North Hollywood to Pasadena Bus Rapid Transit (BRT) Corridor Planning and Environmental Study

WATER RESOURCES AND HYDROLOGY TECHNICAL REPORT

Prepared For:

Metro

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ACRONYMS AND ABBREVIATIONS

bgs	below ground surface
BMPs	Best Management Practices
BRT	Bus Rapid Transit
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CWA	Clean Water Act
CWC	California Water Code
DOT	Department of Transportation
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Maps
LID	Low Impact Development
Metro	Los Angeles County Metropolitan Transportation Authority
Mg/L	Milligrams per Liter
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
Project	North Hollywood to Pasadena BRT Corridor Study
RWQCB	Regional Water Quality Control Board
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Loads
umhos/cm	Micromhos per Centimeter
U.S. EPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

1. Introduction

The Los Angeles County Metropolitan Transportation Authority (Metro) is proposing the North Hollywood to Pasadena Bus Rapid Transit (BRT) Corridor Project (Proposed Project or Project) which would provide a BRT service connecting several cities and communities between the San Fernando and San Gabriel Valleys. Specifically, the Proposed Project would consist of a BRT service that runs from the North Hollywood Metro B/G Line (Red/Orange) Station in the City of Los Angeles through the Cities of Burbank, Glendale, the community of Eagle Rock in the City of Los Angeles, and Pasadena, ending at Pasadena City College. The Proposed Project with route options would operate along a combination of local roadways and freeway sections with various configurations of mixed-flow and dedicated bus lanes depending on location. A Draft Environmental Impact Report (EIR) is being prepared for the following purposes:

- To satisfy the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code (PRC) Section 21000, et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Chapter 3, Section 15000, et seq.).
- To inform public agency decision-makers and the public of the significant environmental effects of the Proposed Project, as well as possible ways to minimize those significant effects, and reasonable alternatives to the Proposed Project that would avoid or minimize those significant effects.
- To enable Metro to consider environmental consequences when deciding whether to approve the Proposed Project.

This Water Resources and Hydrology Technical Report is comprised of the following sections:

1. Introduction
2. Project Description
3. Regulatory Framework
4. Existing Setting
5. Significance Thresholds and Methodology
6. Impact Analysis
7. Cumulative Analysis
8. References
9. List of Preparers

2. Project Description

This section is an abbreviated version of the Project Description contained in the Draft EIR. This abbreviated version provides information pertinent to the Technical Reports. Please reference the Project Description chapter in the Draft EIR for additional details about the Proposed Project location and surrounding uses, project history, project components, and construction methods. The Draft EIR also includes a more comprehensive narrative description providing additional detail on the project routing, station locations, and proposed roadway configurations. Unless otherwise noted, the project description is valid for the Proposed Project and all route variations, treatments, and configurations.

2.1 PROJECT ROUTE DESCRIPTION

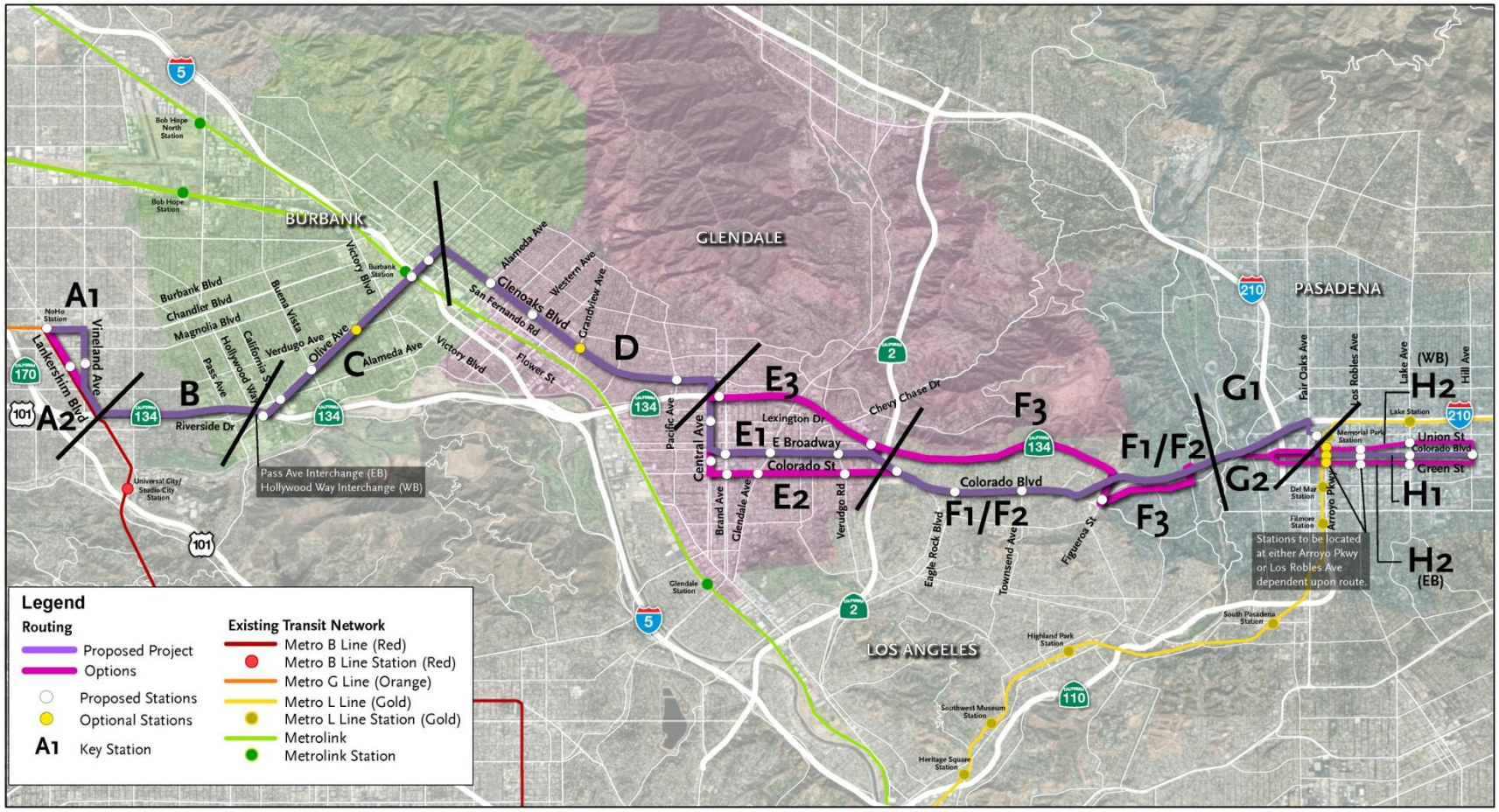
Metro is proposing the BRT service to connect several cities and communities between the San Fernando and San Gabriel Valleys. The Proposed Project extends approximately 18 miles from the North Hollywood Metro B/G Line (Red/Orange) Station on the west to Pasadena City College on the east. The BRT corridor generally parallels the Ventura Freeway (State Route 134) between the San Fernando and San Gabriel Valleys and traverses the communities of North Hollywood and Eagle Rock in the City of Los Angeles as well as the Cities of Burbank, Glendale, and Pasadena. Potential connections with existing high-capacity transit services include the Metro B Line (Red) and G Line (Orange) in North Hollywood, the Metrolink Antelope Valley and Ventura Lines in Burbank, and the Metro L Line (Gold) in Pasadena. The Study Area includes several dense residential areas as well as many cultural, entertainment, shopping and employment centers, including the North Hollywood Arts District, Burbank Media District, Downtown Burbank, Downtown Glendale, Eagle Rock, Old Pasadena and Pasadena City College (see **Figure 1**).

2.2 BRT ELEMENTS

BRT is intended to move large numbers of people quickly and efficiently to their destinations. BRT may be used to implement rapid transit service in heavily traveled corridors while also offering many of the same amenities as light rail but on rubber tires and at a lower cost. The Project would provide enhanced transit service and improve regional connectivity and mobility by implementing several key BRT elements. Primary components of the BRT are further addressed below and include:

- Dedicated bus lanes on city streets
- Transit signal priority (TSP)
- Enhanced stations with all-door boarding

Figure 1 – Proposed Project with Route Options



2.3 DEDICATED BUS LANES

The Proposed Project would generally include dedicated bus lanes where there is adequate existing street width, while operating in mixed traffic within the City of Pasadena. BRT service would operate in various configurations depending upon the characteristics of the roadways as shown below:

- **Center-Running Bus Lanes:** Typically includes two lanes (one for each direction of travel) located in the center of the roadway. Stations are usually provided on islands at intersections and are accessible from the crosswalk.
- **Median-Running Bus Lanes:** Typically includes two lanes (one for each direction of travel) located in the inside lane adjacent to a raised median in the center of the roadway. Stations are usually provided on islands at intersections and are accessible from the crosswalk.
- **Side-Running Bus Lanes:** Buses operate in the right-most travel lane separated from the curb by bicycle lanes, parking lanes, or both. Stations are typically provided along curb extensions where the sidewalk is widened to meet the bus lane. At intersections, right-turn bays may be provided to allow buses to operate without interference from turning vehicles and pedestrians.
- **Curb-Running Operations:** Buses operate in the right-most travel lane immediately adjacent to the curb. Stations are located along the sidewalk which may be widened to accommodate pedestrian movement along the block. Right-turning traffic merges with the bus lane approaching intersections and buses may be delayed due to interaction with right-turning vehicles and pedestrians.
- **Mixed-Flow Operations:** Where provision of dedicated bus lanes is impractical, the BRT service operates in lanes shared with other roadway vehicles, although potentially with transit signal priority. For example, where the service transitions from a center-running to side-running configuration, buses would operate in mixed-flow. Buses would also operate in mixed-flow along freeway facilities.

Table 1 provides the bus lane configurations for each route segment of the Proposed Project.

Table 1 – Route Segments

Key	Segment	From	To	Bus Lane Configuration
A1 (Proposed Project)	**Lankershim Blvd.**	**N. Chandler Blvd.**	**Chandler Blvd.**	**Mixed-Flow**
	Chandler Blvd.	**Lankershim Blvd.**	**Vineland Ave.**	**Side-Running**
	Vineland Ave.	**Chandler Blvd.**	**Lankershim Blvd.**	**Center-Running**
	Lankershim Blvd.	**Vineland Ave.**	**SR-134 Interchange**	**Center-Running** **Mixed-Flow[1]**
A2 (Route Option)	Lankershim Blvd.	N. Chandler Blvd.	SR-134 Interchange	Side-Running Curb-Running[2]
B (Proposed Project)	**SR-134 Freeway**	**Lankershim Blvd.**	**Pass Ave. (EB)** **Hollywood Wy. (WB)**	**Mixed-Flow**
C (Proposed Project)	**Pass Ave. – Riverside Dr. (EB)** **Hollywood Wy. –** **Alameda Ave. (WB)**	**SR-134 Freeway**	**Olive Ave.**	**Mixed-Flow[3]**
	Olive Ave.	**Hollywood Wy. (EB)** **Riverside Dr. (WB)**	**Glenoaks Blvd.**	**Curb-Running**
D (Proposed Project)	**Glenoaks Blvd.**	**Olive Ave.**	**Central Ave.**	**Curb-Running** **Median-Running[4]**
E1 (Proposed Project)	**Central Ave.**	**Glenoaks Blvd.**	**Broadway**	**Mixed Flow** **Side-Running[5]**
	Broadway	**Central Ave.**	**Colorado Blvd.**	**Side-Running**
E2 (Route Option)	Central Ave.	Glenoaks Blvd.	Colorado St.	Side-Running
	Colorado St. – Colorado Blvd.	Central Ave.	Broadway	Side-Running
E3 (Route Option)	Central Ave.	Glenoaks Blvd.	Goode Ave. (WB) Sanchez Dr. (EB)	Mixed-Flow
	Goode Ave. (WB) Sanchez Dr. (EB)	Central Ave.	Brand Blvd.	Mixed-Flow
	SR-134[6]	Brand Blvd.	Harvey Dr.	Mixed-Flow
F1 (Route Option)	Colorado Blvd.	Broadway	Linda Rosa Ave. (SR-134 Interchange)	**Side-Running**
				Side-Running Center Running[7]

Metro

Key	Segment	From	To	Bus Lane Configuration
F2 (Proposed Project)	**Colorado Blvd.**	**Broadway**	**Linda Rosa Ave. (SR-134 Interchange)**	**Side-Running**
F3 (Route Option)	SR-134	Harvey Dr.	Figueroa St.	Mixed-Flow
	Figueroa St.	SR-134	Colorado Blvd.	**Mixed-Flow**
	Colorado Blvd.	Figueroa St.	SR-134 via N. San Rafael Ave. Interchange	**Mixed-Flow**
G1 (Proposed Project)	**SR-134**	**Colorado Blvd.**	**Fair Oaks Ave. Interchange**	**Mixed-Flow**
	Fair Oaks Ave.	**SR-134**	**Walnut St.**	**Mixed-Flow**
	Walnut St.	**Fair Oaks Ave.**	**Raymond Ave.**	**Mixed-Flow**
	Raymond Ave.	**Walnut St.**	**Colorado Blvd. or Union St./Green St.**	**Mixed-Flow**
G2 (Route Option)	SR-134	Colorado Blvd.	Colorado Blvd. Interchange	Mixed-Flow
	Colorado Blvd. or Union St./Green St.	Colorado Blvd. Interchange	Raymond Ave.	Mixed-Flow
H1 (Proposed Project)	**Colorado Blvd.**	**Raymond Ave.**	**Hill Ave.**	**Mixed-Flow**
H2 (Route Option)	Union St. (WB) Green St. (EB)	Raymond Ave.	Hill Ave.	Mixed-Flow

Notes:
[1]South of Kling St.
[2]South of Huston St.
[3]Eastbound curb-running bus lane on Riverside Dr. east of Kenwood Ave.
[4]East of Providencia Ave.
[5]South of Sanchez Dr.
[6]Route continues via Broadway to Colorado/Broadway intersection (Proposed Project F2 or Route Option F1) or via SR-134 (Route Option F3)
[7]Transition between Ellenwood Dr. and El Rio Ave.

