1073+40
7	North of Century Blvd and east of Center St within private property	1080+00
7(e2)*	South of Rose Street and just west of Arthur Ave within Metro-owned property	1110+50
6	South of Paramount High School’s tennis courts and just east of the existing pedestrian bridge within publicly owned property	1140+00
5(e)*	North of Hegel St and south of the Bellflower Bike Trail within private property	1195+50
5	North of Hegel St and the Bellflower Bike Trail within private property	1196+50
4	West of Bellflower Blvd within private property within the proposed parking facility	1243+50

TPSS ID	Description	LRT Stationing
3	South of Flora Vista Park and just east of Beach St. within Metro-owned property	1301+50
3(e)*	Just east of Studebaker St within Metro-owned property	1345+00
2	Southeast of the crossing at Gridley Rd and 183rd St within Metro-owned property	1376+25
1	Between Corby Ave and Pioneer Blvd north of 188th St impacting a private property within the proposed parking structure	1405+00

Source: WSP 2023

Note: * = optional site

LRT = light rail transit; TPSS = traction power substation

TPSS sites along the LPA were added, removed, and relocated since the release of the Draft EIS/EIR in response to public comments. TPSS Site 14 was relocated from the northwest corner of Randolph Street and State Street to the east within railroad ROW, and TPSS Site 2 has been relocated from the northwest side of the intersection of 183rd Street/Gridley Road to the southeast side. Optional TPSS Site 7E has been added within the reconfigured parking facility east of the tracks at the I-105/C Line Station parking facility, and optional TPSS Sites 16E and 12E in the City of Huntington Park have been eliminated from consideration.

Train Control House

Train control houses containing signal equipment will be located periodically along the alignment within the ROW and no more than 30 feet from the nearest track. Train control houses will also be located at each grade crossing to control gates and flashers. Where grade crossings are shared with the UPRR, two signal houses will be provided (one for UPRR and one for LRT).

Signal houses are typically prefabricated metal-clad buildings 10 feet by 16 feet, although size may vary. Signal houses may be placed upon a concrete foundation and within a fenced area. The site will include duct banks and manholes. Typical equipment used to construct signal houses includes graders, backhoes, bobcats, forklifts, and concrete and materials/equipment trucks.

Overhead Catenary Systems

The OCS electrically powers the LRT through a copper or bronze contact wire suspended above the track. A device called a pantograph on the roof of the LRV slides along the underside of the contact wire and delivers electric power to the LRV. This contact wire, the poles, and other structures that support it, are collectively known as the OCS. In a catenary system, the contact wire is supported from a parallel “messenger” wire that is directly above the contact wire. The messenger wire is then supported from cross-span wires or brackets as appropriate to the location. The poles are fabricated from steel pipe and mounted on a reinforced concrete foundation. With the LPA, the wires will be located approximately 20 feet above the track, supported by poles spaced at an average of 150 feet.

Construction of the OCS in at-grade and aerial guideway sections will initially involve construction of the foundations for the OCS poles. This will be accompanied by the construction of duct banks and conduit for the underground electrical feeder lines from the TPSS sites, followed by installation of the OCS poles.

Construction equipment to be used during construction of the foundations and ducts and installation of the poles and feeder cables will include augers, cranes, back hoes, and concrete and materials trucks. The overhead wires will be installed from the guideway using high-rail equipment and specialized vehicles with the ability to operate on both roadways and rails. The exact location of the facilities will be determined during the advancement of design.

4.1.8.2 Temporary Sidewalk, Street, Lane, and Active Transportation Closures

Sidewalk, street, and lane closures may be necessary during construction of the LPA. The extent and duration of the closures will depend on a number of factors, including the construction contract limits, construction methods, and individual contractors' choices. The closures will be coordinated with each affected jurisdiction. Restrictions on the extent and duration of the closures will be incorporated in the project construction specifications. In some cases, short-term full closures might be substituted for extended partial closures to reduce overall impacts. Refer to Section 4.1.3 for a discussion of construction staging for grade crossings.

Sidewalk and street closures required for construction will generally be limited to nighttime, weekend, and/or off-peak travel hours, including overnight hours to minimize the disruption to the traveling public. However, some temporary sidewalk and street lane closures will occur during the daytime for construction activities such as utility relocations that might generate a lot of noise near sensitive receptors. Partial road closures, such as along Long Beach Avenue north of the Slauson/A Line Station, will occur over extended periods of time. Detours for vehicular, transit or nonmotorized traffic could be required. The local community will be consulted concerning the road closures. The implementation of a TMP will address construction impacts on transportation facilities under the jurisdiction of all involved cities and agencies, including Caltrans. The TMP will include specific strategies to address short term, project-related construction effects on traffic, bicyclists, pedestrians, and area residents and businesses. More details on the TMP are provided in Section 7 of the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Metro 2024).

The Paramount High School Pedestrian Bridge will be demolished prior to the start of construction activities and replaced with a new, longer pedestrian bridge. Detours will be coordinated between Metro and the school district.

Additionally, construction of the LRT bridges over the 3 USACE facilities will require the temporary closure of 3 adjacent bike trails: LA River Trail, Rio Hondo Trail, and San Gabriel River Trail. The closure could be up to a month total to install and remove falsework. Detours will be provided.

Some permanent road closures will also occur to accommodate the LPA. This includes 188th Street in Artesia between Pioneer Boulevard and Corby Avenue. Metro will work with the City of Artesia to obtain the proper street vacation approvals. Additionally, the following grade crossings will be closed along Randolph Street at the following cross streets: Wilmington Avenue, Regent Street, Malabar Street, Rita Avenue, and Arbutus Avenue. In addition, the 187th Street grade crossing in Artesia will be closed. A design option also would close the 186th Street grade crossing in Artesia and keep the 187th Street grade crossing open. More details on permanent closures are provided in the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Metro 2024). Refer to Table 4.5 for anticipated construction-related closures.

Table 4.5. Construction-related Closures by Jurisdiction

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
1	Road	Long Beach Ave Viaduct	Temporary	Long Beach Ave; Northbound Lanes	55th Street to Slauson Blvd	24-48	Metro A (Blue) Line	Northbound road temporarily closed; intersections closed (typically intermittently). Up to 18' width of road to be permanently closed at viaduct columns.
2	Road	Slauson/A Line Station	Temporary	Randolph Street, Northbound Lane	Slauson Blvd	24-48	Metro A (Blue) Line	Northbound road temporarily closed; intersections closed (typically intermittently).
3	Road	Grade Separation	Temporary	Holmes Ave	Randolph Street	12-24	DASH Pueblo Del Rio	Lane width reduction to accommodate construction of modified median and grade separation; full road closures (typically intermittently).
4	Sidewalk	Grade Crossing	Temporary	Randolph St	Alameda St, Albany St, Santa Fe Ave, Rugby Ave, Pacific Blvd, Seville Ave, Miles Ave, State St	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
5	Road	Grade Crossing	Temporary	Randolph St	Holmes Ave, Alameda St, Albany St, Santa Fe Ave, Rugby Ave, Pacific Blvd, Seville Ave, Miles Ave	1-3	Metro 60, 251; HP Express	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
6	Road	Grade Crossing	Temporary	Randolph St	State St	3-6	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
7	Road	Grade Crossing	Temporary	Gage Ave	Salt Lake Ave	1-3	Metro 110; HP Express	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
8	Road	Grade Crossing	Temporary	Otis Ave	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
9	Sidewalk	Grade Crossing	Temporary	Gage Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
10	Sidewalk	Grade Crossing	Temporary	Otis Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
11	Road	Grade Crossing	Temporary	Bell Ave	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
12	Sidewalk	Grade Crossing	Temporary	Bell Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
13	Road	Transportation Mitigation	Temporary	Bell Ave	-	1-3	-	Temporary lane closures and relocations during construction; intermittent nighttime closures.

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
14	Sidewalk	Transportation Mitigation	Temporary	Bell Ave	-	1-3	-	Close sidewalks during reconstruction.
15	Road	Grade Crossing	Temporary	Florence Ave	Salt Lake Ave	1-3	Metro 111	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
16	Sidewalk	Grade Crossing	Temporary	Florence Ave	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
17	Sidewalk	Grade Crossing	Temporary	Santa Ana St	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
18	Road	Grade Crossing	Temporary	Santa Ana St	Salt Lake Ave	1-3	Metro 611	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
19	Sidewalk	Grade Crossing	Temporary	Ardine St	Salt Lake Ave	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
20	Road	Grade Crossing	Temporary	Ardine St	Salt Lake Ave	1-3	-	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
21	Road	Grade Separation	Temporary	Atlantic Ave and Firestone Blvd	-	12-24	Metro 115, 260; SG East	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).

4 Construction Methods/Affected Environment

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
22	Sidewalk	Grade Crossing	Temporary	Southern Ave, Rayo Ave	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
23	Road, Bicycle	Grade Crossing	Temporary	Southern Ave, Rayo Ave	-	1-3	-	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
24	Road	I-710 Undercrossing	Temporary	I-710	-	6-12	-	Full lane closures (typically intermittently).
25	Road	Grade Separation	Temporary	Imperial Blvd and Garfield Ave	-	12-24	Metro 117, 120, 258; SG East	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
26	Sidewalk	Grade Separation	Temporary	Imperial Blvd and Garfield Ave	-	12-24	-	Close sidewalks during reconstruction.
27	Road	Grade Crossing	Temporary	Main St	-	1-3	SG East	Temporary lane closures and shifts for adjacent streets during grade crossing construction; full closures (typically intermittently).
28	Sidewalk	Grade Crossing	Temporary	Century Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
29	Road	Grade Crossing	Temporary	Century Blvd	-	1-3	SG East	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently)

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
30	Road	Grade Crossing	Temporary	Gardendale St	-	1-3	-	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
31	Sidewalk	Grade Crossing	Temporary	Gardendale St	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
32	Road	Grade Separation	Temporary	N. Somerset Ranch Rd	-	12-24	-	Full closures (typically intermittently).
33	Road	Grade Separation	Temporary	I-105	-	12-24	Metro C (Green) Line	Full closures (typically intermittently); potential lane width reduction.
34	Road	Grade Separation	Temporary	S. Somerset Ranch Rd	-	12-24	-	Full closures (typically intermittently).
35	Road	Grade Separation	Temporary	Paramount Blvd	-	12-24	Metro 265, LBT 23 and 71	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
36	Sidewalk	Grade Separation	Temporary	Paramount Blvd	-	12-24	-	Close sidewalks during reconstruction.
37	Road	Grade Separation	Temporary	Rosecrans Ave	-	12-24	Metro 125, LBT 23 and 71	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
38	Sidewalk	Grade Separation	Temporary	Rosecrans Ave	-	12-24	-	Close sidewalks during reconstruction.

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
39	Road	Grade Separation	Temporary	Downey Ave	-	12-24	LBT 22	Lane width reduction to accommodate construction of modified median and grade separation column; full closures (typically intermittently).
40	Sidewalk	Grade Separation	Temporary	Downey Ave	-	12-24	-	Close sidewalks during reconstruction.
41	Sidewalk	Grade Crossing	Temporary	Somerset Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
42	Road	Grade Crossing	Temporary	Somerset Blvd	-	1-3	Metro 127	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
43	Road	Transportation Mitigation	Temporary	Somerset Blvd	-	1-3	Metro 127	Temporary lane closures and relocations during lane and signal addition; Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
44	Road	Grade Separation	Temporary	Woodruff Ave and Flower St	-	12-24	NTS 1; LBT 92, BB South, North	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
45	Sidewalk	Grade Separation	Temporary	Woodruff Ave and Flower St	-	12-24	-	Close sidewalks during reconstruction.
46	Sidewalk	Grade Crossing	Temporary	Lakewood Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
47	Road, Bicycle	Grade Crossing	Temporary	Lakewood Blvd	-	1-3	Metro 266	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
48	Sidewalk	Grade Crossing	Temporary	Clark Ave	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
49	Road	Grade Crossing	Temporary	Clark Ave	-	1-3	Metro 127, NTS 1	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
50	Sidewalk	Transportation Mitigation	Temporary	Clark Ave	Los Angeles St	1-3	-	Close sidewalks during reconstruction.
51	Road	Transportation Mitigation	Temporary	Clark Ave	Los Angeles St	1-3	NTS 1	Temporary lane closures and relocations during turn lane and signal addition; full closures (typically intermittently).
52	Sidewalk	Grade Crossing	Temporary	Alondra Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
53	Road	Grade Crossing	Temporary	Alondra Blvd	-	1-3	Metro 127, 128	Temporary lane closures and relocations during grade crossing and median construction; potential full closures during construction of trackwork at the grade crossing.
54	Sidewalk	Grade Crossing	Temporary	Bellflower Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
55	Road	Grade Crossing	Temporary	Bellflower Blvd	-	1-3	LBT 91, 93; BB South, North	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
56	Sidewalk	Grade Crossing	Temporary	Artesia Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
57	Road	Grade Crossing	Temporary	Artesia Blvd	-	1-3	Metro 130; COW 1, 2	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
58	Road	Private Driveway	Temporary	Extra Space Storage	San Gabriel River and Artesia Blvd	-	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
59	Sidewalk	Grade Crossing	Temporary	Studebaker Rd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
60	Road	Grade Crossing	Temporary	Studebaker Rd	-	1-3	Metro 130; COW 1, 2; LBT 172, 173; NTS 2	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
61	Road	Grade Separation	Temporary	Gridley Rd and 183 rd St	-	12-24	Metro 62 and 577; COW 1, 2; LBT 172, 173 and 192; NTS 2; OCTA 30	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).

No.	Closure Element	LPA Element/Area	Closure Type	Street	Cross Street	Approximate Closure Duration (months)	Affected Transit Routes	Closure Details ³
62	Sidewalk	Grade Separation	Temporary	Gridley Rd and 183 rd St	-	12-24	-	Close sidewalks during reconstruction.
63	Sidewalk	Grade Crossing	Temporary	Pioneer Blvd	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
64	Road	Grade Crossing	Temporary	Pioneer Blvd	-	1-3	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
65	Road	Grade Crossing	Temporary ¹	186th St	-	1-3	-	Temporary lane closures and relocations during grade crossing construction full closures (typically intermittently).
66	Sidewalk	Grade Crossing	Temporary ¹	186th St	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.
67	Road	Grade Crossing	Temporary ²	187th St	-	1-3	-	Temporary lane closures and relocations during grade crossing and median construction; full closures (typically intermittently).
68	Sidewalk	Grade Crossing	Temporary ²	187th St	-	1-3	-	Close sidewalks during reconstruction and integration of new grade crossing equipment.

Source: Metro 2023

Notes: BB = Bellflower Bus; COW = Cerritos on Wheels; DASH = Downtown Area Short Hop; HP = Huntington Park COMBI; I = Interstate; LBT = Long Beach Transit; NTS = Norwalk Transit System; OCTA = Orange County Transportation Authority; SG = South Gate

¹ Baseline condition. Closure of crossing will be permanent under the design option.

² Design option condition. Closure of crossing will be permanent under the baseline condition.

³ Intermittent = Full closure of vehicular travel lanes, which will occur during nighttime, off-peak periods, and/or over weekends.

4.2 Staging Areas

Construction staging areas are proposed along the LPA alignment. Staging areas will be needed near grade separations, new bridge crossings, certain freeway crossings, and intermittently along viaduct structures. Typically, the staging areas will be located within the alignment ROW or on land to be acquired for major project elements such as the maintenance and storages facility, parking facilities, or TPSS sites. Staging areas are largely limited to underutilized sites or industrial/commercial properties. Site clearance and demolition of existing structures at the construction staging areas will occur before major construction activity.

Construction staging areas have been relocated and added along the LPA since the release of the Draft EIS/EIR in response to public comments. The staging area near State Street and Randolph Street has been relocated to the east of State Street in the railroad ROW, and the staging area at the southeast corner of Imperial Highway and Garfield Place has been relocated to the north of Imperial Highway within the San Pedro Subdivision ROW. The new staging area is located on the east side of the railroad ROW between Rayo Avenue and Southern Avenue.

Staging areas will be used for the storage of construction materials and equipment, locations of temporary offices for field personnel, parking for field personnel, and fabrication of construction materials (e.g., on-site welding of rail strings). Construction staging will also occur within public streets to support construction of both the aerial and at-grade guideway in the rail ROW, which will require temporary lane closures.

Temporary construction easements, which are proposed along permanent project elements, are small areas that would be used for construction of a specific project element. These areas would be for short-term use and separate from staging areas. Table 4.6 lists potential staging and laydown area options⁵.

Table 4.6. Staging Areas

Construction Laydown #	Location and Permanent Project Use (if applicable)	Haul Route
No. 25	Along the east side of Long Beach Ave just north of Slauson Ave.	I-10, Alameda St, Slauson Ave
No. 26	Along the east side of Long Beach Ave. between 57th St. and Slauson Ave. This site would be used for a portion of a future station.	I-10, Alameda St, Slauson Ave
No. 41	Beginning just south of Slauson Ave. and continuing along Randolph St. to Holmes Ave. This site will be used for a portion of a future station.	I-110, I-710, Alameda St, Atlantic Blvd, Florence Ave, Slauson Ave
No. 42	On the southwest corner of Randolph St and Rugby Ave within private property. A portion of the property will be reconstructed to support a grade crossing.	I-10, Alameda St, Slauson Ave

⁵ “Construction staging areas” is used interchangeably with “laydown areas.”

Construction Laydown #	Location and Permanent Project Use (if applicable)	Haul Route
No. 43	Along Randolph St. just east of Boyle Ave. This site is also a potential TPSS site.	I-710, Atlantic Blvd, Florence Ave, Randolph St
No. 44	Along the north side of Randolph St between Bissell St and Bissell Pl. This site is also a potential TPSS site.	I-710, Atlantic Blvd, Florence Ave, Randolph St
No. 45	Along the east side of Salt Lake Ave between Santa Ana St. and Cecilia St. This site is also a potential TPSS site.	I-710, Atlantic Boulevard, Firestone Blvd
No. 46	Just south of Patata St. on the east side of Atlantic Ave. This site will be used for future station parking.	I-710, Atlantic Boulevard, Firestone Blvd
No. 47	Along the east side of Atlantic Ave north of Mason St. This site will be used for access to future station parking.	I-710, Atlantic Boulevard, Firestone Blvd
No. 47A	Along the north side of Southern Ave east of the rail ROW.	I-710, Firestone Blvd, Rayo Ave, Salt Lake Ave, Southern Ave
No. 48	On the east side of rail ROW. between Duncan Way and Wood Ave. just west of the Los Angeles River.	I-710, Firestone Blvd, Miller Way, Rayo Ave, Salt Lake Ave, Southern Ave
No. 49	South of Wood Ave. and west of the Los Angeles River.	I-710, Firestone Blvd, Miller Way, Rayo Ave, Salt Lake Ave, Southern Ave
No. 50	Between the east side of the I-710 freeway and the west side of the Rio Hondo Channel. This site will be used for the future track.	I-710, Firestone Blvd, Garfield Ave, Miller Way, Southern Ave
No. 51	North of Imperial Hwy. and east of Ruchti Rd.	I-710, Imperial Hwy, Garfield Ave
No. 52	On the east side of the existing LT track and north of Laurel St. This site is a potential TPSS site.	I-710, Imperial Hwy, Garfield Ave
No. 53	East of Center St. just north of Century Blvd. This site is a potential TPSS site.	I-105, Century Blvd, Center St
No. 54	West of Industrial Ave. just north of Century Blvd. This site will be used for future station parking.	I-105, Century Blvd, Center St
No. 55	Southeast of the Racine/Façade Ave Cul-de-sac in a vacant right-of-way parcel.	I-105, I-710, Rosecrans Ave, Paramount Blvd, Garfield Ave

Construction Laydown #	Location and Permanent Project Use (if applicable)	Haul Route
No. 56	Just north of Rosecrans Ave and east of the existing freight track. This site will be used for future station parking.	I-105, I-710, Rosecrans Ave, Paramount Blvd, Garfield Ave
No. 57	West of Bellflower Blvd. and north of Pacific Ave. This site will be used for future station parking.	SR-91, Bellflower Blvd
No. 58	Just south of the I-91 Artesia freeway and west of the San Gabriel River. This site will be used for the future track.	I-605, SR-91, Alondra Blvd, Artesia Blvd, Bellflower Blvd, South St, Studebaker Rd
No. 59	East of Corby Ave and north of 188th St. This site will be used for future station parking.	I-605, South St
No. 60	West of Pioneer Blvd within 188th St Street right-of-way. This site will be used for future station parking.	I-605, South St
No. 61	West of Pioneer Blvd and east of Corby Ave. This site will be used for future station parking.	I-605, South St

Source: WSP 2023

Notes: ROW = right-of-way; TPSS = traction power substation

4.3 Haul Routes

Haul routes will be identified in coordination with local authorities prior to the start of construction in that location. The haul routes will follow major arterial streets and highways forming the safest or shortest route to minimize effects on traffic, residences, and businesses. Haul routes for each staging area are identified in Table 4.6. Additional detail on haul routes is included in Section 7 of the *West Santa Ana Branch Transit Corridor Project Final Transportation Impact Analysis Report* (Metro 2024).

