Ontario International Airport Connector Project

APPENDIX H
HYDROLOGY AND WATER QUALITY TECHNICAL REPORT

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ACRONYMS AND ABBREVIATIONS

%	percent
§	Section
ADA	Americans with Disabilities Act
afy	Acre Feet per Year
AGR	Agricultural Supply
Basin Plan	Water Quality Control Plan
BFE	Base Flood Elevation
bgs	Below Ground Surface
BMP	Best Management Practice
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CRS	Community Rating System
CVWD	Cucamonga Valley Water District
CWA	Clean Water Act
DOT	Department of Transportation
EIR	Environmental Impact Report
Emergency Action Plan	Emergency Action and Notification Plan
EOP	Emergency Operations Plan
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
I-10	Interstate 10
I-15	Interstate 15
IND	Industrial Service Supply
MEP	Mechanical, electrical, and plumbing
MM	Mitigation Measures
MSF	Maintenance and Storage Facility
MUN	Municipal and Domestic Supply
Mw	Moment Magnitude
NAL	Numeric Action Level
NEL	Numeric Effluent Level
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
No.	Number

NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
OIAA	Ontario International Airport Authority
ONT	Ontario International Airport
PROC	Industrial Process Supply
Project	Ontario International Airport Connector Project
RCB	Reinforced Concrete Box
REAP	Rain Event Action Plan
ROW	Right-of-Way
ROWD	Report of Waste Discharge
RWQCB	Regional Water Quality Control Board
SANBAG	San Bernardino Associated Governments
SBCFCD	San Bernardino County Flood Control District
SBCTA	San Bernardino County Transportation Authority
SCRRA	Southern California Regional Rail Authority
SDWA	Safe Drinking Water Act
SGMA	Sustainable Groundwater Management Act
SWPPP	Stormwater Pollution Prevention Plan
SWQMP	Stormwater Quality Management Plan
SWRCB	State Water Resources Control Board
TBM	Tunnel Boring Machine
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
UPRR	Union Pacific Railroad
U.S.	United States
USACE	U.S. Army Corps of Engineers
USC	United States Code
UWMP	Urban Water Management Plan
Vent shaft	Ventilation shaft
VMT	Vehicle Miles Traveled
WDR	Waste Discharge Requirement
WMA	Watershed Management Area
WQO	Water Quality Objective

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1 INTRODUCTION

San Bernardino County Transportation Authority (SBCTA), in cooperation with the Federal Transit Administration (FTA), proposes to construct a 4.2-mile-long transit service tunnel directly connecting the Southern California Regional Rail Authority (SCRRA) Cucamonga Metrolink Station to the Ontario International Airport (ONT). The proposed ONT Connector Project (proposed Project) is to expand access options to ONT by providing a direct transportation connection from Cucamonga Metrolink Station to ONT. The proposed Project is subject to federal and state environmental review requirements pursuant to National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA). FTA is the lead agency for NEPA, while SBCTA is the lead agency under CEQA. Partner agencies include the Ontario International Airport Authority (OIAA), Omnitrans, the City of Ontario and the City of Rancho Cucamonga.

ONT is located approximately two miles east of downtown Ontario in San Bernardino County. The airport services more than 25 major cities via 10 commercial carriers. ONT is owned and operated under a joint powers agreement between the City of Ontario and San Bernardino County. OIAA provides overall direction, management, operations, and marketing for ONT. In 2014, the San Bernardino Associated Governments (SANBAG), now SBCTA, prepared the Ontario Airport Rail Access Study (SANBAG 2014), which identified the need for a direct rail-to-airport connection to ONT to support its projected growth. ONT is one of the fastest growing commercial airports, forecasted to serve 14 million annual passengers by 2045 (OIAA 2019).

The purpose of this technical report is to evaluate potential environmental impacts/effects of hydrology and water quality that the Project may have within the Project area. This technical report describes existing setting, applicable regulatory settings, methodology, and potential impacts from construction and operation of the proposed Project and the No Project Alternative. The information contained in this technical report will be used to prepare the required environmental documents under CEQA.

2 PROJECT DESCRIPTION

2.1 PROJECT PURPOSE AND OBJECTIVES

The purpose of the proposed Project is to expand access options to ONT by providing a direct transportation connection from Cucamonga Metrolink Station to ONT. This new connection would increase mobility and connectivity for transit patrons, improve access to existing transportation services, provide a connection to future Brightline West service to/from ONT, and support the use of clean, emerging technology for transit opportunities between Cucamonga Metrolink Station and ONT. More specifically, the proposed Project's objectives are as follows:

- Expand access options to ONT by providing a convenient and direct connection between ONT and the Metrolink network, and other transportation services at the Cucamonga Station.
- Reduce roadway congestion by encouraging a mode shift to transit from single-occupancy vehicles and provide reliable trips to and from ONT.
- Support autonomous electric vehicle technology usage for transit projects.

2.2 PROJECT NEED

The proposed Project need includes:

- Lack of direct transit connection coinciding with Metrolink trains and peak airport arrival and departure schedules. The lack of a direct transit connection between Cucamonga Metrolink Station and ONT creates mobility challenges for air passengers accessing ONT. In many cases, the lack of a last-mile connection between the Metrolink system and ONT forces airport passengers to use rideshare services or private single-occupancy vehicles, adding congestion to the local roads between the Cucamonga Metrolink Station and ONT. This congestion results in delays for the public to reach their destination, community services, and facilities.
- Roadway congestion affecting trip reliability and causing traffic delays. ONT travelers using rideshare services or private single-occupancy vehicles adds traffic volumes and increasing congestion on the local roads between Cucamonga Metrolink Station and ONT. Increases in future traffic volumes and roadway congestion affects trip reliability for travelers and commuters to and from ONT.
- Increasing vehicle miles traveled (VMT) resulting from ONT travelers and lack of a direct transit connection.
- Increased greenhouse gas emissions within communities surrounding ONT from single-occupancy vehicle travel to and from ONT.

2.3 ALTERNATIVES EVALUATED

2.3.1 No Project Alternative

CEQA requires that existing conditions and the proposed Project be evaluated against a No Project Alternative in an Environmental Impact Report (EIR). The No Project Alternative represents the Project area if the proposed Project is not constructed, and additional municipal projects would still be developed in the area. The No Project Alternative is used for comparison purposes to assess the relative benefits and impacts of constructing a new transit project versus only constructing projects which are already funded and planned for in local and regional plans.

The No Project Alternative would result in no new direct electrically powered, on-demand fixed transit guideway connection from the Cucamonga Metrolink Station to ONT. Omnitrans currently operates a limited-service bus route to ONT, known as ONT Connect or Route 380, which would remain operational under the No Project Alternative. ONT Connect currently operates Monday through Sunday, with bidirectional (northbound and southbound) service frequencies ranging from 35-60 minutes. However, ONT Connect travels with general/mixed traffic on existing roadways. The No Project Alternative assumes that the existing roadway system near ONT (such as the Interstate 10 [I-10] and Interstate 15 [I-15]) will implement some planned expansion and improvement projects and undergo routine maintenance activities. The SBCTA and California Department of Transportation (Caltrans) propose to construct Express Lanes, including tolled facilities, in both directions of I-15. In addition, Caltrans is proposing to improve I-10 by constructing freeway lane(s) and other improvements through all or a portion of the 33-mile-long segment of I-10 from the Los Angeles/San Bernardino County line to Ford Street in San Bernardino County.

A detailed list of the planned projects included in the No Project Alternative is found in the Cumulative Impacts Technical Report (SBCTA 2024a).

2.3.2 Proposed Project

The proposed Project includes a 4.2-mile tunnel alignment, three passenger stations, a maintenance and storage facility (MSF), and an access and ventilation shaft (vent shaft) in the cities of Rancho Cucamonga and Ontario within San Bernardino County (see Figure 2-1). The proposed Project would include autonomous electric vehicles that would be grouped and queued at their origin station and depart toward the destination station once boarded with passengers. The following sections provide additional details on the proposed Project location and land uses, and on the proposed design, construction, and operation, as applicable, for these project elements.

2.3.2.1 Project Location

The proposed Project is located in the City of Rancho Cucamonga and in the City of Ontario within San Bernardino County. Figure 2-1 illustrates the proposed Project site's regional location and vicinity. The proposed Project

alignment is a reversed L-shaped alignment consisting of the Cucamonga Metrolink Station, Milliken Avenue, East Airport Drive, and ONT. Figure 2-2 illustrates the proposed Project area. Cucamonga Metrolink Station is located at 11208 Azusa Court in the City of Rancho Cucamonga and serves the Metrolink San Bernardino Line commuter rail. ONT is located at 1923 East Aviation in the City of Ontario and provides international airport service with over 10 different airline partners. Information related to the proposed Project Design is found in Section 2.3.2.3.

2.3.2.2 Existing Land Uses

The northwestern portion of the proposed Project alignment includes the Cucamonga Metrolink Station. There are 980 standard parking stalls and 24 Americans with Disabilities Act (ADA) compliant stalls at the Cucamonga Metrolink Station (Metrolink 2022).

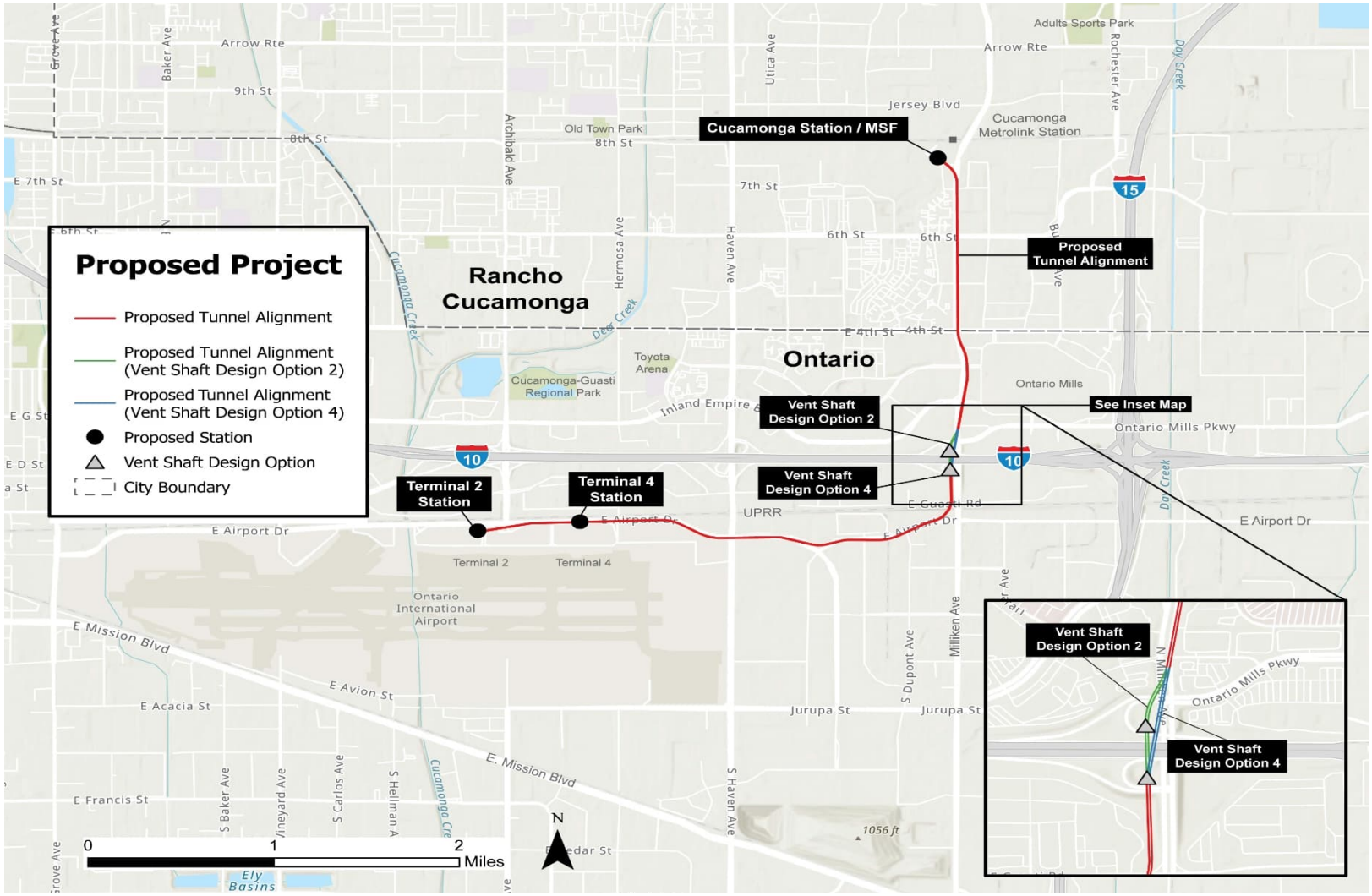
From the northwestern portion of the proposed Project site, the tunnel alignment travels under Milliken Avenue, which is a major north-south arterial roadway. Milliken Avenue consists of three travel lanes north of Inland Empire Boulevard and four travel lanes south of Inland Empire Boulevard. From Milliken Avenue, the alignment travels south crossing under the existing I-10. I-10 is an east-west cross-country highway and has six lanes in each direction at the proposed Project site. The alignment eventually connects to East Airport Drive, which is an east-west arterial roadway with three travel lanes in each direction.

The southwestern portion of the proposed Project tunnel alignment terminates at ONT. Parking Lots 2 through 5 are located on the northern side of ONT. Parking Lots 2, 3, and 4 are surface lots that provide general parking and are a short walk away from the terminals at ONT. Parking Lot 5 is a surface economy lot at which a shuttle service is available.

Figure 2-1: Regional Location Map

Source: AECOM 2024

Figure 2-2: Proposed Project Site



Source: AECOM 2024

2.3.2.2.1 Surrounding Land Uses

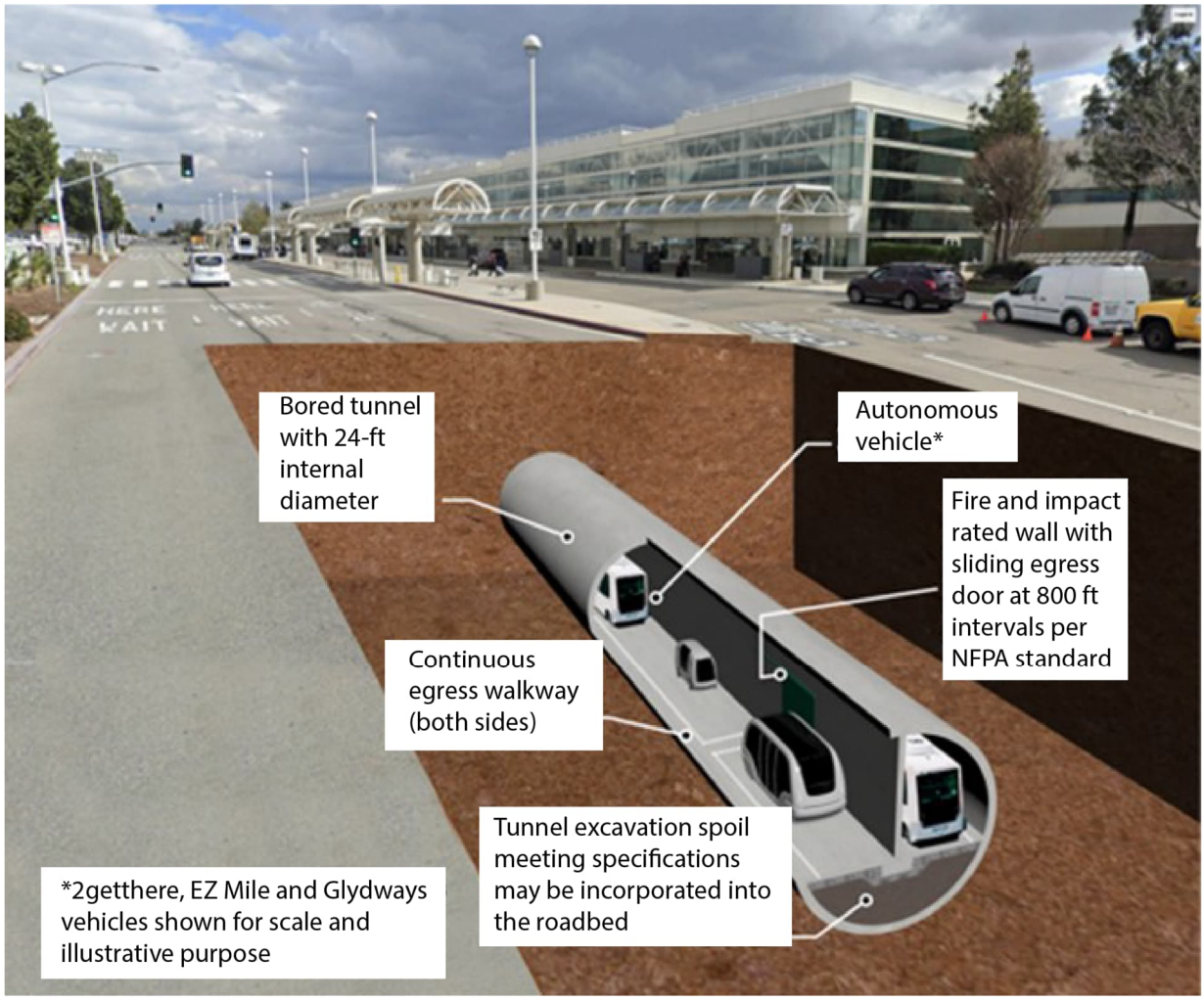
Development in the immediate vicinity of the proposed Project site includes a mix of industrial, commercial, manufacturing, transportation, office, multi-family residential, hotel, and airport related land uses. The proposed Project site's surrounding land uses are located within the City of Rancho Cucamonga and City of Ontario. Immediately adjacent uses include the following:

- North: Railroad tracks, industrial and manufacturing uses, trucking facilities, surface parking lots, Rancho Cucamonga Fire Station Number (No.) 174, and All Risk Training Center for the Rancho Cucamonga Fire Protection District.
- South: Industrial and manufacturing uses, along with trucking facilities, rental car facilities, parking lots, hotel uses, and other airport related uses. ONT includes two passenger terminals, general aviation facilities, air freight buildings, parking lots, and numerous airport and aircraft maintenance and support services.
- East: The eastern side of Milliken Avenue from 5th Street south to 4th Street consists primarily of hotel uses. Concentrated areas of commercial uses and restaurants are located along Milliken Avenue from 4th Street south to I-10, including Ontario Mills, which is a regional shopping mall complex. Hotel uses are also located adjacent to the Ontario Mills shopping mall.
- West: The western side of Milliken Avenue from approximately 7th Street south to 4th Street consists primarily of multi-family residential uses. Concentrated areas of large retail, commercial uses, restaurants, hotels, and the Toyota Arena are located along Milliken Avenue from 4th Street south to I-10.