2.4 TRANSIT SIGNAL PRIORITY

TSP expedites buses through signalized intersections and improves transit travel times. Transit priority is available areawide within the City of Los Angeles and is expected to be available in all jurisdictions served by the time the Proposed Project is in service. Basic functions are described below:

- **Early Green:** When a bus is approaching a red signal, conflicting phases may be terminated early to obtain the green indication for the bus.
- **Extended Green:** When a bus is approaching the end of a green signal cycle, the green may be extended to allow bus passage before the green phase terminates.
- **Transit Phase:** A dedicated bus-only phase is activated before or after the green for parallel traffic to allow the bus to proceed through the intersection. For example, a queue jump may be implemented in which the bus departs from a dedicated bus lane or a station ahead of other traffic, so the bus can weave across lanes or make a turn.

2.5 ENHANCED STATIONS

It is anticipated that the stations servicing the Proposed Project may include the following elements:

- Canopy and wind screen
- Seating (benches)
- Illumination, security video and/or emergency call button
- Real-time bus arrival information
- Bike racks
- Monument sign and map displays

Metro is considering near-level boarding which may be achieved by a combination of a raised curb along the boarding zone and/or ramps to facilitate loading and unloading. It is anticipated that BRT buses would support all door boarding with on-board fare collection transponders in lieu of deployment of ticket vending machines at stations.

The Proposed Project includes 21 proposed stations and two “optional” stations, and additional optional stations have been identified along the Route Options, as indicated in **Table 2**. Of the 21 proposed stations, four would be in the center of the street or adjacent to the median, and the remaining 17 stations would be situated on curbs on the outside of the street.

Table 2 – Proposed/Optional Stations

Jurisdiction	Proposed Project	Route Option
North Hollywood (City of Los Angeles)	North Hollywood Transit Center (Metro B/G Lines (Red/Orange) Station)	
	Vineland Ave./Hesby St.	Lankershim Blvd./Hesby St.
City of Burbank	Olive Ave./Riverside Dr.	
	Olive Ave./Alameda Ave.	
	Olive Ave./Buena Vista St.	
	Olive Ave./Verdugo Ave. (optional station)	
	Olive Ave./Front St. (on bridge at Burbank-Downtown Metrolink Station)	
	Olive Ave./San Fernando Blvd.	
City of Glendale	Glenoaks Blvd./Alameda Ave.	
	Glenoaks Blvd./Western Ave.	
	Glenoaks Blvd./Grandview Ave. (optional station)	
	Central Ave./Lexington Dr.	Goode Ave. (WB) & Sanchez Dr. (EB) west of Brand Blvd.
		Central Ave./Americana Way
	Broadway/Brand Blvd.	Colorado St./Brand Blvd.
	Broadway/Glendale Ave.	Colorado St./Glendale Ave.
	Broadway/Verdugo Rd.	Colorado St./Verdugo Rd.
		SR 134 EB off-ramp/WB on-ramp west of Harvey Dr.
Eagle Rock (City of Los Angeles)	Colorado Blvd./Eagle Rock Plaza	
	Colorado Blvd./Eagle Rock Blvd.	
	Colorado Blvd./Townsend Ave.	Colorado Blvd./Figueroa St.
City of Pasadena	Raymond Ave./Holly St. [1] (near Metro L Line (Gold) Station)	
	Colorado Blvd./Arroyo Pkwy. [2]	Union St./Arroyo Pkwy. (WB)[2] Green St./Arroyo Pkwy. (EB)[2]
	Colorado Blvd./Los Robles Ave. [1]	Union St./Los Robles Ave. (WB)[1] Green St./Los Robles Ave. (EB)[1]
	Colorado Blvd./Lake Ave.	Union St./Lake Ave. (WB) Green St./Lake Ave. (EB)
	Pasadena City College (Colorado Blvd./Hill Ave.)	Pasadena City College (Hill Ave./Colorado Blvd.)

[1]With Fair Oaks Ave. interchange routing
[2]With Colorado Blvd. interchange routing

2.6 DESCRIPTION OF CONSTRUCTION

Construction of the Proposed Project would likely include a combination of the following elements dependent upon the chosen BRT configuration for the segment: restriping, curb-and-gutter/sidewalk reconstruction, right-of-way (ROW) clearing, pavement improvements, station/loading platform construction, landscaping, and lighting and traffic signal modifications. Generally, construction of dedicated bus lanes consists of pavement improvements including restriping, whereas ground-disturbing activities occur with station construction and other support structures. Existing utilities would be protected or relocated. Due to the shallow profile of construction, substantial utility conflicts are not anticipated, and relocation efforts should be brief. Construction equipment anticipated to be used for the Proposed Project consists of asphalt milling machines, asphalt paving machines, large and small excavators/backhoes, loaders, bulldozers, dump trucks, compactors/rollers, and concrete trucks. Additional smaller equipment may also be used such as walk-behind compactors, compact excavators and tractors, and small hydraulic equipment.

The construction of the Proposed Project is expected to last approximately 24 to 30 months. Construction activities would shift along the corridor so that overall construction activities should be of relatively short duration within each segment. Most construction activities would occur during daytime hours. For specialized construction tasks, it may be necessary to work during nighttime hours to minimize traffic disruptions. Traffic control and pedestrian control during construction would follow local jurisdiction guidelines and the Work Area Traffic Control Handbook. Typical roadway construction traffic control methods would be followed including the use of signage and barricades.

It is anticipated that publicly owned ROW or land in proximity to the Proposed Project's alignment would be available for staging areas. Because the Proposed Project is anticipated to be constructed in a linear segment-by-segment method, there would not be a need for large construction staging areas in proximity to the alignment.

2.7 DESCRIPTION OF OPERATIONS

The Proposed Project would provide BRT service from 4:00 a.m. to 1:00 a.m. or 21 hours per day Sunday through Thursday, and longer service hours (4:00 a.m. to 3:00 a.m.) would be provided on Fridays and Saturdays. The proposed service span is consistent with the Metro B Line (Red). The BRT would operate with 10-minute frequency throughout the day on weekdays tapering to 15 to 20 minutes frequency during the evenings, and with 15-minute frequency during the day on weekends tapering to 30 minutes in the evenings. The BRT service would be provided on 40-foot zero-emission electric buses with the capacity to serve up to 75 passengers, including 35-50 seated passengers and 30-40 standees, and a maximum of 16 buses are anticipated to be in service along the route during peak operations. The buses would be stored at an existing Metro facility.

3. Regulatory Framework

Several water resources and water quality regulations have been implemented at the federal level (e.g., the United States Environmental Protection Agency [U.S. EPA]), the state level (e.g., State Water Resources Control Board [SWRCB]), and local level (e.g., Regional Water Quality Control Board [RWQCB], municipality criteria). These agencies and entities make up the regulatory framework that would help guide the design and water quality considerations for the Project.

The U.S. EPA has implemented laws to protect and promote the restoration and maintenance of the chemical, physical, and biological integrity of the Nation's waters and, furthermore, has directed states to establish water quality standards for all "waters of the U.S." The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regional beneficial uses, water quality characteristics, and water quality problems. The Los Angeles RWQCB Region 4 implements a number of federal and state laws. Federal, state, and local regulations considered include, but are not limited to, the following:

3.1 FEDERAL REGULATIONS

3.1.1 Clean Water Act

The Federal Clean Water Act (CWA) was designed to restore and maintain the chemical, physical, and biological integrity of the nation's waters. The CWA also directs states to establish water quality standards for all "waters of the United States" and to review and update such standards on a triennial basis. Other provisions of the CWA related to basin planning include Section 208, which authorizes the preparation of waste treatment management plans, and Section 319, which mandates specific actions for the control of pollution from nonpoint sources. The U.S. EPA has delegated responsibility for implementation of portions of the CWA to the SWRCB, including water quality control planning and control programs, such as the National Pollutant Discharge Elimination System (NPDES) Program. Regulation oversight by the SWRCB is further discussed below in Section 3.2 State Regulations.

Section 401(a)(1) of the CWA specifies that any applicant for a federal license or permit to conduct any activity, including, but not limited to, the construction or operation of facilities that may result in any discharge into navigable waters, shall provide the federal licensing or permitting agency a certification from the state in which the discharge originates or will originate, or, if appropriate, from the interstate water pollution control agency having jurisdiction over the navigable water at the point where the discharge originates or will originate. Section 401(a)(1) also specifies that any such discharge will comply with the applicable provisions of Sections 301, 302, 303, 306 and 307 of the CWA.

3.1.1.1 National Pollutant Discharge Elimination System (NPDES)

The NPDES permit system was established in the CWA to regulate point source discharges (a municipal or industrial discharge at a specific location or pipe) to surface waters of the U.S. Nonpoint source pollution often enters the receiving water in the form of overland flow, which is surface runoff that is not delivered by pipelines or other discrete conveyances. As defined in the federal regulations, nonpoint sources are generally exempt from federal NPDES permit program requirements. Two exceptions that are regulated under the NPDES program are: (1) diffuse source discharges caused by general construction activities of over one acre; and (2) stormwater discharges in municipal stormwater systems as a separate system in which runoff is carried through a developed conveyance system to specific discharge locations. These are apparent nonpoint source discharges, but because the diffuse source pollution is conveyed in a confined, discrete conveyance system that discharges at a specific location or locations to surface water, for regulatory purposes they are considered point source dischargers.

For point source discharges, each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. However, because municipal stormwater and construction stormwater sources are diffuse and vary with site characteristics, effluent limitations are not practical. Therefore, because the actual source is diffuse and spread out over a large area, instead of effluent limits, the reduction of pollutants in urban stormwater discharge is regulated through the use of structural and nonstructural best management practices (BMPs) to the maximum extent practicable (MEP).

For these diffuse source discharges, the NPDES program establishes a comprehensive stormwater quality program to manage urban stormwater and minimize pollution of the environment to the maximum extent practicable. The NPDES program consists of (1) characterizing receiving water quality, (2) identifying harmful constituents, (3) targeting potential sources of pollutants, and (4) implementing a Comprehensive Stormwater Management Program. Each NPDES permit contains limits on allowable concentrations and mass emissions of pollutants contained in the discharge. Sections 401 and 402 of the CWA contain general requirements regarding NPDES permits, while Section 307 of the CWA describes the factors that the EPA must consider in setting effluent limits for priority pollutants. Typical BMPs used to manage runoff water quality during operational activities include controlling roadway and parking lot contaminants by installing oil and grease separators at storm drain inlets, cleaning parking lots on a regular basis, incorporating peak-flow reduction and infiltration features (such as grass swales, infiltration trenches, and grass filter strips) into landscaping, and implementing educational programs.

The 1987 amendments to the CWA directed the Federal EPA to implement the stormwater program in two phases. Phase I addressed discharges from large (population 250,000 or above) and medium (population 100,000 to 250,000) municipalities and certain industrial activities. Phase II (1999) addresses (1) smaller discharges defined by EPA that are not included in Phase I and (2) construction activities that affect one to five acres. Under Phase II, each permittee must implement a Stormwater Management Program that addresses six minimum control measures associated with construction and operational activities, including (1) public

education and outreach, (2) public participation/involvement, (3) illicit discharge detection and elimination, (4) construction site stormwater runoff control for sites greater than 1 acre, (5) post-construction stormwater management in new development and redevelopment, and (6) pollution prevention/good housekeeping for municipal operations. These control measures will typically be addressed by developing BMPs.

The National Pollutant Discharge Elimination System (NPDES) stormwater permitting program, under Section 402(p) of the CWA, is administered by the RWQCB on behalf of the U.S. EPA. Regulation oversight by the RWQCB for NPDES permitting is discussed further in Section 3.3.1 Water Quality Control for the Los Angeles Region of this report.

3.1.2 Water Quality Act of 1987

The Water Quality Act of 1987 added Section 402(p) to the Federal Clean Water Act (33 U.S.C Sections 1251-1387). This section requires the United Stated Environmental Protection Agency (USEPA) to establish regulations setting forth NPDES requirements for stormwater discharges in two phases. On November 16, 1990, Phase I stormwater regulations were directed at municipal separate storm sewer systems (MS4s) serving a population of 100,000 or more, including construction activities. On December 8, 1999, Phase II stormwater regulations were directed at stormwater discharges not covered in Phase I, including small MS4s (serving a population of less than 100,000), small construction projects (one to five acres), and municipal facilities with delayed coverage under the Intermodal Surface Transportation Efficiency Act of 1991.

3.1.3 Executive Order 11988

Executive Order 11988 (Floodplain Management) links the need to protect lives and property with the need to restore and preserve natural and beneficial floodplain values. Specifically, Federal agencies are directed to avoid conducting, allowing, or supporting actions on the base floodplain unless the agency finds that the base floodplain is the only practicable alternative location. Similarly, Department of Transportation (DOT) Order 5650.2, which implements Executive Order 11988 (Floodplain Management) and was issued pursuant to the National Environmental Policy Act of 1969, the National Flood Insurance Act of 1968, and the Flood Disaster Protection Act of 1973, prescribe policies and procedures for ensuring that proper consideration is given to the avoidance and mitigation of adverse floodplain impacts in agency actions, planning programs, and budget requests.

3.1.4 Floodplain Development

Federal Emergency Management Agency (FEMA) is responsible for determining flood elevations and floodplain boundaries based on USACE studies and approved agency studies. FEMA is also responsible for distributing the Flood Insurance Rate Maps (FIRMs), which are used in the National Flood Insurance Program (NFIP). These maps identify the locations of Special Flood Hazard Areas (SFHAs), including the 100-year flood zone.

FEMA allows nonresidential development in SFHAs; however, construction activities are restricted depending upon the potential for flooding within each area. Federal regulations governing development in a SFHA are set forth in Title 44, Part 60 of the Code of Federal Regulations (CFR), which enables FEMA to require municipalities that participate in the NFIP to adopt certain flood hazard reduction standards for construction and development in 100-year floodplains. In addition, the Flood Disaster Protection Act of 1973 and the National Flood Insurance Reform Act of 1994 mandate the purchase of flood insurance as a condition of Federal or Federally related financial assistance for acquisition and/or construction of buildings in SFHAs of any community.

3.1.5 Federal Water Pollution Control Act

The Federal Water Pollution Control Act (33 U.S.C. Section 1251 et seq.) (Amended P.L. 111-378, January 4, 2011) authorized the Surgeon General of the Public Health Service, in cooperation with other Federal, state and local entities, to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. During the development of such plans, due regard was to be given to improvements necessary to conserve waters for public water supplies, propagation of fish and aquatic life, recreational purposes, and agricultural and industrial uses. The original statute also authorized the Federal Works Administrator to assist states, municipalities, and interstate agencies in constructing treatment plants to prevent discharges of inadequately treated sewage and other wastes into interstate waters or tributaries. “The objective of the Federal Water Pollution Control Act, commonly referred to as the Clean Water Act (CWA), is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands.” The intent of this act is to prepare or develop comprehensive programs for preventing, reducing, or eliminating the pollution of the navigable waters and groundwaters and improving the sanitary condition of surface and under groundwaters.