4.4 Excavated Materials

The amount of estimated excavated material from the I-710 tunnel, trenches, and foundations for structural elements was compared to estimated fill needs for the LPA to determine the excess or shortage of material needed to construct the LPA. Excess material will have to be placed in construction areas or disposed of at third-party site. Any material shortage will require obtaining additional soil from a borrowed site. Excess or borrowed material from either the construction of the LPA and/or other projects stored on Metro-owned land will require actions to prevent, reduce, or mitigate fugitive dust emissions as feasible, as identified in Rule 403 (Fugitive Dust) of the SCAQMD rules and regulations. The LPA is located in the Los Angeles County portion of the South Coast Air Basin, which is within the jurisdiction of the SCAQMD. These actions will include, but are not limited to, the application of water or chemical dust suppressants to stockpiled materials, covering stockpiled materials with plastic sheeting or tarps to protect from wind and weather, and/or applying speed limits near stockpiled materials to 15 mph or less, as well as controlling the number and activity of vehicles near stockpiled materials at any given time. These practices will reduce the amount of fugitive dust produced by the storage of the excess and/or borrowed material.

Table 4.7 lists the excavation and fill quantities estimated for the Project. Quantities are reported in a cubic yard unit. A complete geotechnical investigation program will be performed during the advancement of design. The calculations may be adjusted based on the results of the geotechnical investigation in order to refine the excavation quantity estimates.

Table 4.7. Excavation Calculations

Location	Cut (CY)	Fill (CY)	Truck Trips (10CY) ¹	Truck Trips (20CY) ²	Trucking Days (30 trips/day)	Trucking Days (60 trips/day)
LPA						
Slauson/A Line Station and Grade Separation	17,613	-	-	881	29	15
Randolph Street Grade Separation	774	39,968	3,997	39	135	67
San Pedro Subdivision Retaining Wall	1,760	1,006	101	88	6	3
South Gate Retaining Wall	670	383	39	34	2	1
Firestone Station and Grade Separation	1,936	151,929	15,193	97	510	255
Los Angeles River Abutment	18,324	33,317	3,332	917	142	71
Los Angeles River Piers	2,267	-	-	114	4	2
I-710 Undercrossing	11,375	-	-	569	19	9
Rio Hondo Channel Abutment	14,947	27,177	2,718	748	116	58
Rio Hondo Channel Piers	932	-	-	47	2	1
Imperial Highway/ Garfield Avenue Grade Separation	1,355	78,741	7,875	68	265	132
I-105 Bridge Abutments	1,197	4,633	464	60	17	9
I-105 Freight Bridge Abutments	-	3,843	385	-	13	6
San Pedro Subdivision and PEROW Grade Separation	2,711	-	-	136	5	2
Paramount/Rosecrans Station and Grade Separation	581	30,489	3,049	30	103	51
Paramount School Pedestrian Bridge	28	-	-	2	-	-
Downey Ave Grade Separation	-	41,720	4,172	-	139	70
Woodruff Ave/Flower St Grade Separation	581	53,177	5,318	30	178	89

4 Construction Methods/Affected Environment

Location	Cut (CY)	Fill (CY)	Truck Trips (10CY) ¹	Truck Trips (20CY) ²	Trucking Days (30 trips/day)	Trucking Days (60 trips/day)
San Gabriel River Abutment	-	30,634	3,064	-	102	51
San Gabriel River Piers	923	-	-	47	2	1
183rd/Gridley Road Grade Separation	581	50,283	5,029	30	169	84
TOTALS						
LPA	78,555	547,300	54,736	3,937	1,958	977

Source: WSP 2023

Notes: ¹ 10 CY Truck Trips correspond to fill quantities.

² 20 CY truck trips correspond to cut quantities using double-trailer trucks.

CY = cubic yards; LPA = Locally Preferred Alternative; PEROW = Pacific Electric Right-of-Way

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APPENDIX A UTILITY CONFLICT MATRIX

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
1	3200	LADWP	Water	6" DI	N/A	Slauson Avenue	UR-140	655+00 to 662+80	North	W108-213.pdf	Active	Relocate	POLB/POLA	Unknown	Impacted by encroaching UPRR track, MSE, and LRT track.
2	7200	Shell Oil	Oil	4"	N/A	Long Beach Blvd. / Slauson Ave / Randolph St	UR-140	655+00 to 666+00	North	Y-2627.pdf	Active	Protect In Place	POLB/POLA	Unknown	Proposed LRT is on the viaduct
3	2200	City of LA	Sewer	21" VCP	50	E 57th Street	UR-140	656+76	North	UNL-18581.pdf	Active	Protect In Place	POLB/POLA	Unknown	Grade separated.
4	3201	LADWP	Water	8" DI	N/A	Slauson Avenue	UR-140	662+52	North	W108-213.pdf	Active	Protect in Place	POLB/POLA	Unknown	N/A
5	1200	LACFCD	Storm Drain	36" RCA	N/A	Slauson Avenue	UR-140	662+94	North	Hooper Ave Drain.pdf, PDF page 67, 76	Active	Protect in Place	POLB/POLA	3.58'	Grade Separated. Vertical clearance from as-built.
6	5200	SCG	Natural Gas	10"	70	Slauson Avenue	UR-140	663+00	North	WAT 27 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study BA INC.pdf	Active	Protect in Place	POLB/POLA	Unknown	N/A
7	7201	Exxon Mobil	Oil	8"	100	Slauson Avenue	UR-140	663+66	North	22800356.pdf	Idle	Protect in Place	POLB/POLA	Unknown	Grade Separated. M-5 pipeline
8	7202	Exxon Mobil	Oil	4"	100	Slauson Avenue	UR-140	663+72	North	22800356.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	Grade Separated. M-7 pipeline
9	7203	Exxon Mobil	Oil	8"	100	Slauson Avenue	UR-140	663+73	North	22800356.pdf	Idle	Protect in Place	POLB/POLA	Unknown	Grade Separated. M-5 pipeline
10	6200	AT&T	Telecom (UG)	8 MTD	100	Slauson Avenue	UR-140	663+73	North	M-3.pdf	Active	Protect in Place	POLB/POLA	Unknown	Grade Separated.
11	6201	Zayo	Fiber Optic (UG)	Unknown	100	Slauson Avenue	UR-140	664+16	North	CA-12 CA-13.docx	Active	Protect in Place	POLB/POLA	Unknown	Grade Separated.
12	3202	Golden State Water	Water	12" DI in 24" Casing	100	Slauson Avenue	UR-140	664+31	North	22800356.pdf	Active	Protect in Place	POLB/POLA	Unknown	Grade Separated.
13	3203	Golden State Water	Water	6" CI in Casing	100	Slauson Avenue	UR-140	664+37	North	22800356.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	Grade Separated.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
14	1201	LACFCD	Storm Drain	60" RCA	N/A	Slauson Avenue	UR-140	665+00 to 662+94	North	Hooper Ave Drain.pdf, PDF page 67, 76	Active	Protect in Place	POLB/POLA	4.65'	Grade Separated. Vertical clearance from as-built.
15	6202	MCI Verizon	Fiber Optic (UG)	Unknown	100	Slauson Avenue	UR-140		North	Capture1.png	Active	Protect in Place	POLB/POLA	Unknown	Potential leasing from Zayo or AT&T duct.
16	6203	Sprint	Fiber Optic (UG)	2-4"	N/A	Long Beach Blvd / Randolph St / Alameda St	UR-140 to UR-143	655+00 to 672+20	North	NTWRK418-00-000-881-00325-01 Long Beach at 57th.pdf	Active	Protect in Place	POLB/POLA	Unknown	Grade Separated and remained clearance away from realignment of UPRR rail. Only using 1 conduit.
17	6204	MCI Verizon / Zayo	Fiber Optic (UG)	Unknown	2700.0	Long Beach Blvd / Randolph St / Welmington Ave	UR-140 to UR-143	655+00 to 682+00	North		Active	Protect in Place	POLB/POLA	Unknown	Potential leasing from Zayo or Sprint duct.
18	6205	Zayo	Fiber Optic (UG)	Unknown	N/A	Long Beach Blvd / Randolph St / Welmington Ave	UR-140 to UR-143	655+00 to 682+00	North	CA-12 CA-13.docx	Active	Protect in Place	POLB/POLA	Unknown	N/A
19	3204	Golden State Water	Water	6" CI	80	Randolph / Holmes St	UR-142	675+24	North	22800139 - Randolph to Gage-Holmes.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	N/A
20	3205	Golden State Water	Water	12" DI in 24" casing	80	Randolph / Holmes St	UR-142	675+24	North	22800333 - Randolph to Slauson-Holmes.pdf	Active	Relocate	POLB/POLA	12'	Vertical Clearance from As-built
21	5201	SCG	Natural Gas	4"	80	Randolph / Holmes St	UR-142	675+24	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	Grade Separated.
22	7204	Shell Oil	Oil	4"	80	Randolph / Holmes St	UR-142	675+29	North	Y-2626.pdf	Active	Protect in Place	POLB/POLA	Unknown	Grade Separated.
23	2201	LACPWD (SMD)	Sewer	8" VCP	80	Randolph / Holmes St	UR-142	675+75	North	1_Map 5-PDF.pdf	Active	Further Evaluation Needed	POLB/POLA	11.5'	Grade Separated. Vertical clearance from GPR. Utility found in Golden state asbuilt.
24	6206	AT&T	Telecom (UG)	2"	92	Randolph / Holmes St	UR-142	675+96	North	WSAB - ATT MAPS.pdf, PDF page 2	Active	Relocate	POLB/POLA	Unknown	Grade Separated.
25	5202	SCG	Natural Gas	2"	80	Randolph / Holmes St	UR-142	676+05	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	N/A
26	5203	SCG	Natural Gas	4"	80	Randolph / Holmes St	UR-142	676+05	North	WAT 15 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study, BA INC.pdf	Active	Relocate	POLB/POLA	4.84'	Grade Separated. Vertical clearance from GPR.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
27	3206	Golden State Water	Water	8" CI	90	Randolph / Welmington Ave	UR-142	681+96	North	Overview Randolph Wilmington to Alameda.JPG	Active	Relocate	POLB/POLA	Unknown	N/A
28	4200	SCE	Power OH	16 kV	178	Randolph / Welmington Ave	UR-142	682+00	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
29	5204	SCG	Natural Gas	4"	90	Randolph / Welmington Ave	UR-142	682+06	North	M-3.pdf	Abandoned	Protect In Place	POLB/POLA	Unknown	N/A
30	5205	SCG	Natural Gas	12"	90	Randolph / Welmington Ave	UR-142	682+12	North	M-3.pdf	Abandoned	Protect In Place	POLB/POLA	Unknown	N/A
31	2202	LACPWD	Sewer	8" VCP	90	Randolph / Welmington Ave	UR-142	682+47	North	M-3.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
32	5206	SCG	Natural Gas	8"	90	Randolph / Welmington Ave	UR-142	682+52	North	WAT 15 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study BA INC.pdf	Active	Protect In Place	POLB/POLA	Unknown	N/A
33	6207	Sprint	Fiber Optic (UG)	2-4"	N/A	Holmes St / Randolph St / Alameda St	UR-142 to UR-143	676+20 to 688+25	North	NTWRK418-00-000-881-00327-01 Randolph at Holmes.pdf, NTWRK418-00-000-881-00327-02 Randolph at Alameda.pdf	Active	Relocate	POLB/POLA	Unknown	Impacted by encroaching UPRR track, MSE, and LRT track.
34	4201	SCE	Power OH	Guy Wire	N/A	Randolph / Alameda	UR-143	686+00	North	Visual	Active	Further Evaluation Needed	POLB/POLA	Unknown	Guy Pole and wire impacted by the UPRR alignment.
35	4202	SCE	Power OH	16 kV	134	Randolph / Alameda	UR-143	686+98	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
36	2203	LACPWD (SMD)	Sewer	8"	73	Randolph / Alameda	UR-143	686+98	North	M-3.pdf	Active	Further Evaluation Needed	POLB/POLA	9'	Vertical clearance from GPR.
37	5207	SCG	Natural Gas	4"	73	Randolph / Alameda	UR-143	687+05	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	4.25'	Vertical clearance from GPR.
38	3207	Golden State Water	Water	10" CI	73	Randolph / Alameda	UR-143	687+12	North	Overview Randolph Wilmington to Alameda.JPG	Active	Relocate	POLB/POLA	4.42'	Vertical clearance from GPR.
39	5208	SCG	Natural Gas	16"	73	Randolph / Alameda	UR-143	687+17	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	3'	Vertical clearance from GPR.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
40	6208	Zayo	Fiber Optic	Unknown	73	Randolph / Alameda	UR-143	687+19	North	CA-12 CA-13.docx	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
41	6209	Century Link / Level 3	Fiber Optic	Unknown	73	Randolph / Alameda	UR-143	687+19	North	Utility Map 1.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
42	5209	Exxon Mobil	Gasoline	6"	73	Randolph / Alameda	UR-143	687+23	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	N/A
43	5210	SCG	Natural Gas	8"	73	Randolph / Alameda	UR-143	687+32	North	M-3.pdf	Abandoned	Protect in Place	POLB/POLA	6'	Vertical clearance from GPR.
44	7205	Plains All American Pipeline	Oil	20"	73	Randolph / Alameda	UR-143	687+36	North	BA Inc. - West Santa Ana Branch Transit Corridor.pdf, PDF page 13	Active	Relocate	POLB/POLA	9'	Vertical clearance from as-built.
45	5211	SCG	Natural Gas	16" in 24" Casing	64	Randolph / Alameda	UR-143	688+41	North	WAT 15 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study, BA INC.pdf	Active	Protect In Place	POLB/POLA	4.84'	Vertical clearance from GPR.
46	3208	City of Huntington Park	Water	10"	60	Randolph / Alameda	UR-143	688+41	North	HP_WTR_4.JPG	Active	Relocate	POLB/POLA	5.75'	Vertical clearance from GPR.
47	2204	LACSD	Sewer	42" VCP	64	Alameda / Randolph / Rugby Ave	UR-143 to UR-146	688+28 to 720+00	North	JO-P-0080 Alameda Randolph.pdf, PDF page 2	Active	Relocate	POLB/POLA	14.9'	Vertical clearance from as-built. Impacted by the UPRR rail realignment.
48	3209	City of Huntington Park	Water	10"	N/A	Randolph / Regent Street	UR-144	695+22	North	HP_WTR_9-2.JPG	Active	Relocate	POLB/POLA	Unknown	N/A
49	1202	LACFCD	Storm Drain	75" RCP	57	Randolph / Albany St	UR-145	701+52	North	BI 0001 -U1.pdf, PDF page 80 & 81	Active	Protect in Place	POLB/POLA	7.4'	Vertical clearance from as-built.
50	4203	SCE	Power OH	16 KV	108	Randolph / Albany St	UR-145	701+63	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
51	2205	City of Huntington Park	Sewer	8" VCP	108	Randolph / Albany St	UR-145	702+00	North	HP_SS_6 RANDOLPH ALBURY.JPG	Active	Further Evaluation Needed	POLB/POLA	9'	Invert and rim elevation per record set drawing.
52	5212	SCG	Natural Gas	3"	108	Randolph / Albany St	UR-145	702+15	North	WAT 16 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study, BA INC.pdf	Active	Relocate	POLB/POLA	Unknown	N/A