2.3.2.3 Proposed Project Design

The proposed Project includes construction of transit facilities, including three at-grade passenger stations, one MSF, and one emergency access and vent shaft. The proposed alignment would run primarily within a 4.2-mile single underground tunnel (24-foot inner diameter bidirectional tunnel) alignment that begins at the Cucamonga Metrolink Station and travels south along Milliken Avenue and crosses beneath 6th Street and 4th Street, I-10, and the Union Pacific Railroad (UPRR), before traveling west beneath East Airport Drive to connect to Terminals 2 and 4 at ONT. A tunnel configuration has been identified as the proposed Project based on technical analysis, evaluation, and stakeholder input. Figure 2-3 depicts a typical transit tunnel section. Please see the Alternatives Considered Report for additional background on the development and refinement of the proposed Project design.

Figure 2-3: Typical Transit Tunnel Section View



Source: HNTB 2024

The three proposed at-grade stations would be constructed to serve Cucamonga Metrolink Station, ONT Terminal 2, and ONT Terminal 4. The MSF would be located adjacent to Cucamonga Metrolink Station and would support operations for the proposed Project by storing, maintaining, and cleaning autonomous electric transit vehicles, and it would also include employee amenities and parking. The access and vent shaft would be constructed to provide a means of emergency passenger egress and first responder access.

The proposed Project would include autonomous electric vehicles that would transport passengers on demand between Cucamonga Metrolink Station and ONT. The autonomous electric vehicles would run on rubber tires, and the vehicles are proposed to travel on a dedicated asphalt guideway within the proposed tunnel. The tunnel will include access ramps for the transit vehicles to surface to grade and provide access to the three proposed at-grade stations for passenger boarding and alighting.

2.3.2.3.1 Stations

The proposed Project includes three passenger stations. One station would be located in the northwestern corner of the existing Cucamonga Metrolink Station parking lot, which is owned and maintained by the City of Rancho Cucamonga. The other two proposed stations would be located within two of the existing parking lots at ONT, specifically Parking Lot 2 and Parking Lot 4, which are located across from Terminals 2 and 4. These proposed stations would be located at-grade and would connect to their associated tunnel portals along Terminal Way at ONT. Stations are proposed to be one to two stories and up to approximately 40 feet in height. All three stations would be connected to the bored tunnel via a cut-and-cover structure and an at-grade guideway. The guideway would be enclosed by fencing, and the walls would be buffered with landscaping. A pedestrian walkway would be provided bordering the outside of the guideway. Figure 2-4 and Figure 2-5 illustrate the overview of the proposed station footprints.

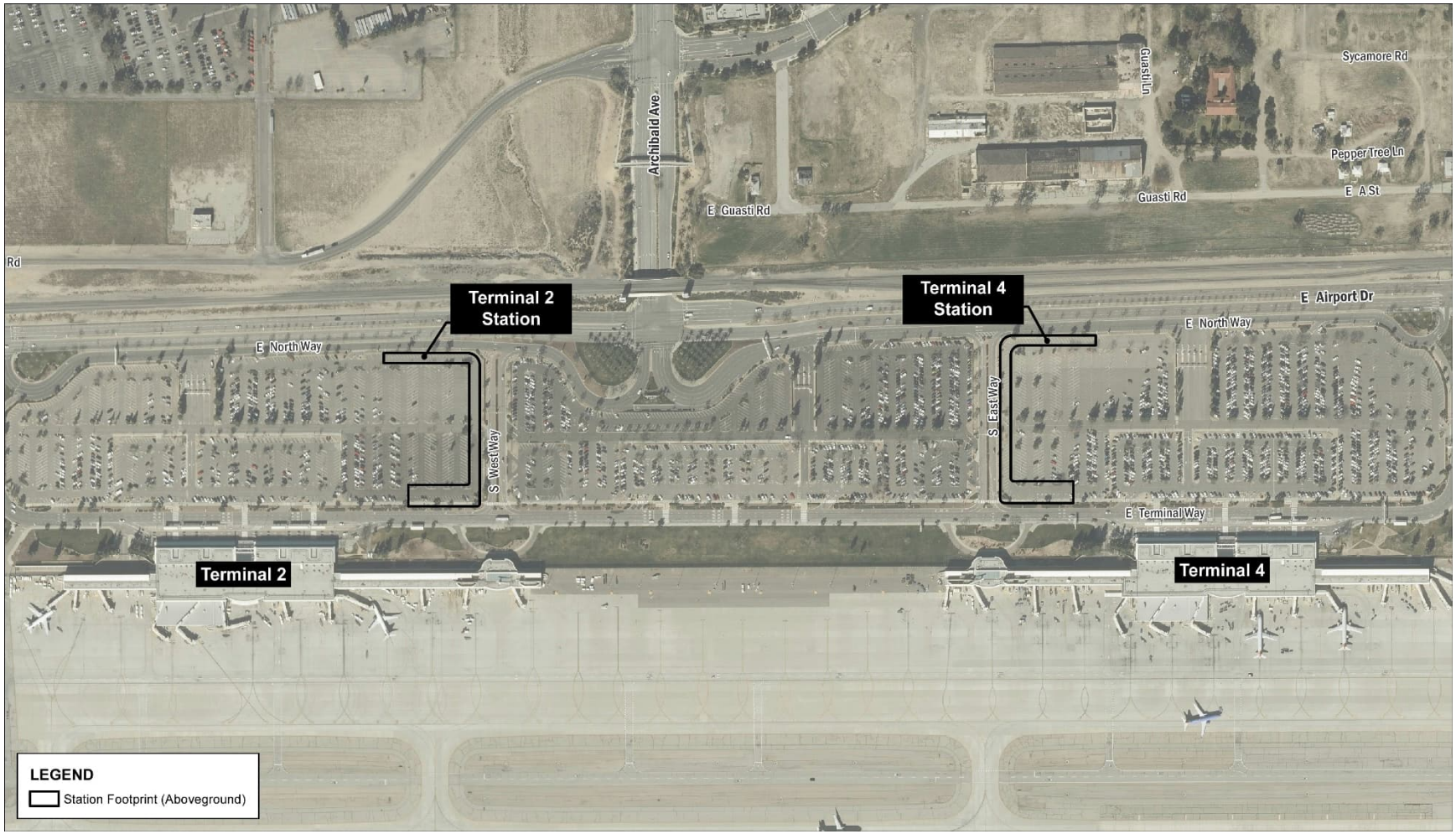
The proposed at-grade station Cucamonga Station would be approximately 8,000 square-feet and would be located at the northwest corner of the existing Cucamonga Metrolink Station parking lot. The existing Cucamonga Metrolink Station parking lot is owned and maintained by the City of Rancho Cucamonga. Approximately 180 parking stalls would be permanently removed from the existing Cucamonga Metrolink Station parking lot to accommodate the proposed Cucamonga Station. Two other stations, each approximately 10,000 square-feet, would be located at-grade within two of the existing parking lots at ONT Terminal 2 and Terminal 4. The Cucamonga Station also includes the proposed Project's MSF.

The two airport-serving stations would connect to their associated tunnel portals along Terminal Way via an at-grade connection. The proposed stations would be entirely located within the ONT right-of-way (ROW). Approximately 80 parking stalls would be permanently removed to accommodate the ONT Terminal 2 station, and approximately 115 spaces would be permanently removed to accommodate the ONT Terminal 4 station.

Figure 2-4: Cucamonga Station

Source: HNTB 2024

Figure 2-5: Ontario International Airport - Terminal 2 Station and Terminal 4 Station



Source: HNTB 2024

2.3.2.3.2 Maintenance and Storage Facility

The proposed Cucamonga Station would include an adjacent maintenance and storage facility with enclosed bays to store, clean, and maintain vehicles. The MSF would be approximately 11,000 square feet, with an additional 5,000 square feet second story and would contain an operations control center with lockers, breakrooms, and restrooms. Employee parking for the facility would be provided at the existing parking lot owned by SBCTA, in the southeastern quadrant of the Milliken Avenue/Azusa Court intersection.

2.3.2.3.3 Description of Vent Shaft Design Options

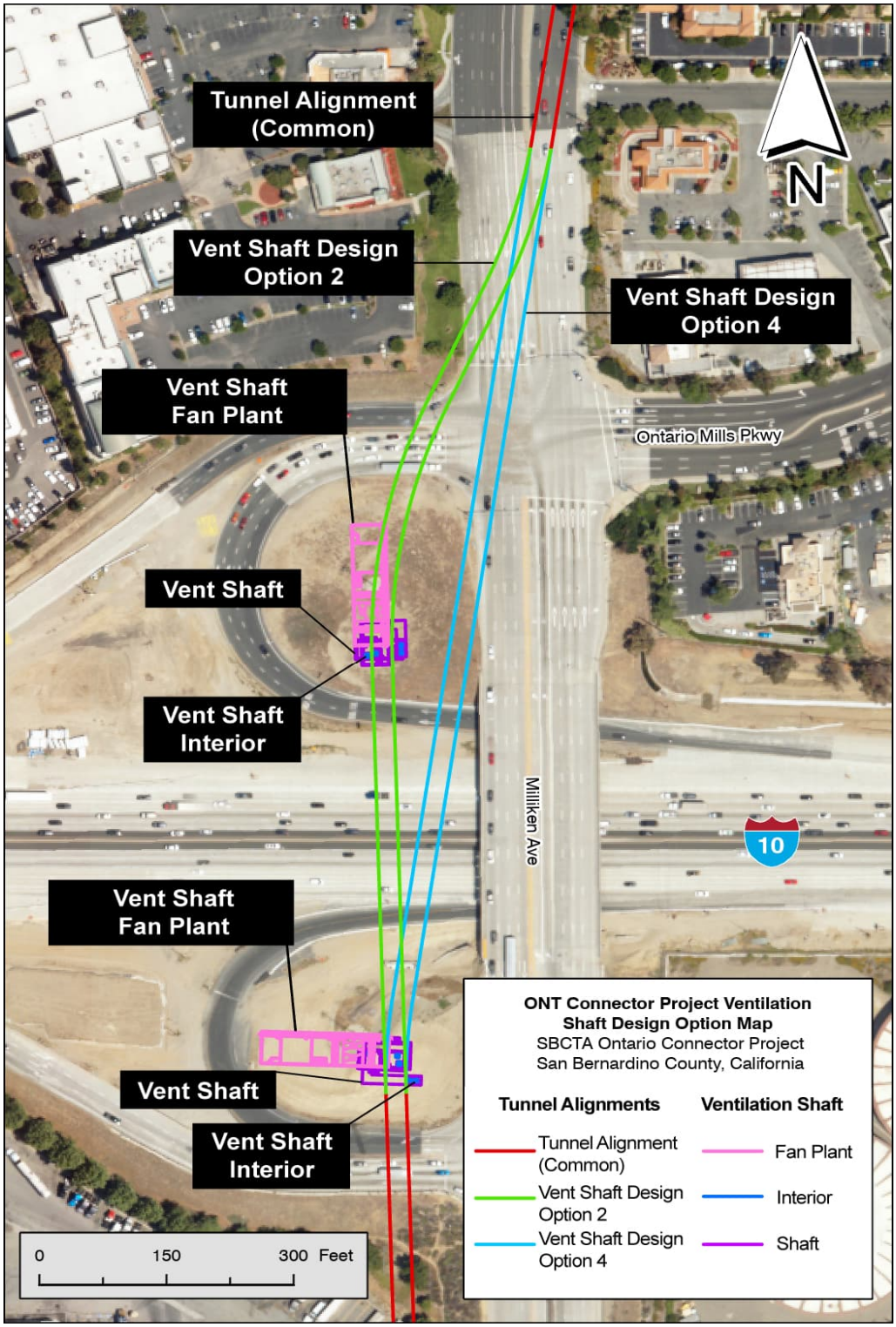
A vent shaft would be constructed to provide a means of emergency passenger egress and first responder access to and from the tunnel. Two locations are being considered west of Milliken Avenue on the north and south sides of I-10, as shown in Figure 2-6. A final decision about the location of the vent shaft would be made after the completion of the CEQA and NEPA environmental processes, and consideration of operational needs, environmental impacts, and stakeholder coordination.

The location option on the north side of I-10 would be in the ROW for the westbound off-ramp and would provide surface ground access from the Milliken Avenue/I-10 westbound off ramp intersection or from the westbound off ramp right lane near the ramp termini or directly from Milliken Avenue. The location option on the south side of I-10 would be in the ROW for the eastbound on-ramp and would provide surface ground access from Milliken Avenue near the eastbound on-ramp.

The vent shaft would consist of both underground and above ground structures. The underground shaft would extend to the tunnel level and the surface structures would consist of a one-(1) story structure above ground.

Access points would include underground, surface, and road access for emergencies to and from the tunnel. The proposed vent shaft would include associated electrical and ventilation equipment, and access would be controlled via a lock and key.

Figure 2-6: Vent Shaft Design Option 2 and Vent Shaft Design Option 4



Source: HNTB 2024

2.3.2.4 Proposed Operations

The proposed Project includes operation of autonomous electric vehicles to transport passengers to and from the proposed stations. The autonomous electric vehicles would be grouped and queued at their origin station and would depart toward the destination station once boarded with passengers. After the group of vehicles arrives at the destination station and passengers deboard, new passengers would board, and the group of vehicles would return to its origin station. If no new passengers are present, empty vehicles would be returned to the origin station to pick up new passengers. The proposed Project would provide a peak one-way passenger throughput of approximately a minimum of 100 passengers per hour. Operations would be managed by Omnitrans, with on-demand service provided daily from 4:00 a.m. to 11:30 p.m., including weekends and holidays.

Fleet size and capacity of the vehicles will be up to the Operating System Provider and Design-Builder to determine to provide an initial operating system capable of transporting a minimum of 100 passengers per hour per direction and scalable to meet ridership demand. Based on the initial operating requirements and preliminary vehicle capacities, SBCTA is anticipating initial fleet sizes of between 7 and 60 vehicles to be required. Vehicles are rubber-tired electric autonomous vehicles.

2.3.2.5 Proposed Construction

This section describes the construction approach for the proposed Project. Overall construction of the proposed Project would last approximately 56 months, with project elements varying in their specific construction duration. Construction is projected to start in 2025 and is anticipated to be completed in 2031. The Construction Methods Technical Report (SBCTA 2024b) provides additional details regarding the construction approach and process for the key project elements (stations, MSF, tunnel construction, and vent shaft) associated with the proposed Project.

2.3.2.5.1 Stations and Maintenance and Storage Facility Construction

A construction staging area would be required at each of the three proposed Project stations, which includes the MSF at Cucamonga Station, and at the vent shaft location. Construction staging areas would be used to store building materials and construction equipment, assemble the tunnel boring machine (TBM), temporarily store excavated materials, and serve as temporary field offices for the contractor. Heavy-duty, steel, track-out grates (i.e., rumble plates) would be staged at the entrance of the construction staging areas to capture dirt and soil debris from the wheels of trucks and construction equipment. Best management practices (BMPs) would minimize a public nuisance that can result from soil and mud tracks on the public roadway. For security purposes, construction staging areas would be equipped with fences, lighting, security cameras, and guards to prevent vandalism and theft.