3.1.6 Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act (33 U.S.C. 401 et seq.), administered by the U.S. Army Corps of Engineers (USACE), requires permits in navigable waters of the U.S. for all structures such as riprap, dredging, and other activities. Navigable waters are defined as those subject to the ebb and flow of the tide and susceptible to use in their natural condition or by reasonable improvements as means of interstate transport or foreign commerce. USACE grants or denies permits based on the effects of navigation. Most activities covered under this act are also covered under Section 404 of the CWA.

3.1.7 Flood Disaster Protection Act

The purpose of the Flood Disaster Protection Act (42 U.S.C. 4001–4128; DOT Order 5650.2, 23 CFR 650 Subpart A; and 23 CFR 771) is to identify flood-prone areas and provide insurance. The act requires purchase of insurance for buildings in special flood-hazard areas. The act is

applicable to any federally assisted acquisition or construction project in an area identified as having special flood hazards. Projects should avoid construction in, or develop a design to be consistent with, FEMA-identified flood-hazard areas.

3.2 STATE REGULATIONS

Responsibility for the protection of water quality in California rests with the State Water Resources Control Board (SWRCB) and nine Regional Water Resources Control Boards (RWQCBs). The SWRCB establishes statewide policies and regulations for the implementation of water quality control programs mandated by federal and state water quality statutes and regulations. The RWQCBs develop and implement Water Quality Control Plans (Basin Plans) that consider regionally beneficial uses, water quality characteristics, and water quality problems. Basin Plans are discussed further in Section 3.3.1 of this report.

3.2.1 State Regulation of the Clean Water Act

In California, the RWQCB issues Water Quality Certifications pursuant to Section 401 of the CWA. This section of the CWA protects water quality within the Los Angeles River and the Pacoima Channel.

All projects resulting in discharges, whether to land or water, are subject to Section 13263 of the California Water Code and are required to obtain approval of Waste Discharge Requirements (WDRs) by the RWQCB. WDRs for discharges to surface waters meet requirements for NPDES permits. Land and groundwater-related WDRs (i.e., non-NPDES WDRs) regulate discharges of privately or publicly treated domestic wastewater, and process and wash-down wastewater.

3.2.2 Porter-Cologne Water Quality Act of 1969

The Porter-Cologne Water Quality Control Act (Water Code § 13000 et seq.), codified as Division 7 (Water Quality) of the State Water Code, established the responsibilities and authorities of the SWRCB and the nine RWQCBs. According to Section 13001 of the Porter-Cologne Water Quality Control Act, these RWQCBs are to be “... the principal state agencies with primary responsibility for the coordination and control of water quality.” Section 13050 directs each RWQCB to "...formulate and adopt water quality control plans (Basin Plans) for all areas within the region." Basin Plans are discussed further in Section 3.3.1.

3.2.3 California Department of Fish and Wildlife Code

California Department of Fish and Wildlife Code (§ 1601–1603 [Streambed Alteration]): Sections 1601-1603 of the Fish and Game Code require agencies to notify the California Department of Fish and Wildlife (CDFW) prior to implementing any project that would divert, obstruct, or change the natural flow or bed, channel, or bank of any river, stream, or lake.

3.2.4 California Coastal Act of 1976

The California Coastal Act mandates that the California Coastal Commission protect and enhance the resources of the coastal zone, an area specifically mapped by the legislature. The coastal zone extends from a boundary three miles seaward of the coastline to an inland boundary that varies in width. In urban areas the boundary may be only several hundred feet. In more rural areas it can extend several miles inland.

The Coastal Commission's primary mission is to plan for and regulate land and water uses in the coastal zone consistent with the policies of the Coastal Act. Commission jurisdiction in the coastal zone is broad and applies to private and public entities and covers virtually all manner of development activities, including any division of land, a change in the intensity of use of state waters and of public access to them. Chapter 3 of the Coastal Act spells out the coastal resources planning and management policies of the state.

Development within the coastal zone may not occur until a coastal development permit has been issued. Through its management program, the Coastal Commission issues coastal development permits for a jurisdiction until the local government has adopted a Local Coastal Program (LCP) and the Commission has certified the LCP and delegated permitting authority. The project limits do not encroach on the Coastal Commission’s jurisdiction.

3.2.5 Construction General Permit

The SWRCB permits all regulated construction activities under Order No. 2012-0006-DWQ, which requires that, prior to beginning any construction activities, the permit applicant must obtain coverage under the Construction General Permit by preparing and submitting a Notice of Intent (NOI) and stormwater pollution prevention plan (SWPPP) to the SWRCB; and, by implementing the SWPPP to mitigate potential construction effects on receiving water quality. In addition, 2003 revisions to the original Construction General Permit clarify that all construction activity, including small construction sites that are part of a larger common plan, must obtain coverage under this Construction General Permit. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility. Required elements of a SWPPP include (1) site description addressing the elements and characteristics specific to the site; (2) descriptions of BMPs for erosion and sediment controls; (3) BMPs for construction waste handling and disposal; (4) implementation of approved local plans; (5) proposed post-construction controls, including a description of local post-construction erosion and sediment control requirements; and (6) non-stormwater management. The SWPPP must include BMPs that address source control, and, if necessary, include BMPs that address specific pollutant control.

Examples of typical construction BMPs in completed SWPPPs include scheduling or limiting activities to certain times of year; prohibiting certain construction practices; implementing equipment maintenance schedules and procedures; implementing a monitoring program; other management practices to prevent or reduce pollution, such as using temporary mulching,

seeding, or other suitable stabilization measures to protect uncovered soils; storing materials and equipment to ensure that spills or leaks cannot enter the storm drain system or surface water; developing and implementing a spill prevention and cleanup plan; installing traps, filters, or other devices at drop inlets to prevent contaminants from entering storm drains; and using barriers, such as straw bales or plastic, to minimize the amount of uncontrolled runoff that could enter drains or surface water.

A General Construction Permit has been prepared by the SWRCB effective July 1, 2010. If a new permit is adopted, prior to the beginning of construction activities, the Proposed Project would be subject to the new requirements in the amended General Construction Permit.

3.2.6 Industrial General Permit

The SWRCB and RWQCBs regulate all specified industrial activities under the Waste Discharge Requirements (WDRs) for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities (Industrial General Permit, SWRCB Order No. 97-03-DQ, NPDES General Permit No. CAS000001). The Industrial General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT). The Industrial General Permit also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce stormwater pollution are described. Any Industrial General Permit noncompliance constitutes a violation of the CWA and the Porter-Cologne Water Quality Control Act and is grounds for (a) enforcement action; (b) Industrial General Permit termination, revocation and reissuance, or modification; or (c) denial of an Industrial General Permit renewal application. The Proposed Project is a Category 8 industrial discharger because of the associated maintenance facilities (Category 8 includes transportation facilities that conduct any type of vehicle maintenance such as fueling, cleaning, repairing, and others), and therefore, is subject to conditions of the Industrial General Permit.

Further, the SWRCB is considering adoption of a new Industrial General Permit (IGP) in 2014. If a new permit is adopted, prior to the operation of activities under the authority of the IGP, the Proposed Project would be subject to the new requirements in the amended IGP.

3.3 REGIONAL REGULATIONS

3.3.1 Water Quality Control Plan for the Los Angeles Region (Basin Plan)

The Los Angeles Region 4 RWQCB implements a number of federal and state laws, including the Porter-Cologne Act previously discussed in Section 3.2.2 and the Federal CWA, as previously discussed in Section 3.1.1 of this report. The Porter-Cologne Water Quality Act directs each RWQCB to "...formulate and adopt water quality control plans (Basin Plans) for all areas within the region."

As such, the Los Angeles RWQCB (Region 4) has prepared the Basin Plan in accordance with state and federal law. The Basin Plan sets forth the regulatory water quality standards for surface waters and groundwater within its region. The applicable water quality standards address both the designated beneficial use for each water body and the water quality objectives to meet designated beneficial uses. Where multiple designated beneficial uses exist, water quality standards must protect the most sensitive use. Water quality objectives are typically numeric, although narrative criteria, based upon bio-monitoring methods, may be employed where numerical objectives cannot be established or where they are needed to supplement numerical objectives.

A Total Maximum Daily Load (TMDL) is the calculation of a total amount of pollutant allowed to enter a water body which allows that water body to meet water quality standards. In accordance with the CWA and Porter-Cologne Water Quality Control Act, TMDLs have been developed and incorporated into the Basin Plan for some pollutants identified on the 303(d) list as causing contamination in project sites receiving waters.

The RWQCBs implement the Basin Plans by issuing and enforcing waste discharge regulations to individuals, communities, or businesses whose discharges can affect water quality. These regulations can be either Waste Discharge Requirements for discharges onto land, or NPDES permits for discharges into surface water. The RWQCBs are responsible for administering the permits. For this Project, the Los Angeles RWQCB is the responsible agency.

The RWQCB also requires that coverage under the General Construction NPDES Permit be obtained for construction grading activities for all projects greater than one acre, in compliance with the state Construction General Permit, discussed previously in Section 3.2.5 of this report.

3.3.2 NPDES Municipal Permit

The Project is located in Los Angeles County and would therefore be regulated under the Los Angeles County Municipal NPDES Stormwater Permit (Municipal Permit), NPDES Permit No. CAS004001 (Order No. 01-182) (LARWQCB2007). Under the Municipal Permit, development would comply with the Los Angeles County Drainage Area Master Plan and the Low Impact Development (LID) Ordinance.

Master Drainage Plan for Los Angeles County

The Los Angeles County Department of Public Works has developed Master Drainage Plans that address many individual watershed areas within the Los Angeles County Flood Control District's jurisdiction. The Master Drainage Plans include proposed drainage facilities to protect upstream and downstream properties from significant flooding. Conceptual designs and project cost estimates are included in most plans. Some Master Drainage Plans are the basis for Area Drainage Plans, which are funding mechanisms established to pay for major drainage facilities within some Master Drainage Plans. The Area Drainage Plans impose fees that must be paid by land developers.

Low Impact Development (LID) and Standard Urban Stormwater Mitigation Plan (SUSMP)

The SWRCB adopted the SUSMP in 2000, which aimed to regulate stormwater pollution mitigation for new- and redevelopment projects. In 2012, the Los Angeles RWQCB adopted Order No. R4-2012-0175-A01 of the NPDES Permit No. CAS004001. This Order expanded existing SUSMP requirements by making the criteria for applicants more stringent and introducing an on-site retention requirement. In general, a SUSMP was required for new developments or redevelopments of greater than 5,000 square feet, while the LID plan is required for any new- or redevelopment of greater than 500 square feet. In November 2013, the County of Los Angeles adopted the LID Ordinance which incorporates the requirements of the updated 2012 MS4 permit and provides a stormwater management approach aimed at achieving the goals of the original SUSMP. In 2015, Amendment Order WQ 2015-0075 was adopted implementing updates to the Reasonable Assurance Analysis Watershed Management Program requirements. The purpose of both the SUSMP and the LID mandate is to regulate the mitigation of runoff and stormwater pollution. LID should be implemented as close to the source as possible, while utilizing natural resources.

The majority of the Study Area (including North Hollywood, Burbank, Glendale, and Eagle Rock) is regulated by the Upper Los Angeles River Area Watermaster. Projects located within this area must obtain approval from the designated Watermaster.

Low Impact Development (LID)

LID Best Management Practices (BMPs) vary based on if the development is residential, in an environmentally sensitive area, or greater than one acre. For the City of Los Angeles, the tiers of LID BMPs are listed in priority order as the following:

- Infiltrate;
- Capture and use;
- High efficiency bio-filtration/retention; and
- Any combination of the previous.

These BMPs would be implemented in locations of full-depth pavement replacement and new bus stations. Infiltration systems are the first-tier priority type of BMP improvements, as they provide for percolation and infiltration of stormwater into the ground, which not only reduces the volume of stormwater runoff entering the MS4, but in some cases can also contribute to groundwater recharge. If stormwater infiltration is not possible based on the project site conditions, the developer shall utilize the next priority BMP.

The second-tier priority BMP is stormwater capture and use, commonly referred to as rainwater harvesting, which collects and stores stormwater for later use, thereby offsetting potable water demand and reducing pollutant loading to the storm drain system. As such, sufficient landscaped area with appropriate water demand, to which the captured runoff can be directed, is needed. Partial capture and use can also be achieved as part of a treatment train by directing the overflow to a bioretention system to provide additional volume reduction and water quality treatment in instances where the quantity of runoff from a storm event exceeds the volume of the collection tank.

In the City of Los Angeles, the use of collected stormwater is primarily limited to landscape irrigation. Landscape soil must contain suitable fill material. Excavation and replacement of contaminated or otherwise inadequate soil may be required. Approval of landscaped areas is subject to review and approval via the City of Los Angeles Land Development Plan Check procedure.

Projects that have demonstrated that 100 percent of the water quality design volume cannot be managed onsite through Tier 1 (infiltration) and/or Tier 2 (capture and use) may utilize the third-tier priority BMP: Biofiltration/Bioretention for the remaining volume. Biofiltration/Bioretention BMPs need to capture 1.5 times the design volume not managed through capture and use. Bioretention facilities are landscaped shallow depressions that capture and filter stormwater runoff. As stormwater passes down through the planting soil, pollutants are filtered, adsorbed, and bio-degraded by the soil and plants.

Should it occur that a project cannot meet the requirements of the LID Ordinance, the project shall, at a minimum, comply with all applicable SUSMP requirements to maximize stormwater quality compliance.

Standard Urban Stormwater Mitigation Plan (SUSMP)
SUSMP requires that all projects that fall into one of nine categories incorporate appropriate stormwater mitigation measures into the design. All permittees (including the City of Los Angeles, the City of Burbank, the City of Glendale, and the City of Pasadena) are required to review and approve project plans as part of the development approval process before issuing a building or grading permit for projects in the nine mentioned categories. For the purpose of development, it means any project which includes development and/or redevelopment of parking lots that would be 5,000 square feet or larger or would have 25 or more parking spaces, vehicle or equipment maintenance areas, including washing and repair, and commercial or industrial waste handling or storage. For the purpose of redevelopment, it means land-disturbing activity which results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to, the expansion of a building footprint, addition or replacement of a structure, replacement of impervious surface area that is not part of a routine maintenance activity, and land disturbing activities related to structural or impervious surfaces. Redevelopment does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety. Where development results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to these SUSMP requirements, the design standards apply only to the addition, and not to the entire development. Because the Proposed Project largely uses existing road rights-of-way, only a minimal increase in impervious area is expected.