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
53	4204	SCE	Power OH	4.16 kV	163	Randolph / Santa Fe Ave	UR-145	708+50	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
54	6210	AT&T	Telecom (UG)	17 MTD	42	Randolph / Santa Fe Ave	UR-145	708+59	North	WSAB - ATT MAPS.pdf, PDF page 4	Active	Further Evaluation Needed	POLB/POLA	2.84'	Vertical clearance from GPR.
55	6211	Crown Castle	Fiber Optic (UG)	1 line	42	Randolph / Santa Fe Ave	UR-145	708+59 or 708+67	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 16	Active	Further Evaluation Needed	POLB/POLA	Unknown	Potentially leasing a line from AT&T substructure.
56	3210	City of Huntington Park	Water	12"	60	Randolph / Santa Fe Ave	UR-145	708+61	North	HP_WTR_10.JPG	Active	Relocate	POLB/POLA	3.42'	Vertical clearance from GPR.
57	6212	AT&T	Telecom (UG)	6MTD	42	Randolph / Santa Fe Ave	UR-145	708+67	North	WSAB - ATT MAPS.pdf, PDF page 4	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
58	3211	City of Huntington Park	Water	12"	60	Randolph / Santa Fe Ave	UR-145	708+86	North	HP_WTR_10.JPG	Active	Relocate	POLB/POLA	4.42'	Vertical clearance from GPR.
59	7206	Torrance / PBF Energy	Oil	12" in 16" Casing	60	Randolph / Santa Fe Ave	UR-145	709+04	North	4-A-2129.pdf	Active	Further Evaluation Needed	POLB/POLA	5'	Vertical clearance from as-built
60	5213	SCG	Natural Gas	2"	60	Randolph / Santa Fe Ave	UR-145	709+04	North	WAT 16 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study, BA INC.pdf	Active	Relocate	POLB/POLA	Unknown	N/A
61	6213	AT&T	Telecom (UG)	36 MTD in 48" Casing	66	Randolph / Santa Fe Ave	UR-145	709+19	North	WSAB - ATT MAPS.pdf, PDF page 4	Active	Further Evaluation Needed	POLB/POLA	8'	Vertical clearance from as-built. Possible conflict with gate arm.
62	6214	MCI Verizon	Fiber Optic (OH)	1 Line	163	Randolph / Santa Fe Ave	UR-145	709+25	North	674-H6-EXT.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
63	6215	Crown Castle	Fiber Optic (OH)	2 lines	163	Randolph / Santa Fe Ave	UR-145	709+25	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 16	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
64	4205	SCE	Power (OH)	16 kV	163	Randolph / Santa Fe Ave	UR-145	709+27	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Power pole is impacted by the UPRR alignment.
65	6216	MCI Verizon	Fiber Optic (UG)	Unknown	66	Randolph / Santa Fe Ave	UR-145		North	Capture1.png	Active	Further Evaluation Needed	POLB/POLA		Potential leasing from AT&T.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
66	3212	City of Huntington Park	Water	8"	N/A	Randolph / Malabar	UR-146	716+37	North	HP_WTR_16.JPG	Active	Relocate	POLB/POLA	4.58'	Vertical clearance from GPR.
67	4206	SCE	Power UG?	4.16 kV	N/A	Randolph / Rugby Ave	UR-146	720+20	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Need to verify of its existance
68	2206	LACSD	Sewer	42" VCP	64	Pacific Blvd / Randolph / Stafford Ave	UR-146 to UR-148	720+00 to 736+00	North	JO-P-0080 Alameda_Randolph.pdf, PDF page 2	Active	Relocate	POLB/POLA	14.9'	Vertical clearance from as-built. Impacted by the UPRR rail realignment.
69	3213	City of Huntington Park	Water	16"	70	Randolph / Pacific Ave	UR-147	724+27	North	HP_WTR_26.JPG	Active	Relocate	POLB/POLA	3.33'	Vertical clearance from GPR.
70	5214	SCG	Natural Gas	6"	70	Randolph / Pacific Ave	UR-147	724+76	North	WAT 16 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study BA INC.pdf	Active	Relocate	POLB/POLA	Unknown	N/A
71	6217	AT&T	Telecom (UG)	2 MTD	72	Randolph / Rita Ave	UR-147	728+23	North	WSAB - ATT MAPS.pdf, PDF page 5	Active	Relocate	POLB/POLA	Unknown	N/A
72	4207	SCE	Power UG	4.16 kV	N/A	Randolph / Rita Ave	UR-147	728+37	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Need to verify of its existance
73	2207	City of Huntington Park	Sewer	15" VCP	50	Randolph / Rita Ave	UR-147	728+47	North	HP_SS_08.JPG	Active	Further Evaluation Needed	POLB/POLA	16'	Vertical clearance from invert to manhole in record set drawings.
74	1203	City of Huntington Park	Storm Drain	63" RCP	N/A	Randolph / Seville	UR-148	732+14	North	JO-P-0079 Alameda_Rudolp_Cedar.pdf, PDF page 3	Active	Protect in Place	POLB/POLA	5.58'	Vertical clearance from Sewer as-built.
75	3214	City of Huntington Park	Water	8"	80	Randolph / Seville	UR-148	732+40	North	HP_WTR_35.JPG	Active	Relocate	POLB/POLA	4.08'	Vertical clearance from GPR.
76	2208	LACSD	Sewer	42" VCP	64	Stafford Ave / Randolph / Arbutus Ave	UR-148 to UR-150	736+00 to 756+00	North	JO-P-0080 Alameda_Randolph.pdf, PDF page 2	Active	Relocate	POLB/POLA	14.9'	Vertical clearance from as-built. Impacted by the UPRR rail realignment.
77	4208	SCE	Power OH	Guy Wire	150	Randolph / Miles Ave	UR-149	741+96	North	Visual	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
78	4209	SCE	Power OH	4.16 & 16 kV	173	Randolph / Miles Ave	UR-149	742+29	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
79	4210	SCE	Power OH	Guy Wire	187	Randolph / Miles Ave	UR-149	742+79	North	Visual	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
80	3215	City of Huntington Park	Water	12"	50	Randolph / Miles Ave	UR-149	742+92	North	HP_WTRR_35.JPG	Active	Relocate	POLB/POLA		N/A
81	5215	SCG	Natural Gas	4"	41	Randolph / Passaic St	UR-150	751+08	North	WAT 17 43-2016-12-00099 West Santa Ana Branch Transit Corridor Environmental Study_BA INC.pdf	Active	Relocate	POLB/POLA	Unknown	N/A
82	6218	AT&T	Telecom (UG)	1 DU	50	Randolph / Arbutus Ave	UR-150	755+38	North	WSAB - ATT MAPS.pdf, PDF page 7	Active	Relocate	POLB/POLA	Unknown	N/A
83	4211	SCE	Power OH	16 kV	117	Randolph / Arbutus Ave	UR-150	755+84	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
84	6219	Crown Castle	Fiber Optic (OH)	1 line	65	Randolph / Arbutus Ave	UR-150	755+91	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 15	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
85	5216	SCG	Natural Gas	6"	63	Randolph / State St	UR-151	762+35	North	1 Map 5-PDF.pdf, PDF page 4	Active	Further Evaluation Needed	POLB/POLA	5.33'	Vertical clearance from GPR. GPR shows as telecom.
86	6220	AT&T	Telecom (UG)	11 MTD	65	Randolph / State St	UR-151	762+36	North	WSAB - ATT MAPS.pdf, PDF page 8	Active	Further Evaluation Needed	POLB/POLA	5.33'	Vertical clearance from GPR.
87	4212	SCE	Power OH	16 & 66 kV	175	Randolph / State St	UR-151	762+40	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
88	6221	MCI Verizon	Fiber Optic (OH)	Unknown	65	Randolph / State St	UR-151	762+42	North	Capture1.png	Active	Further Evaluation Needed	POLB/POLA	Unknown	Only 1 line visible. Potentially for future installation.
89	6222	Crown Castle	Fiber Optic (OH)	1 line	65	Randolph / State St	UR-151	762+42	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 15	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
90	3216	City of Huntington Park	Water	12"	63	Randolph / State St	UR-151	762+50	North	HP_WTR_48.JPG	Active	Relocate	POLB/POLA	4.84'	Vertical clearance from GPR.
91	5217	SCG	Natural Gas	10"	63	Randolph / State St	UR-151	762+55	North	1 Map 5-PDF.pdf, PDF page 4	Active	Relocate	POLB/POLA	4.84'	Vertical clearance from GPR. GPR shows as water.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
92	2209	City of Huntington Park	Sewer	10" VCP	65	Randolph / State St	UR-151	762+64	North	HP_SS_17.JPG	Active	Further Evaluation Needed	POLB/POLA	13.67'	Vertical clearance is from manhole invert to lid per record set drawings.
93	3217	Central Basin Municipal Water District (Reclaimed)	Reclaim Water	18" DI in 30" Casing	54	Randolph / State St	UR-151	762+86	North	RMC 1010_12-52.pdf	Active	Further Evaluation Needed	POLB/POLA	5.15'	Vertical clearance from as-built
94	4213	SCE	Power OH	16 & 2 - 66 kV	N/A	Randolph/ UPRR/	UR-153	784+00 to 786+20	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Potential impact to the viaduct. The Pole is 7' from edge of Right of Way and northern edge of Viaduct.
95	1204	LACFCD	Storm Drain	Double 8'-0"H x 4'-9"W RCB	129	Randolph / Alcoa	UR-152	775+93	North	BI 0001 -U1 Line B.pdf, PDF page 39	Active	Further Evaluation Needed	POLB/POLA	8.7'	Vertical clearance from as-built. Approaching limits of transitional structure.
96	2210	LACSD	Sewer	24" VCP	118	Randolph / Alcoa	UR-152	776+86	North	01-D-0083 Alcoa Randolph Salt Lake Florence.pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	16.5'	Vertical clearance from as-built. Special Concrete Bed R/W to R/W.
97	2211	LACSD	Sewer	24" VCP In 45" Jack casing.	118	Randolph / Alcoa	UR-152	776+16	North	01-P-0015 Relief Alcoa Randolph.pdf, PDF page 2	Active	Further Evaluation Needed	POLB/POLA	15.7'	Vertical clearance from as-built. Approaching limits of jack casing encroachment.
98	4214	LADWP-PS	Power OH	230 kV	118	Randolph / Bissell St	UR-153	781+29	North	California Electric Infrastructure App California Energy Commission (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
99	5218	SCG	Natural Gas	26"	98	Randolph / Bissell St	UR-153	781+88	North	0959-22-765 2003 MAP.pdf, PDF page 1	Active	Protect in Place	POLB/POLA	Unknown	N/A
100	3218	Central Basin Municipal Water District (Reclaimed)	Reclaim Water	18" in 30" Steel Casing	80	Randolph / UPRR R/W	UR-154	788+78	North	RMC 1009_13-105.pdf	Active	Protect In Place	POLB/POLA	7.2'	Vertical clearance from as-built
101	4215	SCE	Power OH	16 & 2 - 66 kV	150	Randolph / UPRR R/W	UR-154	789+18	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	POLB/POLA	Unknown	N/A
102	6223	AT&T	Telecom (UG)	1 Bur	N/A	Randolph/ UPRR/	UR-154	789+30 to 789+35	North	WSAB - ATT MAPS.pdf, PDF page 3	Active	Relocate	POLB/POLA	2.5'	Vertical clearance from asbuilt.
103	5219	SCG	Natural Gas	26"	N/A	Randolph / UPRR/	UR-154 to UR-168	790+00 to 917+00	North	BI 0001 -U1.pdf (SD AB), JO-P-0085 (SS AB), DC-86 & DC-85 (Subst Map)	Abandoned?	Protect in Place	POLB/POLA	Unknown	N/A
104	4216	SCE	Power UG	16 kV in 20" Casing	76	Salt Lake Ave / Gage	UR-156	800+55	North	DOC000.pdf, PDF Page 1	Active	Further Evaluation Needed	POLB/POLA	2.83'	Vertical clearance from GPR.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
105	5220	SCG	Natural Gas	6"	76	Salt Lake Ave / Gage	UR-156	800+75	North	2 Map 5-PDF.pdf, PDF page 5	Active	Relocate	POLB/POLA	Unknown	Not found in GPR.
106	3219	Golden State Water	Water	12" DI in 20" Casing	81	Salt Lake Ave / Gage	UR-156	801+20	North	22700144.pdf	Active	Protect in Place	POLB/POLA	4.5'	Minimum clearance per as-built.
107	3220	Golden State Water	Water	8" DI in 18" Casing	81	Salt Lake Ave / Gage	UR-156	801+31	North	227-85-256.pdf	Active	Protect in Place	POLB/POLA	4.5'	Minimum clearance per as-built.
108	3221	Golden State Water	Water	8"	81	Salt Lake Ave / Gage	UR-156	801+97	North	227-2043.pdf	Abandoned	Protect in Place	POLB/POLA	Unknown	N/A
109	6224	MCI Verizon	Telecom (F)	Unknown	76	Salt Lake Ave / Gage	UR-156		North	Capture1.png	Future Proposed	Relocate	POLB/POLA	Unknown	Potential future proposed.
110	6225	AT&T	Telecom (UG)	12 MTD	81	Salt Lake Ave / Bell Avenue	UR-157	814+03	North	WSAB - ATT MAPS.pdf, PDF page 10	Active	Further Evaluation Needed	POLB/POLA	4.42'	Vertical clearance from GPR.
111	6226	Spectrum	Telecom (UG)	1 con	81	Salt Lake Ave / Bell Avenue	UR-157	814+04	North	Map 16.pdf	Active	Further Evaluation Needed	POLB/POLA	3.08	Vertical clearance from GPR.
112	6227	AT&T	Telecom (UG)	8 MTD	81	Salt Lake Ave / Bell Avenue	UR-157	814+14	North	WSAB - ATT MAPS.pdf, PDF page 10	Active	Further Evaluation Needed	POLB/POLA	5.58'	Vertical clearance from GPR.
113	5221	SCG	Natural Gas	6"	81	Salt Lake Ave / Bell Avenue	UR-157	814+18	North	2 Map 5-PDF.pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	4.58'	Vertical clearance from GPR.
114	6228	Crown Castle	Telecom (UG)	1 line	81	Salt Lake Ave / Bell Avenue	UR-157	814+18	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx	Active	Further Evaluation Needed	POLB/POLA		Potential leased line from AT&T
115	3222	Golden State Water	Water	12" CI in casing	81	Salt Lake Ave / Bell Avenue	UR-157	814+67	North	227-2043.pdf	Active	Relocate	POLB/POLA		N/A
116	4217	SCE	Power OH	4.16 & 16 kV	174	Salt Lake Ave / Florence Ave	UR-159	829+92	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
117	6229	MCI Verizon	Fiber Optic (UG)	Unknown	90	Salt Lake Ave / Florence Ave	UR-159	829+93	North	Capture1.png	Active	Further Evaluation Needed	POLB/POLA	Unknown	Potential leasing AT&T duct.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
118	6230	AT&T	Telecom (UG)	4-4"	90	Salt Lake Ave / Florence Ave	UR-159	829+93	North	WSAB - ATT MAPS.pdf, PDF page 11	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
119	1205	LACFCD	Storm Drain	10'-9"H x 7'-0" RCB	101	Salt Lake Ave / Florence Ave	UR-159	830+08	North	BI 0001 -U1 Line B.pdf, PDF page 34	Active	Further Evaluation Needed	POLB/POLA	6.8'	Vertical clearance from as-built
120	3223	City of Huntington Park	Water	16"	80	Salt Lake Ave / Florence Ave	UR-159	830+64	North	HP_WTR_81.JPG	Active	Relocate	POLB/POLA	7.33'	Vertical clearance from GPR.
121	6231	MCI Verizon	Fiber Optic (OH)	1 line	410	Salt Lake Ave / Florence Ave	UR-159	831+03	North	Capture1.png	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
122	3224	City of Huntington Park	Water	12"	80	Salt Lake Ave / Florence Ave	UR-159	831+57	North	HP_WTR_81.JPG	Active	Relocate	POLB/POLA	Unknown	Impacted by the Florence Station.
123	3225	City of Huntington Park	Water	12"	80	Salt Lake Ave / Florence Ave	UR-159	832+62	North	HP_WTR_81.JPG	Active	Relocate	POLB/POLA	Unknown	Impacted by the Florence Station.
124	4218	SCE	Power OH	16 kV	165	Randolph Walnut St	UR-159	833+45	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Potential conflict with the Florence Station canopy.
125	7207	Marathon Pipeline	Oil	4"	100	Randolph Walnut St	UR-157 to UR-159	833+98	North	Line_027A.pdf, BI 0001 - U1 (Storm Drain As-built)	Active	Relocate	POLB/POLA		In conflict with proposed station and realignment of UPRR.
126	1206	LACFCD	Storm Drain	39" RCP	103	Salt Lake Ave / Live Oak St	UR-160	841+51	North	BI 0001 -U1 Line B.pdf, PDF page 49	Active	Further Evaluation Needed	POLB/POLA	9'	Vertical clearance from as-built
127	4219	SCE	Power OH	66 kV	223	Salt Lake Ave / Grand Ave	UR-161	852+56	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
128	1207	LACFCD	Storm Drain	30" RCP	134	Salt Lake Ave/ Olive St	UR-162	859+29	North	BI 0001 -U1 Line B.pdf, PDF page 48	Active	Further Evaluation Needed	POLB/POLA	12'	Vertical clearance from as-built
129	6232	AT&T	Telecom (UG)	6 DU	100	Salt Lake Ave / Otis Ave	UR-163	868+90	North	WSAB - ATT MAPS.pdf, PDF page 11	Active	Further Evaluation Needed	POLB/POLA	Unknown	N/A
130	4220	SCE	Power UG	16 kV	99	Salt Lake Ave / Broadway Ave	UR-163	869+09	North	DOC000.pdf, PDR page 9	Active	Protect in Place	POLB/POLA	Unknown	N/A

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
131	1208	LACFCD	Storm Drain	30" RCP	134	Salt Lake Ave / Broadway Ave	UR-163	869+25	North	BI 0001 -U1 Line B.pdf, PDF page 47	Active	Further Evaluation Needed	POLB/POLA	11.4'	Vertical clearance from as-built.
132	4221	SCE	Power UG	16 kV in Casing	99	Salt Lake Ave / Otis Ave	UR-163	869+26	North	DOC000.pdf, PDR page 9	Active	Protect in Place	POLB/POLA		N/A
133	4222	SCE	Power OH	16 kV	258	Salt Lake Ave / Otis Ave	UR-163	869+45	North	Southern California Edison DRPEP (sce.com)	Active	Relocate	POLB/POLA	Unknown	N/A
134	6233	Crown Castle	Telecom (OH)	1 line	258	Salt Lake Ave / Otis Ave	UR-163	869+46	North	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, PDF page 14	Active	Relocate	POLB/POLA	Unknown	N/A
135	4223	SCE	Power OH	Power Pole	N/A	Salt Lake Ave / Otis Ave	UR-163	869+50	North	Topo	Active	Relocate	POLB/POLA		N/A
136	4224	SCE	Power OH	16 kV	460	Salt Lake Ave / Broadway Ave	UR-163	869+59	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA		N/A
137	4225	SCE	Power UG	4.16 kV	80	Salt Lake Ave / Otis Ave	UR-163	872+54	North	DOC000.pdf, PDR page 10	Active	Further Evaluation Needed	POLB/POLA	Unknown	No visual on the vault
138	4226	SCE	Power OH	Guy Wire	237	Salt Lake Ave / Santa Ana St	UR-164	879+03	North	Visual	Active	Protect In Place	POLB/POLA		
139	5222	SCG	Natural Gas	30"	110	Salt Lake Ave / Santa Ana St	UR-164	879+32	North	0959-22-765 2003 MAP.pdf, PDF page 3	Active	Protect In Place	POLB/POLA		
140	5223	SCG	Natural Gas	26"	110	Salt Lake Ave / Santa Ana St	UR-164	879+42	North	0959-22-765 2003 MAP.pdf, PDF page 3	Active	Further Evaluation Needed	POLB/POLA		
141	2212	LACSD	Sewer	24" VCP	163	Salt Lake Ave / Santa Ana St	UR-164	879+43	North	01-D-0027 Randolph Rita Salt Lake Atlantic.pdf, PDF page 3	Active	Further Evaluation Needed	POLB/POLA	13.4'	Vertical clearance from as-built. Special Concrete Bed R/W to R/W.
142	1209	LACFCD	Storm Drain	Double 8'-6"H x 7'-9"W RCB	148	Salt Lake Ave / Santa Ana St	UR-164	880+00	North	East Compton Creek Drainage.pdf, PDF page 77, 78	Active	Further Evaluation Needed	POLB/POLA	4.2'	Vertical clearance from as-built
143	5224	SCG	Natural Gas	4" HP	80	Salt Lake Ave / Santa Ana St	UR-165	884+06	North	JO-P-0085 Florence Salt Lake Atlantic Wright.pdf, PDF page 3 (SS AB)	Abandoned	Protect in Place	POLB/POLA	Unknown	Found in Sewer Trunk as-built.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
144	2213	LACSD	Sewer	36" VCP	112	Salt Lake Ave / Cecilia St	UR-165	886+15	North	JO-P-0085 Florence Salt Lake Atlantic Wright.pdf, PDR page 3	Active	Further Evaluation Needed	POLB/POLA	9.4'	Vertical clearance from as-built.
145	1210	LACFCD	Storm Drain	30" RCP	82	Salt Lake Ave / Cecilia St	UR-165	887+07	North	JO-P-0085 Florence Salt Lake Atlantic Wright.pdf, PDR page 3	Active	Further Evaluation Needed	POLB/POLA	Unknown	
146	6234	MCI Verizon	Telecom (F)	Unknown	Unk	Salt Lake Ave / Santa Ana St	UR-165		North	Capture1.png	Future Proposed	Unknown	POLB/POLA	Unknown	
147	1211	LACFCD	Storm Drain	24" RCP	N/A	Salt Lake Ave / Andine St	UR-167	902+10	North	East Compton Creek Drainage.pdf, PDF page 68	Active	Further Evaluation Needed	POLB/POLA	5.6'	Vertical clearance from as-built
148	4227	SCE	Power OH	16" kV	181	Salt Lake Ave / Andine St	UR-167	902+32	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
149	3226	Central Basin Municipal Water District (Reclaimed)	Reclaim Water	10" in 18" Casing	123	Salt Lake Ave / Andine St	UR-167	902+35	North	RMC 1008 3-15.pdf	Active	Protect in Place	POLB/POLA	20'	Vertical clearance from as-built
150	3227	City of South Gate	Water	10" CI	134	Salt Lake Ave / Andine St	UR-167	902+47	North	Water Atlas Book Complete.pdf	Active	Relocate	POLB/POLA	4.92'	Vertical clearance from GPR.
151	1212	LACFCD	Storm Drain	51" RCP	88	Salt Lake Ave / Southern Pacific RR	UR-168	911+00	North	BI 7850 - Unit 3.pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	3.6'	Vertical clearance from as-built.
152	2214	LACSD	Sewer	36" RCP	99	Salt Lake Ave / Patata St	UR-168	911+12	North	JO-P-0085 Florence Salt Lake Atlantic Wright.pdf, PDR page 2	Active	Further Evaluation Needed	POLB/POLA	9.5'	Vertical clearance from as-built.
153	6235	MCI Verizon	Fiber Optic (UG)	Unknown	121	Salt Lake Ave / Patata St	UR-168	912+86	North	Capture1.png	Active	Further Evaluation Needed	POLB/POLA	9.5'	Potential leasing from sprint.
154	6236	Sprint	Fiber Optic (UG)	2-4"	121	Salt Lake Ave / Patata St	UR-168	912+86	North	NTWRK418-00-000-881-00336-01 BNSF cross UPRR at Salt Lake and Atlantic.pdf	Active	Relocate	POLB/POLA	4'	Vertical clearance from as-built.
155	7208	Marathon Pipeline	Oil	6"	135	Salt Lake Ave / Patata St	UR-168	913+35	North	Line 077.pdf, JP-O-0085 (SS As-Built)	Active	Relocate	POLB/POLA		Utility Alignment comes from sewer as-built.
156	2215	LACSD	Sewer	27" VCP	135	Atlantic Ave	UR-168	915+72	North	01-P-0057 (AB 0040) Atlantic Wright.pdf, PDF page 3	Active	Protect in Place	POLB/POLA	11.89'	Utility Alignment comes from sewer as-built. Extra Heavy RCP and Special Bedding within the UPRR RW. Grade Separated.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
157	3228	Central Basin Municipal Water District (Reclaimed)	Reclaim Water	18" in 30" Steel Casing	135	Atlantic Ave	UR-168	915+93	North	RMC 1007_8-35.pdf	Active	Protect in Place	POLB/POLA	13.8'	Utility Alignment comes from sewer as-built.
158	5225	SCG	Natural Gas	26" in 36" Casing	135	Atlantic Ave	UR-168	916+18	North	3 Map 4PDF.pdf, PDF page 1	Active	Protect In Place	POLB/POLA		
159	5226	SCG	Natural Gas	6" in 12" PE casing	135	Atlantic Ave	UR-168	916+34	North	3 Map 4PDF.pdf, PDF page 1	Active	Relocate	POLB/POLA	3.66'	Vertical clearance from GPR.
160	7209	Richfield	Oil	4"	135	Atlantic Ave	UR-168	916+51	North	RMC 1007_8-35.pdf(Recl Water As-Built)	Idle	Relocate	POLB/POLA		
161	7210	Marathon Pipeline	Oil	4"	135	Atlantic Ave	UR-168	916+69	North	Line_027A.pdf, JO-P-0085 (SS As-Built)	Active	Relocate	POLB/POLA	5'	Utility Alignment comes from sewer as-built. Vertical clearance from GPR.
162	2216	LACSD	Sewer	18" RCP	80	Neville Ave	UR-169	923+92	North	01-P-0032 UPRR Neville.pdf, PDF page 2	Active	Further Evaluation Needed	POLB/POLA	12.0'	Vertical clearance from as-built. Grade Separated.
163	7211	Crimson Pipeline	Oil	6" in 12" Casing	80	Neville Ave	UR-169	923+96	North	46-024_REV1-Util.pdf	Active	Protect in place	POLB/POLA	4.58'	Vertical clearance from as-built.
164	7212	Crimson Pipeline	Oil	8" in 14" Casing	80	Neville Ave	UR-169	923+98	North	46-024_REV1-Util.pdf	Active	Protect in place	POLB/POLA	4.33'	Vertical clearance from as-built.
165	7213	Crimson Pipeline	Oil	12" Casing	80	Neville Ave	UR-169	924+00	North		Abandoned	Protect in Place	POLB/POLA	3.5'	Vertical clearance from as-built.
166	3229	City of South Gate	Water	10" CI	80	Neville Ave	UR-169	924+07	North	Water Atlas Book Complete.pdf, PDF page 19	Active	Relocate	POLB/POLA	Unknown	
167	2217	LACSD	Sewer	21" VCP in 42" casing	79	Neville Ave	UR-169	924+13	North	01-P-0019 UPRR Neville.pdf, PDF page 2	Active	Protect in place	POLB/POLA	10.6'	Vertical clearance from as-built. Grade Separated.
168	6237	AT&T	Telecom (UG)	2 DU	95	Firestone Blvd	UR-171	933+36	North	WSAB Map - AERIAL FACILITIES.pdf, PDF page 2	Active	Further Evaluation Needed	POLB/POLA	Unknown	
169	6238	Spectrum	Telecom (UG)	1 line	95	Firestone Blvd	UR-171	933+36	North	Map 13.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	Potential leasing line from AT&T