Cut-and-cover sites would occur at each proposed station location. Cut-and-cover activities involve the excavation of a shallow underground guideway from the existing street surface. During the construction phase, the cut-and-cover sites at Cucamonga Metrolink Station and Terminal 2 at ONT would be used as the TBM launching and receiving pits. Ultimately, the station cut-and-cover sites would serve as the vehicle ramps for the proposed Project's operations where the underground guideway would transition to at-grade.

Following the mass excavation and grading, the stations would require the installation of the waterproof membrane around the station box. The construction sequence for the station structures would typically commence with construction of the foundation base slab, followed by installation of exterior walls any interior column elements, and pouring of the station roof. Once station structure work is complete, the station excavation would be backfilled, and the permanent roadway would be constructed. Decking removal and surface restoration would then occur. Stations are proposed to be 1 to 2 stories, up to approximately 40 feet in height.

Generally, stations would be built simultaneously with or following guideway construction. However, construction of the Cucamonga Station may need to occur after the completion of all excavation and in-tunnel work. Truck haul routes, described in Table 2-1, would be designated for each staging site to transport excavated material from the staging sites. Additional construction details for the proposed stations and MSF are described in Table 2-1, and in the Construction Methods Technical Report (SBCTA 2024b). Table 2-2 provides an overview of the typical sequencing for transit construction activities.

2.3.2.5.1.1 Construction Details for Cucamonga Station and Maintenance and Storage Facility

Construction at the proposed Cucamonga Station would require a mass excavation and the TBM would be launched from the invert of the Cucamonga Station and retrieved from the ONT Terminal 2 Station construction site. Construction at the proposed Cucamonga Station would require approximately 3.2 acres. Approximately 170 parking stalls would be temporarily unavailable at the Cucamonga Metrolink Station parking lot. Construction at the Cucamonga Station would occur for up to 37 months. No road closures are anticipated for staging at the Cucamonga Station. Equipment needs would include the following: excavators, backhoes, a vertical conveyor system, a gantry crane, a crawler crane, concrete trucks, haul trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan grout plant, segment cars, and flatcars.

Additionally, construction would not interrupt Metrolink service at the Cucamonga Metrolink Station, as construction activities and staging would occur within the existing Cucamonga Station parking lot. SBCTA will coordinate construction at Cucamonga Station with SCRRA, prior to the start of construction and throughout the construction period, to maintain station access and to coordinate station parking, as needed.

Table 2-1: Stations, Maintenance and Storage Facility Construction Details

Proposed	Construction Area	Duration	Haul Route
Cucamonga Station and MSF	Would require approximately 3.2 acres within the existing Cucamonga Metrolink Station parking lot. Approximately 170 parking stalls would be temporarily unavailable from the existing Metrolink parking lot.	Construction at the Cucamonga Station would occur for up to 37 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel north along Milliken Avenue, and turn right on Foothill Boulevard to access I-15. No road closures are anticipated for staging at the Cucamonga Station.
ONT Terminal 2 Station	Would require approximately 3.4 acres within the existing ONT Terminal 2 parking lot. Approximately 300 parking stalls would be temporarily unavailable from the ONT parking lot.	Construction at ONT Terminal 2 would occur for up to 27 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 2 Station.
ONT Terminal 4 Station	Would require approximately 3.2 acres within the existing ONT Terminal 4 parking lot. Approximately 300 parking stalls would be temporarily unavailable from the ONT parking lot.	Construction at ONT Terminal 4 would occur for up to 15 months.	Haul trucks are needed to support removal and transport of materials from the mass excavation for each construction site (for the stations and vent shaft) and from tunnel boring activities. Haul trucks would collect excavated material from the construction sites and transport it away from the sites, utilizing designated haul routes. Haul trucks would exit the staging area, travel east along Terminal Way, and turn left on Haven Avenue to access I-10. No road closures are anticipated for staging at the Terminal 4 Station.

Table 2-2: Typical Sequencing of Transit Construction Activities

At Grade or Underground	Activity	Typical Duration (Total Months)	Description
At Grade Construction Activities	Utility Relocation	7-14	Relocate utilities from temporary and permanent elements related to the construction and/or operation of the Project.
At Grade Construction Activities	Construction Staging Laydown Yard	3-6	Prepare existing lots to store construction equipment and materials, including the TBM, office space.
At Grade Construction Activities	Roadway	6-18	Reconfigure roadway, demolition of existing roadway installation of curb and gutter and other public ROW improvements.
At Grade Construction Activities	At-grade Guideway	6-18	Install asphalt and striping for guideway.
At Grade Construction Activities	Station Construction (overall)	24-48	Install mechanical, electrical, and plumbing (MEP), canopies, faregates, ticketing, finishes, stairs, and walkways.
At Grade Construction Activities	Parking	3-6	Restoring existing parking stalls temporarily unavailable due to construction, as applicable.
At Grade Construction Activities	MSF	8-12	Install MEP, fencing, enclosed bays, specialized washing equipment, and rebar installation, and concrete pours.
Underground Construction Activities	Utility Relocation	7-14	Relocate and hang underground utilities from temporary and permanent elements related to the construction and operation of the Project.
Underground Construction Activities	Open Cut and Cut and Cover Construction	18-24	Supports the construction of the TBM launching and receiving pit, and of the access ramps connecting the tunnel with the at-grade stations. Install soldier piles for beam and lag support of excavation and excavation. Cover excavation with temporary decking.
Underground Construction Activities	Bored Tunnel	16-24	Underground guideway construction.
Underground Construction Activities	Ventilation and Emergency Access Shaft	6-8	Install ventilation and emergency access shaft.
Underground Construction Activities	Underground Guideway	12-18	Install asphalt and striping for guideway.

The proposed Cucamonga Station includes a MSF to store, clean, and maintain vehicles. The MSF would be approximately 11,000 square feet, with an additional 5,000 square feet second story and would contain an operations control center with lockers, breakrooms, and restrooms. The MSF would be constructed adjacent to the Cucamonga Station and would include enclosed bays.

2.3.2.5.1.2 Construction Details for ONT Terminal 2 Station

Construction staging at the proposed ONT Terminal 2 station would require approximately 3.4 acres within the existing ONT Terminal 2 parking lot. Approximately 300 parking stalls would be temporarily unavailable at the ONT Terminal 2 parking lot. Construction at the ONT Terminal 2 Station would occur for up to 27 months. No road closures are anticipated for staging at the ONT Terminal 2 Station. Equipment needs would include the following: a piling rig, a gantry crane, a crawler crane, excavators, concrete trucks, muck trucks, a wheel loader, Foamplant, cooling towers, a tunnel fan, a grout plant, segment cares, and flatcars.

2.3.2.5.1.3 Construction Details for ONT 4 Terminal Station

Construction Staging at the proposed ONT Terminal 4 station would require approximately 3.2 acres within the existing ONT Terminal 4 parking lot. Approximately 300 parking stalls would be temporarily unavailable at the ONT Terminal 4 parking lot. Construction at the ONT Terminal 4 Station would occur for up to 15 months. No road closures are anticipated for staging at the ONT Terminal 4 Station. Equipment needs would include the following: a piling rig, a crawler crane, concrete trucks, muck trucks, a compressor, a generator, a water treatment plant, a wheel wash, a wheel loader, backhoes, and excavators.

2.3.2.5.2 Tunnel Construction

The proposed Project will travel in a below grade tunnel configuration for most of its proposed alignment. A TBM will be utilized in the construction of the tunnel. TBM are typically used in the construction of infrastructure projects to build deep underground tunnels by boring, or excavating, through soil, rocks, and/or other subsurface materials. The TBM would be launched from the Cucamonga Metrolink Station to construct the tunnel. Additional details regarding the underground construction process for the proposed Project are included in the Construction Methods Technical Report (SBCTA 2024b).

The TBM would be launched from the invert of the Cucamonga Station and retrieved from the ONT Terminal 2 Station construction site. A large crane would be used to assemble and disassemble the TBM from the excavation and receiving pits. OIAA height limits at ONT and Rancho Cucamonga, 135 feet and 160 feet, respectively, would restrict crane heights. The TBM would operate six days a week, with maintenance occurring each Sunday. Construction of the entire tunnel would take approximately 22 months. Both ends of the tunnel would need to be constructed via direct excavation (cut and cover) to launch or retrieve the TBM. After mining is completed and TBM logistics are demobilized, both ends of the tunnel would be utilized to build the invert roadway, walkways, center wall and MEP systems, etc.

Vehicle ramps connecting to the tunnel would be constructed via direct excavation, as well. Equipment at the TBM launch site would include trucks, a crane, excavators, a grout plant, a compressor plant, a tunnel fan, and cooling towers. The launch area would also store tunnel construction materials (rail, pipe, ducts, etc.) and stockpile excavated material.

Truck haul routes at the proposed launch site at Cucamonga Station and the proposed retrieval site at ONT Terminal 2 Station are described in Table 2-1. The Construction Methods Technical Report includes additional details on the overall construction approach for the proposed tunnel (SBCTA 2024b).

2.3.2.5.3 Vent Shaft Construction

Two vent shaft design options with different access points are being considered for the proposed Project. Vent shaft design option 2 would be located west of Milliken Avenue on the westbound off-ramp of the I-10. Vent shaft design option 4 would be located west of Milliken Avenue on the eastbound on-ramp of the I-10. The vent shaft will consist of both underground and above ground structures. The underground shaft will extend to the tunnel level and the surface structure will consist of a one-(1) story structure above ground. One vent shaft would be constructed along the tunnel alignment.

The vent shaft could be constructed before or after the construction of the tunnel and would be installed using a similar construction methodology to that of the tunnel and take approximately 6 months to complete. A drill rig would install up to 5 piles deep per day, each 70 feet deep. Piles would be drilled (i.e., no impact driving). The access shaft would then be excavated. The excavation would be supported by an internal bracing system. The vent shaft would require a construction staging area approximately 0.62-acres (27,000 square feet). Anticipated equipment at the location would include haul trucks, a drill rig, a crane, an excavator, a wheel loader, a compressor, and a ventilation fan. The staging area would include material storage, stockpiles of excavated material, water treatment, a workshop, a construction office, and an employee parking. Additional details regarding the construction process for the vent shaft are included in the Construction Methods Technical Report (SBCTA 2024b).

2.3.2.5.4 Utilities

Utility relocations are anticipated at the launch and retrieval locations at the Cucamonga Metrolink Station site, ONT, and ventilation/emergency access shaft. Multiple utilities would be relocated to allow for the construction of the access shaft, including: potential electric underground distribution cables owned and operated by Southern California Edison; landscape irrigation line owned and operated by the City of Ontario; and Caltrans fiber optic duct bank. In a future project phase, coordination with the existing utility service providers prior to utility relocation would be conducted to reduce potential impacts to utility service and minimize disruptions. Relocations of existing utilities would be coordinated with utility service providers and would be in previously disturbed areas or established ROW close to their existing locations and would stay within the evaluated Project footprint.

2.3.2.6 Proposed Project Easements

The proposed Project would require easements from 19 properties. This includes the need for 12 permanent subsurface easements, two permanent surface easements, and five parcel acquisitions for both subsurface and surface easements. Seven of the easements would be for the three stations and would total approximately 2 acres. SBCTA would require these easements for construction and/or operation of the proposed Project. There are two locations that are options for the location of the Vent Shaft, both belonging to Caltrans. This document evaluates the impacts for both options without selection of a preferred site. The decision of the preferred site will depend in part on the CEQA and NEPA processes, including any potential input from the public. The final decision as to which option is preferred may occur after the completion of the CEQA/NEPA process. Land uses for the parcels where these easements would be required include industrial, transportation facilities, utilities, and commercial. The owners of these parcels include SBCTA and City of Rancho Cucamonga (Cucamonga Metrolink Station west and east parking lots), OIAA, a utility service provider, and some private owners. No relocations of businesses and residences would be required to construct the proposed Project.

3 REGULATORY SETTING

3.1 FEDERAL

The following sections describe applicable federal policies and regulations.

3.1.1 NEPA [42 United States Code Sections 4322 et seq.]

NEPA requires consideration of potential environmental effects, including Water Quality, Water Resources, and Floodplain effects, in the evaluation of any proposed federal agency action. NEPA also obligates federal agencies to consider the environmental consequences and costs in their projects and programs as part of the planning process. General NEPA procedures are set forth in the Council on Environmental Quality regulations 42 United States Code (USC) 4332 Section 102.

3.1.2 Clean Water Act

The Clean Water Act (CWA) of 1972 establishes the basic structure for regulating discharges of pollutants into waters of the United States (U.S.) and gives the United States Environmental Protection Agency (EPA) the authority to implement pollution control programs such as setting wastewater standards for industries. In most states, EPA has delegated this authority to state agencies. In California, the State Water Resources Control Board (SWRCB) and Regional Water Quality Control Boards (RWQCBs) implement these programs. The proposed Project is within the jurisdiction of the Santa Ana RWQCB. Specific sections of the CWA that are applicable to the proposed Project are described in this section.

The CWA includes the federal Antidegradation Policy which was enacted to require the states to enact policies to fully protect existing water uses and level of water quality required to protect and maintain the existing uses. Additional provisions of the CWA that are applicable to the proposed Project are described in this section.

3.1.2.1 CWA Section 301

Section 301 prohibits the discharge of any pollutant into waters of the U.S. without authorization under specific provisions of the CWA, including CWA Sections 402, which is discussed in Section 3.1.2.4.

3.1.2.2 CWA Section 303(d)

Section 303(d) of the CWA requires states, territories, and authorized tribes to develop a list of water quality-impaired segments of waterways. The 303(d) list includes waterbodies that do not meet water quality standards for the specified beneficial uses of that waterway, even after point sources of pollution have installed the minimum required levels of pollution control technology. The law requires that these jurisdictions establish priority rankings for waterbodies on their 303(d) lists and implement a process, called Total Maximum Daily Loads (TMDLs), to meet water quality standards.

The TMDL process is a tool for implementing water quality standards and is based on the relationship between pollution sources and in-stream water quality conditions. The TMDL establishes the maximum allowable loadings of a pollutant that can be assimilated by a water body while still meeting applicable water quality standards. The TMDL provides the basis for the establishment of water quality-based controls that are intended to provide the pollution reduction necessary for a water body to meet water quality standards. A TMDL is the sum of the allowable loads of a single pollutant from all contributing point source and non-point sources. The TMDL's allocation calculation for each water body must include a margin of safety to ensure that the water body can be utilized for its state-designated beneficial uses. Additionally, the calculation also must account for seasonal variation in water quality.

TMDLs are intended to address all significant stressors that cause or threaten to cause impairments to beneficial uses, including point sources (e.g., sewage treatment plant discharges), non-point sources (e.g., runoff from fields, streets, range, or forest land), and naturally occurring sources (e.g., runoff from undisturbed lands). TMDLs are developed to provide an analytical basis for planning and implementing pollution controls, land management practices, and restoration projects needed to protect water quality. States are required to include approved TMDLs and associated implementation measures in state water quality management plans. Within California, TMDL implementation is achieved through regional Water Quality Control Plans (Basin Plans).

TMDL Implementation Plans provide a schedule for responsible jurisdictions to implement BMPs to comply with pollutant reduction schedules. BMPs are defined as a technique, measure, or structural control to manage the quantity and improve the quality of stormwater runoff in the most cost-effective manner.

3.1.2.3 CWA Section 401

Under Section 401 of the CWA, a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a Section 401 water quality certification is issued, or certification is waived. States and authorized tribes where the discharge would originate are generally responsible for issuing water quality certifications. In cases where a state or tribe does not have authority, EPA is responsible for issuing certification. 33 UUSC 1341. Some of the major federal licenses and permits subject to Section 401 include:

- Clean Water Act Section 402 and 404 permits issued by EPA or the U.S. Army Corps of Engineers (USACE);
- Federal Energy Regulatory Commission (FERC) licenses for hydropower facilities and natural gas pipelines; and
- Rivers and Harbors Act Section 9 and 10 permits.

The CWA provides that certifying authorities (states, authorized tribes, and EPA) must act on a Section 401 certification request "within a reasonable period of time (which shall not to exceed one year) after receipt" of such a request. A certifying authority may waive certification expressly, or by failing or refusing to act within the established reasonable period of time. In making decisions to grant, grant with conditions, or deny certification requests, certifying authorities consider whether the federally licensed or permitted activity will comply with applicable water quality standards, effluent limitations, new source performance standards, toxic pollutants restrictions and other appropriate water quality requirements of state or tribal law.