The LID plan must be incorporated into project plans. Prior to receiving a Final Inspection or Occupancy Permit, whichever is applicable, verification that construction of all stormwater pollution control BMPs and structural and/or treatment control BMPs identified on the approved project plans have been completed is required through a signed certification statement.

3.3.3 Construction Dewatering General Permit

Water Discharge Requirements for Discharges of Groundwater from Construction and Project Dewatering to Surface Waters in Coastal Watersheds of Los Angeles and Ventura Counties (R4-2018-0125, General NPDES Permit No. CAG994004). Discharges covered by this permit include, but are not limited to, treated or untreated groundwater generated from permanent or temporary dewatering operations. This permit includes effluent and receiving water limitations for metals and other potential contaminants in discharges from dewatering operations to freshwater and saltwater, as well as monitoring and reporting requirements. This Water Discharge Requirement would apply to the Proposed Project if there is construction dewatering activities.

3.3.4 Metro Water Action Plan

One of the key elements of Metro's sustainability program is the development and implementation of a Water Action Plan that will reduce water consumption agency-wide in a cost-effective manner. The Water Action Plan analyzes recent trends and current water consumption at selected Metro divisions to better understand the relationship between current equipment, practices and total water use. The primary objectives of the Water Action Plan are to:

- Obtain water usage data from current equipment and operational practices representative of water use throughout Metro's Maintenance divisions;
- Identify reasonable, cost-effective water conserving strategies that can be replicated system-wide; and
- Provide appropriate economic analysis of the costs and benefits for water conservation strategies including substitution of non-potable water supplies.

3.4 LOCAL REGULATIONS

In 1996, the Los Angeles RWQCB Region adopted an NPDES Permit for the County of Los Angeles and the incorporated cities (with the exception of the City of Long Beach). In 2001, the Regional Board adopted a second NPDES Permit for the County of Los Angeles and the incorporated cities (with the exception of the City of Long Beach). The Cities of Los Angeles, Burbank, Glendale, and Pasadena are all co-permittees to the Los Angeles County MS4 Permit (NPDES No. CAS004001, Board Order No. 01-182), and they each have incorporated requirements of the County of Los Angeles LID Guidelines into their City Codes.

3.4.1 City of Los Angeles

Stormwater and urban runoff pollution control are regulated under Chapter 6, Division 4, and Article 4.4 of the Los Angeles Municipal Code. Section 64.70.02 describes pollutant discharge controls including prohibition of non-stormwater to storm drains or receiving waters; spill controls; the requirement to prevent, control, and reduce stormwater pollutants, including construction BMPs; and controlling pollutants from parking lots through rainy season debris

removal. Section 64.72 describes the required stormwater pollution control measures for development planning and construction activities (Ord. No. 173,494). The provisions of this section set forth requirements for construction activities and facility operations of development and redevelopment projects to comply with the requirements of the Standard Urban Stormwater Mitigation Plan as defined by the "Development Best Management Practices Handbook" adopted by the Board of Public Works (Ord. No. 178,132). Municipal Code requirements are discussed in more detail under the pertinent impact analysis.

The City of Los Angeles' LID ordinance became effective in May 2012. The main purpose of this law is to ensure that development and redevelopment projects mitigate runoff in a manner that captures rainwater at its source, while utilizing natural resources. Developments of less than 5,000 square feet in these categories are only subject to the prescriptive method described in the City of Los Angeles Best Management Practices Handbook, Part B, 3rd Edition. Per the City's LID ordinance, residential, industrial, or commercial developments, other project soil disturbances and projects associated with an Environmentally Sensitive Area are required to prepare and implement a stormwater mitigation plan. These stormwater management measures are to be incorporated in to the plans and plans submitted to the City of Los Angeles for review and approval.

3.4.2 City of Burbank

In 1989, the City of Burbank passed Ordinance 3163 to amend its City Code to adopt the CEQA Guidelines. Additionally, the City of Burbank NPDES Permit requirements are referenced in the Burbank Municipal Code, Title 9, Chapter 3, Section 401.

3.4.3 City of Glendale

In 2015, the City of Glendale passed Ordinance No. 5857 to amend its City Code to comply with requirements of the updated 2012 NPDES permit. This ordinance adopts the County of Los Angeles Department of Public Works LID Standards Manual as the City of Glendale LID Standards Manual.

3.4.4 City of Pasadena

The City of Pasadena complies with the RWQCB adoption of the MS4 Permit (Order No. R4-2012-0175). The City of Pasadena Municipal Code Title 8, Chapter 8.70, provides MS4 regulation enforcement authority that may be implemented either administratively or through the judicial system. The City of Pasadena has developed a LID verification process to uphold the requirements of the RWQCB.

4. Existing Setting

4.1 WATER RESOURCES

Precipitation in the San Fernando and San Gabriel Valleys is characterized by intermittent rain during winter months and negligible rain during summer months; 85 percent of the annual precipitation occurs from November to March. Although precipitation normally occurs as rainfall, winter snow is common in the higher elevations of the San Gabriel Mountains. As is typical of many semi-arid regions, the Los Angeles area experiences a wide variation in monthly and seasonal precipitation totals.

Precipitation may flow into surface reservoirs and groundwater basins or run off to the ocean. Short-term water storage is in surface reservoirs and long-term storage is in groundwater basins. The amount of infiltration to groundwater basins is dependent upon the slope, the soil type, and the intensity and duration of the rainfall event. Because most of the greater Los Angeles area is developed (i.e. paved), the majority of rainfall is conveyed elsewhere as runoff. Flood control structures have been constructed to channel runoff through inhabited areas to minimize flooding and to aid in recharging groundwater storage units.

Los Angeles River Watershed

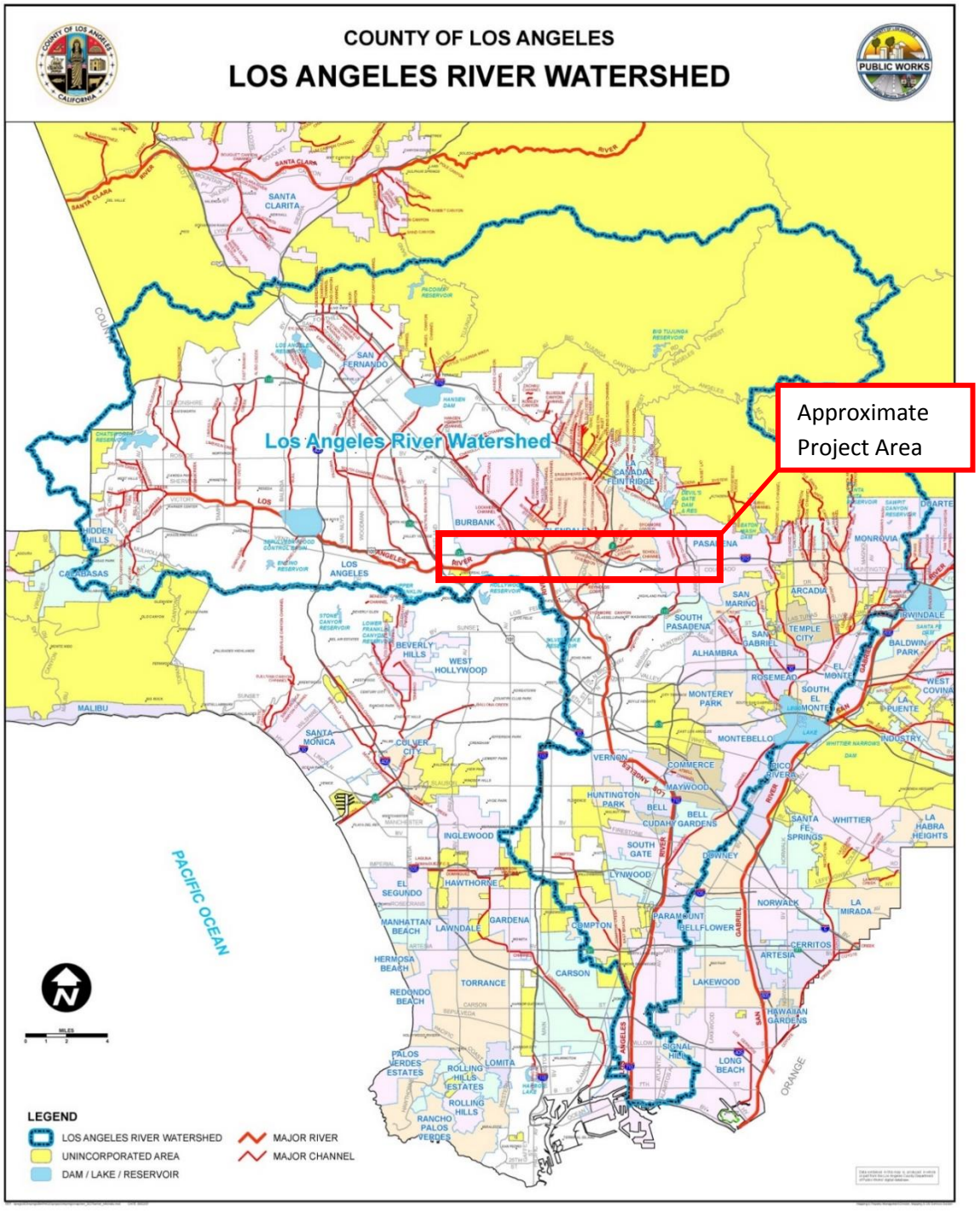
The Project is located wholly within the Los Angeles River Watershed (HUC12-I80701050206), shown in **Figure 2**, which covers a land area of approximately 834 square miles. The eastern portion spans from the Santa Monica Mountains to the Simi Hills and in the west from the Santa Susana Mountains to the San Gabriel Mountains.

The watershed encompasses and is shaped by the path of the Los Angeles River, which flows from its headwaters located in the mountains eastward to the northern corner of Griffith Park. Here, the channel turns southward through the Glendale Narrows before it flows across the coastal plain and into San Pedro Bay near Long Beach. The Los Angeles River has evolved from an uncontrolled, meandering river providing a valuable source of water for early inhabitants to a major flood protection waterway.

The Los Angeles Department of Public Works is tasked with finding ways to restore or revitalize the channels within the watershed and, thereby, provide significant opportunities for recreation use and aesthetic improvements along the waterways in the Los Angeles metropolitan area while protecting the Los Angeles Basin from major flooding.

Four major storm drain lines run adjacent to or cross the Study Area. For the purposes of this report, major lines are considered those having a diameter of 72-inches or larger. A more detailed description of the system and location is provided in the following sections.

Figure 2 - Los Angeles River Watershed



SOURCE: Kimley-Horn and Associates, Inc., 2020.

4.1.1 Surface Water Bodies

Surface water in the San Fernando Valley drains out of the Valley through the Los Angeles River, which flows in the east-west direction. The Project does not have any direct crossings over the Los Angeles River but runs approximately parallel to the river at a distance of 0.5 to 0.7 miles from Toluca Lake through Burbank until it reaches South Buena Vista Street. The Project again comes to within 0.4 miles of the river along Glenoaks Boulevard in the Pelanconi area of Glendale. From there, the Project continues east and the river turns south towards Downtown Los Angeles. The Los Angeles River continues to flow south through the Los Angeles Coastal Plain to San Pedro Bay, where it discharges to the Pacific Ocean.

Numerous tributaries, most of which have intermittent flow, discharge into the Los Angeles River. These include the Arroyo Calabasas, Bell Creek, Aliso Wash, Browns Canyon Wash, Chatsworth Creek, Pacoima Wash, Tujunga Wash, and Verdugo Wash. These washes and creeks are primarily concrete-lined within the urban areas. The Project crosses Burbank Western Channel along Olive Avenue in Burbank.

Surface water in the western San Gabriel Valley drains a watershed of approximately 47 square-miles to the Arroyo Seco. The Arroyo Seco flows generally southwest through Pasadena and joins the Los Angeles River just north of Downtown Los Angeles. The headwaters originate in the mountains of the Angeles National Forest, and due to steep grades in the upper reaches, extreme flash flooding during major storm events is common. Downstream flooding is protected against at Devil's Gate Dam. Below the dam, the channel becomes encased in concrete in all but two distinct stretches until it reaches its confluence with the Los Angeles River. Most of the watershed below the dam is urbanized. **Table 3** lists the TMDLs currently being implemented on Project area streams.

Table 3 - TMDLs Currently Being Implemented on Streams within the Project Area

Reach	TMDLs
Los Angeles River Reach 3	Ammonia, Copper, Indicator Bacteria, Nutrients (Algae), Toxicity, Trash
Los Angeles River Reach 4	Indicator Bacteria, Nutrients (Algae), Toxicity, Trash
Burbank Western Channel	Copper, Cyanide, Indicator Bacteria, Lead, Selenium, Trash
Verdugo Wash Reach 1	Copper, Indicator Bacteria, Trash
Verdugo Wash Reach 2	Indicator Bacteria, Trash
Arroyo Seco Reach 2	Indicator Bacteria, Trash

SOURCE: Clean Water Act Section 303(d) List), 2018 Draft Integrated Report

Channels Crossing the Project Alignment

The Project crosses three channels and is in the vicinity of a Los Angeles County Flood Control District flood control reservoir and several recreational reservoirs and lakes. The Project crosses the Burbank Western Channel, the Verdugo Wash, and the Arroyo Seco.

The Burbank Western Channel is 6.3 miles long, beginning in the eastern San Fernando Valley. It flows southeast through Downtown Burbank and travels adjacent to Interstate 5 for most of its length. It outfalls into the Los Angeles River near the Los Angeles Equestrian Center.

The Verdugo Wash is a 9.4-mile long concrete lined flood control channel that is a tributary to the Los Angeles River. It begins in the Crescenta Valley and flows southeast along the eastern edge of the Verdugo Mountains and then through a pass through those mountains. It then turns west and joins the Los Angeles River.

The Arroyo Seco is a 24.9-mile long seasonal stream that originates in the Angeles National Forest. It flows southerly at the east of Altadena and passes through Devil's Gate Dam and Reservoir. The stream continues through Pasadena, travels along the western boundary of South Pasadena, and then flows southeasterly through northeast Los Angeles until it joins the Los Angeles River just north of Downtown Los Angeles.