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
170	5227	SCG	Natural Gas	4" in 6" casing	84	Firestone Blvd	UR-171	934+46	North	3 Map 4PDF.pdf, PDF page 2	Active	Relocate	POLB/POLA	3.84'	Vertical clearans is from GPR
171	4228	SCE	Power UG	16 kV in 20" Casing	126	Firestone Blvd	UR-171	935+00	North	Southern California Edison DRPEP (sce.com)	Active	Protect In Place	POLB/POLA	17.33'	Vertical clearans is from GPR
172	6239	Spectrum	Telecom (OH)	1 line	317	Rayo Ave	UR-172	944+78	North	Map 13.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	Pole impacted by the northbound LRT track.
173	7214	Plains All American Pipeline	Fuel	6"	68	Rayo Ave	UR-172	944+79	North	BA Inc. - West Santa Ana Branch Transit Corridor.pdf, PDF page 11	Idle	Remove	POLB/POLA	Unknown	
174	2218	City of South Gate	Sewer	15" VCP in 16" 36" Casing	86	Rayo Ave	UR-172	944+92	North	41B-031_REV0-Util.pdf, S195-T01A.12.PDF	Active	Further Evaluation Needed	POLB/POLA	3.33'	Vertical clearance from as-built.
175	3230	City of South Gate	Water	16" DI	81	Rayo Ave	UR-172	945+14	North	Water Atlas Book Complete.pdf, PDF page 20	Active	Relocate	POLB/POLA	3.42'	Vertical clearans is from GPR.
176	3231	City of South Gate	Water	6" CI	81	Rayo Ave	UR-172	945+30	North	Water Atlas Book Complete.pdf, PDF page 20	Active	Relocate	POLB/POLA	4.42'	Vertical clearance from GPR. Gate valve is impacted by the LRT track.
177	5228	SCG	Natural Gas	3"	90	Rayo Ave	UR-172	945+34	North	3 Map 4PDF.pdf, PDF page 2	Active	Relocate	POLB/POLA	3.84'	Vertical clearans is from GPR.
178	5229	SCG	Natural Gas	6"	90	Rayo Ave	UR-172	945+40	North	3 Map 4PDF.pdf, PDF page 2	Active	Relocate	POLB/POLA	Unknown	
179	4229	SCE	Power OH	16 kV	156	Rayo Ave	UR-172	945+52	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
180	6240	Spectrum	Telecom (UG)	1 line	76	Rayo Ave	UR-172	945+52	North	Map 13.pdf	Active	Further Evaluation Needed	POLB/POLA	Unknown	
181	3232	MWD	Water	79" x 23/32" in 93" casing Welded Steel	91	LADWP-PS R/W	UR-172	946+52	North	2019-17-001 Part 1.pdf, PDF page 2	Active	Protect in Place	POLB/POLA	15.6'	Vertical clearance from as-built.
182	4230	LADWP-PS	Power	287 kV	90	LADWP-PS R/W	UR-172	947+08	North	California Electric Infrastructure App California Energy Commission (arcgis.com)	Active	Protect in Place	POLB/POLA	Unknown	

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
183	2219	LACSD	Sewer	42" RCP	143	LADWP-PS R/W	UR-172	947+10	North	JO-P-0082_Atlantic_WrightSouthern_Burst(Rehab JO-P-0367).pdf, PDF page 2	Active	Further Evaluation Needed	POLB/POLA	11.3'	Vertical clearance from as-built.
184	4231	SCE	Power OH	16 & 66 kV	314	Salt Lake Ave / Southern Ave	UR-173	956+53	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	Pole to the east is 10 feet from NB LRT centerline.
185	6241	MCI Verizon	Telecom (F)	1 OH	314	Salt Lake Ave / Southern Ave	UR-173	956+54	North	Capture2.png	Future Proposed	Unknown	POLB/POLA	N/A	No visual of OH. Potentially future proposed
186	6242	Spectrum	Telecom (OH)	1 line	314	Salt Lake Ave / Southern Ave	UR-173	956+54	North	Map 12.pdf	Active	Relocate	POLB/POLA	Unknown	Hight clearance requirements.
187	5230	SCG	Natural Gas	6"	70	Salt Lake Ave / Southern Ave	UR-173	956+58	North	3 Map 4PDF.pdf, PDF page 4	Active	Relocate	POLB/POLA	5.16'	Vertical clearance from GPR.
188	6243	AT&T	Telecom (UG)	1 Bur	70	Salt Lake Ave / Southern Ave	UR-173	956+64	North	WSAB - ATT MAPS.pdf, PDF page 13	Active	Further Evaluation Needed	POLB/POLA	5.5'	Vertical clearance from GPR.
189	6244	Crown Castle	Fiber Optic (UG)	1 bur	70	Salt Lake Ave / Southern Ave	UR-173	956+68	North	nch transit Corridor-As-built Request Letter ar	Active	Further Evaluation Needed	POLB/POLA	4.42'	Vertical clearance from GPR.
190	6245	AT&T	Telecom (UG)	3-4" & 1-2"	70	Salt Lake Ave / Southern Ave	UR-173	956+73	North	WSAB - ATT MAPS.pdf, PDF page 13	Active	Further Evaluation Needed	POLB/POLA	5.33'	Vertical clearance from GPR.
191	1213	LACFCD	Storm Drain	57" RCP	56	Salt Lake Ave / Southern Ave	UR-173	956+84	North	BI 7850 Unit 1.pdf, PDF page 10	Active	Further Evaluation Needed	POLB/POLA	4.4'	Vertical clearance from as-built
192	2220	City of South Gate	Sewer	6" CI & VCP	80	South Lake Ave / McCallum Ave	UR-174	958+85	North	41B-031_REV0-Util.pdf; S195-T01A.11.PDF	Active	Further Evaluation Needed	POLB/POLA	3.33'	Vertical clearance from as-built
193	5231	Chevron	Gasoline	6" in 12" Casing	N/A	Wood Avenue	UR-174 to UR-175	966+85 to 969+00	North	CAL0319-AS-F-036.pdf	Idle	Relocate	POLB/POLA	Unknown	
194	7215	Chevron	Oil	8" in 14" Casing	N/A	Wood Avenue	UR-174, UR-175	966+85 to 969+00	North	S191-T01.1.PDF;S192-T01.1.PDF;S193-T01.1.PDF;S193-T03.3.PDF;CAL0320-AS-F-161.pdf	Active	Relocate	POLB/POLA	2.88' TO 5.60'	
195	4232	SCE	Power OH	230 kV	179	LA River	UR-176	979+66	North	California Electric Infrastructure App California Energy Commission (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	The proposed Metro LRT is higher elevation. Determin clearance from OH power.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
196	4233	SCE	Power OH	66 kV	88	I-710	UR-176	984+00	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
197	7216	Marathon Pipeline	Oil	12"	68	I-710 / Miller Ave	UR-177	989+46	North	Line_080.pdf.	Active	Protect In Place	POLB/POLA	Unknown	
198	7217	Plains All American Pipeline	Oil	14"	68	I-710 / Miller Ave	UR-177	989+50	North	BA Inc. - West Santa Ana Branch Transit Corridor.pdf, PDF page 12	Active	Protect In Place	POLB/POLA	10.5'	Vertical clearance from as-built.
199	2221	LACSD	Sewer	78" RCP	68	West of Rio Hondo	UR-177	992+09	North	JO-P-0073_Rio Hondo.pdf, PDF page 3	Active	Further Evaluation Needed	POLB/POLA	24.4'	Vertical clearance from as-built. MSE wall on top of junction structure.
200	2222	LACSD	Sewer	90" RGRCP Jacked	30	West of Rio Hondo	UR-177	992+95	North	JO-P-0388_Rio Hondo.pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	24.7'	Vertical clearance from as-built. Potential conflict with MSE wall and abutment footing piles.
201	3233	MWD	Water	73" Weled Steel Pipe Jacked	35	East of Rio Hondo	UR-177	996+86	North	2019-17-001 Part 1.pdf, PDF page 1	Active	Further Evaluation Needed	POLB/POLA	15.8'	Vertical clearance from as-built. LRT alignment outside of jack casing
202	4234	SCE	Power OH	4 - 220 kV	100	East of Rio Hondo	UR-177, UR-178	998+00	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Protect In Place	POLB/POLA	Unknown	
203	4235	SCE	Power OH	66 kV	100	East of Rio Hondo	UR-178	1000+15	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
204	4236	SCE	Power OH	12 kV	187	Ruchti Rd	UR-178	1006+21	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
205	4237	SCE	Power OH	12 kV	272	Imperial Highway	UR-179	1016+66	North	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	POLB/POLA	Unknown	
206	7218	Torrance / PBF Energy	Oil	4" in 8" casing	144	Imperial Highway	UR-179	1016+72	North	4-A-1094.PDF	Abandoned	Protect in Place	POLB/POLA	Unknown	Slurry filled.
207	3234	City of South Gate	Water	8" CI	95	Imperial Highway	UR-179	1016+74	North	Water Atlas Book Complete.pdf, PDF page 52	Active	Protect in Place	POLB/POLA	6.84'	Vertical clearance from GPR.
208	6246	Frontier	Telecom (OH)	2 Lines	273	Imperial Highway	UR-179	1016+79	North	IMPERIAL.pdf	Active	Relocate	POLB/POLA	Unknown	

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
209	6247	Spectrum	Telecom (OH)	1 con	273	Imperial Highway	UR-179	1016+79	North	Map 10.pdf	Active	Relocate	POLB/POLA	Unknown	
210	2223	City of South Gate	Sewer	12" PVC in 30" Casing	84	Imperial Highway	UR-179	1016+92	North	Approved 2nd Ammended Sewer improvement plan.pdf	Active	Protect in Place	POLB/POLA	10.6'	Grade separated.
211	2224	City of South Gate	Sewer	10" VCP in 24" Casing	95	Imperial Highway	UR-179	1016+98	North	1076 (2).pdf	Abandoned	Protect in Place	POLB/POLA	9.8'	Vertical clearance from as-built. Grade separated.
212	7219	Torrance / PBF Energy	Oil	4" in 6" casing	96	Imperial Highway	UR-179	1017+06	North	4-A-1094.PDF	Abandoned	Protect in Place	POLB/POLA	Unknown	Slurry filled.
213	3235	City of South Gate	Water	12" CI in 20" Casing	96	Imperial Highway	UR-179	1017+74	North	26203 (6).pdf, PDF page 81	Active	Protect In Place	POLB/POLA	3.33'	Vertical clearance from as-built.
214	4238	SCE	Power OH	12 kV	176	Garfield Avenue	UR-180	1023+15	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
215	3236	MWD	Water	67" Welded Steel Pipe Jacked	127	Garfield Avenue	UR-180	1024+20	North	2019-17-001 Part 1.pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	10.4'	Vertical clearance from as-built. LRT alignment outside of jack casing
216	2225	LACSD	Sewer	42" RCP Clay lined	192	Flores St	UR-181	1032+76	North	02-P-0142 Flores St.pdf, PDF page 8	Active	Protect In Place	POLB/POLA	13.8'	Vertical clearance from as-built. Special pipe bedding class 's' concrete R/W to R/W.
217	2226	City of Downey	Sewer	12"	81	Gardendale St	UR-182	1044+10	North	1919m.pdf	To be determined	Further Evaluation Needed	POLB/POLA	Unknown	Utility to be verified.
218	1214	LACFCD	Storm Drain	7'3"W x 7'-0"H RCB	83	Gardendale St	UR-183	1046+22	North	BI 0019 - UNIT 2 HOLLYDALE (Arthur).pdf, PDF page 5	Active	Further Evaluation Needed	POLB/POLA	7'	Vertical clearance from as-built. Special design RCB from R/W to R/W. Further evaluation under proposed Gardendale Station.
219	4239	SCE	Power OH	4.16 & 12 kV	175	Gardendale St	UR-183	1050+58	North	Southern California Edison DRPEP (sce.com)	Active	Further Evaluation Needed	POLB/POLA	Unknown	
220	2227	LACSD	Sewer	66" RGRCP Jacked 3000-D	82	Gardendale St	UR-183	1050+64	North	JO-P-0325 Gardendale.pdf, PDF page 7	Active	Protect in Place	POLB/POLA	11.0'	Vertical clearance from as-built. Jacked pipe from junction structure to junction structure.
221	4000	SCE	Power (OH)	4.16 kV	N/A	Main Street	UR-185	1066+68	North	Southern California Edison DRPEP (sce.com)	Active	Relocate	POLB/POLA	32.52'	Lidar survey shows that the Power OH has a clearance of +32' from existing rail. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track for LRT supply of +20kV per CPUC GO 95

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
222	5000	SCG	Gas	2"	N/A	Main Street	UR-185	1066+77	North	22900117.pdf, JO-P-004, shee2	Active	Relocate	POLB/POLA	Unknown	Verify depth from right of way to right of way for accommodating for freight and LRT
223	2000	LACSD	Sewer	54" RCP	N/A	Main Street	UR-185	1066+90	North	JO-P-004_Main Street.pdf, Sheet 1 pdf page 2	Active	Further Evaluation Needed	POLB/POLA	8.5'	Depth of cover 8.5' per invert. Ask LACSD about "Under RR tracks Work to be done in conformance with rules and regulations of RR Co.
224	3001	Golden State Water	Water	12" DI	N/A	Main Street	UR-185	1066+77	North	22900117.pdf	Active	Protect in Place	POLB/POLA	4.5'	Mile Post 10.04 - 12" steel in 98' of 24" steel casing - See section 5
225	6000	Spectrum	Telecom (UG)	Unknown	N/A	Main Street	UR-185	1066+75	North	Map 9.pdf	Active	Relocate	POLB/POLA	4.75'	Pole connected to OH is impacted
226	3002	Golden State Water	Water	8" CI	N/A	Main Street	UR-185	1067+17	North	22900117.pdf	Abandoned	Protect in Place	POLB/POLA	4.5'	
227	3003	Golden State Water	Water	8"	N/A	Century Blvd	UR-186	1082+85	South	BI-0581_South Gate.pdf, Sheet 19	Active	Relocate	City of South Gate	Unknown	No As-built or GPR data.
228	4001	SCE	Power (OH)	12 kV	N/A	Century Blvd	UR-186	1082+89	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of South Gate	32.63'	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95. 2/14/23: Per SCE meeting OH will clear CPUC GO 95 requirements and therefore no mitigation required.
229	5001	SCG	Gas	4"	N/A	Century Blvd	UR-186	1083+06	South	BI-0581_South Gate.pdf, sheet 19	Active	Relocate	City of South Gate	5.6'	Depth is 11'-10" per Below Data. 4/5/23 DP depth is 5.6' per PH S185-T01.1. It has no casing
230	1000	LACFCD	Storm Drain	57" RCP	N/A	Century Blvd	UR-186	1083+14	South	BI-0581_South Gate.pdf, Sheet 19	Active	Further Evaluation Needed	City of South Gate	3.38'	Depth is 3.38' per PH S185-T01.2. it is 57" in 72" RCP. It doesn't meet Metro requirement (4' from top of the rail)
231	6001	AT&T	Telecom (UG)	6 DU	N/A	Century Blvd	UR-186	1083+44	South	WSAB - ATT MAPS.pdf, pdf page 14 (A110C38)	Active	Further Evaluation Needed	City of Paramount	5.24'	GPR Data shows 5'-7" depth of cover. 4/27/23 by DP, depth is 5.24" per PH S 185-T01.4. It has no casing, so it doesn't meet Metro requirement (4' from top of the rail)
232	6002	AT&T	Telecom (UG)	3 DU	N/A	Century Blvd	UR-186	1083+51	South	WSAB - ATT MAPS.pdf, pdf page 14 (A110C38)	Active	Further Evaluation Needed	City of Paramount	6.5'	No record of depth. 4/27/23 by DP, depth is 6.5' per PH S185-T01.6. It has no casing, so it doesn't meet Metro requirement
233	6003	AT&T	Wireless	Antenna & telecom equipment	N/A	Century Blvd	UR-186	1083+75	South	735-G2- pages from 10085778_AE201_140402_LAC518_ConstructionDrawings(hard&pdf)_LTE.pdf	Active	Further Evaluation Needed	Private	2.8'	Outside of UPRR R/W. 4/27/23 by DP, depth is 2.8' per PH S185-T01.5. It has no casing
234	1026	LACFCD	Storm Drain	Double 7'-9"W x 4'-0" H	N/A	Century Blvd	UR-186	1084+31	South	Century Freeway Drain_PedWalk.pdf, Sheet 2	Active	Further Evaluation Needed	LA METRO/Caltrans	0.9'	Depth is around 0.9' per As-Built. It doesn't meet Metro requirement (4' from top of the rail)