3.1.2.4 CWA Section 402

Section 402 of the CWA establishes the National Pollutant Discharge Elimination System (NPDES) permit process, which provides a regulatory mechanism for the control of point source discharges (a municipal or industrial discharge at a specific location or pipe) to waters of the United States. The NPDES program also regulates: 1) diffusing source discharges caused by general construction activities over one acre; and 2) stormwater discharges in municipal stormwater systems where runoff is carried through a developed conveyance system to specific discharge locations.

3.1.3 National Flood Insurance Program

Congress acted to reduce the costs of disaster relief by passing the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. The intent of these acts was to reduce the need for large, publicly funded flood control structures and disaster relief efforts by restricting development in floodplains. Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP) to provide subsidized flood insurance to communities that comply with FEMA regulations limiting development in a floodplain. FEMA issues Federal Insurance Rate Maps (FIRMs), which delineate flood hazard zones in the community, of communities participating in the NFIP.

3.1.4 Executive Order 11988

Executive Order 11988 directs all federal agencies to refrain from, to the extent practicable and feasible, all short-term and long-term adverse impacts associated with floodplain modification, and to refrain from direct and indirect support of development within 100-year floodplains wherever a practicable alternative is available, and to restore and preserve the natural and beneficial values served by floodplains. Projects that encroach upon 100-year floodplains must be supported with additional specific information. The U.S. Department of Transportation (DOT) Order 5650.2, Floodplain Management and Protection, prescribes “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.” The Order does not apply to areas with Zone C (areas of minimal flooding as shown on FEMA FIRMs).

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, 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*, prescribes 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.

3.1.5 Floodplain Development

The FEMA is responsible for determining flood elevations and floodplain boundaries based on USACE studies. FEMA is also responsible for producing and distributing the FIRMs, which are used in the NFIP. These maps identify the locations of special flood hazard areas, including the 100-year floodplain.

FEMA allows non-residential development in the floodplain; however, construction activities are restricted within the flood hazard areas depending upon the potential for flooding within each area. Federal regulations governing development in a floodplain 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 flood plains.

Section 60.3(c)(2) of the NFIP regulations requires that the lowest occupied floor of a residential structure be elevated to, or above, the 100-year flood elevation (the base flood elevation). Section 60.3(c)(3) adds that nonresidential or commercial structures can be either elevated or dry flood-proofed to, or above, the 100-year flood elevation.

3.1.6 Safe Water Drinking Act

The Safe Drinking Water Act (SDWA) was established to protect the quality of drinking water in the United States. This law focuses on all waters actually or potentially designed for drinking use, whether from above ground or underground sources. Section 1424(e) of the SDWA of 1974 (Public Law 93-523, 42 USC 300 et. seq) establishes EPA's authority to determine if an area has an aquifer which is the sole or principal drinking water source for the area and, if contaminated, would create a significant hazard to public health. Upon determination, EPA will publish a notice in the Federal Register. After the publication of any such notice, no commitment for federal financial assistance (through a grant, contract, loan guarantee, or otherwise) may be entered into for any project which the EPA determines may contaminate such aquifer through a recharge zone so as to create a significant hazard to public health. A plan or design for a project must ensure that the aquifer will not be contaminated and a commitment for federal assistance may be authorized under another provision of law.

3.2 STATE

The following sections describe applicable state policies and regulations.

3.2.1 California Environmental Quality Act Sections 21000 et seq. and CEQA Guidelines Sections 15000 et seq.

CEQA requires state and local agencies to identify the significant environmental impacts of their actions, including potential significant impacts associates with hydrology and water quality, and to avoid or mitigate those impacts, when feasible.

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

The SWRCB and the nine RWQCBs are responsible for the protection of water quality in California. The SWRCB establishes statewide policies and regulations mandated by federal and state water quality statutes and regulations. The RWQCBs are responsible for the development and implementation of Basin Plans that address regional beneficial uses, water quality characteristics, and water quality problems. The RWQCBs are responsible for implementing the Porter-Cologne Water Quality Control Act discussed in Section 3.2.1.1.1. The RWQCBs are also responsible for issuing Water Quality Certifications pursuant to Section 401 of the CWA as described in Section 3.1.2.3.

All projects resulting in waste discharges, whether to land or water, are subject to Section 13263 of the California Water Code. Through the mandates of this section, dischargers are required to comply with Waste Discharge Requirements (WDRs) as developed by the RWQCB. WDRs for discharges to surface waters must meet requirements for related NPDES permits (further described in Section 3.2.1.1.1).

3.2.1.1.1 Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act of 1969 established the principal California program for water quality control. The Porter-Cologne Water Quality Control Act regulates discharges to surface and groundwater and directs the RWQCBs to develop regional Basin Plans. Basin Plans are required to: 1) designate beneficial uses for surface and ground waters; 2) set narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's antidegradation policy; and 3) describe implementation programs to protect all waters in the region. Development of Basin Plans and the triennial review of these plans by the SWRCB are necessary for compliance with CWA Section 303 (40 CFR 131).

California's Porter-Cologne Act requires projects that are discharging or proposing to discharge wastes that could affect the quality of the State's water to file a Report of Waste Discharge with the appropriate RWQCB. The RWQCBs are responsible for implementing CWA Sections 401, 402, and 303(d). The Porter-Cologne Water Quality Control Act also provides development and periodic review of the Basin Plans that designate beneficial uses of California's major rivers and groundwater basins and establish

water quality objectives (WQOs) for those waters. Projects primarily implement Basin Plans using the NPDES permitting system to regulate waste discharges so that WQOs are met.

3.2.1.1.2 State Anti-Degradation Policy

In accordance with the federal anti-degradation policy, the state policy was adopted by SWRCB to maintain high quality waters in California. This state policy, implemented by RWQCBs, restricts the degradation of surface and groundwaters in an effort to achieve the federal CWA goals and objectives. Specifically, the policy protects bodies of water where the existing water quality is higher than necessary for the protection of present and anticipated beneficial uses. The policy requires that any activity that produces a waste or increased amount of waste and that discharges into high quality waters must meet WDRs to control the discharge and assure that degradation of the existing water quality does not occur.

3.2.1.1.3 National Pollutant Discharge Elimination System

In accordance with CWA Section 402(p), which regulates municipal and industrial stormwater discharges under the NPDES program, SWRCB adopted an Industrial General Permit and Construction General Permit. The NPDES Industrial General Permit was established pursuant to amendments made to the CWA in 1987 to require that stormwater associated with industrial activities be regulated by an NPDES permit (Water Quality Order No. 2014-0057-DWQ as amended in 2015 and 2018). There are 11 categories of industrial activities that are regulated under the Industrial General Permit for discharges directly to surface waters or indirectly through municipal storm sewers.

The SWRCB permits all regulated construction activities under Order No. 2009-009-DWQ, as amended by 2010-0014-DWQ and 2012-0006-DWQ. The Order requires that, prior to beginning any construction activities, the permit applicant must obtain coverage under the General Construction Permit by preparing and submitting a Permit Registration Document that includes a Notice of Intent (NOI) and appropriate fee to the SWRCB. SWRCB may issue a General Construction Permit or an Individual Construction Permit that would contain more specific permit provisions. The Individual Construction Permit would replace the General Construction Permit regulations and provisions, if issued. Additionally, coverage would not occur until an adequate Stormwater Pollution Prevention Plan (SWPPP) has been prepared. A separate NOI is submitted to the SWRCB for each construction site.

Construction activities subject to the NPDES Construction General Permit include clearing, grading, and disturbances to the ground, such as stockpiling or excavation, that result in soil disturbances of at least one acre of total land area. Because construction of the proposed Project would cumulatively disturb more than one acre, all improvements and development activities would be subject to these permit requirements.

Construction activities, including small construction sites less than one acre but part of a larger common plan of at least one acre, must obtain coverage under this Construction General Permit and are required

to prepare an SWPPP. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of stormwater discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges.

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. The SWPPP prepared to comply with the General Construction Permit would also address post-construction activities that can result in ongoing erosion or sedimentation impacts.

The General Construction Permit was adopted by SWRCB on September 2, 2009 and became effective on July 1, 2011. In addition, 2010-0014-DWQ was adopted on November 16, 2010 and became effective on February 14, 2011. The amendment provided updated text changes to the fact sheet, Conditions for Permit Coverage, and the Special Provisions, Electronic Signature and Certification Requirements of Order No. 2009-009-DWQ. All construction activities related to the proposed Project are subject to the requirements in the General Construction Permit. The current amended Order includes the following:

- Technology-based Numeric Action Levels (NALs): The General Permit includes NALs for pH and turbidity.
- Technology-based Numeric Effluent Limitations (NELs): The General Permit contains NELs for pH during any construction phase where there is a high risk of pH discharge and turbidity for all discharges.
- Risk-based Permitting Approach: The General Permit establishes a four-level risk calculation, with only the lowest three levels covered under this General Permit. Those dischargers that are determined to be Risk Level 4 are not covered by this General Permit, and thereby are required to submit a Report of Waste Discharge (ROWD) to the appropriate Regional Water Board and seek coverage under an individual or other applicable general permit.
- Minimum Requirements Specified: The General Permit specifies more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.
- Project Site Soil Characteristics Monitoring and Reporting: The General Permit requires all dischargers to monitor and report the soil characteristics at the proposed Project location. The

primary purpose of this requirement is to provide better risk determination and eventually improve program evaluation.

- Effluent Monitoring and Reporting: The General Permit requires effluent monitoring and reporting for pH and turbidity in stormwater discharges. The purpose of this monitoring is to be used to determine compliance with the NELs and evaluate whether NALs included in this General Permit are exceeded.
- Receiving Water Monitoring and Reporting: The General Permit requires some Risk Level 2 and Risk Level 3 dischargers to monitor receiving waters.
- New Development and Redevelopment Stormwater Performance Standards: The General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate post-construction stormwater runoff impacts.
- Rain Event Action Plan: The General Permit requires sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.
- Site Photographic Self-Monitoring and Reporting: The General Permit requires all projects to provide photographs of their sites at least once quarterly if there are rain events causing a discharge during that quarter. The purpose of this requirement is to help RWQCB staff prioritize their compliance evaluation measures (inspections, etc.). In addition, this reporting will make compliance related information more available to the public.
- Annual Reporting: The General Permit requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and public information.
- Certification/Training Requirements for Key Project Personnel: The General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with Permit requirements.

3.2.1.2 Alquist-Priolo Earthquake Fault Zoning Act

The 1972 Alquist-Priolo Earthquake Fault Zoning Act was created with the purpose of mitigating hazards associated with fault rupture. Structures for human occupancy are prohibited from being placed across the trace of an active fault. This policy is an important regulation in relation to water resources given the potential hazards of dam failure/inundation caused by strong earthquake ground shaking and associated erosion or flooding.

3.2.1.3 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), adopted in 2014, provides a framework for regulating groundwater in California. The intent of the law is to strengthen local groundwater management of basins most critical to the state's water needs. SGMA requires basins to be sustainably managed by local public agencies (e.g., counties, cities, and water agencies) who become groundwater sustainability agencies. The primary purpose of the groundwater sustainability agencies is to develop and implement a Groundwater Sustainability Plan for basins designated as high and medium priority to achieve long-term groundwater sustainability.

3.3 REGIONAL

The following sections describe applicable regional policies and regulations.

3.3.1 Santa Ana Regional Water Quality Control Board

3.3.1.1 Basin Plan

The Basin Plan that applies to the proposed Project is the Santa Ana River Basin Plan (Santa Ana RWQCB 2019). The Santa Ana River Basin Plan sets forth the regulatory water quality standards for surface waters and groundwater within the region. The water quality standards address both the designated beneficial uses for each water body and the narrative and numeric WQOs to meet them. Where multiple designated beneficial uses exist, water quality standards are written to protect the most sensitive use. Also, the Santa Ana Basin Plan describes the implementation programs and actions necessary to meet the WQOs and the monitoring and assessment methods used to determine attainment of the WQOs.

3.3.1.2 Total Maximum Daily Loads

In accordance with the federal CWA and the state 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 the Santa Ana River Watershed. TMDLs govern the discharge of wastewater, urban runoff, and stormwater. A TMDL is a number that represents the assimilative capacity of a receiving water to absorb a pollutant. The Santa Ana Region has established TMDLs (Category 5B) for noxious aquatic plants, nutrients, pathogens, coliform bacteria, organic enrichment/low dissolved oxygen, indicator bacteria, pesticides, sediments/siltation, and unknown toxicity. TMDLs applicable to the tributary Cucamonga Creek of the Santa Ana River is described in Section 5.3 (Water Quality).

3.4 LOCAL

The following sections describe local policies (contained in general plans) and ordinances (contained in county and municipal codes) related to water resources, water quality, and floodplains. Not all of the local

jurisdictions have specific general plan policies or ordinances related to water resources; applicable policies and regulations are described in this section.

3.4.1 San Bernardino County

3.4.1.1 San Bernardino County General Plan

The County Policy Plan serves as the San Bernardino County's General Plan for the unincorporated areas, which is mandated by state law, but it also includes policy direction for adult and child supportive services, healthcare, public safety, and other regional services the County administers in both incorporated and unincorporated areas. The County Policy Plan sets specific goals and policies in relation to water resources, water quality, and flooding in the Natural Resources Element, the Infrastructure and Utilities Element, and the Hazards Element (San Bernardino County 2020). The County Policy Plan elements and policies described in this section apply to the proposed Project and are direct quote excerpts.

3.4.1.2 Natural Resources Element

- GOAL NR-2 Water Quality. Clean and safe water for human consumption and the natural environment.
    - Policy NR-2.1 Coordinate on water quality. We collaborate with the state, regional water quality control boards, watermasters, water purveyors, and government agencies at all levels to ensure a safe supply of drinking water and a healthy environment.
    - Policy NR-2.2 Water management plans. The San Bernardino County supports the development, update, and implementation of ground and surface water quality management plans emphasizing the protection of water quality from point and non-point source pollution.
    - Policy NR-2.4 Wastewater discharge. The San Bernardino County applies federal and state water quality standards for wastewater discharge requirements in the review of development proposals that relate to type, location, and size of the proposed project in order to safeguard public health and shared water resources.
    - Policy NR-2.5 Stormwater discharge. The San Bernardino County ensures compliance with the County's Municipal Stormwater NPDES (National Pollutant Discharge Elimination System) Permit by requiring new development and significant redevelopment to protect the quality of water and drainage systems through site design, source controls, stormwater treatment, runoff reduction measures, BMPs, low impact development strategies, and technological advances. For existing development, we monitor businesses and coordinate with municipalities.

3.4.1.3 Infrastructure and Utilities Element

- GOAL IU-1 Water Supply. Water supply and infrastructure are sufficient for the needs of residents and businesses and are resilient to drought.
    - Policy IU-1.1 Water supply. The County requires that new development be connected to a public water system or a County-approved well to ensure a clean and resilient supply of potable water, even during cases of prolonged drought.
    - Policy IU-1.3 Recycled water. The County promotes the use of recycled water for landscaping, groundwater recharge, direct potable reuse, and other applicable uses in order to supplement groundwater supplies.
    - Policy IU-1.7 Areas vital for groundwater recharge. The County allows new development on areas vital for groundwater recharge when stormwater management facilities are installed onsite and maintained to infiltrate predevelopment levels of stormwater into the ground.
    - Policy IU-1.8 Groundwater management coordination. The County collaborates with watermasters, groundwater sustainability agencies, water purveyors, and other government agencies to ensure groundwater basins are being sustainably managed. We discourage new development when it would create or aggravate groundwater overdraft conditions, land subsidence, or other "undesirable results" as defined in the California Water Code. We require safe yields for groundwater sources covered by the Desert Groundwater Management Ordinance.
    - Policy IU-1.9 Water conservation. The County encourages water conserving site design and the use of water conserving fixtures, and advocate for the adoption and implementation of water conservation strategies by water service agencies. For existing County-owned facilities, we incorporate design elements, building materials, fixtures, and landscaping that reduce water consumption, as funding is available.
    - Policy IU-1.10 Connected systems. The County encourages local water distribution systems to interconnect with regional and other local systems, where feasible, to assist in the transfer of water resources during droughts and emergencies.
    - Policy IU-1.11 Water storage and conveyance. The County assists in development of additional water storage and conveyance facilities to create a resilient regional water supply system, when it is cost effective for County-owned water and stormwater systems.

- GOAL IU-3 Stormwater Drainage. A regional stormwater drainage backbone and local stormwater facilities in unincorporated areas that reduce the risk of flooding:
    - Policy IU-3.1 Regional flood control. The County maintains a regional flood control system and regularly evaluate the need for and implement upgrades based on changing land coverage and hydrologic conditions in order to manage and reduce flood risk. We require any public and private projects proposed anywhere in the county to address and mitigate any adverse impacts on the carrying capacity and stormwater velocity of regional stormwater drainage systems.
    - Policy IU-3.2 Local flood control. The County requires new development to install and maintain stormwater management facilities that maintain predevelopment hydrology and hydraulic conditions.
    - Policy IU-3.4 Natural floodways. The County retains existing natural floodways and watercourses on County-controlled floodways, including natural channel bottoms, unless hardening and channelization is the only feasible way to manage flood risk. On floodways not controlled by the County, we encourage the retention of natural floodways and watercourses. Our priority is to reduce flood risk, but we also strive to protect wildlife corridors, prevent loss of critical habitat, and improve the amount and quality of surface water and groundwater resources.
    - Policy IU-3.5 Fair share requirements. The County requires new development to pay its fair share of capital costs to maintain adequate capacity of the County's regional flood control systems.