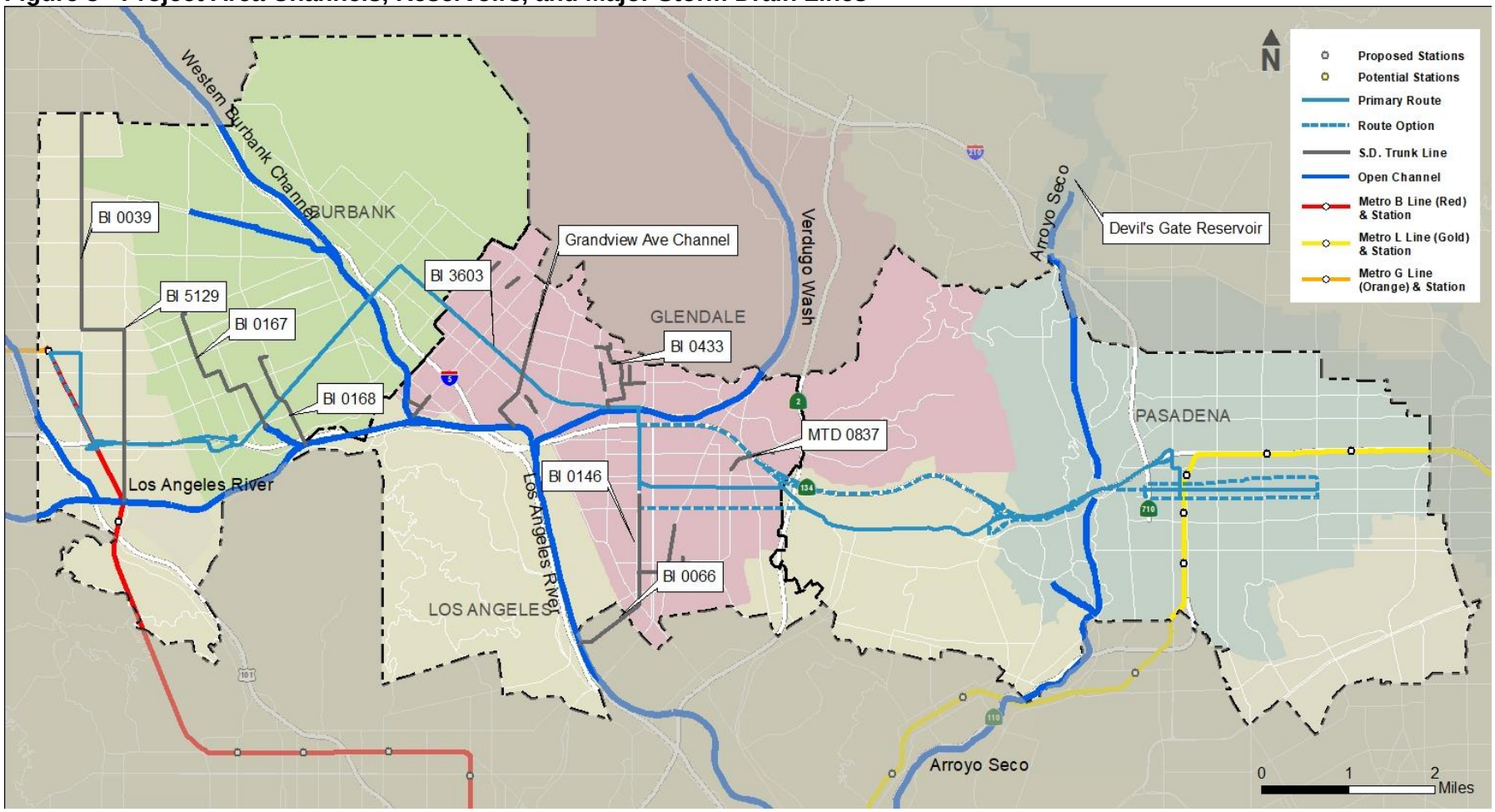
Devil's Gate reservoir is the only flood control reservoir within the vicinity of the project area. Nearby recreational reservoirs and lakes include the Hollywood Reservoir, Silver Lake Reservoir, Rowena Reservoir, Toluca Lake, Eagle Rock Reservoir, and Diederich Street Reservoir.

4.1.2 Subsurface Drainage

As the Proposed Project is located in a densely urbanized area, there are several major storm drain lines that cross the project alignment. Most of these lines outfall into an engineered flood control channel.

Figure 3 shows storm drain lines crossing the project alignment that are 72 inches or larger in diameter for reinforced concrete pipe (RCP), or larger than 72 inches in length or height for reinforced concrete box (RCB). The crossing locations (listed from west to east) and descriptions are summarized in **Table 4**.

Figure 3 - Project Area Channels, Reservoirs, and Major Storm Drain Lines



SOURCE: Kimley-Horn and Associates, Inc., 2020.

Table 4 - Major Storm Drain Lines Crossing the Project Study Area

City	Storm Drain Line	Description
Burbank	BI 0167	84” RCP
Burbank	BI 0168	90” RCP
Glendale	BI 0146	114” RCP
Glendale	BI 0433	114” RCP
Glendale	BI 3603	72” RCP
Glendale	Grandview Ave Channel	264” RCB
Glendale	MTD 0837	114” RCP
Los Angeles	BI 0039	102” RCB
Los Angeles	BI 0060	144” RCP
Los Angeles	BI 5129	129” RCB

SOURCE: Los Angeles Department of Public Works, Bureau of Engineering, *NavigateLA*, accessed March 2020.

4.2 SURFACE WATER RESOURCES

4.2.1 Drainage Pattern

In the current, existing condition, surface flow is conveyed in the street along Lankershim Boulevard, Vineland Avenue, and the Ventura Freeway, which direct runoff generally south and east. Lankershim Boulevard, between Chandler Boulevard and the Ventura Freeway, has minimal inlets, and would convey most runoff as gutter surface flow. Both Vineland Avenue and the Ventura Freeway have many inlets to capture collected runoff.

Olive Avenue conveys runoff as surface flow in the southwesterly direction, with many inlets along the stretch.

From Olive Avenue, Glenoaks Avenue conveys runoff southeasterly to approximately Highland Avenue. Glenoaks Boulevard, between Highland and Central Avenues, conveys runoff west towards Highland Avenue. Central Avenue between Glenoaks Boulevard and Colorado Street conveys runoff to the south. Colorado Street between Central Avenue and approximately Chevy Chase Drive conveys flows to the west. Colorado Street between Chevy Chase Drive and Colorado Boulevard conveys runoff to the east.

Colorado Boulevard to the Ventura Freeway conveys runoff generally westward. The Ventura Freeway over the Arroyo Seco and Colorado Boulevard into Pasadena convey flows to the east.

The drainage pattern in the Project Area is within the Los Angeles River Watershed with the tributary area draining to the Los Angeles River.

4.3 FLOODING

The Project is located in a part of FEMA's Flood Insurance Study number 06037CV001D, last revised in December 2018. The Project bounds are contained within the FEMA Flood Insurance Rate Map (FIRM) Panels 1337F, 1339F, 1345F, 1375F, and 1400F. A portion of the Project is also located in FIRM Panel 1340F; however, this panel is not printed by FEMA as there are no special flood hazard zones located within the area of the panel.

The 100-year flood is defined as a flood event that has a 1-percent chance of occurring in any given year. Overlaying the Project with the FIRMs reveal that the majority of the 100-year flood event is fully contained within the County flood channels in most locations (**Figure 4**). The Project crosses through the Special Flood Hazard Area at a single location along its alignment; the West Olive Avenue bridge crosses over the Western Burbank Channel and FEMA Zone AE. Zone AE designates that the area is subject to inundation during the 100-year flood which has been determined by detailed analysis. The existing bridge is elevated above the base flood elevations, so it is not expected to have any significant risk of flooding during a 100-year flood event.

4.3.1 Discharge at Hydraulic Structures

There are three major waterway crossings associated with the Project. The crossings are located as follows:

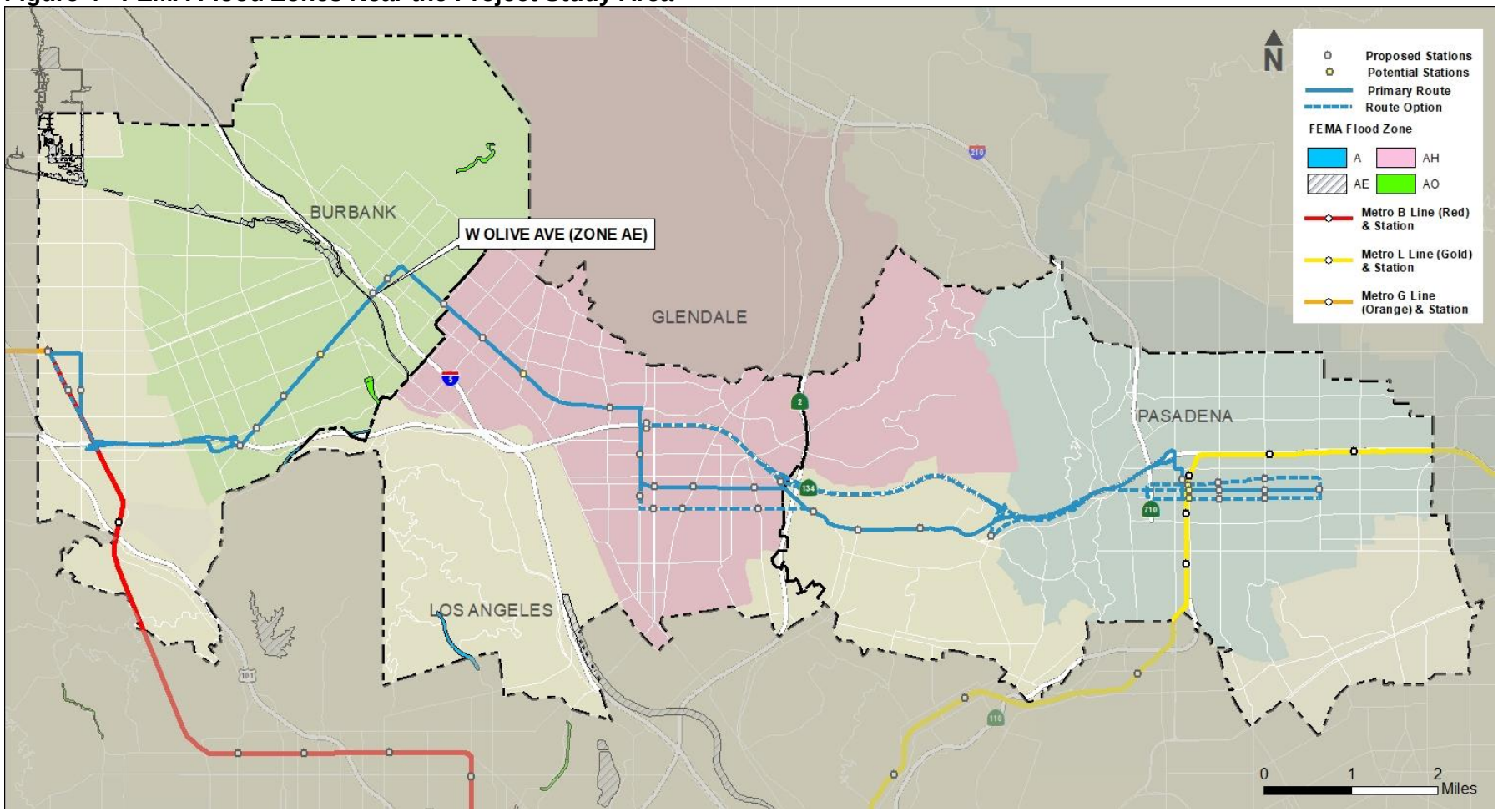
- Western Burbank Channel at West Olive Avenue;
- Verdugo Wash at North Brand Boulevard; and
- Arroyo Seco at the Ventura Freeway (State Route 134).

To date, there are no known reports that the hydraulic capacities of these structures are deemed inadequate.

4.4 GROUNDWATER

Groundwater basins are underlain by one or more layers of permeable soil, which can store water. Basin boundaries do not necessarily coincide with drainage basins; they are formed instead by groundwater divides such as faults or non-water bearing rocks, or by political boundaries. The elevation of groundwater within a basin varies with the amount of water being pumped out of the basin and the amount of recharge returning water to the basin. Groundwater basins may be recharged naturally through percolation of precipitation or artificially with imported or reclaimed water. Artificial recharge with imported water is practiced as a means of offsetting declining groundwater levels and providing storage for use in times of drought.

Figure 4 - FEMA Flood Zones Near the Project Study Area



SOURCE: Kimley-Horn and Associates, Inc., 2020.

Fresh water permeates soils to varying degrees, depending on the composition of the soil. Coarsely grained, sandy, or gravelly strata comprise individual aquifers. These water-bearing deposits are readily capable of absorbing, storing, transmitting, and yielding water to wells. Fine-grained sediments, such as silts and clays, are interblended with the aquifers and form aquicludes which limit the transmission of water out of the aquifer. Aquicludes may “pinch out” laterally, allowing transmission of water between adjacent aquifers.

The Project crosses two groundwater basins as defined by the California Department of Water Resources. **Figure 5** shows the groundwater basins overlaid with the Project. The groundwater basins include:

- San Fernando Valley Groundwater Basin (North Hollywood, Burbank, Glendale) and,
- Raymond Groundwater Basin (Pasadena).

The Project Geology and Soils Technical Report (Parikh Consultants Inc., 2020) conducted a thorough investigation on the groundwater table depth across the Project corridor. Some results show that the groundwater table depth varies between 20 to 100 feet below ground surface (bgs). However, the Project is not expected to encounter groundwater within the upper 50 feet bgs along the Project corridor, with localized exceptions. Detailed analysis can be found in the Project Geology and Soils Technical Report.