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235	1002	LACFCD	Storm Drain	8'-0"W x 6'-0"H RCB	N/A	Arthur Ave	UR-187	1111+50	South	BI 0019 - Unit 2, Sheet 14	Active	Protect in Place	UPRR	4.46'	Vertical clearance from as-built. It does meet Metro requirement
236	2001	LACSD	Sewer	18" PVC	N/A	I-105 Freeway	UR-187		South	02-P-0136_1105 Siphon.pdf, Sheet 4	Active	Relocate	Caltrans	N/A	Sewer airline for the 2 - 18" Siphon Concrete encasement.
237	3004	City of Paramount	Water	10"	N/A	Façade Ave	UR-187	1084+00 to 1090+00	South	DC-218_V2.pdf	Active	Relocate	Caltrans	Unknown	Replacement of Bridge
238	1001	LACFCD	Storm Drain	48" RCP	N/A	Racine Ave	UR-189	1106+20	South	BI 0559 - Line D, Sheet 9	Active	Further Evaluation Needed	UPRR	4.87'	Vertical clearance from as-built.
239	6004	Spectrum	Telecom (UG)	UG Conduit	N/A	Rose Street	UR-189	1108+08	South	Map 7.pdf	Active	Protect in Place	LA Metro	4.75	Proposed freight is the same location as existing.
240	1027	LACFCD	Storm Drain	8'-0"W x 6'-0"H RCB	N/A	Arthur Ave/Rose Street	UR-189, UR-190	1111+16	South	BI 0019 - UNIT 2 HOLLYDALE (Arthur).pdf, sheet 14	Active	Further Evaluation Needed	LA Metro	4'	Vertical clearance from as-built. Special design RCB from R/W to R/W.
241	2002	LACSD	Sewer	21" VCP	N/A	Arthur Ave/Rose Street	UR-188, UR-189	1111+36	South	02-P-0136_1105 Siphon.pdf, Sheet 2	Active	Protect in Place	LA Metro	10.9'	LRT grade separated. Same align. Freight track in same alignment. 68" of 54" casing. Confirm with LACSD about existing track outside of Jack and bore casing. It does meet Metro requirement
242	3005	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	24" DI & Steel	N/A	Rose Street to Rosecrans Ave	UR-189, UR-190, UR-191	1109+50 to 1121+20	South	RMC 1003 20-94, RMC 1003 21-94.	Active	Protect in Place	LA Metro	5.0'	In conflict with Freight Alignment and LRT Bents. It can be protected in place with structural modification.
243	1003	LACFCD	Storm Drain	10'x6' RCB	N/A	Rosecrans Ave & Paramount Blvd	UR-191	1122+00	South	BI 0559 - Line D Racine.pdf, sheet 3	Active	Protect in Place	City of Paramount	4.95'	Grade separated. Vertical clearance from as-built. It does meet UP requirement
244	6005	AT&T	Telecom (UG)	6 DU	N/A	Paramount Blvd	UR-191	1122+67	South	WSAB - ATT MAPS.pdf, pdf page 15 (A110C43)	Active	Further Evaluation Needed	City of Paramount	0.96' TO 5.24'	Vertical clearance from GPR. Map shows green and no labels on legend. 4/30/23 by DP, depth is 0.96' per PH S190-T01 with Encasement and 5.24' per PH S190-T03A.1 with no encasement
245	6006	AT&T	Telecom (UG)	1 DU	N/A	Paramount Blvd	UR-191	1122+68	South	WSAB - ATT MAPS.pdf, pdf page 15 (A110C43)	Abandoned	Further Evaluation Needed	City of Paramount	4.42'	GPR Data shows 4'-5" of cover from proposed freight alignment. From Street widening going up the pole. Potential removed from street widening.
246	6007	AT&T	Telecom (UG)	2-2"	N/A	Paramount Blvd	UR-191	1122+81	South	WSAB - ATT MAPS.pdf, pdf page 15 (A110C43)	Abandoned	Further Evaluation Needed	City of Paramount	4.42'	From Street widening going up the pole. Potential removed from street widening. 4/30/23 by DP, depth is 2.28' per PH S190-T01.4, and 4.0' per PH S190-T03A.3 with encasement. It doesn't meet UP requirement (4.5' from top of the rail)
247	3006	City of Paramount	Water	16" AC	N/A	Rosecrans Ave & Paramount Blvd	UR-191	1123+13	South	160 Rosecrans Ave.pdf	Active	Relocate	City of Paramount	6.2'	Vertical clearance from as-built. Relocate 16" X 16" Cross and extend casing.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
248	3007	City of Paramount	Water	16" AC	N/A	Rosecrans Ave & Paramount Blvd	UR-191	1123+38	South	160 Rosecrans Ave.pdf	Active	Relocate	City of Paramount	6.2'	Relocate 16" main at south and cross with encasement
249	2003	City of Paramount	Sewer	8" VCP	N/A	Rosecrans Ave	UR-191	1123+41	South	DC-234.pdf	Abandoned	Further Evaluation Needed	City of Paramount	10.58'	Connected to MH at STA 1123+73 that is impacted by the proposed freight alignment. Elevation based on invert for intersection surveys. This sewer line needs to relocate
250	5002	SCG	Gas	4"	N/A	Paramount Blvd	UR-191	1123+43	South	DC-234.pdf	Abandoned	Further Evaluation Needed	City of Paramount	5.36'	No GPR Data. 4/5/23 DP depth is 5.36' per PH S190-P05, It has no casing
251	3008	City of Paramount	Water	6"	N/A	Rosecrans Ave & Paramount Blvd	UR-191	1123+49	South	160 Rosecrans Ave.pdf	Active	Encase	City of Paramount	4.76'	Protect in place with in casement. 5/18/23 by FL, depth is 4.76' per PH SS190-P02. It has no casing. It doesn't meet UP requirement
252	2004	City of Paramount	Sewer	15" VCP	N/A	Rosecrans Ave	UR-191	1123+55	South	DC-234.pdf	Active	Relocate	City of Paramount	12.9'	Grade separated. Elevation based on invert of the MH surveys, and depth is 12.9' per GPR
253	5003	SCG	Gas	4"	N/A	Paramount Blvd	UR-191	1123+66	South	MTA Slauson Station to Pioneer.pdf, 10 of 12	Active	Further Evaluation Needed	City of Paramount	3.82'	GPR Data shows depth of 6'-3". 4/5/23 by DP depth is 3.82' per PH S190-P03, It doesn't meet UP requirement (4.5' from top of the rail)
254	2005	City of Paramount	Sewer	8" VCP	N/A	Paramount Blvd	UR-191	1123+73	South	DC-234.pdf	Active	Relocate	City of Paramount	11.58'	Connected to MH at STA 1123+80 that is impacted by the proposed freight alignment. Elevation clearance based on MH invert for street survey.
255	2006	City of Paramount	Sewer	4' MH	N/A	Rosecrans Ave	UR-191	1123+73	South	DC-234.pdf	Active	Relocate	City of Paramount	13.1'	Impacted by proposed freight alignment. Depth is 13.1' from GPR. This MH needs to relocate
256	4002	SCE	Power (UG)	12kV	N/A	Rosecrans Blvd	UR-191	1123+76	South	DC-234.pdf	Active	Protect In Place	City of Paramount	3.46'	Grade separated. 4/6/23 by DP, It does not meet the Metro requirement (48 inches under the top of rail) & UP requirement (4.5' under the top of rail)
257	1004	LACFCD	Storm Drain	30" RCP	N/A	Rosecrans Ave	UR-191	1124+00	South	BI 0559 - Line D, Plan Sheet 3, Profile Sheet 12	Active	Protect in Place	City of Paramount	1.92'	Grade separated. 23' from center of proposed Freight alignment. Potential Horizontal surcharge. 5/15/23 by FL, depth is 1.92' per PH S190-P05.1. It doesn't meet UP equipment
258	1005	LACPWD	Storm Drain	24" RCP	N/A	Paramount Blvd	UR-191	1124+00	South	BI 0559 - Line D, Plan Sheet 3, Profile Sheet 12	Abandoned	Protect in Place	City of Paramount	Unknown	This is Aerial Area
259	4003	SCE	Power (UG)	12kV	N/A	Rosecrans Blvd	UR-191	N/A	South	DC-234.pdf	Active	Protect in Place	City of Paramount	3.33'	Grade separated. 4/6/23 by DP, It does not meet the Metro requirement (48 inches under the top of rail) & UP requirement (4.5' under the top of rail)
260	6008	MCI Verizon	Telecom (F)	Unknown	N/A	Rosecrans Avenue	UR-191		South		Unknown	Unknown	MC Metro	N/A	Legend shows future proposed, but it is in the green color, that color is not identify on Verizon legend

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
261	6009	Crown Castle	Telecom (UG)	1-4"	N/A	Rosecrans and Paramount	UR-191	1123+22	South	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 3	Active	Further Evaluation Needed	City of Paramount	3.75'	GPR Data shows 3'9" upstream. Verify cover. Cover of 4.5' can be protected in place. 4/5/23 by DP, depth is 3.32', it doesn't meet UP requirement
262	6010	AT&T	Telecom (UG)	12 DU	N/A	Paramount Blvd	UR-191	1122+90	South	WSAB - ATT MAPS.pdf, pdf page 15 (A110C43)	Active	Further Evaluation Needed	City of Paramount	3.32' to 2.92'	Grade Separated. Possibly leasing AT&T duct. 4/30/23 by DP, depth is 3.32' per PH S190-T01.5, and 2.92' per PH S190-T03.4. It doesn't meet UP requirement
263	2007	LACPWD (SMD)	Sewer	4' MH	N/A	Rosecrans Ave	UR-191, UR-192	1123+80	South	DC-234.pdf	Active	Relocate	City of Paramount	11.6'	Impacted by proposed freight alignment. 5/16/23 by FL, depth is 11.6' per GPR. This MH is conflicted with the Track
264	3009	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	24" DI & Steel	N/A	Paramount Blvd	UR-191	1126+00 to 1140+00	South	RMC 1003 20-94, RMC 1003 19-94,	Active	Protect in Place	LA Metro	5.0'	In conflict with pedestrian underpass. 6.5' to 11.5' from Retaining Wall. Geotech to evaluate.
265	2008	Private	Sewer	8" VCP	N/A	144th Street	UR-192	1132+65	South	DC-249.pdf	Abandoned	Protect in Place	LA Metro	Unknown	No as-built or GPR data work in this area. This is an abandoned Sewer, so remove as needed
266	7029	Chevron	Gasoline	6"	N/A	Paramount Blvd	UR-192	1138+50 to 1140+50	South	S191-T01.4.PDF, S192-T01.4.PDF, S193-T01.4.PDF, S193-T03.1.PDF, CAL0320-AS-F-161.pdf	Idle	Remove	LADWP	2.88' TO 5.60'	Oil line to be protected in place within the footprint of the pedestrian undercrossing. 4/11/23 by DP, depth is 2.88' per PH S192-T01.1 and 5.60' per PH S191-T01.1. Ped will be Aerial, so no conflict
267	7030	Chevron	Crude	8"	N/A	Paramount Blvd	UR-192	1138+50 to 1140+50	South	S191-T01.3.PDF, S192-T01.3.PDF, S193-T01.3, S193-T03.2.PDF, S195-T01A.7.PDF, CAL0320-AS-F-161.pdf	Active	Protect in Place	LADWP	2.54' TO 5.38'	Oil line to be protected in place within the footprint of the pedestrian undercrossing. 4/11/23 by DP, depth is 2.54' per PH S192-T01 and 5.38' per PH S191-T01. Ped will be Aerial, so no conflict
268	7031	Chevron	Crude	6"	N/A	Paramount Blvd	UR-192	1138+50 to 1140+50	South	S191-T01.1.PDF, S192-T01.1.PDF, S193-T01.1.PDF, S193-T03.3.PDF, CAL0320-AS-F-161.pdf	Idle	Remove	LADWP	2.88' TO 5.60'	Oil line to be protected in place within the footprint of the pedestrian undercrossing. Ped will be Aerial, but potential close to Ped Ramp less than 5'
269	7032	Chevron	Product Oil	8"	N/A	Paramount Blvd	UR-192	1138+50 to 1140+50	South	S191-T01.PDF, S192-T01.PDF, S193-T01.PDF, S193-T03.5.PDF, S195-T01A.11.PDF, CAL0320-AS-F-161.pdf	Idle	Remove	LADWP	2.54' TO 5.38'	Oil line to be protected in place within the footprint of the pedestrian undercrossing. Ped will be Aerial, but potential close to Ped Ramp less than 5'
270	1025	City of Paramount	Storm Drain	69" RCP	N/A	Downey Ave	UR-192	1139+00 TO 1154+00	South	CAL0320-AS-F-162.pdf, CAL0320-AS-F-163.pdf, CAL0320-AS-F-164.pdf, S192-T01.5, S193-T01.5, S193-T03.PDF	Active	Relocate	City of Paramount	4.9' TO 7.1'	It is under the proposed subteranian pedestrian crossing.
271	7034	Crimson Pipeline	Oil	10"	N/A	Paramount Blvd	UR-191, UR-192, UR-193	1380+50 to 1140+50	South	S191-T01.3.PDF, S192-T01.3.PDF, S193-T01.3, S193-T03.2.PDF, S195-T01A.7.PDF, CAL0320-AS-F-161.pdf	Active	Protect in Place	LADWP	2.80' to 5.60'	Oil line to be protected in place within the footprint of the pedestrian undercrossing. 4/11/23 by DP, depth is 5.60' per PH S191-T01.2 and 2.80' per PH S192-T01.2. No Casing. However it is parallel with the Track. Ped will be Aerial
272	3010	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	24" DI & Steel	N/A	Rosecrans Ave to Somerset Boulevard	UR-191, UR-192, UR-193, UR-194, UR-195	1140+00 to 1179+50	South	RMC 1003 19-94, RMC 1003 18-94, RMC 1003 17-94	Active	Relocate from sta 1158+00 to 1178+50	LA Metro	5.0'	Less than 10' from LRT, and underneath Retaining wall and LRT track. Moving freight and LRT track further north could save 1600 LF of relocation.
273	7000	Chevron	Crude	6"	N/A	Downey Ave	UR-190 to UR-194	1121+00 TO 1156+27	South	CAL0320-AS-F-162.pdf, CAL0320-AS-F-163.pdf, CAL0320-AS-F-164.pdf, S192-T01.5, S193-T01.5, S193-T03.PDF	Idle	Remove	LADWP	2.36' TO 5.60'	Outside of R/W. Impacted by within 10' adjacent and under the retaining wall. 4/11/23 by DP, depth is 2.36' per PH S192-T01.5 and 5.32' per PH S191-T01.4. This line is parallel with the Track

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
274	1006	LACPWD	Storm Drain	12"H X 48"W RCB Culvert	N/A	Downey Ave	UR-193	1140+72	South		Active	Relocate	LA Metro	2.60' TO 5.52'	Existing culvert connects drainage from LADWP R/W to Paramount High School. The end of the culvert is in the middle of the NB and SB track. The drainage needs to be maintained in this area.
275	7001	Chevron	Crude	8"	N/A	Downey Ave	UR-192, UR-193	1147+50 to 1156+27	South	S191-T01.3.PDF ; S192-T01.3.PDF ; S193-T01.3 ; S193-T03.2.PDF ; S195-T01A.7.PDF ; CAL0320-AS-F-161.pdf	Idle	Remove	LADWP	2.46' TO 5.52'	Outside of R/W. Impacted by within 10' adjacent to retaining wall. 4/11/23 by dp, depth is 2.46' per PH S192-T01.3 and 5.52' per PH S191-T01.3. This line is parallel with the Track
276	7002	Crimson Pipeline	Crude	10"	N/A	Downey Ave	UR-194	1152+00 to 1155+76	South	CAL0320-AS-F-163.pdf , CAL0320-AS-F-164.pdf	Active	Further Evaluation Needed	LADWP	2.78'	Outside of R/W. Impacted by within 10' adjacent to retaining wall. 4/11/23 by DP, depth is 2.78' per PH S192-T01.2. No casing. However, it is parallel with the Track
277	3011	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	6" DI & Steel	N/A	Downey Ave	UR-193	1153+95	South	RMC 1003_75-94	Active	Relocate	LA Metro	8.05'	Vertical clearance from as-built. Underneath LRT retaining wall
278	4004	SCE	Power (OH)	12kV, 12kV	N/A	Downey Ave	UR-193	1154+10	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of Paramount	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
279	4005	SCE	Power (OH)	12kV	N/A	Downey Ave	UR-193	1154+10	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of Paramount	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
280	4006	SCE	Power (OH)	66kV	N/A	Downey Ave	UR-193	1154+10	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of Paramount	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
281	6011	Crown Castle	Telecom (OH)	2 Lines	N/A	Downey Ave	UR-193	1154+10	South	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 10	Active	Relocate	City of Paramount	22.5	Lidar survey shows that the Telecom OH has a clearance of +22' from the existing track. The OH telecom need 5' clearance from OCS of LRT totaling 31'.
282	3012	City of Paramount	Water	12"	N/A	Downey Ave	UR-193	1154+20	South	Substructure Map DC- 250	Active	Protect in Place	City of Paramount	4.36'	Proposed freight is the same location as existing. 5/18/23 by FL, depth is 4.36' per PH S193-T02.1. It has no casing. It doesn't meet UP requirement
283	2009	LACSD	Sewer	15" VCP	N/A	Downey Ave	UR-193	1154+30	South	02-P-013 Downey.pdf, Sheet 4, pdf page 5	Active	Protect in Place	City of Paramount	9.9'	Grade separated. Vertical clearance from as-built. It does meet Metro requirement
284	1007	LACFCD	Storm Drain	90" RCP	N/A	Downey Ave	UR-193	1154+42	South	BI 1106 - U2, Sheet 10	Active	Protect in Place	City of Paramount	14.76'	Grade separated. Vertical clearance from as-built. Clarify if RCB or RCP.
285	3013	City of Paramount	Water	6"	N/A	Downey Ave	UR-193	1154+59	South	Substructure Map DC- 250	Active	Protect in Place	City of Paramount	6.72'	Proposed freight is the same location as existing. 5/18/23 by FL, depth is 6.72' per PH S193-T04A.2. It has casing. It does meet UP requirement
286	5005	SCG	Gas	3"	N/A	Downey Ave	UR-193	1154+64	South	DC-250.pdf	Active	Protect in Place	City of Paramount	7.90'	4/5/23 by DP, depth is 7.90' per PH S193-T04A.1. It has no casing, and doesn't meet UP requirement for casing