3.4.1.4 Hazard Element

- GOAL HZ-1 Natural Environmental Hazards. Minimized risk of injury, loss of life, property damage, and economic and social disruption cause by natural environmental hazards and adaptation to potential change in climate.
    - Policy HZ-1.2 New Development In Environmental Hazard Areas. The County requires all new development to be located outside of the following environmental hazard areas.
        - For any lot or parcel that does not have sufficient buildable area outside of such hazard areas, the County requires adequate mitigation, including designs that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disasters.
        - Flood: 100-year flood zone, dam/basin inundation area

- Geologic: Alquist Priolo earthquake fault zone; County-identified fault zone; rockfall/debris-flow hazard area, medium or high liquefaction area (low to high and localized), existing and County-identified landslide area, moderate to high landslide susceptibility area)

- Policy HZ-1.3 Floodplain Mapping. The County requires any new lots or subdivisions partially in, and any new development partially or entirely in 100-year flood zones or 100-year flood awareness areas to provide detail floodplain mapping for 100- and 200-year storm events as part of the development approval process.
- Policy HZ-1.4 500-Year Flood Zone. The County may collaborate with property owners in the Valley region to establish funding and financing mechanisms to mitigate flood hazards in identified 500-year flood zones.
- Policy HZ-1.5 Existing Properties In Environmental Hazard Areas. The County encourages owners of existing properties in hazard areas to add design features that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disasters.
- Policy HZ-1.6 Critical and essential facility location. The County requires new critical and essential facilities to be located outside of hazard areas, whenever feasible.
- Policy HZ-1.7 Underground utilities. The County requires that underground utilities be designed to withstand seismic forces, accommodate ground settlement, and hardened to fire risk.
- Policy HZ-1.12 Local hazard mitigation plan implementation. The County requires adherence to the goals, objectives and actions in the Multi-jurisdictional Hazard Mitigation Plan and subsequent amendments to reduce and mitigate damages from hazards in the County.
- Policy HZ-1.15 Evacuation route adequacy. The County coordinates with CAL FIRE, California's Office of Emergency Services, and other local fire districts to identify strategies that ensure the maintenance and reliability of evacuation routes potentially compromised by wildfire, including emergency evacuation and supply transportation routes.

3.4.1.5 San Bernardino County Code

The San Bernardino County, California Code of Ordinances covers floodplain safety under Title 8: Development Code (San Bernardino County 2022). This section outlines mandated safety measures applying to regions within FEMA designated 100-year floodplains, 100-to-500-year floodplains, and

undetermined flood hazard areas. Per County Ordinances, areas within 100-year floodplains are subject to Floodplain Development Standards Review. These reviews shall ensure that the proposed Project complies with this Development Code regarding flood protection measures and shall require the submittal of an elevation certificate completed by a licensed land surveyor, registered civil engineer, or architect who is authorized by State or local law to certify elevation information (Section 82.14.040(a)(2)). Development of the Project shall not be permitted within any areas designated by FEMA as A, A1-30, AO, AH, or AE on the FIRMs, unless it is demonstrated that the cumulative effect of the proposed development when combined with all other existing and anticipated development will not increase the water surface elevation of the base flood more than one foot at any point within the community (§ 82.14.040(a)(3)). As the Project by nature cannot be elevated from the ground, certification of dry flood-proofing must be performed by a registered civil engineer or architect and provided to the Floodplain Administrator (§ 82.14.050(d)(2)).

3.4.2 City of Ontario

3.4.2.1 General Plan

The City of Ontario adopted the *2050 The Ontario Plan* (General Plan) in August 2022. The City's General Plan outlines the goals and policies regarding water resources within the Environmental Resources Element and the Safety Element (City of Ontario 2021a). The following goals and policies are relevant to water resources in the proposed Project area:

3.4.2.1.1 Environmental Resources Element

- GOAL ER-1 A reliable and cost-effective system that permits the city to manage its diverse water resources and needs.
    - Policy ER-1.1 Local Water Supply. The city increases local water supplies to reduce our dependence on imported water. New and redevelopment projects are aligned with our available water supply and/or to enhance our available water supply.
    - Policy ER-1.2 Matching Supply to Use. The city matches water supply and quality to the appropriate use.
    - Policy ER-1.3 Conservation and Sustainable Water Supply. The city works with regional water providers and users to conserve water and ensure sustainable local water supplies as more frequent droughts reduce long term local and regional water availability.
    - Policy ER-1.4 Supply- Demand Balance. The city requires that available water supply and demands be balanced.

- Policy ER-1.5 Water Resource Management. Environmental justice areas are prioritized as we coordinate with local agencies to protect water quality, prevent pollution, address existing contamination, and remediate contaminated surface water and ground water.
- Policy ER-1.6 Urban Run-off Quantity. The city encourages the use of low impact development strategies, including green infrastructure, to intercept run-off, slow the discharge rate, increase infiltration, and ultimately reduce discharge volumes to traditional storm drain system.
- Policy ER-1.7 Urban Run-off Quality. The City requires the control and management of urban run-off, consistent with Regional Water Quality Control Board regulations.
- Policy ER-1.8 Wastewater Management. The city requires the management of wastewater discharge and collection consistent with waste discharge requirements adopted by the Regional Water Quality.

3.4.2.1.2 Safety Element

- GOAL S-1 Minimized risk of injury, loss of life, property damage, and economic and social disruption caused by earthquake-induced and geological hazards.
- GOAL S-2 Minimized risk of injury, loss of life, property damage and economic and social disruption caused by flooding and inundation hazards.
  - Policy S-2.1 Entitlement and Permitting Process. The city requires hydrological studies prepared by a state certified engineer when new development is in a 100-year or 500-year floodplain to assess the impact that the new development will have on the flooding potential of existing development down-gradient.
  - Policy S-2.2 Floodplain Mapping. The city requires any new development partially or entirely in 100-year flood zones to provide detailed floodplain mapping for 100- and 200-year storm events as part of the development approval process.
  - Policy S-2.3 Facilities that Use Hazards Materials. The city complies with state and federal law and does not permit facilities using, storing, or otherwise involved with substantial quantities of onsite hazardous materials to be in the 100-year flood zone or 500-year flood zone unless all standards of elevation, floodproofing, and storage have been implemented to the satisfaction of the Building Department.
  - Policy S-2.4: Prohibited Land Uses. The city prohibits the development of new essential and critical facilities in the 100-year floodplain and discourage the development of new essential and critical facilities in the 500-year floodplain unless all standards of elevation

and flood proofing demonstrate that a facility can be safe and operational during a flood event, implemented to the satisfaction of the Building Department.

  - Policy S-2.5 Stormwater Management. The city maintains the storm drain system to convey a 100-year storm, when feasible and encourage environmental site design practices to minimized flooding and increase groundwater recharge, including natural drainage, green infrastructure, and permeable ground surfaces.
  - Policy S-2.6 Use of Flood Control Facilities. The city encourages joint use of flood control facilities as open space or other type of recreational facilities.
  - Policy S-7.7 Collaboration Between Agencies. Collaborate with the San Bernardino County Flood Control District and other state and federal agencies to maintain flood-control infrastructure to minimize flood damage.

- GOAL S-8 Disaster resilient, prepare community through effective emergency/disaster preparedness, response, and recovery.
  - Policy S-8.1 State and Federal Mandates. The city maintains emergency management programs that meet the requirements of the State of California Standardized Emergency Management System and the National Incident Management System.
  - Policy S-8.2 Emergency Management Plans. The city maintains, updates, and adopt the Emergency Operational Plan (EOP) and incorporate, by reference the City's Hazard Mitigation Plan.
  - Policy S-8.6 Community Outreach. We provide education to the community to promote personal, family, and community emergency preparedness to both natural and human-generated hazards.

3.4.2.2 City of Ontario Municipal Code

The Ontario Municipal Code covers stormwater and urban runoff pollution under Chapter 6 (City of Ontario 2002). Specifically, this chapter is enacted pursuant to authority conferred by an Areawide Urban Stormwater Run-Off Permit [NPDES Permit No. CAS618036, Order No. R8-2002-0012] issued by the Santa Ana RWQCB pursuant to Section 402(p) of the CWA. The section outlines prohibited activities; industrial, commercial, and public facility requirements; and BMPs for reducing runoff and pollution from runoff. Ontario Municipal Code Chapter 6-6.404 requires businesses to implement applicable BMPs, as listed in the California Stormwater BMP Handbooks or the current, San Bernardino County Stormwater Program's Report of Waste Discharge (San Bernardino County 2014), to reduce pollutants in stormwater runoff and reduce non-stormwater discharges to the City's stormwater drainage system to the maximum extent practicable. Prior to the issuance of any grading permit, projects shall submit and have approved a

Stormwater Quality Management Plan (SWQMP) to the City of Ontario Engineer. The SWQMP shall identify all BMPs that would be incorporated into the proposed Project to control stormwater and non-stormwater pollutants during and after construction.

3.4.2.3 City of Ontario Urban Water Management Plan

The Ontario 2020 Urban Water Management Plan (UWMP) reflects the city's current supply and demand situation along with an updated presentation of future supplies, demand forecasts and measures to monitor and control future demand. The UWMP, along with the city's Water Master Plan and other city planning documents, is used by city staff to guide the city's water use and management efforts through the year 2045. The city's 2020 UWMP incorporates water supply reliability determinations that could result from potential prolonged drought, regulatory revisions, and/or changing climatic conditions. The 2020 Ontario UWMP provides the City of Ontario with a planning document for long-term resource planning to ensure adequate water supplies are available to meeting existing and future water supply needs.

3.4.3 City of Rancho Cucamonga

3.4.3.1 General Plan

The City of Rancho Cucamonga adopted the Plan RC 2040 (General Plan) in December 2021. The Resource Conservation Element and Safety Element of the city of Rancho Cucamonga's General Plan describes policies for protecting water resources within the city (City of Rancho Cucamonga 2021e). The following goals and policies are relevant to water resources in the proposed Project area:

3.4.3.2 Resource Conservation Element

- GOAL RC-2 Water Resources. Reliable, readily available, and sustainable water supplies for the community and natural environment.
    - RC-2.1 Water Supplies. Protect lands critical to replenishment of groundwater supplies and local surface waters.
    - RC-2.2 Groundwater Recharge. Preserve and enhance the existing system of stormwater capture for groundwater recharge.
    - RC-2.3 Riparian Resources. Promote the retention and protection of natural stream courses from encroachment, erosion, and polluted urban runoff.
    - RC-2.5 Water Conservation. Require the use of cost-effective methods to conserve water in new developments and promote appropriate water conservation and efficiency measures for existing businesses and residences.

- RC-2.6 Irrigation. Encourage the conversion of water-intensive turf/landscape areas to landscaping that uses climate- and wildfire appropriate native or non-invasive plants, efficient irrigation systems, greywater, and water efficient site maintenance.
- RC-2.7 Greywater. Allow and encourage the use of greywater to meet or offset on-site non-potable water demand.

- GOAL RC-6 Climate Change. A resilient community that reduces its contributions to a changing climate and is prepared for the health and safety risks of climate change.
  - RC-6.12 Reduced Water Supplies. When reviewing development proposals, consider the possibility of constrained future water supplies and require enhanced water conservation measures.
  - RC-6.14 Designing for Changing Precipitation Patterns. When reviewing development proposals, encourage applicants to consider stormwater control strategies and systems for sensitivity to changes in precipitation regimes and consider adjusting those strategies to accommodate future precipitation regimes.

3.4.3.3 Safety Element

- Goal S-4 Flood Hazards. A community where developed areas are not impacted by flooding and inundation hazards.
  - S-4.1 New Essential Facilities (Flood). Prohibit the siting and construction of new essential public facilities within flood hazard zones, when feasible. If an essential facility must be located within a flood hazard zone, incorporate flood mitigation to the greatest extent practicable.
  - S-4.2 Flood Risk in New Development. Require all new development to minimize flood risk with siting and design measures, such as grading that prevents adverse drainage impacts to adjacent properties, on-site retention of runoff, and minimization of structures located in floodplains.
  - S-4.3 500-Year Floodplain. Promote the compliance of 100-year floodplain requirements on properties located within the 500- year floodplain designation.
  - S-4.4 Flood Infrastructure. Require new development to implement and enhance the Storm Drain Master Plan by constructing stormwater management infrastructure downstream of the proposed site.

- S-4.5 Property Enhancements. Require development within properties located adjacent, or near flood zones and areas of frequent flooding to reduce or minimize run-off and increase retention on-site.
- S-4.6 Regional Coordination. Promote regional flood management and mitigation projects with other agencies (San Bernardino County Flood Control, Army Corps of Engineers, and adjacent jurisdictions) to address flood hazards holistically.

3.4.3.4 Public Facilities and Services Element

- GOAL PF-5 Water-related Infrastructure. Water and wastewater infrastructure facilities are available to support future growth needs and existing development.

3.4.3.5 City of Rancho Cucamonga Municipal Code

The City of Rancho Cucamonga Municipal Code outlines Floodplain Management Regulations under Title 19: Environmental Protection, which concerns the construction and operations of a project on land identified as a FEMA special flood hazard. Per section 19.12.030, General provisions, no structure, or land may be constructed, located, extended, converted, or altered without full compliance with the terms of the Floodplain Management Regulations Chapter of the Municipal Code and other applicable regulations.

Water Quality regulatory framework is also codified in the Rancho Cucamonga Municipal code. Any developer/owner engaging in construction activities which disturb five acres or more of land shall apply for coverage under the general stormwater permit for construction activity. Section 19.20.220 regulates non-stormwater discharges, including any possibly discharges that could result from the construction of the proposed Project. Discharges of non-stormwater from construction activities are prohibited except for those discharges listed in section 19.20.100 or any discharges authorized by the city engineer or the Santa Ana RWQCB. Conditionally permitted non-stormwater discharges could include construction dewatering wastes, discharges resulting from hydrostatic testing of vessels, discharges resulting from the maintenance of potable water supply pipelines, and discharges from potable water supply systems resulting from system failures, pressure releases, etc. Authorized non-stormwater discharges under section 19.20.210 shall be reported to the city engineer at least five days prior to a planned discharge as outlined in section 19.20.250.

3.4.3.6 City of Rancho Cucamonga Urban Water Management Plan

The Cucamonga Valley Water District (CVWD) is the water supplier for the City of Rancho Cucamonga. The CVWD serves more than 3,000 customers (i.e., individual metered accounts) and it supplies more than 3,000 acre-feet of water annually to its customers for municipal purposes (CVWD 2021). The Cucamonga Valley Water District's 2020 UWMP reflects the current supply and demand situation along with an updated presentation of future supplies, demand forecasts and measures to monitor and control future

demand. The UWMP, along with other City planning documents, is used to guide the City's water use and management efforts through the year 2045. The UWMP incorporates water supply reliability determinations that could result from potential prolonged drought, regulatory revisions, and/or changing climatic conditions.

3.4.3.7 Ontario International Airport Authority

OIAA requires for all projects that disturb the existing landscape at or near the ONT to implement stormwater management practices and to comply with local, state, and federal environmental regulations (OIAA 2019b). Contractors are responsible for following proper permitting procedures and for implementing and maintaining BMPs of stormwater runoff.

4 METHODOLOGY

The proposed Project was analyzed to determine its incremental impact on existing hydrology/water quality conditions. Factors considered for the analysis of hydrology/water impacts include the proposed Project area (including parking, driveways, and pedestrian corridors), if there are any structures placed below grade, and the proposed Project's incorporation of stormwater quality BMPs, if any.

4.1 EVALUATION OF IMPACTS UNDER CEQA

The following thresholds of significance are based on Appendix G of the 2024 CEQA Guidelines. For purposes of this EIR, implementation of the proposed Project could result in potentially significant impacts if the Project would do the following:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.
- Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.
- 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 result in substantial erosion or siltation on- or off- site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 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; and/or impede or redirect flood flows.
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

5 EXISTING CONDITIONS

5.1 WATER RESOURCES STUDY AREA

Water resources in the proposed Project are governed by Santa Ana RWQCB. The proposed Project falls within the Santa Ana River Watershed, specifically Middle Santa Ana Watershed. The subset of the watershed is the Cucamonga Creek Watershed (Upper and Lower). The watersheds and local surface water bodies are described in Section 5.2. In relation to groundwater resources, the Chino Subbasin of Santa Ana Valley Groundwater Basin underlies the proposed Project site and is further described in Section 5.5, Groundwater Supplies and Recharge.