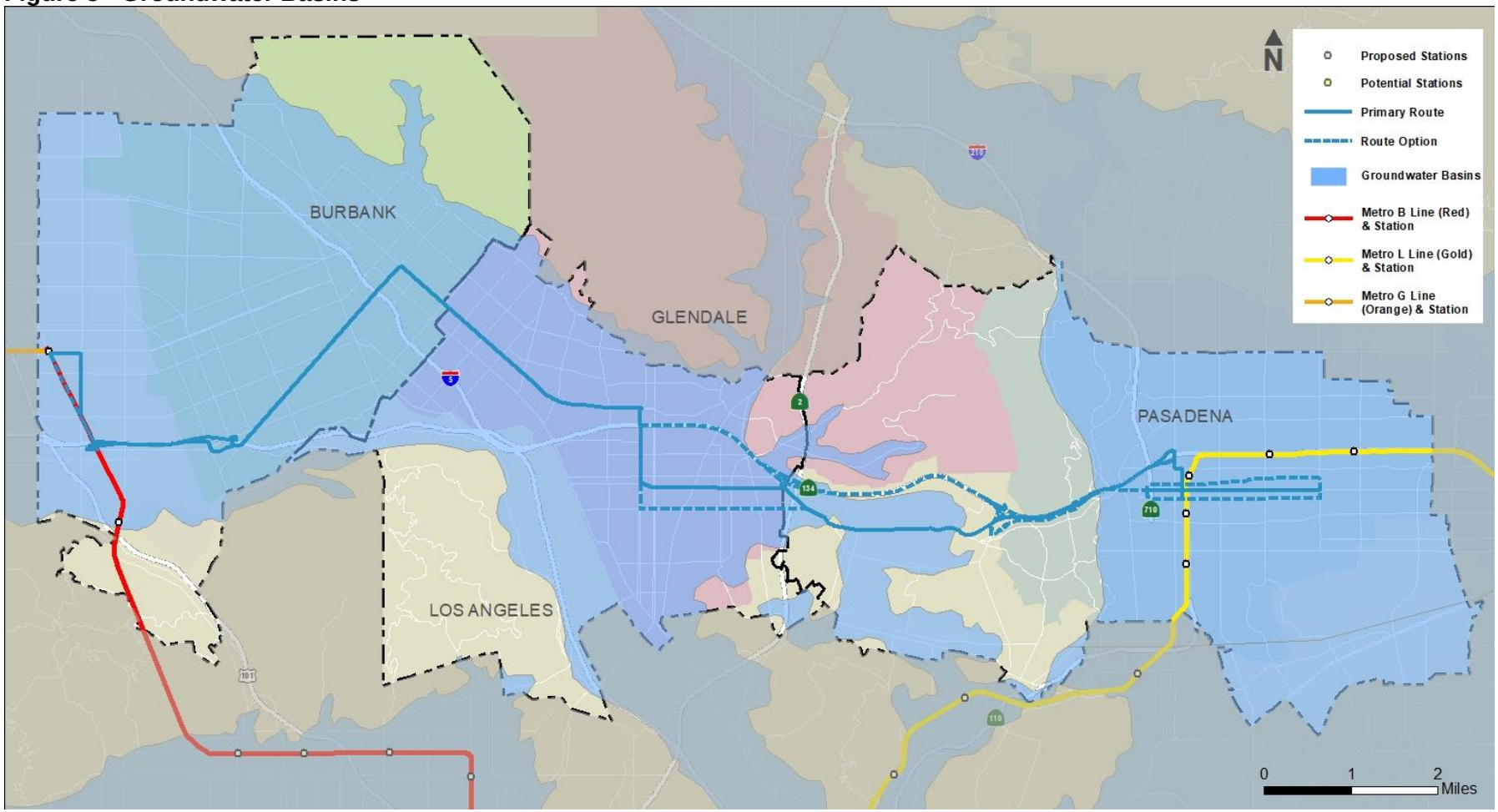
In 2014, the Sustainable Groundwater Management Act was signed into law, providing framework for long term sustainable groundwater management. Both of these groundwater basins are classified as “very low” in the Basin Prioritization rating, indicating that these basins have little risk of overdraft and have generally balanced levels of pumping and recharge.

4.4.1 San Fernando Valley Groundwater Basin

The Study Area is located primarily within the San Fernando Valley Groundwater Basin (Groundwater Basin Number: 4-12), which is part of the South Coast Hydrologic Region. The Basin is 145,000 acres (226 square miles). Groundwater flow in the San Fernando Valley is generally eastward, parallel to the course of the Los Angeles River. Groundwater flows generally from the edges of the basin toward the middle of the basin, then beneath the Los Angeles River Narrows into the Central Plain of the Los Angeles Basin.

The following technical data regarding flow, storage, and groundwater quality is reported from the 2004 Bulletin 118 for the San Fernando Valley Groundwater Basin, unless specifically referenced otherwise. Hydrographs show variations in water levels of 5 to 40 feet in the western part of the Basin, a variation of about 40 feet in the southern and northern parts of the Basin and a variation of about 80 feet in the eastern part of the Basin.

Figure 5 - Groundwater Basins



SOURCE: Kimley-Horn and Associates, Inc., 2020.

The total storage capacity of the Basin is estimated to be 3,670,000 acre-feet. Groundwater pumping is controlled in order to prevent groundwater levels from declining. Under the Pueblo Water Right, the City of Los Angeles has exclusive rights to the entire safe yield of the basin, according to the Upper Los Angeles River Area Watermaster. The native safe yield of the Basin is 43,660 acre-feet per year on average, determined under the Final Judgment dated January 26, 1979.

The groundwater quality in the basin is characterized as having a calcium sulfate-bicarbonate water type in the western part of the basin and calcium bicarbonate in the eastern part of the basin. The total dissolved solids (TDS) range from 326 to 615 milligrams per liter (mg/L) and the electrical conductivity ranges from 540 to 996 micromhos per centimeter (umhos/cm). Data from 125 public supply wells shows average TDS content of 499 mg/L and range from 176 to 1,160 mg/L. Groundwater impairments based on a number of investigations have determined volatile organic compounds (VOCs) contamination in the basin. Such VOCs include trichloroethylene and perchloroethylene. In addition, petroleum compounds, chloroform, nitrate, sulfate and heavy metals are other impairments in the Basin.

4.4.2 Raymond Groundwater Basin

The Study Area is partially located within the Raymond Groundwater Basin (Groundwater Basin Number: 4-023), which is part of the South Coast Hydrologic Region. The Basin is approximately 26,200 acres (41 square miles). As illustrated in the Los Angeles RWQCB Region 4 2016 publication on the Consideration of Tentative Basin Plan Amendment, the Basin is bounded on the northeast in the valley between the San Gabriel Mountains and the San Rafael Hills and flows southeasterly toward the bounding Raymond Fault.

The following technical data regarding flow, storage, and groundwater quality is reported from the 2004 Bulletin 118 for the Raymond Basin, unless specifically referenced otherwise. Hydrographs show variations in water levels of 50 to 60 feet in the northwest, 80 feet in the central, 30 feet in the south, and 140 feet in the northeast potions of the basin. The total groundwater storage capacity was estimated in 1971 to be 1,450,000 acre-feet. According to the 2017-2018 Raymond Basin Management Report, the water levels have shown a decline of approximately 5 feet in the Pasadena subarea.

Groundwater pumping is controlled in order to prevent groundwater levels from declining. As a result of the “Decreed Right of 1955,” where the Court issued a Modification of Judgement, the safe yield of the Raymond Basin was increased to 30,622 acre-feet. However, in the 2008 Raymond Basin Management Report, the Watermaster for the Raymond Basin adopted a resolution to reduce groundwater pumping by 30 percent over five years in the Pasadena subarea. The 2017-2018 Raymond Basin Management Report documents that actual pumping totaled 24,963 acre-feet, which is well below the Decreed Right of 30,622 acre-feet.

The groundwater quality in the basin is characterized as typically calcium bicarbonate. The average TDS ranges from 400 to 600 mg/L in the Pasadena portion of the basin. The Electrical Conductivity ranges from 436 to 895 umhos/cm. Data from 70 public supply wells shows

average TDS content of 346 mg/L and a range from 138 to 780 mg/L. Groundwater impairments include occasional exceedance of fluoride levels, high nitrate concentrations, VOCs, occasional radiation detection, and perchlorate contamination near the Jet Propulsion Laboratory. The 2017-2018 Raymond Basin Management Report reported that water quality in the basin is generally good with a few sources of high fluoride, high nitrate concentrations, VOC detection and continued monitoring of Hexavalent Chromium, due to the perchlorate contamination at the Jet Propulsion Laboratory Superfund site.

4.5 SEICHES, TSUNAMIS, AND MUDFLOWS

Seiches are large waves generated in enclosed bodies of water, such as lakes, induced by ground shaking. Tsunamis are large waves generated at sea by significant disturbance of the ocean flow, causing the water column above the point of disturbance to displace rapidly. Tsunamis are predominantly caused by shallow underwater earthquakes and landslides. Mudflows result from the downslope movement of soil and/or rock under the influence of gravity and are also often caused by earthquakes. The Project is outside of seiche and tsunami potential inundation areas and, due to the relatively flat urban terrain, is not prone to mudflows.

5. Significance Thresholds & Methodology

5.1 SIGNIFICANCE THRESHOLDS

In accordance with Appendix G of the State CEQA Guidelines, the Project would have a significant impact related to water resources and hydrology if it would:

a) Violate any water quality standards or waste discharge requirements, or otherwise substantially degrade surface or groundwater quality.
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would result in substantial erosion or siltation on- or off-site.
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would:
    i. Result in substantial erosion or siltation on- or off-site;
    ii. Substantially increase the rate or amount of surface runoff in a matter which would result in flooding on- or off-site;
    iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
    iv. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5.2 METHODOLOGY

The methodologies to assess potential impacts include the following approaches:

- Determine whether the Project would result in a change in water flows during a projected 50-year developed storm event that would flood the site or off-site properties upstream or downstream and cause harm to people or damage to property or sensitive biological resources.
- Consider topography, soil types, location and size of impermeable surfaces, the size and location of drainage facilities, and flood control facilities. Mechanisms of flood control include, but are not limited to: dams, flood control basins, levees, channelization, pumping stations, upstream retention, diversion of run-off, and spreading grounds.

- Consider the nature of the land uses involved when determining the likelihood of harm or damage.
- Determine whether the Project would result in an increase or decrease of water in a surface water body during project construction or operation, and whether changes in the current or direction of flow of water would be permanent and adverse.
- Determine the nature, quantity, duration, and effect of Project discharges.
- Describe any proposed treatment of the discharge.
- Assess the impact on the receiving water body relative to existing conditions and any applicable water quality objectives or standards.
- Consider factors such as the size of the site as a percentage of the entire watershed and the predominant land uses in the watershed. The percentage of imperviousness factors may be used to evaluate the relative amount of runoff from various land use types.

6. Impact Analysis

The following section includes the impact analysis, mitigation measures (if necessary), and significance after mitigation measures (if applicable). The potential for the Proposed Project to result in an impact to water resources and hydrology is independent of the specific alignment and Project components. The following impact conclusions are valid for the Proposed Project and all route variations, treatments, and configurations.

Impact a) Would the Proposed Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Construction

Less-Than-Significant Impact. Construction would include paving, striping, and reconstruction of sidewalks, which would result in an increase in surface water pollutants such as sediment, oil and grease, and miscellaneous wastes. Water quality would be temporarily affected if disturbed sediments were discharged via existing stormwater collection systems. Increased turbidity and other pollutants resulting from construction-related discharges can ultimately introduce compounds toxic to aquatic organisms, increase water temperature, and stimulate the growth of algae.

The delivery, handling, and storage of construction materials and wastes, along with use of construction equipment, could also introduce the risk of stormwater contamination. Staging areas or building sites can be sources of pollution because of the storage and use of paints, solvents, cleaning agents, and concrete during construction. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities.

Because construction activities would disturb more than one acre, preparation and implementation of a SWPPP would be required, in accordance with the statewide National Pollutant Discharge Elimination System General Permit for Stormwater Discharges Associated with Construction Activity (Order No. 2009-0009-DWQ, NPDES No. CAR000002) (Construction General Permit). The SWPPP would list BMPs that would be implemented to protect stormwater runoff and include monitoring of the BMPs effectiveness. The SWPPP would specify BMPs to ensure that water quality standards or waste discharge requirements are not violated. BMPs selected would be designed to comply with the requirements of the RWQCB and may be subject to review and approval by each city. BMPs during construction may include, but not be limited to, the following:

- Silt fences
- Fiber rolls
- Street sweeping and vacuuming
- Stockpile management

- Vehicle and equipment maintenance
- Erosion control mats and spray-on applications
- Desilting basins
- Gravel bag berms
- Sandbag barriers
- Spill prevention and control
- Concrete waste management
- Water conservation practices

Such measures are routinely developed for construction sites and are proven to be effective in reducing pollutant discharges from construction activities. Implementation of the SWPPP during construction would ensure that water quality objectives, standards, and wastewater discharge thresholds would not be violated. The SWPPP would be prepared by the construction contractor and approved by each city prior to commencement of construction activities (i.e., approval of grading plans). The Proposed Project would not violate any water quality standards or waste discharge requirements. Therefore, the Proposed Project would result in a less-than-significant impact related to construction activities.

Operations

Less-Than-Significant Impact. The Proposed Project would result in a negligible change in impervious area and there would be no major sources of new pollutants. Because the Study Area is currently a transportation corridor, the water runoff from roadway surfaces would contain the same types of pollutants as expected under existing conditions. However, enhanced bus frequencies could result in small increases in potential pollutants from bus operations. Typical water quality pollutants associated with transportation corridors include: fallout from air pollution (e.g., nitrous oxides, hydrocarbons, lead, particulates), heavy metals from brake pads, oils, greases, and other vehicle lubricants. As per the County's LID requirements as part of the stormwater program, because the project would replace 5,000 square feet or more of impervious surface area on an already developed site, LID and Site-Specific Stormwater Mitigation Plans must be incorporated into the Project. Compliance with these regulations would require the inclusion of post-construction stormwater measures and low-impact development measures designed to minimize runoff flows and water quality degradation. Therefore, the Proposed Project would result in a less-than-significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

Less than significant impact.

Impact b) Would the Proposed Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

Construction

No Impact. Existing utilities that may interfere with construction of the corridor improvements would be removed and relocated for continuing service. It is unlikely that groundwater would be encountered during construction because minimal ground disturbance is necessary for the surface-based BRT. It is unlikely that shallow excavation for utility improvements would result in contact with groundwater. Should dewatering be necessary, a General Dewatering Permit would be obtained from the RWQCB. Residual contaminated groundwater could be encountered during dewatering activities. Groundwater extracted during dewatering activities would either be treated prior to discharge or disposed of at a wastewater treatment facility. Local groundwater is one of several sources of regional water supplies. If groundwater is used during construction (e.g., dust control or concrete pouring), the amount would be minimal and temporary, and therefore would not result in substantial depletion of groundwater supplies. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. The existing area that would be occupied by the Proposed Project facilities is primarily impervious and does not contribute substantially to groundwater recharge. The Proposed Project would result in a negligible change to impervious surface area. It is not anticipated that operations would require new water use at Metro facilities. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact c) Would the Proposed Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

(i) result in substantial erosion or siltation on- or off-site;

(ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

(iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Construction

No Impact. Construction activities, such as grading and excavation, could result in increased erosion. Minor modifications to street storm drains could be required for median-running and curb-running treatments. However, these modifications would not include culvert widening or conversion of open channels to closed conduits and drainage patterns would remain approximately the same as existing conditions. Additionally, construction would not alter the course of any streams or rivers. A SWPPP would be prepared prior to starting construction. The Proposed Project would not alter the course of any water bodies and urban runoff would be collected by the existing stormwater drainage system. As previously discussed, the SWPPP would control and minimize erosion and siltation. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. The Project is located in a highly urbanized area and the existing right-of-way is impermeable. The Project would maintain viable drainage patterns currently existing at the Project site. Operation of the Proposed Project would not create new surface runoff, so operations would not impact erosion, flooding, or the stormwater drainage system. In addition, a SWPPP would be prepared prior to starting construction. The Project would not alter the course of any water bodies and urban runoff would be collected by the existing stormwater drainage system. Refer to Subsection 4.1.11(c) for additional storm drain details.