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
287	7003	World Energy	Oil	12"	N/A	Downey Ave	UR-194	1154+70	South	PPC-12CRUDE-2.pdf	Active	Protect in Place	City of Paramount	8.90'	120 feet of 16" casing. 4/18/23 by DP, depth is 8.90' per PH S193-T04.1. It does meet the Metro requirement
288	6012	AT&T	Telecom (UG)	1 BUR	N/A	Downey Ave	UR-194	1154+80	South	WSAB Map - AERIAL FACILITIES.pdf, pdf page 3	Active	Relocate	City of Paramount	2.54'	GPR Data Depth of 2'. As-built shows 4'-0". 4/30/23 by DP, depth is 2.54'. It has no casing. It doesn't meet Metro requirement
289	6013	Spectrum	Telecom (OH)	1 Line	N/A	Downey Ave	UR-194	1154+84	South	Map 6.pdf	Active	Relocate	City of Paramount	22.5'	Lidar survey shows that the Telecom OH has a clearance of +22' from the existing track. The OH telecom need 5' clearance from OCS of LRT totaling 31'.
290	7004	Chevron	Crude	6"	N/A	Downey Ave	UR-193, UR-194	1155+00 to 1155+90	South	CAL0320-AS-F-164.pdf	Idle	Remove	LADWP	2.36' to 2.64'	Outside of R/W. Impacted by within 10' adjacent to retaining wall. 4/11/23 by DP, depth is 2.36' per PH S192-T01.5 and 2.64' per PH S193-T01.4
291	3014	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	12" DI & Steel	N/A	Downey Ave	UR-193	1155+17	South	RMC 1003_75-94	Active	Relocate	LA Metro	7.1'	Vertical clearance from as-built. Underneath LRT retaining wall
292	7005	Paramounth Pipeline	Oil	6"	N/A	Downey Ave	UR-194	1156+21	South	47-061_REV0-util.pdf	Active	Protect in Place	LA Metro	4.20' to 4.72'	Not in GPR surveyed intersection. 4/11/23 by DP, depth is 4.54' per PH S230-P04 and 4.72' per PH S230-P05 and 4.46' per PH S230-P03 and 4.20' per PH S230-P02 with 10" casing and 4.35' per PH S230-P01 with 10" casing. This is changed to Paramounth Pipeline. Casing is only from S230-P01 to P03, after that the pipeline has no casing and may conflict with
293	6014	MCI Verizon	Telecom (F)	Unknown	N/A	Downey Ave	UR-194		South	Capture3.png	Future Proposed	Coordinate	City of Paramount	N/A	Legend shows future proposed
294	7033	Crimson Pipeline	Product Oil	8"	N/A	Downey Ave to Somerset Blvd	UR-194, UR-195, UR-196	1157+50 to 1171+57	South	CAL0320-AS-F-164.pdf, CAL0320-AS-F-165.pdf	Active	Further Evaluation Needed	LADWP	3.38'	Clearance of 6.89' from south retaining wall. 4/11/23 by DP, depth is 3.38' per PH S193-T05.2. However, it is parallel with the Track
295	7035	Chevron	Crude	8"	950	Downey Ave to Somerset Blvd	UR-195	1157+50 to 1167+00	South	S195-T01A.11.PDF, 47-061_REV0-util.pdf, 41B-032_REV0-util.pdf	Active	Relocate	LADWP	3.38'	Clearance of 3.86' from south retaining wall. 3/17/23 by DP: Per As-Built Somerset-Hayter-1A.pdf. This is changed from Crimson to Chevron. 4/11/23 by dp, depth is 3.38' per PH S193-T05.3. This line is parallel with the Track and has 5 ft clearance to the wall
296	7036	Chevron	Crude	6"	950	Downey Ave to Somerset Blvd	UR-195	1157+50 to 1167+00	South	47-061_REV0-util.pdf; S195-T01A.10	Idle	Relocate	LADWP	3.70'	Depth is 3.70' per PH S93-T05.4. This line is parallel with the Track but it has less than 5' clearance with the wall
297	7037	Crimson Pipeline	Product Oil	12"	N/A	Downey Ave to Somerset Blvd	UR-195	1157+50 to 1167+00	South	46-023_REV4-util.pdf	Active	Further Evaluation Needed	LADWP	3.12'	Clearance of 12.5' -14.6' from south retaining wall. 4/11/23 by DP, depth is 3.12' per PH S193-T05.1. However, it is parallel with the Track
298	3046	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	24" DI	N/A	Downey Ave to Somerset Blvd	UR-195, UR-196	1159+10 to 1177+00	South	RMC 1003_16-94.pdf	Active	Relocate	LA Metro	5'	Impacted main line connecting to this 16" branch.
299	2010	LACPWD	Sewer	8" VCP	N/A	Somerset Blvd	UR-195 and UR-196	1170+05	South	DC-265.pdf	Active	Further Evaluation Needed	LA Metro	11.5'	Coming from private property. Downstream manhole elevation at 11'-6". Existing condition under existing freight queuing tracks.

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
300	1008	LACFCD	Storm Drain	30" RCP	N/A	Somerset Blvd and Hayter Ave	UR-196	1171+55	South	Compton Blvd Drain, Sheet 3 BI 9050, Sheet 3	Active	Further Evaluation Needed	City of Paramount	4.86'	Vertical clearance from As-Built. It does meet Metro requirement. 5/15/23 by FL, depth is 4.86' per PH S195-T01. It does meet Metro requirement
301	7006	Crimson Pipeline	Oil	12"	N/A	Somerset Blvd	UR-196	1171+56	South	41B-031_REV0-Util.pdf	Active	Relocate	LA Metro	4.74'	Not in GPR surveyed intersection. 4/11/23 by DP, depth is 4.74' per PH S195-T01A.12. No casing
302	7007	Chevron	Gasoline	8"	N/A	Somerset Blvd	UR-196	1171+62	South	41B-031_REV0-Util.pdf; S195-T01A.12.PDF	Active	Relocate	LA Metro	5.10'	Existing casing is away from the proposed LRT alignment. 3/17/23 by DP: Per As-built Somerset-Hayter-1A.pdf. this is changed from Crimson to Chevron. 4/11/23 by DP, depth is 5.10' per PH S195-T01A.11. It has no casing. It doesn't meet the Metro requirement.
303	7008	Chevron	Oil	6"	N/A	Somerset Blvd	UR-196	1171+66	South	41B-031_REV0-Util.pdf; S195-T01A.11.PDF	Idle	Relocate	LA Metro	6.28'	Existing casing is away from the proposed LRT alignment. 4/11/23 by DP, depth is 6.28' per PH S195-T01A.10. It has no casing. It doesn't meet the Metro requirement.
304	7009	Crimson Pipeline	Oil	8"	N/A	Somerset Blvd	UR-196	1171+70	South	CAL0320-AS-F-167.pdf	Active	Relocate	LA Metro	4.74'	Existing casing is away from the proposed LRT alignment. License agreement shows 12" but plans shows 8". 4/11/23 by DP, depth is 4.74' per PH S195-T01A.7. No casing
305	5007	SCG	Gas	4"	N/A	Somerset Blvd	UR-196	1171+81	South	DC-265.pdf	Active	Relocate	City of Paramount	3.84'	GPR Data shows depth of 2'-10". 4/5/23 by DP, depth is 3.84' per PH S195-T01A.6. It doesn't meet Metro requirement (4' from top of rail)
306	6015	AT&T	Telecom (UG)	6-4" MTD	N/A	Somerset Blvd	UR-196	1171+85	South	WSAB - ATT MAPS.pdf, pdf page 17 (A110C52)	Active	Relocate	City of Paramount	3.42'	Connection to manhole 15494 is impacted by the southern LRT alignment. 4/30/23 by DP, depth is 3.42'. It has encasement. It doesn't meet Metro requirement
307	5008	SCG	Gas	4"	N/A	Somerset Blvd	UR-196	1171+95	South	DC-265.pdf	Abandoned	Protect in Place	City of Paramount	2.64'	4/5/23 by DP, depth is 2.64' per PH S195-T01A.1. It doesn't meet Metro requirement (4' from top of rail)
308	3015	City of Paramount	Water	6"	N/A	Somerset Blvd	UR-196	1172+00	South	Substructure Map DC-265	Active	Relocate	City of Paramount	4.84'	Appurtenances close to the track. The fire hydrant lateral is under the proposed gate crossing. This line is outside of track
309	3016	City of Paramount	Water	16"	N/A	Somerset Blvd	UR-196	1172+19	South	Substructure Map DC-265	Active	Relocate	City of Paramount	7.14'	3' cover per GPR Data. 5/18/23 by FL, depth is 7.14' per PH S195-T01.1. It has no casing where it is crossing the Prop track.
310	6016	AT&T	Telecom (UG)	1 DU	N/A	Somerset Blvd	UR-196	1172+65	South	WSAB - ATT MAPS.pdf, pdf page 16 (A110C53)	Abandoned	Protect in Place	City of Paramount	Unknown	No GPR data. This line is tie-in to the MH, but the MH is conflict with the Track
311	2011	LACPWD	Sewer	8" VCP	N/A	Somerset Blvd	UR-196	1172+59	South	DC-265.pdf	Active	Further Evaluation Needed	City of Paramount	10.3'	Lowest invert is 11'-2" depth. The cover is 10.3' per GPR and 0% of surcharge impact factor.
312	7010	World Energy	Oil	6"	N/A	Somerset Blvd	UR-196	1172+82	South	GX145-22.pdf	Active	Protect in Place	City of Paramount	4.30'	GPR Data shows depth at 5'-11". 4/18/23 by DP, depth is 4.3' per PH S195-T02.3 found 8" Pipe, may be casing

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
313	6017	AT&T	Telecom (UG)	MH	N/A	Somerset Blvd	UR-196	1172+92	South	WSAB - ATT MAPS.pdf, pdf page 16 (A110C53)	Active	Relocate	City of Paramount	Unknown	No GPR data. This MH is conflict with the Track
314	6018	AT&T	Telecom (UG)	1 DU	N/A	Somerset Blvd	UR-196	1173+11	South	WSAB - ATT MAPS.pdf, pdf page 16 (A110C53)	Abandoned	Protect in Place	City of Paramount	5.5'	Connection to manhole 15494 is impacted by the southern LRT alignment. This line is tie-in to the MH, but the MH is conflict with the Track
315	6019	AT&T	Telecom (UG)	6-3.5" C-CEM	N/A	Somerset Blvd	UR-196	1173+24	South	WSAB - ATT MAPS.pdf, pdf page 16 (A110C53)	Active	Relocate	City of Paramount	N/A	Manhole 15494 is impacted by the southern LRT alignment. 4/30/23 by DP, This line is tie-in to the MH, but the MH is conflict with the Track
316	4007	SCE	Power (UG)	12kV	N/A	Somerset Blvd	UR-196	1173+29	South	DOC000.pdf, pdf page 43	Active	Relocate	City of Paramount	4.24'	Record set drawing shows it is bored 65'. GPR date shows it is 3'-9" in depth.
317	6058	City of Bellflower	Traffic Signal	Unknown	N/A	Lakewood Blvd	UR-197	1184+72	South	GPR	Active	Relocate	LA Metro	2' - 2.5'	
318	4008	SCE	Power (OH)	4.2kV, 12kV	N/A	Lakewood Blvd	UR-197	1184+74	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	Caltrans	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
319	6020	Spectrum	Telecom (OH)	OH	N/A	Lakewood Blvd	UR-197	1184+75	South	Map 6.pdf	Active	Relocate	Caltrans	15.2	Lidar survey shows that the Telecom OH has a clearance of +15' and +19' from the ground. The OH telecom need 5' clearance 5' clearance from OCS of LRT totaling 31'.
320	6021	Crown Castle & Spectrum	Telecom (OH)	OH	N/A	Lakewood Blvd	UR-197	1184+75	South	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 9	Active	Relocate	Caltrans	19.2	Lidar survey shows that the Telecom OH has a clearance of +15' and +19' from the ground. The OH telecom need 5' clearance 5' clearance from OCS of LRT totaling 31'.
321	6022	Crown Castle	Telecom (UG)	UG	N/A	Lakewood Blvd	UR-197	1184+88	South	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 9	Active	Relocate	Caltrans	2.42'	GPR Data shows depth of 2'-5". 4/14/23 by DPC-Below did the Trench but don't find anything
322	3018	City of Paramount	Water	12"	N/A	Lakewood Blvd	UR-197	1185+15	South	DC-265.pdf	Active	Protect in Place	LA Metro	3.8'	Verify casing limits. 5/18/23 by FL, depth is 3.8' per PH S196-T01. It has casing. It doesn't meet Metro requirement
323	5042	SCG	Gas	16"	N/A	Lakewood Blvd	UR-197	1185+10	South	2020-460 Conceptual alignment - complete.pdf	Proposed	Coordinate	LA Metro	Unknown	4/5/23 by DP, This is future SCG, need to meet Metro requirement
324	5009	SCG	Gas	4"	N/A	Lakewood Blvd	UR-197	1185+48	South	MTA Slauson Station to Pioneer.pdf, 9 of 12	Active	Protect in Place	Caltrans	4.16'	GPR Data shows depth of 5'-10". 4/5/23 by DP, depth is 4.16' per PH S196-T01A. It has no casing
325	7011	Richfield	Gasoline	4"	N/A	Lakewood Blvd	UR-197	1185+60	South	PP-244-5-16.pdf	Abandoned	Protect in Place	Caltrans	2.46'	No GPR data.5/3/23 by DP, depth is 2.46' per PH S196-T01B. This is an abandone line so it can be removed as needed

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
326	7012	Marathon Pipeline	Oil	8"	N/A	Lakewood Blvd	UR-197	1185+62	South	Line_034.pdf	Abandoned	Protect in Place	Caltrans	2.28'	No GPR data. 4/28/23 by DP, depth is 2.28' per PH S196-T01B.1. It has casing, however this is an aband pipe, so remove as needed.
327	2012	LACPWD	Sewer	8" VCP	N/A	Lakewood Blvd	UR-197	1185+68	South	DC-265.pdf	Active	Further Evaluation Needed	Caltrans	5.06'	GPR Data shows invert depth of 7'-9". With assume cover of 6.5" the impact factor is 13% surcharge of Cooper E Loading of freight. 5/17/23 by FL, depth is 5.06' per PH S196-T01B.3, 36" STL Pipe. it has casing. It does meet Metro requirement
328	7013	Richfield	Gasoline	4"	N/A	Lakewood Blvd	UR-197	1185+75	South	PP-244-5-16.pdf	Active	Protect in Place	Caltrans	4.3'	Vertical Clearance per as-built. 60' of 8" casing. 5/3/23 by DP, depth is 4.30' per PH S196-T01B.4. It has casing. I does meet the Metro requirement
329	7014	Marathon Pipeline	Oil	8"	N/A	Lakewood Blvd	UR-197	1185+78	South	Line_034.pdf	Active	Protect in Place	Caltrans	4.16'	Vertical Clearance per as-built. 60' of 10" casing. 4/28/23 by DP, depth is 4.16' per PH S196-T01B.6. It has casing. It does meet Metro requirement
330	3017	Liberty Water	Water	10" DI	N/A	Lakewood Blvd	UR-197	1186+95	South	Map1.pdf	Active	Further Evaluation Needed	Caltrans	4.24' to 4.78'	3' cover per GPR Data. 5/11/23 by FL, depth is 4.24' to 4.78' per PH S196-P01, S196-P02. It has no casing.
331	1009	LACFCD	Storm Drain	30" RCP	N/A	Lakewood Blvd	UR-197	1185+00	South	BI 9050 - MTD 770 Compton Mod.pdf, sheet 18	Active	Relocate	City of Paramount	2.00	Catch Basin no longer to drain at this location because of the rail alignment intersecting the grade for Lakewood Blvd.5/15/23 by FL, this SD is not crossing the Track and it is 18.5' west of Track
332	3019	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	6" DI & Steel in 14" casing	N/A	Virginia Ave	UR-199	1200+89	South	RMC 1003_76-94	Active	Protect in Place	LA Metro	10.86'	82' of 14" casing
333	3020	Liberty Water	Water	6" CI	N/A	Virginia Ave	UR-199	1201+11	South	Map2.pdf	Active	Protect in Place	LA Metro	5.06' to 5.82'	Not in GPR surveyed intersection. 5/11/23 by FL. depth is from 5.06' to 5.82' per PH S198-P03 and P04. It has casing. It does meet Metro requirement
334	3021	Liberty Water	Water	4" CI	N/A	Santa Ana St	UR-199	1208+30	South	Map2.pdf	Active	Protect in Place	LA Metro	8.28' to 9.3'	In 10" casing per DC-280 substructure map. 5/11/23 by FL. depth is from 8.28' to 9.3' per PH S198-P06 and S198-P05. It has casing. It meets Metro requirement.
335	6023	Frontier	Telecom (UG)	4-4" DU	N/A	Clark Ave	UR-200	1215+95	South	CLARK-ALONDRA.pdf	Active	Relocate	City of Bellflower	3.78'	GPR Data shows 3'-7" Depth of Cover. 3/30/23 by DP-Per PH S199-P01 the depth of the conduit is 3.78' . Therefore, it doesn't meet the Metro requirement (48 inches under the top of rail)
336	4009	SCE	Power (OH)	12kV	N/A	Clark Ave	UR-200	1216+00	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of Bellflower	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
337	6024	Crown Castle	Telecom (OH)	OH	N/A	Clark Ave	UR-200	1216+02	South	0007729-West Santa Ana Branch transit Corridor-As-built Request Letter and Exhibits.docx, page 8	Active	Relocate	City of Bellflower	22.5	Lidar survey shows that the Telecom OH has a clearance of +22' from the ground. The OH telecom need 5' clearance 5' clearance from OCS of LRT totaling 31'.
338	2013	LACSD	Trunk Sewer	24" VCP	N/A	Clark Ave	UR-200	1216+38	South	02-P-0030.pdf, Sheet 2, PDF 5	Active	Further Evaluation Needed	City of Bellflower	13'	GPR Data indicates 13' depth of cover from invert data. Special concrete bedding is from R/W to R/W. It does meet Metro requirement

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
339	1010	LACFCD	Storm Drain	66" RCP	N/A	Clark Ave and Flora Vista St	UR-200	1216+52	South	BI 0606 - Unit 1 Line B, Sheet 8	Active	Further Evaluation Needed	City of Bellflower	6.32'	Vertical clearance from as-built. 5/15/23 by FL, depth is 6.32' per PH S199-T01.1. It does meet Metro requirement
340	3022	Bellflower Somerset MWC	Water	8" DI	N/A	Clark Ave	UR-200	1216+64	South	scan_bsmwc.com_20210121_142951.pdf, page 2	Active	Relocate	City of Bellflower	3.28'	3' to 3'-8" of cover per GPR. 5/11/23 by FL, depth is 3.28' per PH S199-T01. It has no casing. It doesn't meet Metro requirement
341	1011	LACFCD	Storm Drain	12"H X 72" W RCB Culvert	N/A	Clark Ave and Flora Vista St	UR-200	1216+78	South	BI 0606 - Unit 1 Line B, Sheet 8	Active	Remove	City of Bellflower	2.38'	Reevaluate drainage and remove existing culvert. The open ditch no longer exist. 5/15/23 by FL, depth is 2.38' per PH S199-P02, it doesn't meet Metro requirement
342	6059	City of Bellflower	Traffic Signal	Unknown	N/A	Clark Ave	UR-200	1217+06	South		Active	Relocate	City of Bellflower	N/A	
343	6025	MCI Verizon	Telecom (F)	OH	N/A	Clark Ave	UR-200	TBD	South	Capture3.png	Future Proposed	Coordinate	City of Bellflower	N/A	Legend shows future proposed
344	1012	LACPWD	Storm Drain	12"H X 72" W RCB Culvert	N/A	Alondra Blvd and Flora Vista St	UR-201	1221+00	South	BI 1903 - Unit 1, Sheet 2	Abandoned	Protect in Place	UPRR	Unknown	This is 6' wide open concrete drain per as-built. This is an abandone SD, remove as needed
345	6061	City of Bellflower	Traffic Signal	Unknown	N/A	Alondra Blvd	UR-201	1222+13	South	GPR	Active	Relocate	City of Bellflower		
346	6026	AT&T	Telecom (UG)	12-3.5 ACD	N/A	Alondra Blvd	UR-201	1222+31	South	WSAB - ATT MAPS.pdf, pdf page 18	Active	Relocate	City of Bellflower	3.72'	GPR Data shows 4'-7" Depth of Cover. As-built shows 5'-6" of Cover. Impacted by proposed gate arm foundation. 5/1/23 by DP, depth is 3.72' per PH S200-T01, it has no encasement. It doesn't meet Metro requirement (4' from top of the rail)
347	6027	Frontier	Telecom (UG)	12-3.5" DU	N/A	Alondra Blvd	UR-201	1222+31	South	CLARK-ALONDRA.pdf	Active	Relocate	City of Bellflower	3.72'	Potential shared duct with ATT. 3/30/23 by DP-Per PH S200-P01 the depth of the conduit is 3.72'. Therefore, it doesn't meet the Metro requirement (48 inches under the top of rail) Curb adjustment. Impacted by proposed gate arm foundation.
348	6028	AT&T	Telecom (UG)	9-4" MCD	N/A	Alondra Blvd	UR-201	1222+50	South	WSAB - ATT MAPS.pdf, pdf page 18	Active	Protect in Place	City of Bellflower	3.14'	As-built shows cover of 4'-6" at west of track and 5'-0" at east of track. 5/1/23 by DP, depth is 3.14' per PH S200-T01.2. It doesn't meet Metro requirement (4' from top of the rail)
349	5010	SCG	Gas	3"	N/A	Alondra Blvd	UR-201	1222+68	South	MTA Slauson Station to Pioneer.pdf, 8 of 12	Active	Further Evaluation Needed	City of Bellflower	4.28'	GPR Data shows depth of 4'-2". Proposed top of rail at slight higher elevation than existing grade. There is an additional 1.16' elevation from the proposed rail profile. 4/5/23 by DP, depth is 4.28' per PH S200-T01.3. It has no casing
350	1013	LACFCD	Storm Drain	72" RCP	50	Alondra Blvd and Flora Vista St	UR-201	1222+88	South	BI 1903 - Unit 1, Sheet 2	Active	Further Evaluation Needed	City of Bellflower	7.62'	Vertical clearance from as-built. 5/15/23 by FL, depth is 7.62' per PH S200-T01A. It does meet Metro requirement
351	1014	LACFCD	Storm Drain	24" RCP	N/A	Alondra Blvd and Flora Vista St	UR-201	1223+10	South	BI 1903 - Unit 1, Sheet 2	Active	Protect in Place	City of Bellflower	10.1'	12' from NB LRT alignment. 5/15/23 by FL, depth is 10.1' per using the As-Built profile add to the PH S200-T01A