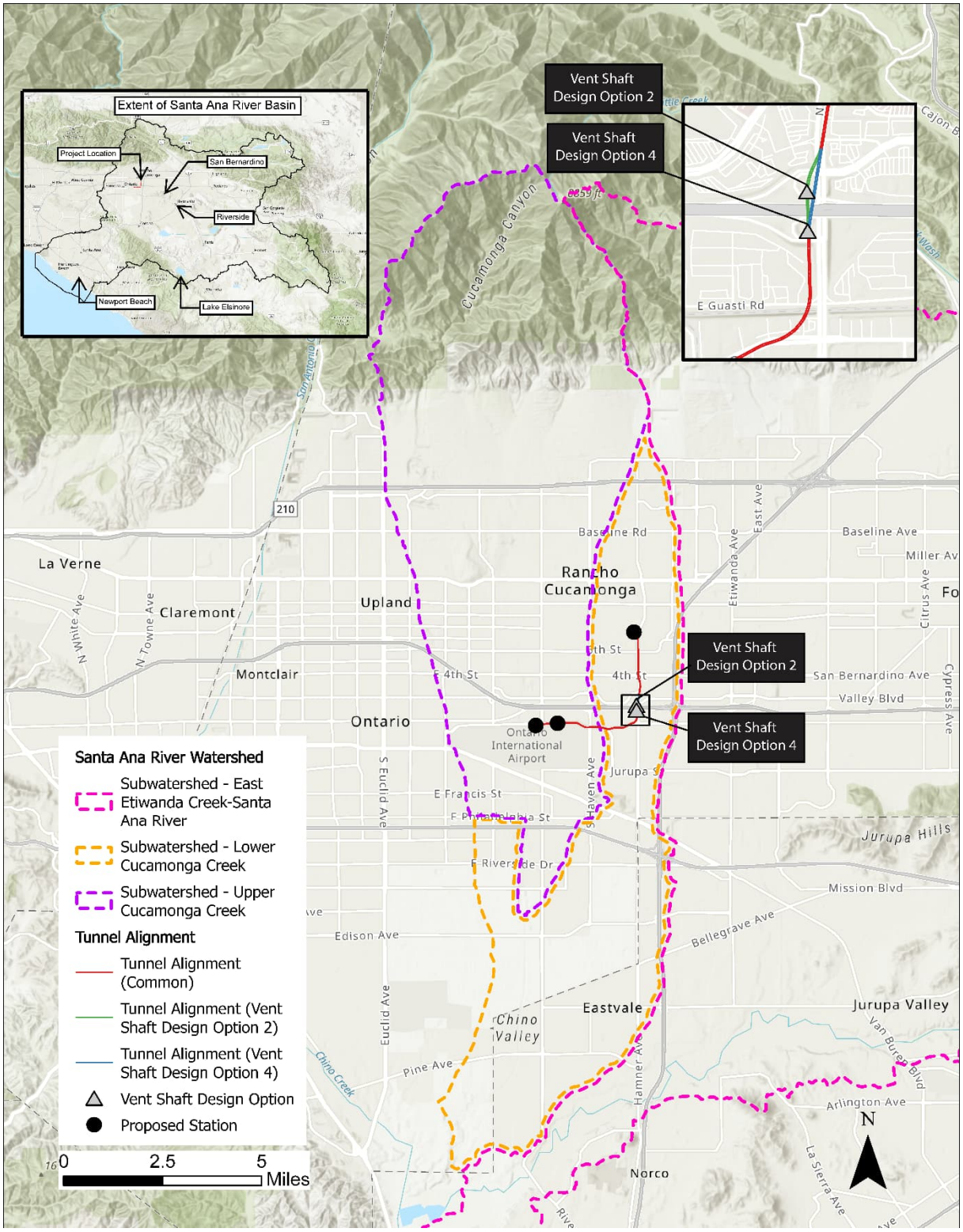
5.2 WATERSHED SETTING AND SURFACE WATER BODIES

The proposed Project site is located within the boundaries of the Santa Ana River Watershed, which covers approximately 2,800 square miles in Southern California. Figure 5-1 shows the proposed Project bounded within the Santa Ana River Watershed. Surface water sources near the proposed Project site is shown in Figure 5-2. The Santa Ana River Watershed hosts major population centers in Southern California including Orange, Riverside, and San Bernardino Counties, as well as a small area of eastern Los Angeles County. The Santa Ana River and its principal tributaries originate in the San Gabriel and San Bernardino Mountains, flow through the San Bernardino Valley, Chino Basin, and the central part of Orange County, and ultimately flow to the Pacific Ocean at Newport Bay. The upper watershed, or headwaters, including the highest point in the drainage system, is delineated by the east–west ridgeline of the San Gabriel and San Bernardino Mountains. The San Jacinto River starts in the San Jacinto Mountains, runs west through Canyon Lake, and normally ends in Lake Elsinore.

The Santa Ana River watershed has been divided into ten watershed management areas (WMAs) by the Santa Ana RWQCB. Each WMA provides a management approach to ensure water quality within its designated area of the watershed. The proposed Project is within the Middle Santa Ana WMA. The proposed Project site is specifically within the Middle Santa Ana River Watershed of the Santa Ana River Watershed. The Middle Santa Ana River Watershed covers approximately 488 square miles and lies largely in the southwestern corner of San Bernardino County and the northwestern corner of Riverside County. This Middle Santa Ana River Watershed extends from Prado Dam (near the cities of Corona and Norco) to the foothills of the San Bernardino and San Gabriel Mountains (Santa Ana RWQCB 2019).

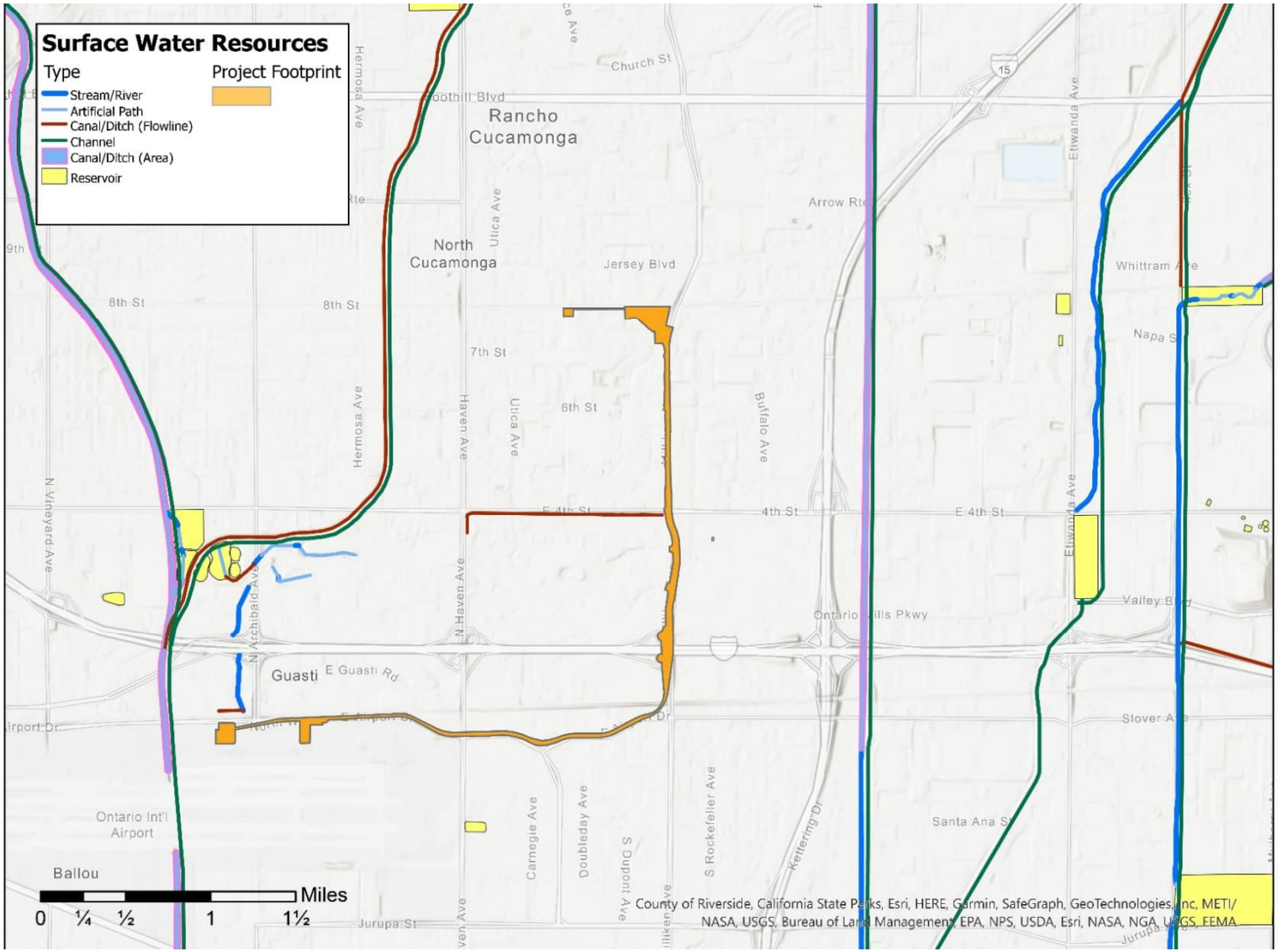
The climate of the Middle Santa Ana River Watershed is considered Mediterranean with hot, dry summers and cooler, wetter winters. Average annual precipitation ranges from 12 inches per year in the coastal plain to 18 inches per year in the inland alluvial valleys, reaching 40 inches or more per year in the San Bernardino Mountains. Most of the precipitation occurs between November and March in the form of

Figure 5-1: Santa Ana River Watershed



Source: U.S. Geological Survey (USGS). *USGS The National Map Viewer*, June 2022

Figure 5-2: Surface Water Resources



Source: U.S. Geological Survey 2022

rain and variable amounts of snow in the higher mountains of the Watershed. The climatological cycle of the region includes high surface water flows in the spring and early summer period, followed by typically low flows during the dry season. Floods generated by precipitation in the high mountains are not uncommon during winter and spring. During the dry season, the high mountains periodically have severe thunderstorms that could generate torrential floods in local streams (Santa Ana Watershed Project Authority 2014.).

The amount of precipitation that flows from rivers and streams that is diverted and used represents about 9% of the total water supply (Santa Ana Watershed Project Authority 2018). Local surface water is largely seasonal; most of the water comes in the wet or rainy season and is dramatically reduced in the dry season to snowmelt, natural springs, and treated wastewater flows. Facilities such as dams and flood control detention basins divert and slow storm runoff, providing additional opportunity for groundwater replenishment. In the upper watershed, only a portion of storm runoff is being diverted and used as surface water. Much of the runoff from the upper watershed is captured by the Prado Dam and later is used by the lower watershed. Additionally, the Santa Ana Watershed relies on water imported from the Colorado River Aqueduct and the State Water Project for a little more than one-third of its water supply (Santa Ana Watershed Project Authority 2018). Water is imported into the area by the Metropolitan Water District of Southern California, San Gorgonio Pass Water Agency, and the San Bernardino Valley Municipal Water District.

The underground pore space between soil granules provides space to store water, referred to as groundwater, which can be later extracted using wells. The watershed's underground storage space functions like a series of underground reservoirs. These underground reservoirs, or basins, range from a few hundred to over one thousand feet in thickness. In general, the watershed relies on precipitation stored as groundwater to provide about 50% of the water supply (Santa Ana Watershed Project Authority 2018). These basins provide storage space for local and imported water supplies that can be used during droughts or other shortages.

Cucamonga Creek is a tributary to the Santa Ana River and includes the Upper Cucamonga Creek and Lower Cucamonga Creek. Figure 5-1 shows the location of Upper Cucamonga Creek and Lower Cucamonga Creek which bounds the proposed Project. The Cucamonga Creek Watershed is a subset of the Santa Ana River Watershed and is approximately 92-square-mile in size. The Cucamonga Creek Watershed includes portions of the cities of Chino, Ontario, Rancho Cucamonga, and Upland and sections of unincorporated Riverside and San Bernardino Counties. As with the other waters in the Santa Ana Region, dry weather flow is the predominant flow condition in Cucamonga Creek. Precipitation-derived runoff typically occurs for only relatively short episodic periods during and shortly after rainfall events in the watershed. As is typical of this area, rainfall events almost always occur in the wet season (mid-October through Mid-April).

5.3 WATER QUALITY

Surface water quality in developed areas is affected by various point-source and nonpoint-source pollutants. Point-source pollutants are those emitted at a specific point, such as a pipe, while nonpoint-source pollutants are typically generated by surface runoff from unconfined sources, such as streets, paved areas, or landscaped areas. As a general rule, point-source pollutants are more easily monitored; thus, pollutant discharge standards (also referred to as Waste Discharge Requirements or WDRs) are more easily enforced, while nonpoint-source pollutants, such as those found in runoff, are more difficult to monitor and enforce. Even though nonpoint-source pollutants are difficult to monitor, they are important contributors to surface water quality, especially in developed areas.

Constituents and concentrations within runoff water vary according to land uses, topography, and the amount of impervious cover, as well as intensity and frequency of irrigation or rainfall. Runoff in developed areas may typically contain oil, grease, and metals accumulated in streets, driveways, parking lots, and rooftops, as well as pesticides, herbicides, particulate matter, nutrients, animal waste, and other oxygen-demanding substances from landscaped areas. Concentrations of pollutants in runoff generated during the dry season by landscape irrigation and street washing (dry-weather runoff) are typically lower than concentrations found in wet-weather runoff (runoff generated by precipitation during the wet season).

5.4 URBAN RUNOFF

There is a strong correlation between decreasing water quality and increasing urban development. As land uses intensify, and more impermeable surfaces are created, groundwater recharge is reduced and the volume, rate, and quality of surface water runoff are degraded. Urban runoff pollutants include a wide array of environmental, chemical, and biological compounds from both point and nonpoint sources. In the urban environment, stormwater characteristics depend on-site characteristics (e.g., land use, perviousness, pollution prevention, types and amounts of BMPs, rain events (duration, amount of rainfall, intensity, and time between events), operations and maintenance practices (e.g., street sweeping), soil type and particle sizes, multiple chemical conditions, the amount of vehicular traffic, and atmospheric deposition. Short-term runoff from construction sites, without adequate erosion and runoff control measures, can contribute more sediment to receiving waters than that which is deposited by natural processes over a period of several decades.

The quality of urban runoff in the cities of Rancho Cucamonga and Ontario are typical of most urban areas and includes a variety of common contaminants. These pollutants consist primarily of suspended sediments, fertilizers and pesticides, animal waste, and contaminants that are commonly associated with automobiles (e.g., petroleum compounds such as oil, grease, and hydrocarbons). In addition, urban stormwater often contains high levels of soluble and particulate heavy metals generated from traffic, industrial facilities, and occasionally, residential sources.

Dry weather urban runoff occurs when there is no precipitation-generated runoff. Typical sources include landscape irrigation runoff; driveway and sidewalk washing; non-commercial vehicle washing; groundwater seepage; fire flow; potable water line operations and maintenance discharges; and permitted or illegal non-stormwater discharges. Irrigation runoff and washing processes generally contribute to dry weather urban runoff only during the dry season (typically April through September). It can be a significant source of bacteria and other constituents that can be introduced through day-to-day urban activities as well as illicit discharges, dumping, or spills.

Wet weather urban runoff refers collectively to nonpoint source discharges that result from precipitation events. Wet weather discharges include all stormwater runoff. Stormwater discharges are generated by runoff from land and impervious areas such as paved streets, parking lots, and building rooftops during rainfall and snow events (e.g., such as might occur in mountainous regions of the watershed) that often contain pollutants in quantities that could adversely affect water quality. Most urban stormwater discharges are considered diffuse sources and are regulated by the Stormwater NPDES Permit or Construction General Permit (see Section 3).

Wet- and dry-weather runoff typically contains similar pollutants of concern. However, except for the initial stormwater runoff concentrations (first flush) following a long dry period between rainfall events, the concentrations of pollutants found in wet-weather flows are typically lower than those found in dry-weather flows because the larger wet-weather flows dilute the number of pollutants in runoff waters. Storm events may dislodge or carry pollutants over different surfaces than the lower dry weather flows.

5.5 GROUNDWATER SUPPLIES AND RECHARGE

The affected environment is primarily built out and has been substantially altered by human activity; it no longer functions as a natural hydrologic system. The proposed Project overlies the Upper Santa Ana Valley Groundwater Basin and the Chino Subbasin in San Bernardino County. The Chino Subbasin is one of the largest groundwater basins in southern California, covering approximately 240 square miles. Groundwater flows in a south-southwest direction from the primary areas of recharge in the northern parts of the Chino Basin toward the Prado Basin in the south (Inland Empire Utilities Agency 2018) (see Figure 5-3).