Several new bus stations are considered in the Proposed Project. Most proposed station locations would be constructed mainly on existing developed or paved surfaces already having a high amount of runoff. Water quality impacts to nearby channels and surface water features associated with operation of the project alternatives would be minor or negligible. The watersheds within the San Fernando and San Gabriel Valleys are primarily urban, and the net area of new impervious area as a result of this project would be minor. Locally, the change in total runoff from the proposed (post-project) condition as compared to the existing (pre-project) condition is thus minor. Across the watershed, the net change in runoff volume due to this project would be negligible. Locally, the existing drainage pattern would be maintained in the proposed design to the maximum extent possible in order to minimize any changes to the

flooding potential. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact d) Would the Proposed Project, in a flood hazard, tsunami, or seiche zone, risk release of pollutants due to project inundation?

Construction

No Impact. The Project is not within the limits of a flood hazard, tsunami, or seiche zone. The potential for a catastrophic seiche event at the Devil's Gate Dam is low. The West Olive Avenue bridge crosses over the Western Burbank Channel and FEMA Zone AE. The existing bridge is elevated above the base flood elevations, so it is not expected to have significant risk of a 100-year flood. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. The Project is not within the limits of a flood hazard, tsunami, or seiche zone. The potential for a catastrophic seiche event at the Devil's Gate Dam is low. The Project crosses through the Special Flood Hazard Area at a single location along its alignment; the West Olive Avenue bridge crosses over the Western Burbank Channel and FEMA Zone AE. The existing bridge is elevated above the base flood elevations, so it is not expected to have any significant risk of a 100-year flood. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

Impact e) Would the Proposed Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Construction

No Impact. Construction activities would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. The Proposed Project would implement a SWPPP and several BMPs to control run-off during construction activities. The Proposed Project would use water during construction activities (e.g., for dust control). This short-term use would require minimal water supplies when compared to regional water use associated with land use developments. Construction-related water use would not necessitate new water deliveries to the region. If groundwater is used during construction (e.g., dust control or concrete pouring), the amount would be minimal and temporary, and therefore would not result in substantial depletion of groundwater supplies. The Proposed Project would not conflict with the management of groundwater basins. Therefore, the Proposed Project would not result in a significant impact related to construction activities.

Operations

No Impact. Operational activities of the Proposed Project would not conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. Operation of the Proposed Project would not create new groundwater sources, so it would not deplete or interfere with the management of the groundwater basin. The Proposed Project would result in a negligible change in impervious area and there would be no major sources of new pollutants. Because the project area is currently a transportation corridor, the water runoff from roadway surfaces would contain the same types of pollutants as expected under existing conditions. However, enhanced bus frequencies could result in small increases in potential pollutants from bus operations. Typical water quality pollutants associated with transportation corridors include heavy metals from brake pads, oils, greases, and other vehicle lubricants. As per the County's SUSMP requirements as part of the stormwater program, Site-Specific Stormwater Mitigation Plans must be incorporated into the Project. This would ensure consistency with water quality control plans and that the Proposed Project would not conflict with the management of groundwater basins. Therefore, the Proposed Project would not result in a significant impact related to operational activities.

Mitigation Measures

No mitigation measures are required.

Significance of Impacts after Mitigation

No impact.

7. Cumulative Analysis

CEQA Guidelines Section 15355 defines cumulative impacts as two or more individual actions that, when considered together, are considerable or would compound other environmental impacts. CEQA Guidelines Section 15130(a) requires that an Environmental Impact Report (EIR) discuss the cumulative impacts of a project when the project's incremental effect is "cumulatively considerable." As set forth in CEQA Guidelines Section 15065(a)(3), "cumulatively considerable" means that the incremental effects of an individual project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. Thus, the cumulative impact analysis allows the EIR to provide a reasonable forecast of future environmental conditions to more accurately gauge the effects of multiple projects.

In accordance with CEQA Guidelines Section 15130(a)(3), a project's contribution is less than cumulatively considerable if the project is required to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact. In addition, the lead agency is required to identify facts and analysis supporting its conclusion that the contribution would be rendered less than cumulatively considerable.

CEQA Guidelines Section 15130(b) further provides that the discussion of cumulative impacts reflects "the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone." Rather, the discussion is to "be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute." CEQA Guidelines Sections 15130(b)(1)(A) and (B) include two methodologies for assessing cumulative impacts. One method is a list of past, present, and probable future projects producing related or cumulative impacts. The other method is a summary of projections contained in an adopted local, regional, or statewide plan, or related planning document that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or plans for reducing greenhouse gas emissions. The cumulative effect on water resources and hydrology in the Project Area is best addressed through consideration of Related Projects.

Related Projects that are considered in the cumulative impact analysis are those projects that may occur in the Project Site's vicinity within the same timeframe as the Proposed Project. In this context, "Related Projects" includes past, present, and reasonably probable future projects. Related Projects associated with this growth and located within half a mile of the Project Site are depicted graphically in **Figures 6a** through **6c** and listed in **Table 5**. The figures do not show Eagle Rock as no related projects have been identified in the Project Area. Related projects of particular relevance to the Proposed Project are discussed below.

Figure 9a – Cumulative Impact Study Area

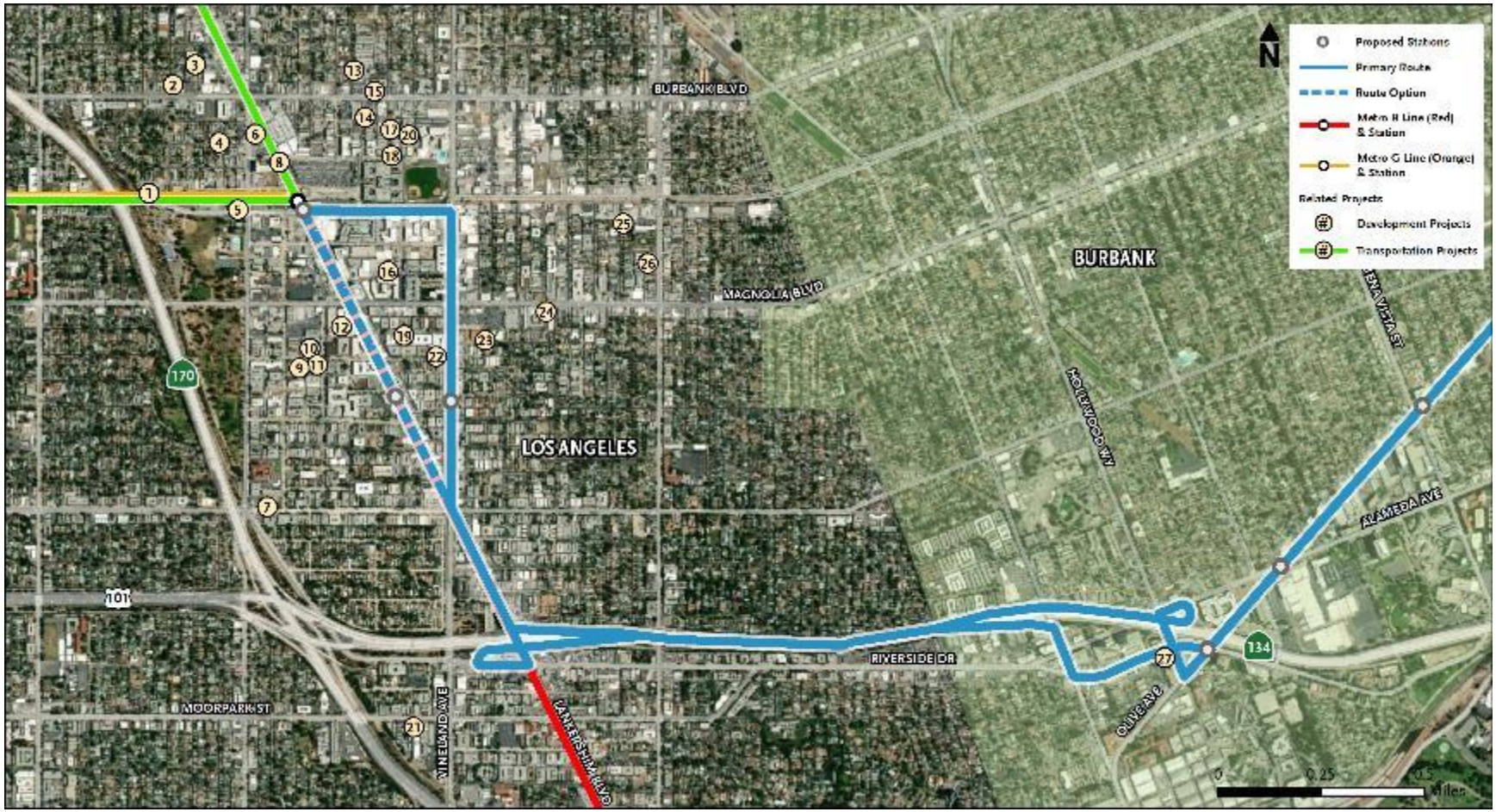
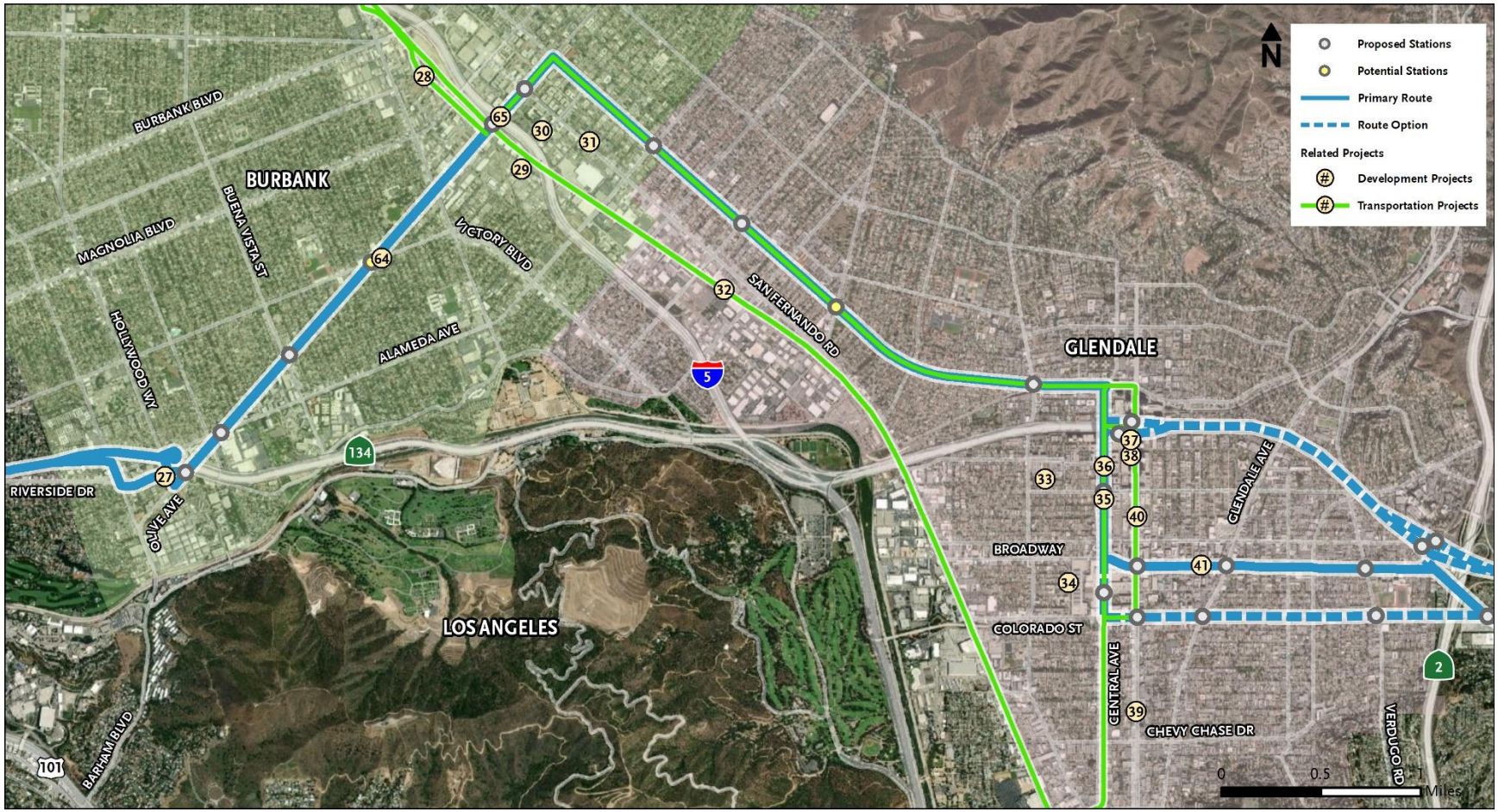