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352	6029	Spectrum	Telecom (UG)	2" PVC	N/A	Alondra Blvd	UR-201	1222+89	South	Map 5.pdf	Active	Relocate	City of Bellflower	1.5'	GPR Data at east west of Alondra Blvd shows depth of 2'-5". 5/11/23 by FL, depth is 1.5' per PH S200-T02. It has no casing. it doesn't meet Metro requirement
353	3023	Bellflower Somerset MWC	Water	12" SMLC	N/A	Alondra Blvd	UR-201	1223+09	South	scan_bsmwc.com_20210121_142951.pdf, page 4	Active	Relocate	City of Bellflower	4.92'	Depth is 5'-4" per GPR. Relocate per Gate Arm foundation. 5/11/23 by FL depth is 4.92' per PH S200-T02A. It has no casing
354	3024	Bellflower Somerset MWC	Water	8" CI	N/A	Alondra Blvd	UR-201	1223+49	South	scan_bsmwc.com_20210121_142951.pdf, page 4	Active	Relocate	City of Bellflower	4.84'	Depth is 4'-10" per GPR. Maybe enough cover. 5/11/23 by FL, depth is 4.84' per PH S200-T02.4. Im the As-Built said 8" but PH said 10" water line. It has no casing.
355	2014	City of Bellflower	Sewer	12" VCP	N/A	Alondra Blvd	UR-201	1223+60	South	DC-296.pdf	Active	Further Evaluation Needed	City of Bellflower	10.5'	GPR Data indicates 11' depth of cover. 5/24/23 by FL, depth is 10.5' per PH S200-T02.3. It does meet Metro requirement
356	4010	SCE	Power (UG)	4.2kV, 12kV	N/A	Alondra Blvd	UR-201	1223+73	South	DOC000.pdf, pdf page 48	Active	Relocate	City of Bellflower	2.38'	Impacted by proposed gate arm foundation. 4/6/23 by DP, it does not meet the Metro requirement (48 inches under the top of rail)
357	6055	Spectrum	Handhole and conduit	Unknown	N/A	Alondra Blvd and Pacific	UR-201	1223+76	South	Map 5.pdf	Active	Relocate	City of Bellflower	Unknown	Impacted by proposed curb.
358	1015	City of Bellflower	Storm Drain	18" RCP	62	Harvard St	UR-201	1227+22	South	DC-296.pdf	Active	Further Evaluation Needed	LA Metro	Unknown	This line is shown in the Substruture map
359	6030	Spectrum	Telecom (UG)	Unknown	N/A	Harvard St	UR-201	1228+78	South	Map 5.pdf	Active	Relocate	LA Metro	Unknown	No GPR data or Profile. No Pothole
360	6056	Frontier	Handhole and conduit	Unknown	N/A	Alondra Blvd and Pacific	UR-201		South	CLARK-ALONDRA.pdf	Active	Relocate	City of Bellflower	Unknown	
361	3025	Bellflower Somerset MWC	Water	8"	N/A	Ardmore Ave	UR-202	1233+73	South	scan_bsmwc.com_20210121_142951.pdf, page 3 DC-296	Active	Protect in Place	LA Metro	Unknown	Not in GPR surveyed intersection. This is abandone line, so remove as needed
362	1016	City of Bellflower	Storm Drain	15" RCP	93	Olive St	UR-203	1243+37	South	DC-296.pdf	Active	Further Evaluation Needed	LA Metro	Unknown	This line is shown in the Substruture map. At the down stream of 370' the GPR said 6.0 cover
363	7015	Kinder Morgan Pipeline	Oil	16"	N/A	Bellflower Blvd	UR-203	1246+36	South	LS-120 485120WACL_16in_026.pdf	Active	Protect in Place	LA Metro	6.52' to 6.66'	4/11/23 by DP, depth is 6.52' per PH S202-P02 and 6.66' per PH S202-P01. Pipeline had a casing per As-Built, therefore it does meet the MRDC requirement
364	4024	SCE	Elec	Unknown	N/A	Bellflower Blvd	UR-203	1246+97	South	GPR	Active	Relocate	City of Bellflower	2.58'	Potential Traffic Signal. To be address by others

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365	3026	Bellflower Somerset MWC	Water	6" CI	N/A	Bellflower Blvd	UR-203	1247+00	South	scan_bsmwc.com_20210121_142951.pdf, page 7	Active	Relocate	City of Bellflower	3.42'	Depth is 3'-5" per GPR Data. It doesn't meet Metro requirement
366	5011	SCG	Gas	4"	N/A	Bellflower Blvd	UR-203	1247+19	South	MTA Slauson Station to Pioneer.pdf, 7 of 12	Active	Relocate	City of Bellflower	3.40'	GPR Data shows depth of 4'-2". Proposed top of rail at slight higher elevation than existing grade. 4/5/23 by DP, depth is 3.40' per PH S202-T01A.3, it is 4" gas in 8" casing, but it doesn't meet Metro requirement (4' from top of rail)
367	3027	Bellflower Somerset MWC	Water	18" Steel	N/A	Bellflower Blvd	UR-203	1247+50	South	scan_bsmwc.com_20210121_142951.pdf, page 7	Active	Encase	City of Bellflower	5.04'	26' WEST OF NEAREST PROPERTY LINE; POTENTIAL CASING EXTENSION. 5/11/23 by FL, depth is 5.04' per PH S202-T01A.1. It has casing. It meets Metro requirement.
368	6031	AT&T	Telecom (UG)	6 DU + 4 DU	N/A	Bellflower Blvd	UR-203	1247+67	South	WSAB - ATT MAPS.pdf, pdf page 19	Active	Relocate	City of Bellflower	2.32'	GPR Data shows depth of 3'-2". 5/1/23 by DP, depth is 2.32' per PH S202-T01.2. It has encasement, but it doesn't meet Metro requirement (4' from top of the rail)
369	4026	SCE	Elec	Unknown	N/A	Bellflower Blvd	UR-203	1247+75	South	GPR	Active	Relocate	City of Bellflower	2.83'	Need to verify owner. If after power meter, it will be owned by the city for traffic signal use. To be addressed by others
370	6032	Frontier	Telecom (UG)	14-4" DU	N/A	Bellflower Blvd	UR-203	1247+79	South	BELLFLOWER BLVD.pdf	Active	Relocate	City of Bellflower	4.02'	GPR Data shows depth of 2'-10". 3/30/23 by DP-Per PH S202-P03 the depth of the conduit is 4.02'. Therefore, it meets the Metro requirement (48 inches under the top of rail)
371	2015	City of Bellflower	Sewer	8" VCP	N/A	Bellflower Blvd	UR-203	1247+83	South	DC-297.pdf	Active	Further Evaluation Needed	City of Bellflower	3.5'	GPR Data indicates 8'-2" depth of cover. 5/24/23 by FL, depth is 3.5' per PH S202-T01.3. It has casing, but it doesn't meet Metro requirement
372	4025	SCE	Elec	Unknown	N/A	Bellflower Blvd	UR-203	1247+85	South	GPR	Active	Relocate	City of Bellflower	3.17'	Potential Traffic Signal. to be addressed by others
373	7016	Kinder Morgan Pipeline	Oil	16"	N/A	Bellflower Blvd	UR-204	1250+65	South	LS-120 485120WACL_16in_026.pdf	Active	Protect in Place	LA Metro	6.0' to 6.02'	4/11/23 by DP, depth is 6.0' per PH S203-P02 and 6.02' per PH S203-P01, this PH showed end of casing. Pipeline had a casing per As-Built. Therefore, it does meet the MRDC requirement
374	4011	SCE	Power (UG)	12kV	N/A	Cornuta Ave	UR-205	1263+13	South	DOC000.pdf, pdf page 54	Active	Protect in Place	LA Metro	6.84'	Existing condition crosses UPRR R/W from power station to property line. Away from GPR survey of street intersection. Under Propose wall and there is casing from PH. Need to know how deep the wall footing
375	6033	Frontier	Telecom (UG)	10 DU	N/A	Cornuta Ave	UR-205	1266+70	South	DC-312.pdf	Abandoned	Protect in Place	LA Metro	Unknown	Two manholes at Pacific Ave (Vacated). Frontier shows only one at the easterly limit of vacated Cornuta Ave. 3/30/23 by DP-This is Abandoned line, if it is conflicted we can remove the portion of confliction
376	6034	Frontier	Telecom (UG)	16-4" DU	N/A	Cornuta Ave	UR-205	1267+15	South	CORNUTA AVE.pdf	Active	Protect in Place	LA Metro	9.34'	No GPR data or Profile. 3/30/23 by DP-Per PH S204-P02 the depth of the conduit is 9.34'. Therefore, it meets the Metro requirement (48 inches under the top of rail)
377	3028	Bellflower Somerset MWC	Water	10" DI	N/A	Pacific Ave	UR-205	1270+40	South	scan_bsmwc.com_20210121_142951.pdf, page 8	Active	Relocate	LA Metro	5.58'	Depth is 5'-7" per GPR Data. 5/11/23 by FL It may conflict with the wall

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378	4012	SCE	Power (OH)	12kV	N/A	Woodruff Ave	UR-206	1275+24	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	City of Bellflower	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
379	6035	Crown Castle	Telecom (OH)	OH	N/A	Woodruff Ave	UR-206	1275+24	South	No record	Active	Relocate	City of Bellflower	24.63	Confirm with Crown Castle for the OH alignment. UG duct is further south of westerly Woodruff Ave.
380	6036	Crown Castle	Telecom (OH)	OH	N/A	Woodruff Ave	UR-206	1275+24	South	Capture3.png	Active	Relocate	City of Bellflower	27.63	Per Atlas Map doesn't showed the OH CrownCastle crossing the Metro RW
381	3029	Bellflower Somerset MWC	Water	14" Steel	N/A	Woodruff Ave	UR-206	1275+29	South	scan_bsmwc.com_20210121_142951.pdf, page 8	Active	Protect in Place	City of Bellflower	Unknown	At westerly sidewalk. 5/11/23 by FL, this is in Aerial are
382	2016	City of Bellflower	Sewer	15" VCP	N/A	Woodruff Ave	UR-206	1275+43	South	DC-313.pdf	Active	Further Evaluation Needed	City of Bellflower	12.0'	Grade separated. GPR data vertical clearance survey 70' south of NB LRT alignment.5/24/23 by FL, this is in Aerial area
383	5012	SCG	Gas	12"	N/A	Woodruff Ave	UR-206	1275+53	South	MTA Slauson Station to Pioneer.pdf, 6 of 12	Active	Protect in Place	City of Bellflower	3.0'	4/5/23 by DP, depth is 3.0' per PH S205-T01.1, it doesn't meet Metro requirement (4' from top of the rail. However it is in the Aerial area, and no conflict with the column
384	7017	Crimson Pipeline	Oil	8"	N/A	Woodruff Ave	UR-206	1275+55	South	3008-W-9_Crimson-Util.pdf	Active	Protect in Place	City of Bellflower	4.96'	Depth is 4.96' per PH S205-T01. This is Aerial area
385	7018	Crimson Pipeline	Oil	6"	N/A	Woodruff Ave	UR-206	1275+86	South	4-A-319_REV13_Util_2.pdf	Active	Protect in Place	City of Bellflower	Unknown	87' of 12" casing. Grade Separated. This is Aerial area
386	7019	Crimson Pipeline	Oil	6"	N/A	Woodruff Ave	UR-206	1275+91	South	4-A-319_REV13_Util_2.pdf	Abandoned	Protect in Place	City of Bellflower	Unknown	This is Aerial area
387	5013	SCG	Gas	3"	N/A	Woodruff Ave	UR-206	1275+93	South	DC-313.pdf	Abandoned	Protect in Place	City of Bellflower	3.66'	Grade Separated, and depth is 3.66' per GPR
388	5014	SCG	Gas	2"	N/A	Woodruff Ave	UR-206	1275+98	South	MTA Slauson Station to Pioneer.pdf, 6 of 12	Active	Protect in Place	City of Bellflower	Unknown	In casing accommodating for the old rail. Grade separated.
389	3030	Metropolitan Water District	Water	48" PCCP	N/A	Woodruff Ave	UR-206	1276+00	South	2019-17-001 Part 1.pdf, page 5	Active	Protect in Place	City of Bellflower	15.20'	Jack and bore casing per previous freight alignment. Grade separated
390	6037	Frontier	Telecom (UG)	6-4"	N/A	Woodruff Ave	UR-206	1276+19	South	WOODRUFF AVE.pdf	Active	Protect in Place	City of Bellflower	4.58'	GPR Data shows it has 4'-7" depth of cover. 3/30/23 by DP-This conduit is in the Aerial Track, so it is clear

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
391	6038	MCI Verizon	Telecom (F)	OH	N/A	Woodruff Ave	UR-206	Unknown	South	Capture3.png	Future Proposed	Coordinate	MC Metro	N/A	Legend shows future proposed. This is in Aerial Area
392	1017	LACFCD	Storm Drain	36"X22" CMP Arch	N/A	Woodruff Ave and Flora	UR-206, UR-207	1276+60 TO 1282+25	South	DC-313.pdf	Abandoned	Protect in Place	LA Metro	Unknown	This is an abandone line. It can be removed as needed
393	7028	Kinder Morgan Pipeline	Oil	16"	N/A	Flora Vista St	UR-207	1284+75-1285+45	South	LS-120 485120WACL_16in_028.pdf	Active	Protect in Place	LA Metro	5.8' to 6.02'	7.9' South of retaining wall. 4/11/23 by DP, depth is from 5.8' per PH S206-P01 and 6.02' per PH S206-P08. This line is parallel with the Track and NO CASING. Therefore need to relocation
394	7020	Kinder Morgan Pipeline	Oil	24"	N/A	Flora Vista St	UR-207	1285+29	South	LS-105 485105WACL_24in_025.pdf	Active	Further Evaluation Needed	LA Metro	7.9' to 9.64'	30' N.S.; Potential Casing Extension. 4/11/23 by DP, depth is 7.9' per PH S206-P03 and 9.64' per PH S206-P02. As-Built showed 55' casing, and the pipeline is need another 26' extend casing to to meet MRDC requirement
395	7021	Crimson Pipeline	Gasoline	6"	N/A	Flora Vista St	UR-207	1285+67	South	d4a148-Util.pdf	Idle	Protect in Place	LA Metro	License Agmt	Not in GPR surveyed intersection. 4/11/23 by DP, depth is 7.22' per PH S206-T02. No casing
396	7022	Crimson Pipeline	Oil	10"	N/A	Flora Vista St	UR-207	1285+70	South	d4a148-Util.pdf	Active	Protect in Place	LA Metro	7.14'	12" Anode is 7.4' from center of SB LRT tract. Not in GPR surveyed intersection. 4/11/23 by DP, depth is 7.14' per PH S206-T02.1. No casing
397	4013	SCE	Power (OH)	66kV	N/A	Walnut St/California Ave	UR-207	1285+91	South	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	LA Metro	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.
398	3031	Central Basin Municipal Water District (RECLAIMED)	Reclaim Water	24" DI & Steel	N/A	Flora Vista St	UR-207	1286+00	South	RMC 1003_6-94	Active	Protect in Place	LA Metro	12.24'	SB LRT alignment at the westerly edge of the encasement.
399	2017	LACSD	Sewer	60" RCP	N/A	Flora Vista St	UR-207	1286+33	South	JO-P-0016_Walnut_Flora.pdf, Sheet 6, PDF 8	Active	Further Evaluation Needed	LA Metro	4.7'	Vertical clearance from as-built. It does meet Metro requirement
400	1018	LACFCD	Storm Drain	72" RCP	N/A	Beach Street	UR-207	1298+55	South	BI 1902 - Line A, sheet 6	Active	Further Evaluation Needed	LA Metro	0.84' to 5.5'	Vertical clearance from as-built. 5/16/23 by FL, depth is from 0.84' to 5.5' per PH S207-P01 and S207-P02. It doesn't meet Metro requirement
401	3032	Bellflower Somerset MWC	Water	8" AC	N/A	Beach St	UR-209	1301+78	South	scan_bsmwc.com_20210121_142951.pdf, page 10	Active	Relocate	LA Metro	6.2' to 7.34'	Not in GPR surveyed intersection. 5/11/23 by FL, depth is from 6.2' to 7.34' per PH S208-P01A, P01B, P01C, P01D. It has casing . It meets Metro requirement
402	7023	Kinder Morgan Pipeline	Oil	16"	N/A	SR 91 Artesia Freeway	UR-209	1302+30 to 1309+80	South	LS-120 485120WACL_16in_029.pdf	Active	Relocate	Caltrans	1.1'	Within the freight track underpass. 4/11/23 by DP, depth is 1.1' per PH S209-P03 with concrete encasement. However this pipeline is only 4.4' separate with the Prop. Track, so need to relocate
403	7024	Kinder Morgan Pipeline	Oil	16"	N/A	SR 91 Artesia Freeway/Palo Verde Ave	UR-209	1307+87	South	LS-120 485120WACL_16in_029.pdf	Active	Encase	Caltrans	13.22'	Potentially underneath the tracts. 4/11/23 by DP, depth is 13.2' per PH S209-P05 with casing

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
404	4014	SCE	Power (OH)	2-230kV	N/A	San Gabriel River	UR-210	1316+91	South	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	LA Metro	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95. 2/14/23 The Power line is high, so there is no conflict.
405	4015	SCE	Power (OH)	66kV	N/A	San Gabriel River	UR-210	1317+83	South	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	LA Metro	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95. 2/14/23 The Power line is high, so there is no conflict.
406	7025	Kinder Morgan Pipeline	Oil	16"	N/A	San Gabriel River	UR-210	1318+00	South	LS-120 485120WACL_16in_029.pdf	Active	Relocate	LA Metro	2.1'-8.24'	Under retaining wall and track crossing perpendicular. 4/11/23 by DP, we have 5 PH for this Crossing, per As-built there is a casing. However the shallowest is S209-P02 with the depth is 2.1' to the top of concrete encasement. Therefore, it doesn't meet MRDC requirement.
407	1019	LACFCD	Storm Drain	24" RCP in 32" casing	N/A	Artesia Blvd	UR-211, UR-212	1329+67	South	MTD 967.pdf	Active	Further Evaluation Needed	LA Metro	5.16'	Vertical clearance from as-built. Verify edge of casing perpendicular to the track at 5.16'. It has casing. It does meet Metro requirement
408	4016	SCE	Power (UG)	66KV	N/A	Artesia Blvd	UR-212	1330+18	South	DOC000.pdf, pdf page 63	Active	Protect in Place	LA Metro	4.86'	Record set drawing shows it is bored 50' of 48" casing'. GPR date shows it is 4'-11" in depth.
409	6039	Spectrum	Telecom (UG)	10"	N/A	Artesia Blvd	UR-212	1330+55	South	BRWD89C67980E42_20200803_132112_003 265.pdf	Active	Protect in Place	City of Cerritos	2.84'	Telecom in 10" abandoned oil. No GPR Data. 5/11/23 by FL, depth is 2.84' per PH S11-T01.1. It has no casing. It doesn't meet Metro requirement
410	5015	SCG	Gas	3"	N/A	Artesia Blvd	UR-212	1330+52	South	MTA Slauson Station to Pioneer.pdf, 5 of 12	Active	Protect in place	City of Cerritos	4.16'	No GPR Data to indicate depth of cover. 4/5/23 by DP, depth is 4.16' per PH S211-T01.2. It has no casing
411	2023	LACSD	Sewer	18" VCP	N/A	Artesia Blvd	UR-212	1330+58	South	02-D-0021.pdf, sheet 8	Active	Further Evaluation Needed	LA Metro	11.5'	Dip shows upstream MH is 13'0 and downstream MH is 13'-10' depth. Evaluate Class "C" Concrete bedding R/W to R/W. per as-built, it showed 11.5'. It does meet Metro requirement
412	6040	Frontier	Telecom (UG)	4-4" DU	N/A	Artesia Blvd	UR-212	1330+65	South	ARTESIA BLVD.pdf	Active	Relocate	City of Cerritos	4.82'	GPR Data shows cover of 3'-2". 3/30/23 by DP-Per PH S211-P03 the depth of the conduit is 4.82'. Therefore, it meets the Metro requirement (48 inches under the top of rail)
413	7026	Shell Oil	Gasoline	3"	N/A	Artesia Blvd	UR-212	1331+18	South	Y-2669_.PDF	Abandoned	Protect in Place	City of Cerritos	4.56'	No GPR data. 5/19/23 by Flora, depth is 4.56' per PH S211-T02. It has no casing. it doesn't meet Metro requirement
414	6041	Frontier	Telecom (OH)	Unknown	N/A	Artesia Blvd	UR-212	1331+58	South	ARTESIA BLVD.pdf	Active	Relocate	City of Cerritos	22.5'	Lidar survey shows that the Telecom OH has a clearance of +22' from the ground. The OH telecom need 5' clearance5' clearance from OCS of LRT totaling 31'.
415	4017	SCE	Power (OH)	12kV	N/A	Artesia Blvd	UR-212	1331+59	South	Southern California Edison Power Site Search Tool (arcgis.com)	Active	Relocate	City of Cerritos	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95. Needs LIDAR survey. The survey only shows OH FO. 2/14/23: Per SCE meeting OH will meet CPUC GO 95 requirements and therefore no mitigation required.
416	6042	MCI Verizon	Telecom (F)	OH	N/A	Artesia Blvd	UR-212	Unknown	South	Capture3.png	Future Proposed	Coordinate	MC Metro	N/A	Legend shows future proposed.