According to the Chino Basin Watermaster, groundwater is encountered at depths in excess of 250 feet below ground surface (bgs) near the proposed Project. Recently reported groundwater depths to the west and south of the proposed Project site are approximately 260 to 320 feet bgs on average. Groundwater beneficial uses for the Chino Basin are MUN (Municipal and Domestic Supply), AGR (Agricultural Supply), IND (Industrial Service Supply), and PROC (Industrial Process Supply). The management of nitrates in groundwater and local surface waters is a component of the watershed's salinity management plan. In the Chino–North Groundwater Management Zone, the Regional Board established (in the Basin Plan) maximum-benefit objectives for total dissolved solids (TDS) and nitrate that allow for programs of recycled water reuse and imported water and recycled water recharge. The maximum-benefit objectives are

contingent on the implementation of specific projects and programs that ensure the long-term protection of the beneficial uses of the Chino Basin, including the following:

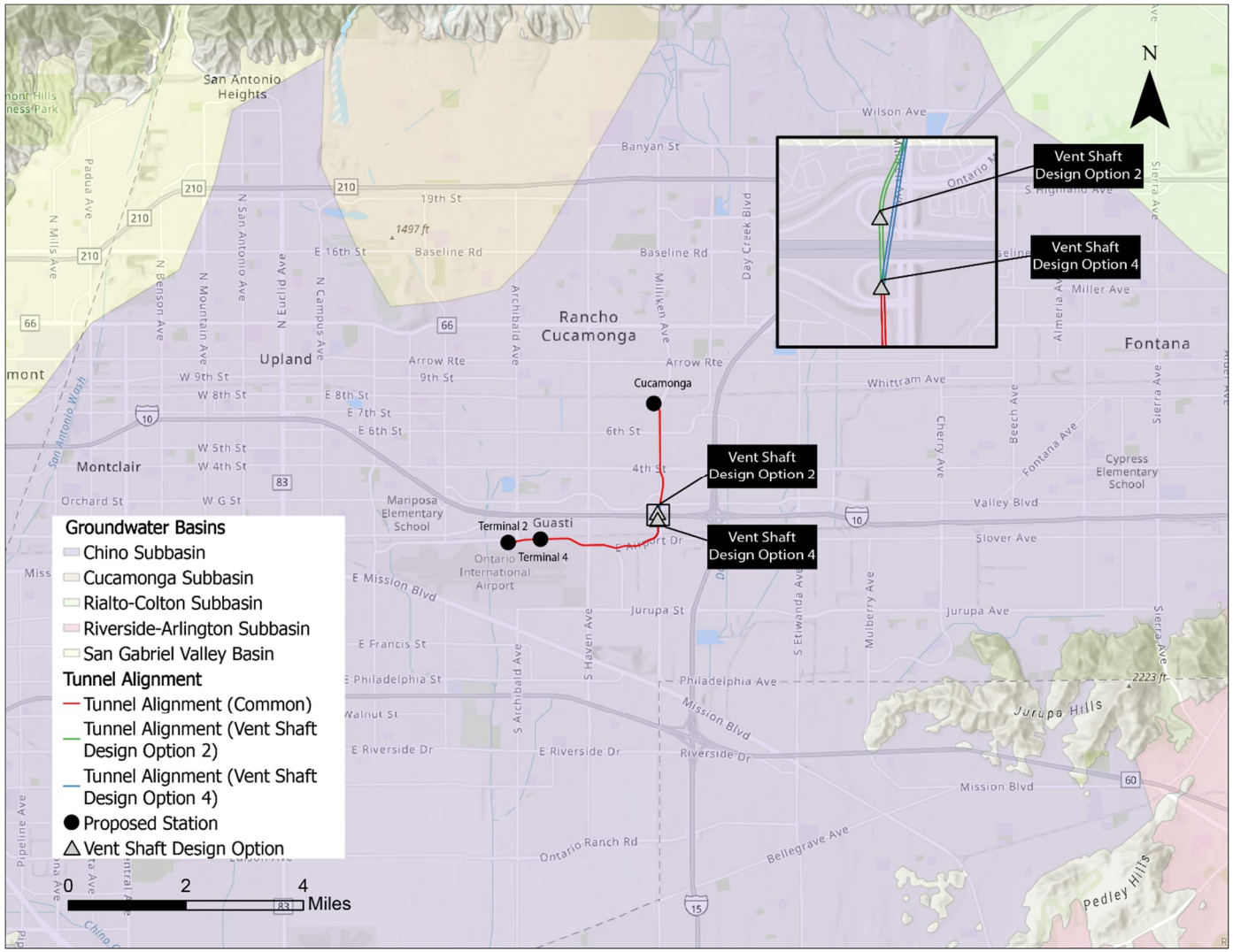
- The construction and operation of 40,000 acre-feet per year (afy) of groundwater desalination facilities in the southern portion of the Chino Basin.
- The construction and operation of artificial recharge facilities to enhance the recharge of high-quality stormwater and imported water.
- The management of the TDS and nitrate concentrations in artificial recharge to less than or equal to the objectives.
- The management of TDS and nitrate concentrations in recycled water.
- The management of groundwater levels in the southern portion of the Chino Basin to limit rising-groundwater outflow of poor-quality groundwater to the Santa Ana River, which protects the beneficial uses of the river in Orange County.
- The implementation of groundwater and surface-water monitoring programs and triennial estimation of ambient TDS and nitrate concentrations in Chino Basin groundwater.

5.6 DRAINAGE

Based on aerial imagery, land in the county and cities within the proposed Project site are urbanized and largely covered with impervious surfaces, such as areas of asphalt, concrete, buildings, and other land uses which concentrate storm runoff. The cities own, operate, and maintain a storm drainage system for the purpose of conveying storm runoff to reduce or eliminate flooding under peak storm flow conditions. While the primary purpose of the storm drain system is to reduce or eliminate flood hazards, the system carries both dry- and wet-weather urban runoff and the pollutants associated with activities from urban land use. Urban runoff (both dry and wet weather) discharges into storm drains.

Stormwater and other surface water runoff are conveyed to municipal storm drain. Most local drainage networks are controlled by structural flood control measures. The majority of the length of the proposed Project is along major arterials with curb and gutter features. There are multiple storm drains and drainage features within the proposed Project site. Major storm drains featured in the proposed Project include the Cucamonga Creek on 10-foot by 83-foot reinforced concrete box (RCB) storm drain owned and operated by San Bernardino County Flood Control District (SBCFCD). This outfall storm drain is located approximately 280 feet west of Airport Drive and Commerce Parkway.

Figure 5-3: Chino Groundwater Basin



Source: Chino Basin Watermaster. Chino Basin Watermaster Interactive Maps, 2022

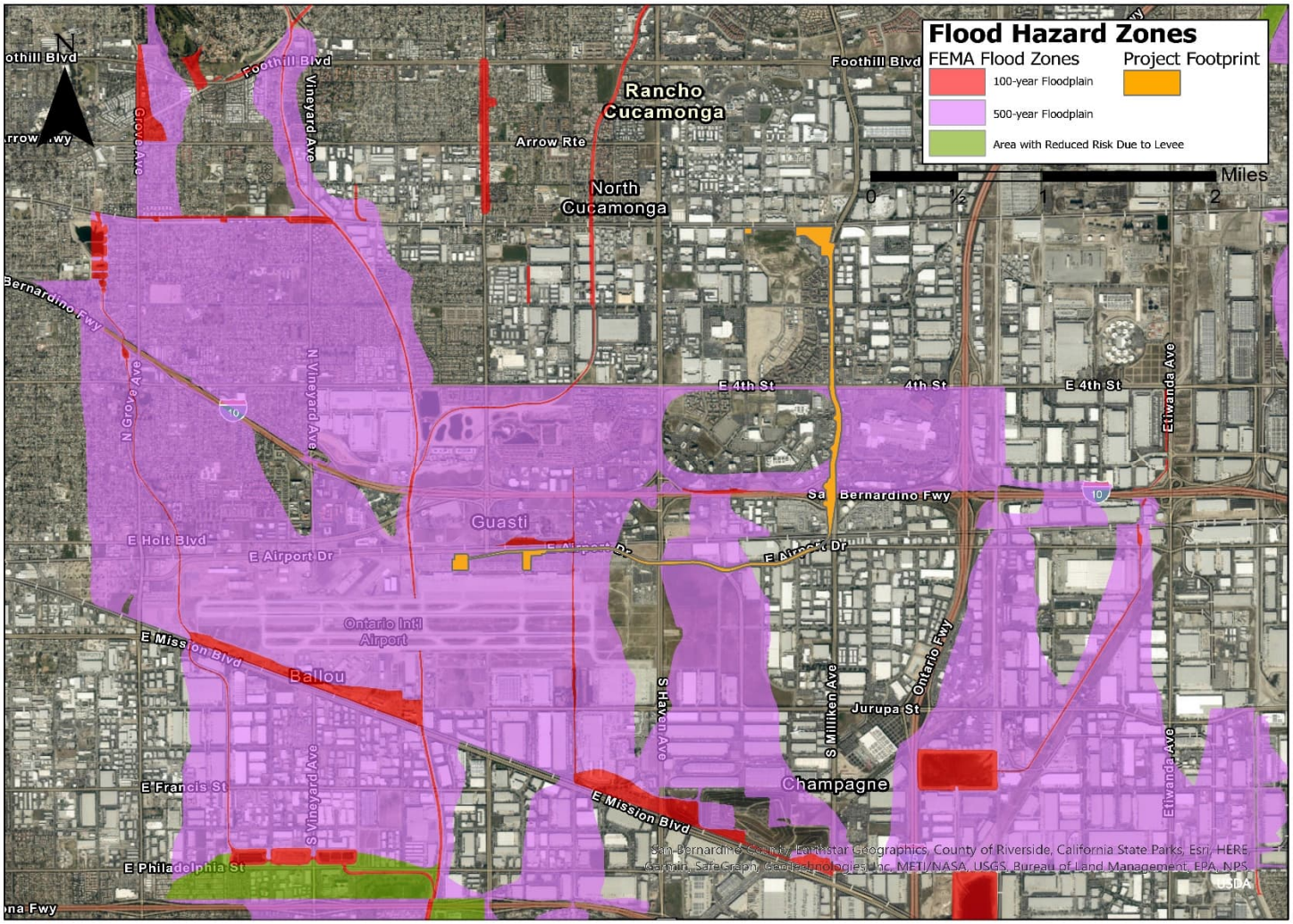
5.7 FLOODING

The City of Ontario and the City of Rancho Cucamonga are in a relatively flat alluvial plain, lying on uplift terraces bounded by impermeable rocks of mountains, hills, and faults. FEMA has prepared flood maps identifying areas in San Bernardino County and surrounding cities that would be subject to flooding during 100-year and 500-year storm events. The southern portion of the proposed Project, at ONT includes a small strip of FEMA designated 100-year floodplains. As shown in Figure 5-4, the proposed Project includes one thin strip of FEMA designated 100-year floodplain at ONT. More specifically, the proposed Project includes a small strip of FEMA designated 100-year floodplain where Turner Avenue would cross ONT.

Portions of the proposed Project fall within a FEMA designated Zone X. Zone X is for areas of moderate flood hazard, usually the area between the limits of the 100-year and 500-year floods. Zone X is where the site is within an area subject to the 0.2% chance of flooding (500-year flood event) and is protected from the 1% chance of flooding (100-year storm event) by levees, dikes, or other structures. In addition, portions of the proposed Project site are located within a FEMA designated Special Flood Hazard Area with and without base flood elevation (BFE). The BFE is the water surface elevation resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year. Zone A is an area with a 1% annual chance of flooding. Zone A99 is an area with a 1% annual chance of flooding that will be protected by a federal flood control system and where construction has reached specified legal requirements. The Special Flood Hazard Area is the area where the NFIP's floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies. For the purpose of determining Community Rating System (CRS) premium discounts, all A and A99 zones are treated as non-Special Flood Hazard Areas.

The SBCFCD is responsible for operating and maintaining the area's major flood control channels and drainage system, including required improvements. Individual municipalities are often charged with maintaining local and tributary flood control systems. The principal functions of the SBCFCD are flood protection on major streams, water conservation, and storm drain construction. The SBCFCD's Flood Control Permit Section provides relevant permit information and processes encroachment permit applications for work within the SBCFCD's ROW. The SBCFCD's Flood Control Permit Section coordinates departmental reviews and issues permits for activities such as construction projects, land use permits, and general encroachment within district ROWs.

Figure 5-4: FEMA Flood Zone



Source: 1) Federal Emergency Management Agency (FEMA). *FEMA Flood Map Service Center*, 2022. 2) Ontario, City of. *2050 The Ontario Plan*, *Figure S0-3 Flood Hazard Zone*, 2021. 3) Rancho Cucamonga, City of. *Local Hazard Mitigation Plan, Figure 3-8: FEMA Flood Hazard Zones.* 2021

5.8 INUNDATION

5.8.1 Dam or Levee Failure Inundation

The San Antonio Dam is located 8.11 miles northwest of the proposed Project area at the Cucamonga Metrolink Station and 7.46 miles northwest of the proposed Project area at ONT. Built in 1956, the San Antonio Dam is owned by the USACE and is operated by the USACE's Los Angeles District (USACE 2022d). The dam is 160 feet in height (130 feet in hydraulic height) and 3,850 feet long. The San Antonio Dam has a drainage area of 27 square miles and has a maximum storage capacity of approximately 11,880 acre-feet of water (USACE 2022e).

As shown in Figure 5-5, the southwest portion of the proposed Project area is located within a designated San Antonio Dam Inundation Zone. Earthquake-induced failure of upgradient dams, flood control facilities, or other water retaining structure could cause inundation. The San Antonio Dam is in a seismically active region and may be subject to earthquakes. Table 5-1 identifies the faults near the proposed Project site.

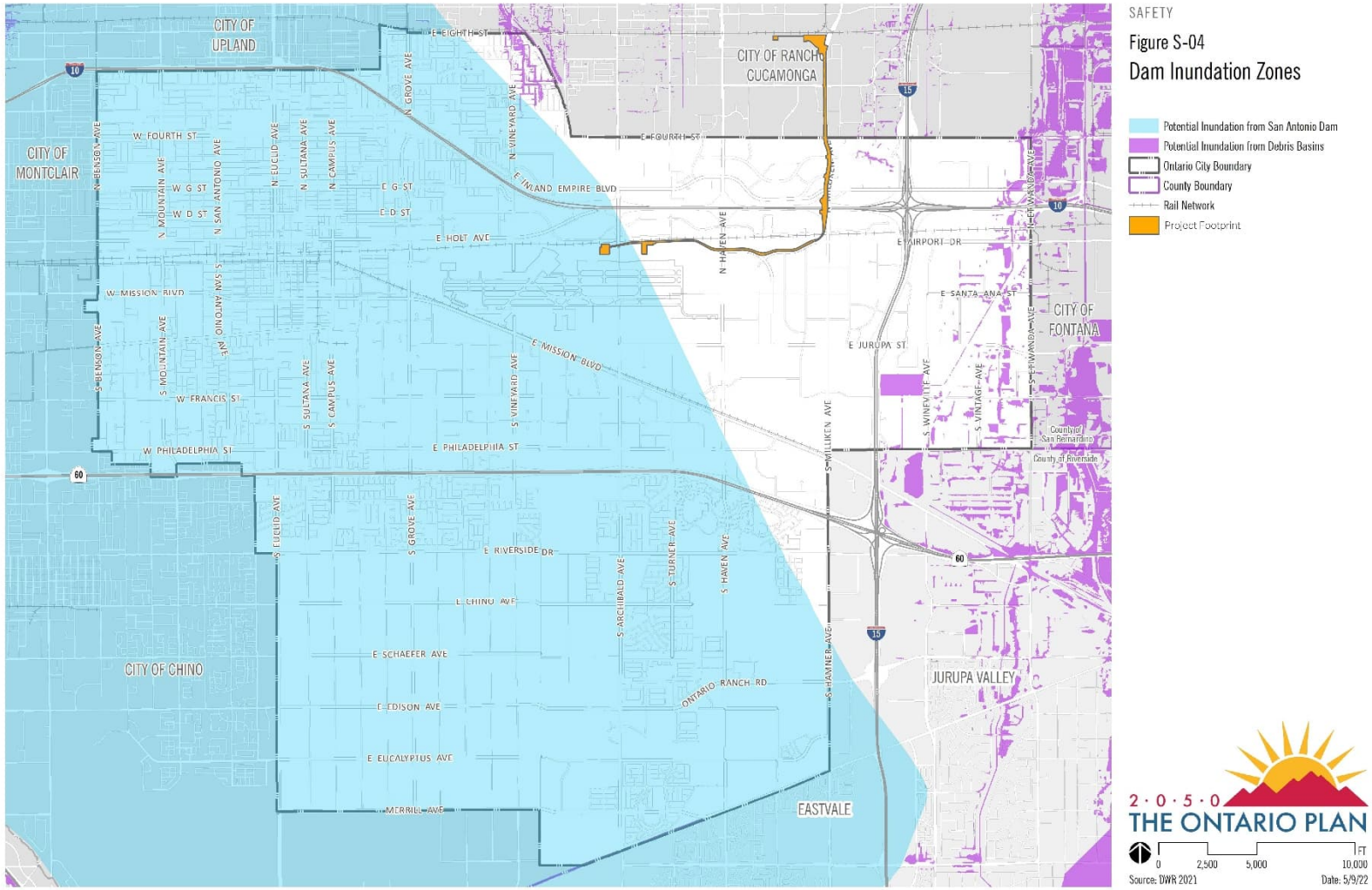
Table 5-1: Summary of Faults Near Proposed Project Site

Fault Name	Distance from Proposed Project Site (miles)	Maximum Moment Magnitude (M_W)
Cucamonga Fault	5	6.0 to 7.0
Etiwanda Avenue Fault	4.5	6.0 to 7.0
Red Hill Fault	3	6.0 to 7.0
Chino Hill Fault	8.7	6.0 to 7.0
Central Avenue Fault	8.5	6.7
Sierra Madera Fault	6.5	6.0 to 7.0
San Jacinto Fault	6.8	6.5 to 7.5
San Jose Fault	8.23	6.0 to 6.5
San Andreas Fault	13.5	6.8 to 8.0

Source: Southern California Earthquake Data Center (SCEDC) 2022a, 2022b, 2022c, 2022d, 2022e, 2022f; City of Pomona 2012

The San Antonio Dam is located 0.58 miles northwest of the Cucamonga Alquist-Priolo Fault Zones. Strong ground shaking occurs as energy is released during an earthquake. The intensity is dependent upon the distance between the site and the earthquake, the magnitude of the earthquake and the geologic conditions underlying and surrounding the site. The major cause of structural damage from earthquakes is ground shaking. Greater movement can be expected at sites on poorly consolidated materials, in proximity to the causative fault, or in response to an earthquake of great magnitude.