Figure 9b – Cumulative Impact Study Area



Metro

Figure 9c – Cumulative Impact Study Area

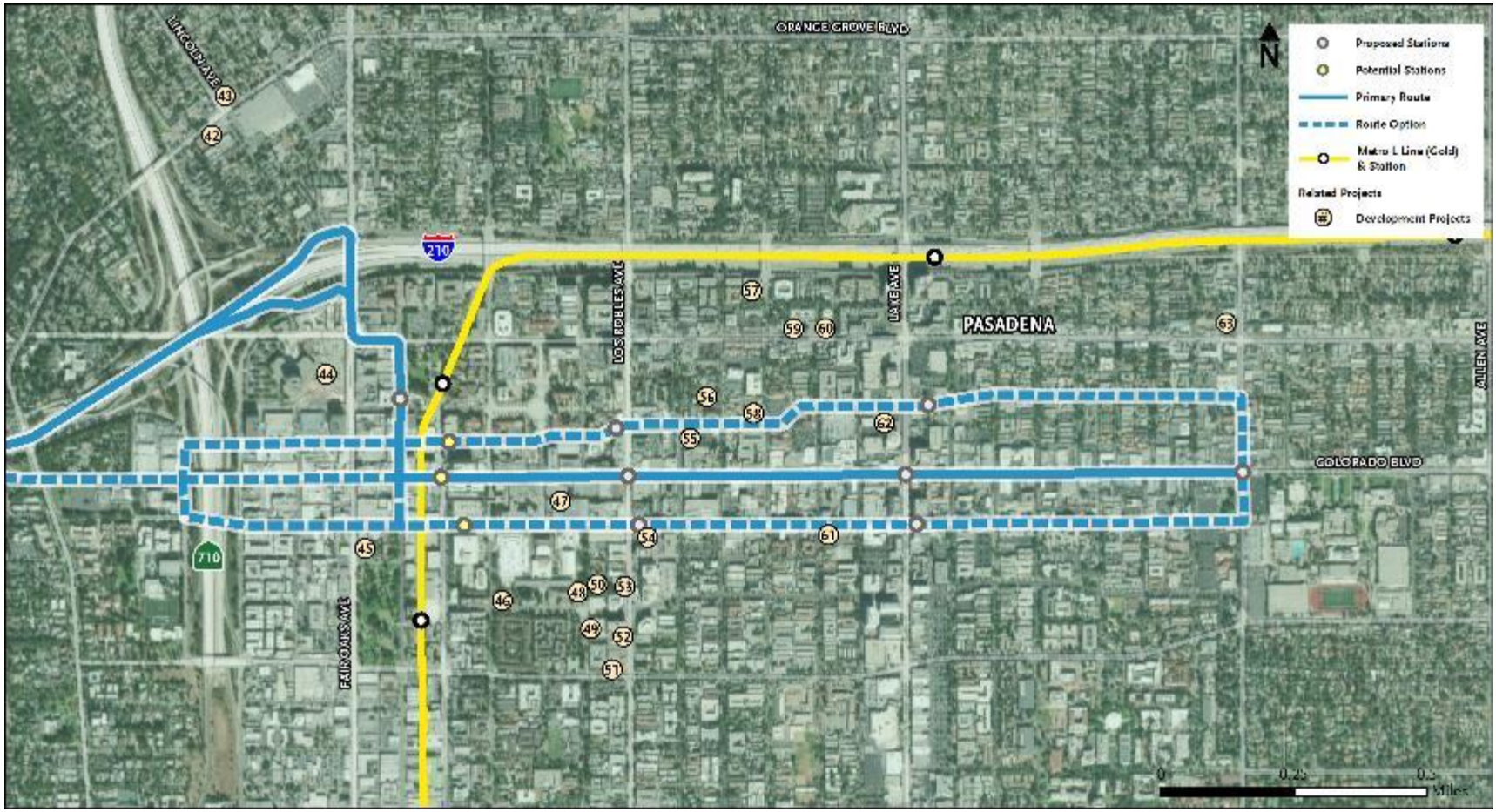


Table 5 – Related Projects

Map ID	Project Name	Location	Description	Status
REGIONAL				
N/A	NextGen Bus Plan	Los Angeles County	The NextGen Bus Plan will revise the existing Metro bus network to improve ridership and make bus use more attractive to current and future riders. The Plan will adjust bus routes and schedules based upon existing origin/destination ridership data with a phased approach to future infrastructure investments in transit convenience, safety, and rider experience.	Implementation early 2021
N/A	East San Fernando Valley LRT Project	San Fernando Valley	New 9-mile LRT line that will extend north from the Van Nuys Metro G Line (Orange) station to the Sylmar/San Fernando Metrolink Station.	Planning
8	North San Fernando Valley BRT Project	San Fernando Valley	New 18-mile BRT line from North Hollywood B/G Line (Red/Orange) Station to Chatsworth.	Planning
32	Los Angeles – Glendale-Burbank Feasibility Study	Amtrak corridor from Los Angeles Union Station to Bob-Hope Airport	Metro is studying a 13-mile transit corridor between Los Angeles Union Station and the Hollywood Burbank Airport. A range of options are under study including both light rail and enhanced commuter rail.	Planning and feasibility
BURBANK				
27	Mixed-Use Development	3700 Riverside Dr.	49-unit residential condominium and 2,000 sq. ft. of retail	Active Project Submission
28	San Fernando Bikeway	San Fernando Blvd. Corridor	Three-mile Class I bike path along San Fernando Blvd. near the Downtown Metrolink Station in the City of Burbank. This project will complete a 12-mile long regional bike path extending from Sylmar to the Downtown Burbank Metrolink Station along the San Fernando Blvd. rail corridor	Planning

Map ID	Project Name	Location	Description	Status
29	Commercial Development	411 Flower St.	Commercial building (size unknown)	Active Project Submission
30	Mixed-Use Development	103 Verdugo Ave.	Two mixed-use buildings (size unknown)	Active Project Submission
31	Mixed-Use Development	624 San Fernando Blvd.	42-unit, 4-story mixed-use building with 14,800 sq. ft. of ground-floor commercial	Active Project Submission
64	Olive Ave./Sparks St./Verdugo Ave. Intersection Improvements	Olive Ave./Sparks St./Verdugo Ave.	Various intersection improvements.	Planning
65	Olive Ave. Overpass Rehabilitation	Olive Ave. over Interstate 5	Improvements to operational efficiency, pedestrian safety, and bicycle connections.	Planning
GLENDALE				
33	Multi-Family Development	452 Milford St.	15-unit building	Active Project Submission
34	Multi-Family Development	401 Hawthorne St.	23-unit building	Active Project Submission
35	Commercial Development	340 Central Ave.	14,229 sq. ft. office	Active Project Submission
36	Multi-Family Development	520 Central Ave.	98-unit building	Active Project Submission
37	Commercial Development	611 Brand Blvd.	Hotel (857 hotel rooms and 7,500 sq. ft. of restaurant/retail)	Active Project Submission
38	Multi-Family Development	601 Brand Blvd.	604 units in 3 buildings	Active Project Submission
39	Commercial Development	901 Brand Blvd.	34,228 sq. ft. parking structure for car dealership	Active Project Submission
40	Glendale Streetcar	Downtown Glendale	Streetcar connecting the Larry Zarian Transportation Center with Downtown Glendale	Planning and feasibility
41	Commercial Development	517 Broadway	Medical/office/retail building (size unknown)	Active Project Submission

Map ID	Project Name	Location	Description	Status
LOS ANGELES				
N/A	Orange Line Transit Neighborhood Plan	North Hollywood, Van Nuys, and Sepulveda BRT Stations	Develop regulatory tools and strategies for the areas around these three Orange Line stations to encourage transit ridership, enhance the urban built environment, and focus new growth and housing in proximity to transit and along corridors	Undergoing Environmental Review
N/A	Take Back The Boulevard Initiative	Colorado Blvd.	The mission of the Take Back the Boulevard initiative is to serve as a catalyst for the community-drive revitalization of Colorado Boulevard in Eagle Rock. The Take Back the Boulevard initiative seeks to utilize broad community feedback and involvement to make this central corridor through Eagle Rock a safe, sustainable, and vibrant street in order to stimulate economic growth, increase public safety, and enhance community pride and wellness.	Active Initiative
1	Multi-Family Development	11525 Chandler Blvd.	60-unit building	Active Building Permit
2	Multi-Family Development	5610 Camellia Ave.	62-unit building	Active Building Permit
3	Multi-Family Development	5645 Farmdale Ave.	44-unit building	Active Building Permit
4	Multi-Family Development	11433 Albers St.	59-unit building	Active Building Permit
5	Mixed-Use Development	11405 Chandler Blvd.	Mixed-use building with residential and commercial components (size unknown).	Active Building Permit
6	Mixed-Use Development	5530 Lankershim Blvd.	15-acre joint development at the North Hollywood Metro Station. Includes 1,275-1,625 residential units (275-425 affordable units), 125,000-150,000 sq. ft. of retail, and 300,000-400,000 sq. ft. of office space	Active Project Submission
7	Mixed-Use Development	11311 Camarillo St.	Mixed-use building (size unknown)	Active Building Permit
9	Multi-Family Development	11262 Otsego St.	49-unit building	Active Building Permit

Map ID	Project Name	Location	Description	Status
10	Multi-Family Development	11241 Otsego St.	42-unit building	Active Building Permit
11	Multi-Family Development	11246 Otsego St.	70-unit building	Active Building Permit
12	Mixed-Use Development	5101 Lankershim Blvd.	297 units in a mixed-use housing complex	Active Building Permit
13	Multi-Family Development	5630 Fair Ave.	15-unit building	Active Building Permit
14	Multi-Family Development	5550 Bonner Ave.	48-unit building	Active Building Permit
15	Commercial Development	11135 Burbank Blvd.	4-story hotel with 70 guestrooms	Active Building Permit
16	Commercial Development	11115 McCormick St.	Apartment/Office building (size unknown)	Active Building Permit
17	Multi-Family Development	5536 Fulcher Ave.	36-unit building	Active Building Permit
18	Multi-Family Development	11111 Cumpston St.	41-unit building	Active Building Permit
19	Multi-Family Development	11050 Hartsook St.	48-unit building	Active Building Permit
20	Multi-Family Development	5525 Case Ave.	98-unit building	Active Building Permit
21	Multi-Family Development	11036 Moorpark St.	96-unit building	Active Building Permit
22	Multi-Family Development	11011 Otsego St.	144-unit building	Active Building Permit
23	Multi-Family Development	10925 Hartsook St.	42-unit building	Active Building Permit
24	Multi-Family Development	10812 Magnolia Blvd.	31-unit building	Active Building Permit
25	Multi-Family Development	5338 Cartwright Ave.	21-unit building	Active Building Permit
26	Multi-Family Development	5252 Willow Crest Ave.	25-unit building	Active Building Permit
PASADENA				
42	Mixed-Use Development	690 Orange Grove Blvd.	48-unit building with commercial space	Active Project Submission
43	Multi-Family Development	745 Orange Grove Blvd.	35-unit building	Active Project Submission
44	Mixed-Use Development	100 Walnut St.	Mixed-use planned development: office building, 93-unit apartment building, and a 139-unit building	Active Building Permit
45	Multi-Family Development	86 Fair Oaks Ave.	87-unit building with commercial space	Active Project Submission
46	Commercial Development	190 Marengo Ave.	7-story hotel with 200 guestrooms	Active Project Submission
47	Multi-Family Development	39 Los Robles Ave.	Residential units above commercial space (size	Active Building Permit

Map ID	Project Name	Location	Description	Status
			unknown)	
48	Mixed-Use Development	178 Euclid Ave.	42-unit building with 940 sq. ft. of office space	Active Building Permit
49	Multi-Family Development	380 Cordova St.	48-unit building	Active Building Permit
50	Mixed-Use Development	170 Euclid Ave.	42-unit building with 10,000 sq. ft. of commercial space	Active Project Submission
51	Multi-Family Development	399 Del Mar Blvd.	55-unit building	Active Building Permit
52	Multi-Family Development	253 Los Robles Ave.	92-unit building	Active Project Submission
53	Mixed-Use Development	171 Los Robles Ave.	8-unit building	Active Project Submission
54	Commercial Development	98 Los Robles Ave.	school of medicine building	Active Building Permit
55	Multi-Family Development	530 Union St.	55-unit building with retail space	Active Building Permit
56	Multi-Family Development	119 Madison Ave.	81-unit building	Active Building Permit
57	Multi-Family Development	289 El Molino Ave.	105-unit building	Active Building Permit
58	Multi-Family Development	99 El Molino Ave.	40-unit building	Active Building Permit
59	Commercial Development	711 Walnut St.	Mixed-use building with condominiums, commercial space, food facility, parking structure (size unknown)	Active Building Permit
60	Commercial Development	737 Walnut St.	42-unit building with commercial space	Active Project Submission
61	Mixed-Use Development	740 Green St.	273-unit building	Active Project Submission
62	Mixed-Use Development	83 Lake Ave.	54-unit building with office space	Active Project Submission
63	Multi-Family Development	231 Hill Ave.	59-unit building	Active Project Submission

SOURCE: Terry A. Hayes Associates Inc., 2020.

North San Fernando Valley (SFV) Bus Rapid Transit (BRT) Project. The North SFV BRT Project is a proposed new 18-mile BRT line that is intended to serve the portions of the San Fernando Valley that are north of the Metro G Line (Orange) service area. The project would provide a new, high-quality bus service between the communities of Chatsworth to the west and North Hollywood to the east. The project would enhance existing bus service and increase transit system connectivity.

Joint Development - North Hollywood Station Project. The Joint Development - North Hollywood Station project would construct facilities at the North Hollywood B/G Line (Red/Orange) Station that would be shared by the Proposed Project. The project has been identified in the Measure M Expenditure Plan, with a projected opening date between Fiscal Year 2023-25 and $180 million of funding.

NextGen Bus Plan. In January 2018, Metro began the NextGen Bus Plan aimed at reimagining the bus network to be more relevant, reflective of, and attractive to the diverse customer needs within Los Angeles County. The NextGen Bus Plan will realign Metro's bus network based upon data of existing ridership and adjust bus service routes and schedules to improve the overall network. The Proposed Project would be included in the Plan and replace some select bus services in the region. The NextGen Bus Plan is anticipated to begin implementation in the beginning of 2021.

East SFV Light Rail Transit (LRT) Project. The East SFV LRT Project will be a 9-mile LRT line that will extend north from the Van Nuys Metro G Line (Orange) station to the Sylmar/San Fernando Metrolink Station. Light rail trains will operate in the median of Van Nuys Boulevard for 6.7 miles to San Fernando Road. From San Fernando Road, the trains will transition onto the existing railroad right-of-way that's adjacent to San Fernando Road, which it will share with Metrolink for 2.5 miles to the Sylmar/San Fernando Metrolink Station. The project includes 14 at-grade stations. The Draft EIR/Environmental Impact Statement (EIR/EIS) was published in August 2017 and the Final EIR/EIS is currently being prepared by Metro.

The Proposed Project would not result in significant impacts to hydrology and water quality. In addition, an existing cumulative impact to water resources and hydrology has not been identified in the EIR. There is no potential for the Proposed Project to contribute to a cumulative impact associated with Related Projects.

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