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417	2018	City of Artesia	Sewer	10" CI	N/A	Studebaker Rd	UR-213	1341+30	South	Studebaker.pdf	Abandoned	Protect in Place	LA Metro	10.56'	Forced Main. 5/19/23 by FL, depth is 10.56' per PH S212-P04ADD. It does meet Metro requirement
418	2019	City of Cerritos	Sewer	10" CIP	N/A	Studebaker Rd	UR-213	1341+30	South		Abandoned		City of Cerritos	10+	Unknow and no record. MH invert 11' at north of NB LRT station. it is an abandoned line, remove as needed
419	6043	Frontier	Telecom (UG)	5-4" DU	N/A	Studebaker Rd	UR-213	1342+29	South	STUDEBAKER RD.pdf	Active	Relocate	City of Cerritos	8.2'	GPR shows it picks up on roadway. I believe it is within the westerly sidewalk. Utility Impacted by Gate Arm Foundation. 3/30/23 by DP-Per PH S212-P02ADD & S212-P03ADD the depth of the conduit is 8.2' with STL casing. Therefore, it meets the Metro requirement (48 inches under the top of rail)
420	4018	SCE	Power (UG)	12kV	N/A	Studebaker Rd	UR-213	1342+50	South	DOC000.pdf, pdf page 66	Active	Protect in Place	City of Cerritos	0.7'	Assumed 24" or 36" Jack and bore diameter. 60' of casing. GPR depth shows 5'-10". It does not meet the Metro requirement (48 inches under the top of rail)
421	4019	SCE	Power (UG)	66kV	N/A	Studebaker Rd	UR-213	1343+48	South	DOC000.pdf, pdf page 67	Active	Protect in Place	City of Cerritos	0.6'	GPR Data shows depth of 5'-10". It does not meet the Metro requirement (48 inches under the top of rail)
422	6044	Frontier	Telecom (UG)	1 Bur	N/A	Studebaker Rd	UR-213	1343+61	South	STUDEBAKER RD.pdf	Active	Relocate	LA Metro	0.5'	GPR data shows it has a depth of 1'-10". 3/30/23 by DP-Per PH S212-P01 the depth of the conduit is 0.5'. Therefore, it doesn't meet the Metro requirement (48 inches under the top of rail)
423	3033	City of Cerritos	Water	24" Steel	N/A	Studebaker	UR-213	1343+69	South	Studebaker.pdf	Active	Extend Casing	City of Cerritos	4.84'	SB LRT alignment over existing 36" casing. 5/19/23 by FL, depth is 4.84' per PH S212-T01C.3. It has casing per As-Built. It does meet Metro requirement
424	5016	SCG	Gas	3"	N/A	Studebaker	UR-213	1344+00	South	MTA Slauson Station to Pioneer.pdf, 4 of 12	Active	Protect in Place	City of Cerritos	10.7'	GPR Data shows depth of 6'-4". 4/5/23 by DP, depth is 10.7' per PH S212-P01A, and it has casing per As-Built. It does meet Metro requirement (4' from top of the rail)
425	1020	City of Cerritos	Storm Drain	36" RCP	N/A	Studebaker	UR-213	1347+75	South	PF517689.pdf	Active	Further Evaluation Needed	LA Metro	5.62'	Depth is 5.62' per As-Built. It has pressure grout mortar all around
426	1021	LACFCD	Storm Drain	93" RCP	N/A	183rd St & Gridley Rd	UR-216	1373+96	South	BI-1113, sheet 8, 9	Active	Protect in Place	LA METRO/Public	4.08'	CIDH encroaching on the SD northern wall. Only 2' horizontal clearance to the edge of the Column. 5/16/23 by FL, depth is 4.08' per PH S215-P01. It is in Aerial area.
427	4020	SCE	Power (UG)	12kV	N/A	Gridley Rd	UR-216	1374+23	South	DOC000.pdf, pdf page 72	Active	Protect in Place	City of Artesia/Cerritos	3.42'	Grade separated. 03/24/23 by DP: per GPR data shows depth of 3.42"
428	5017	SCG	Gas	6"	N/A	183rd St	UR-216	1374+28	South	MTA Slauson Station to Pioneer.pdf, 3 of 12	Active	Protect in Place	City of Artesia/Cerritos	4.84'	GPR Data shows depth of 4"-10". Grade separated. 4/5/23 by DP, it is in Aerial area, and no conflict with column
429	6045	Frontier	Telecom (UG)	12-4" DU	N/A	183rd St	UR-216	1374+65	South	183RD ST.pdf	Active	Protect in Place	City of Artesia/Cerritos	N/A	Grade Separated, Track Aerial, Not conflicted with Bridge Column. This Frontier is no longer in protect in place

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430	2020	City of Artesia	Sewer	12" VCP	N/A	Gridley Road	UR-216	1374+76	South	JO-P-0422.pdf, sheet 7	Active	Protect in Place	City of Artesia	12.37'	Grade separated. Elevation based on MH invert for intersection surveys.
431	3034	Golden State Water	Water	12" DI	N/A	183rd St/Gridley Road	UR-216	1374+84	South	21900164.pdf	Active	Protect in Place	City of Artesia/ Cerritos	6.16'	Grade Separated. This is in Aerial area
432	3035	Golden State Water	Water	6" CI	N/A	Gridley Road	UR-216	1374+91	South	219-6696.pdf	Active	Protect in Place	City of Artesia/ Cerritos	5.16'	Grade Separated. This is in Aerial area
433	5018	SCG	Gas	3"	N/A	183rd St	UR-216	1375+00	South	19-P-0016.pdf, pdf page 4	Abandoned	Protect in Place	City of Artesia/ Cerritos	Unknown	Grade separated. No GPR data. 4/5/23 by DP, it is in Aerial area
434	3036	Golden State Water	Water	6" CI	N/A	183rd St	UR-216	1375+34	South	21900164.pdf	Abandoned	Protect in Place	City of Artesia/ Cerritos	7.33'	Grade Separated. This is in Aerial area
435	6046	Frontier	Telecom (UG)	6-4" DU	N/A	183rd St	UR-216	1375+38	South	183RD ST.pdf	Active	Protect in Place	City of Artesia/ Cerritos	14.42'	Grade Separated, Track Aerial. Not conflicted with Bridge Column. This Frontier is no longer in protect in place
436	4021	SCE	Power (UG)	12kV	N/A	183rd St	UR-216	1375+63	South	DOC000.pdf, pdf page 73	Active	Protect in Place	City of Artesia/ Cerritos	6.25' to 5.75'	Grade separated. 03/24/23 by DP: per GPR data shows depth of 6.25' to 5.75'
437	6047	AT&T	Telecom (UG)	4"	N/A	183rd St	UR-216	1375+77	South	SF-396.pdf	Active	Protect in Place	City of Artesia/ Cerritos		This is in Aerial area
438	6048	AT&T	Telecom (F)	12"	N/A	183rd St	UR-216	Unknown	South	Capture3.png	Active	Coordinate	City of Artesia/ Cerritos	4.86'	Legend shows future proposed. This is in Aerial area

Item No.	Conflict ID No.	Owner	Type	Size and Material	LF	Nearest Cross Street	UR SHEET	Station NB LRT	Alignment Segment	Company Drawings / Field Visits / Other	Status	Disposition	R/W	Vertical Clearance	Design Comments
439	3037	Golden State Water	Water	6" AC in 12" Casing	N/A	186th Street	UR-218	1392+57	South	219-62-569.pdf	Active	Relocate	City of Cerritos	To be potholed	162' of 12" conductor pipe & 6" CI water (186th St) 16" conductor pipe & 8" CI water (South) Existing condition accommodated for freight. The proposed LRT elevation is higher. Impacted by Gate Arm foundation.
440	5019	SCG	Gas	2"	N/A	186th Street	UR-218	1392+74	South	MTA Slauson Station to Pioneer.pdf, 2 of 12	Active	Relocate	City of Artesia	1.86'	GPR Data shows depth at 3'-4". 4/5/23 by DP, depth is 1.86' per PH S217-T01, it doesn't meet Metro requirement
441	3038	Golden State Water	Water	1" Copper	N/A	Jersey/Alburtis Alley	UR-218	1395+92	South	21911169.pdf	Abandoned	Protect in Place	LA Metro	2.68"	Not in GPR surveyed intersection. 5/11/23 by FI, depth is 2.68' per PH S217-P02.1. It has no casing. It doesn't meet Metro requirement
442	3039	Golden State Water	Water	4" AC	N/A	Jersey/Alburtis Alley	UR-218	1395+96	South	21911169.pdf	Active	Relocate	LA Metro	3.96'	No record for casing or accommodation for the rail in terms of depth. 5/11/23 by FL, depth is 3.96' per PH S217-P02. It has no casing. It doesn't meet Metro requirement
443	3040	Golden State Water	Water	8" DI	N/A	Alburtis Ave	UR-218	1398+35	South	21911169.pdf	Active	Protect In Place	LA Metro	6.72'	Mile Post 501.40 - 8" DI in 135' - 20" steel casing - See section 24.16. 5/11/23 by FL, depth is 6.72' per PH S217-P03. It has casing. It meet Metro requirement
444	1022	LACFCD	Storm Drain	81" RCP	N/A	Alburtis Ave	UR-216	1398+52	South	BI 0533 U3 Line A.pdf, Sheet 7	Active	Further Evaluation Needed	LA Metro	6.31'	Vertical clearance from as built. Verify if it can be protected by modified bedding or concrete encasement.
445	1023	LACPWD	Storm Drain	48" CMP Culvert	N/A	Alburtis Ave	UR-218	1398+53	South	SF-406.pdf	Abandoned	Protect in Place	LA Metro	Unknown	This is an abandone SD, remove as needed
446	3041	Golden State Water	Water	6" DI in 14" casing	N/A	187th Street and Alley	UR-219	1400+68	South	219-85-410.pdf	Active	Relocate	LA Metro	4.5'	6" AC water line in 110' of 14" steel casing north-south. The existing condition accommodated for freight. The proposed LRT track is at higher elevation. 5/11/23 by FI, depth is 4.5' pr PH S218-P01. It has casing. It meets Metro requirement.
447	3042	Golden State Water	Water	6" AC	N/A	187th Street and Alley	UR-219	1400+74	South	219-85-410.pdf	Abandoned	Protect in Place	LA Metro	2.5'	Not in GPR surveyed intersection. 5/11/23 by FL, depth is 2.5' per PH S218-P01.2. It has no casing. It doesn't meet Metro requirement
448	6049	Unknown (Telecom)	Telecom (UG)	6"	N/A	Pioneer Blvd	UR-219	1407+46	South	SF-407.pdf	Abandoned	Protect in Place	City of Artesia	4.08'	Schematic shows that it is to be abandoned in this area. 5/22/23 by DP, depth is 4.08' per GPR, It could be a cable run from Pullbox to Pullbox. It has no casing. It doesn't meet Metro requirement
449	5020	SCG	Gas	6"	N/A	187th St	UR-219	1401+50	South	MTA Slauson Station to Pioneer.pdf, 2 of 12	Active	Protect in Place	City of Artesia	3.22'	GPR Data pick up as water line. The proposed rail clearance is an additiona +3.0'. 4/5/23 by DP, depth is 3.22' per PH S218-T01, it doesn't meet Metro requirement (4' from top of the rail)
450	5021	SCG	Gas	2"	N/A	187th St	UR-219	1401+59	South	SF-407.pdf	Abandoned	Protect in Place	City of Artesia	4.08'	4/5/23 by DP, depth is 4.08' per PH S218-T01.1, but this is abandoned line so be able to remove portion of it if it is in conflict
451	2022	LACPWD	Sewer	12" VCP	N/A	187th St	UR-219	1401+95	South	SF-406.pdf	Active	Further Evaluation Needed	City of Artesia	10.2'	49' of 42" Steel casing with extended concrete encasement. Verify if it can be protected by modified bedding or concrete encasement. 5/17/23 by FL, depth is 10.2' per PH S218-T01.3. It has concrete encasement. It does meet Metro requirement

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452	4022	SCE	Power (OH)	12kV	N/A	187th St	UR-219	1402+22	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	LA Metro	Unknown	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95. Need LIDAR survey for the top most powerline. 2/14/23: Per SCE meeting OH will clear CPUC GO 95 requirements and therefore no mitigation.
453	4027	SCE	Guy Wire	Guy Wire	N/A	187th St	UR-219	1402+22	South	visual	Active	Relocate	LA Metro		no records but a visual is confirmed. 2/14/23: Per SCE meeting this guy wire can be removed without relocation and no additional guy is required.. Removed it
454	6050	Spectrum	Telecom (OH)	OH	N/A	187th St	UR-219	1402+24	South	Map 1.pdf	Active	Relocate	City of Artesia	20.12	This line doesn't meet the high requirement
455	3043	Golden State Water	Water	6" AC	N/A	Corby Ave/Pioneer Blvd Alley	UR-219	1405+42	South	219-60-738.pdf	Active	Relocate	LA Metro	4.94'	Under Pioneer Station. 5/11/23 by FL, depth is 4.94' per PH S218-P03. It has casing. It meets Metro requirement
456	3044	Golden State Water	Water	4" AC	N/A	Corby Ave/Pioneer Blvd Alley	UR-219	1405+47	South	219-60-738.pdf	Abandoned	Protect in Place	LA Metro	Unknown	Not in GPR surveyed intersection. No PH found for this, however it is an abandone line, so remove as needed
457	6053	MCI Verizon	Telecom (F)	OH	N/A	Corby Ave/Pioneer Blvd Alley	UR-219	1405+55	South	Capture3.png	Active	Coordinate	LA Metro	N/A	Legend shows future proposed
458	6054	Spectrum	Telecom (UG)	UG	N/A	Pioneer Blvd	UR-219	1407+46	South	Map 1.pdf	Active	Protect in Place	City of Artesia	Unknown	No GPR Data
459	5022	SCG	Gas	6"	N/A	Pioneer Blvd	UR-219	1407+52	South	MTA Slauson Station to Pioneer.pdf, 1 of 12	Active	Relocate	City of Artesia	4.5'	GPR data shows depth of 3'-10" from the sidewalk. 4/5/23 by DP, depth is 4.5' per PH S218-P05ADD, It has no casing
460	5023	SCG	Gas	2"	N/A	Pioneer Blvd	UR-219	1407+52	South	SF-407.pdf	Abandoned	Protect in Place	City of Artesia	1.58'	No GPR Data for depth. 4/5/23 by DP, depth is 1.58' per PH S218-T02,
461	3046	Golden State Water	Water	12" PVC in 24" Casing	N/A	Pioneer Blvd	UR-219	1407+79	South	Construction Plans - 21911253 8.pdf	Active	Protect in Place	City of Artesia	2.98'	Mile Post 501.60 - 12" DI in 24" steel casing - See section 24.16. 5/11/23 by FL, depth is 2.98' per PH S218-T02.1. It has casing. It doesn't meet Metro requirement
462	2021	LACSD	Sewer	18" VCP in 42" casing wit conc. Encasement	N/A	Pioneer Blvd	UR-219	1408+04	South	JO-P-150_Pioner.pdf, sheet4	Active	Further Evaluation Needed	City of Artesia	11.7"	GPR Data shows depth of 15'-0". Evaluate loading of type A1 concrete encasement, and the As-Built showed 11.7'. It does meet Metro requirement
463	6051	Unknown (GTE Telecom)	Telecom (UG)	9 ACD	N/A	Pioneer Blvd	UR-219	1408+07	South	SF-407.pdf	Abandoned?	Protect in Place	City of Artesia	3.36'	GTE per Substructure map. Need coordination with MCI/Verizon/Frontier to determined if the facility is owned or sold to another owner. 5/22/23 by DP, depth is from 4.3' to 4.9' per PH S218-P05 and S218-T02B.2. It has casing. It doesn't meet Metro requirement
464	6052	Unknown (GTE Telecom)	Telecom (UG)	9 DU	N/A	Pioneer Blvd	UR-219	1408+21	South	SF-407.pdf	Abandoned?	Protect in Place	City of Artesia	1.96'	GTE per Substructure map. Need coordination with MCI/Verizon/Frontier to determined if the facility is owned or sold to another owner. 5/22/23 by DP, depth is 1.96' per PH S218-T02B.1. It doesn't meet Metro requirement

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465	6057	Unknown (GTE Telecom)	Telecom (UG)	14 Conduit	N/A	Pioneer Blvd	UR-219	1408+26	South	SF-407.pdf	Abandoned?	Protect in Place	City of Artesia	4.3' to 4.9'	GTE per Substructure map. Need coordination with MCI/Verizon/Frontier to determine if the facility is owned or sold to another owner. 5/22/23 by DP, depth is 3.36' per PH S218-T02A.2. It has casing. It does meet Metro requirement
466	1024	LACPWD	Storm Drain	12" x 48" RCB Culvert	N/A	187th St	UR-219	1403+33	South	SF-407.pdf	Active	Remove	LA Metro	Unknown	there is no profile per substructure map, but it is crossing the Station Platform.
467	4023	SCE	Telecom	OH	N/A	Corby Ave/Pioneer Blvd Alley	UR-219	1405+37	South	Southern California Edison DRPEP (sce.com)	Active	Relocate	LA Metro	23.0'	Verify elevation of power line sag. LRT OCS needs to clear power line by 8' and typical 34' from top of rail track and typical Freight elevation clearance is 28' from top of track per CPUC GO 95.