Figure 5-5: Dam Inundation Zone City of Ontario



Source: Ontario, City of. *2050 The Ontario Plan*, *Figure S-04 Dam Inundation Zones*, 2021

The San Antonio Dam provides more than 100-year flood protection to the west end of the San Bernardino Valley of the San Bernardino County (San Bernardino County 2011). This earthen dam serves primarily as a major flood control structure rather than as a facility for the storage of water for potable uses. The San Antonio Dam does not store large quantities of water except during periods of heavy rain. However, when full, failure or rupture of the San Antonio Dam would release waters and result in the flooding of areas of the southwest portion of the proposed Project area.

The San Antonio Dam received a HIGH potential classification from the November 12, 2020, inspection (USACE 2022c). The dam's potential hazard rating does not relate to the likelihood of dam failure. Rather, it refers to the potential downstream impacts of such a failure, and the immediate nexus is the number of people and the amount and value of property located within the potential inundation area. According to the USACE, all dams located in the Los Angeles metropolitan area have a similar rating because of the size of the population and density of downstream development.

The USACE Los Angeles District Reservoir Regulatory Section considers the failure potential of the San Antonio Dam to be extremely remote given that the dam reservoir area is ordinarily dry. During periods of significant precipitation, the USACE implements controlled releases of water from the dam reservoir into the adjacent concrete-lined flood channel that carries stormwater safely downstream or diverts water to adjacent spreading grounds. The San Antonio Dam received a LOW (4) risk assessment on May 23, 2020. The San Antonio Dam is currently inspected every five (5) years (USACE 2022b).

In preparation of dam failure emergencies, USACE works closely with local emergency managers to share what is known about the dam and support the development of local emergency and evacuation plans. USACE works with upstream and downstream emergency managers and members of the public to raise awareness for the dam and support actions to prepare and respond in the case of a dam-related emergency. An Emergency Action and Notification Plan (Emergency Action Plan) was established by the USACE to protect residents and businesses of the affected area in case of dam failure USACE regularly updates the Emergency Action Plan for the dam. The Emergency Action Plan for the San Antonio Dam was last revised and updated on May 28, 2020, which meets FEMA guidelines (USACE 2022d).

5.8.2 Tsunami, Seiche or Mudflow

The proposed Project area is not located in an area subject to tsunami hazards. A tsunami is a sea wave caused by a submarine earthquake, landslide, or volcanic eruption. Tsunamis are tidal waves generated in large bodies of water by fault displacement or major ground movement. The proposed Project is located more than 35 miles from the Pacific Ocean.

Seiches are waves caused by large-scale, short-duration phenomena that result from the oscillation of confined bodies of water (such as reservoirs and lakes) that also may damage low-lying adjacent areas, although not as severely as a tsunami. Seiches are changes or oscillations of water levels (i.e., standing waves) within a confined or semi-confined body of water due to fluctuations in the atmosphere, tidal

currents, or earthquakes. The closest enclosed bodies of water that could result in earthquake-induced seiches are Lake Mathews located over 17 miles southeast of the proposed Project site, and Lake Arrowhead located over 22 miles northeast of the proposed Project site. The proposed Project site is not located next to an enclosed or semi-enclosed body of water. There are no major bodies of water near the proposed Project area that could be subjected to seiche.

Mudflow hazards typically occur where unstable hill slopes are located above gradient or where site soils are unstable and subject to liquefaction, and when substantial rainfall saturates soils causing failure. The proposed Project site is not located near steep unstable hill slopes susceptible to mudslides. In fact, the closest hillsides upgradient from the proposed Project site are over five miles to the north and are separated from the proposed Project site by urban development, including residential uses, streets, and storm drain systems, which makes it unlikely that the proposed Project site would experience any effects caused by mudslides if they occurred.

6 IMPACT EVALUATION

6.1 VIOLATE ANY WATER QUALITY STANDARDS OR WASTE DISCHARGE REQUIREMENTS OR OTHERWISE SUBSTANTIALLY DEGRADE SURFACE OR GROUND WATER QUALITY?

6.1.1 No Project Alternative

6.1.1.1 Construction Impacts

Under the No Project Alternative, the proposed Project would not be built, meaning there would be no action, and the improvements associated with the proposed Project would not be constructed. The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and transit facilities. These projects would be required to adhere to applicable regulatory requirements, and the construction activities associated with the No Project Alternative would not violate water quality standards, cause an exceedance of water quality standards or contribute to or cause a violation of WDRs due to sediment-laden runoff, contaminated groundwater from dewatering activities, or the incidental or accidental release of construction materials. Therefore, the No Project Alternative would have a less than significant impact.

6.1.1.2 Operational Impacts

The No Project Alternative could contribute to violations of water quality standards or WDRs, or otherwise degrade water quality if it has the potential to degrade the quality of surface receiving waters through the introduction of new impervious surfaces that contribute to stormwater runoff volumes and from the mobilization of pollutants in stormwater that would be generated by the proposed land uses. However, the No Project Alternative would not result in a substantial change in the types and concentrations of pollutants in stormwater runoff because the site is already developed and the planned land uses are not anticipated to produce extensive impervious surfaces. The No Project Alternative would not result in stormwater peak flows or volumes that would substantially differ from existing conditions. In addition, runoff constituents would be similar to existing conditions. Stormwater and wastewater from the No Project Alternative site would continue to discharge into the existing sewer system, and no separate system would be constructed. Overall flows from the site during wet weather would continue to the existing sewer system. It is not anticipated that there would be a net increase in wet-weather flows compared to existing conditions.

Municipal Stormwater Permit conditions are required to be codified in the local agency/municipality codes and ordinances. Compliance with the County and Cities' regulatory process for ensuring that appropriate BMPs are included in project design and complying with the applicable federal CWA NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act, would also help minimize pollutants in runoff. Therefore, the No Project Alternative would not violate water quality

standards or WDRs and operational stormwater runoff water quality impacts would be less than significant

6.1.2 Proposed Project

6.1.2.1 Construction Impacts

During construction, soil would be exposed to natural processes such as precipitation (depending on the time of year) and runoff. Stormwater discharges generated during construction activities would cause an array of physical, chemical, and biological water quality impacts. Specifically, the physical, chemical, and biological integrity of surface runoff water could become compromised. The interconnected process of erosion, sediment transport, and delivery is the primary pathway for introducing key pollutants, such as nutrients (particularly phosphorous), metals, and organic compounds into aquatic systems.

The delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could introduce contaminants into storm drains. Spills or leaks from heavy equipment and machinery can result in oil and grease contaminations. Staging areas or building sites can also be the source of pollution due to the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with oil, grease, and metals in stormwater include toxicity to aquatic organisms and the potential contamination of drinking supplies. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities.

As the proposed Project would require construction/grading on a site greater than one acre, construction of the proposed Project would be subject to the General Construction Permit. Incorporation of required BMPs for materials and waste storage and handling, equipment and vehicle maintenance and fueling, as well as for outdoor work areas, would reduce potential discharge of stormwater pollutants during construction. The proposed Project, therefore, would not violate water quality standards, or otherwise degrade water quality.

In the event dewatering is determined to be necessary during construction, construction dewatering (if any) has the potential to introduce pollutants into the storm drain systems. For example, groundwater from dewatering could contain sediment that, if not properly managed, could be discharged to the storm drain system. This could result in a potentially significant impact. For substantial dewatering, the proposed Project's contractor would be required to obtain coverage under the SWRCB Control Board Construction Dewatering General Permit. The Construction Dewatering General Permit would include discharge quantity and quality limitations based on-site and groundwater characteristics. Implementation of MM-HWQ-1 requires that if construction dewatering on the proposed Project site is required, SBCTA would obtain a construction dewatering permit to reduce potential pollutants entering the storm drain system.

TBMs are large-diameter horizontal drills that continuously excavate circular tunnel sections. Both Earth Pressure Balance and slurry TBMs apply a balancing pressure to the excavation face to stabilize the ground and balance the groundwater pressure in front of the excavation face. Operating both types of TBMs, the excavated materials are removed through the tunnel using rail-mounted muck cars, conveyor belts, or closed spoil transport pipelines. The invert of the tunnel would be up to approximately 70 feet in depth. Fluctuations in groundwater levels occur in response to temperature and rainfall. Groundwater is generally expected to be well below the tunnel invert, except in localized areas where water may be present due to pumping or leakage. However, in the event dewatering is determined necessary during construction, MM-HWQ-1 would require that if construction dewatering on the proposed Project site is required, a permit would be obtained prior to grading activities.

Implementation of MM-HWQ-1 would regulate stormwater flows to a prescribed level, which would ensure the rate of pollutants entering the storm drain system in stormwater does not represent a substantial increase over existing conditions. Compliance with existing regulations and implementation of MM-HWQ-1 would ensure that the proposed Project would not violate water quality standards or WDRs, and construction stormwater runoff water quality impacts would be less than significant.

6.1.2.2 Operational Impacts

The proposed Project site is fully developed and is almost entirely impervious, consisting of asphalt parking areas, and building foundations. These impervious surfaces generate stormwater runoff containing urban pollutants. Nutrients that may be present in stormwater runoff include nitrogen and phosphorous resulting from fertilizers applied to landscaping and atmospheric deposition. Excess nutrients can impact water quality by promoting excessive and/or a rapid growth of aquatic vegetation, which reduces water clarity and results in oxygen depletion. Pesticides can also enter stormwater runoff after application on landscaped areas and can be toxic to aquatic organisms and accumulate in certain tissues in larger species, such as birds and fish. Oil and grease can enter stormwater from vehicle leaks, traffic, and maintenance activities. Metals may enter stormwater runoff as surfaces corrode, decay, or leach. Potential non-chemical pollutants associated with operational activities include clippings associated with landscape maintenance, street litter, and pathogens (bacteria). Pathogens (from sanitary sewer overflows, spills, and leaks from portable toilets, pets, wildlife, and human activities) can impact water contact recreation, non-contact water recreation, and shellfish harvesting.

The proposed Project would not result in stormwater peak flows or volumes that would substantially differ from existing conditions. Pollutants associated with the operational phase of the proposed Project would be typical of urban development and would include nutrients, oil and grease, metals, organics, pesticides, and non-chemical pollutants (including trash, debris, and bacteria).

The proposed Project would not result in a substantial change in the types and concentrations of pollutants in stormwater runoff because the site is already developed. Runoff constituents would be

similar to existing conditions. Municipal Stormwater Permit conditions are required to be codified in the local agency/municipality codes and ordinances. Compliance with the County and Cities regulatory process for ensuring that appropriate BMPs are included in proposed Project's design and complying with the applicable federal CWA NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act would also help minimize pollutants in runoff. Therefore, the proposed Project would not violate water quality standards or WDRs, and operational stormwater runoff water quality impacts would be less than significant.

6.2 SUBSTANTIALLY DECREASE GROUNDWATER SUPPLIES OR INTERFERE SUBSTANTIALLY WITH GROUNDWATER RECHARGE SUCH THAT THE PROJECT MAY IMPEDED SUSTAINABLE GROUNDWATER MANAGEMENT OF THE BASIN?

6.2.1 No Project Alternative

6.2.1.1 Construction Impacts

The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and facilities. Construction activities associated with the No Project Alternative are not anticipated to include extensive excavation and would not interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. The No Project Alternative would not substantially decrease groundwater supplies and would result in a less than significant impact.

6.2.1.2 Operational Impacts

Implementation of the No Project Alternative would not substantially deplete groundwater supplies. The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and facilities. The No Project Alternative would not utilize groundwater as a source of water supply or substantially deplete groundwater supplies. Thus, there would be no net deficit in aquifer volume or a lowering of the local groundwater table level and this impact would be less than significant.

6.2.2 Proposed Project

6.2.2.1 Construction Impacts

Fluctuations in groundwater levels occur in response to temperature and rainfall. It is anticipated that excavations will be required for construction of the subterranean tunnel. In the event dewatering is determined necessary during construction, MM-HWQ-1 requires that if construction dewatering on the proposed Project site is required, a permit would be obtained prior to grading activities.

During excavation, the soils that underlie the proposed Project site could be unstable or susceptible to caving. A standard approach to reducing potential problems is to shore the excavation using drilled cast-in-place "soldier piles" spaced evenly across the excavation, with appropriate bracing and/or anchoring. The soldier piles would need to be drilled to depths that might encounter groundwater. Although numerous piles would be placed below groundwater, this would not act as a barrier to flow or redirect flows because the piles would be vertical features around which groundwater could continue to flow. With implementation of MM-HWQ-1, and because construction activities would not substantially deplete groundwater supplies, lower the local groundwater table, or interfere substantially with groundwater recharge, this impact is considered to be less than significant.

6.2.2.2 Operational Impacts

The proposed Project would not involve the withdrawal of the existing groundwater, and no alteration in the amount of groundwater available for public water supplies would be expected. The proposed Project site does not provide a significant source of groundwater recharge because it is covered with impervious surfaces. As a result, redevelopment of the site would not adversely affect groundwater recharge potential. As such, this impact to groundwater recharge is considered to have no impact.

6.3 SUBSTANTIALLY ALTER THE EXISTING DRAINAGE PATTERN OF THE SITE OR AREA, INCLUDING THROUGH THE ALTERATION OF THE COURSE OF A STREAM OR RIVER OR THROUGH THE ADDITION OF IMPERVIOUS SURFACES, IN A MANNER 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; AND/OR IV) IMPEDE OR REDIRECT FLOOD FLOWS.

6.3.1 No Project Alternative

6.3.1.1 Construction Impacts

Construction of the No Project Alternative would not alter the existing drainage pattern of the site in ways that would result in substantial erosion, siltation, or flooding on or off site. Implementation of the No Project Alternative would not contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff as the existing stormwater system would accommodate runoff flows and treat runoff. San Bernardino County, City of Rancho Cucamonga and City of Ontario General Plans and its municipal codes also includes policies designed to minimize post-construction erosion impacts and reduce stormwater runoff. These policies ensure incorporation of stormwater detention facilities and design of drainage facilities to minimize

adverse effects on water quality. Adherence to existing regulatory requirements would serve to minimize erosion and siltation associated with construction of the No Project Alternative.

The No Project Alternative is located in an urbanized area and construction activities are not anticipated to result in the alteration of the course of a natural waterway nor substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. With adherence to existing regulations, the No Project Alternative during construction would minimize the impacts associated with flooding from surface runoff.

Stormwater and wastewater from the No Project Alternative site would continue to discharge into the existing storm drainage system and no separated system would be constructed. The No Project Alternative would not create or contribute additional runoff that may exceed the capacity of existing off-site storm drainage system or on-site storm drainage systems. Overall flows from the site during wet weather would continue to the existing storm drainage system. It is not anticipated that there would be a substantial increase in wet-weather flows compared to existing conditions. During construction, compliance with existing federal, state, and local regulations would ensure that runoff water that could exceed the capacity of existing or planned stormwater drainage systems would be minimized. The No Project Alternative would also be subject to regional and local regulations adopted to ensure compliance with federal requirements for the control of urban pollutants to stormwater runoff which enters the network of storm drains throughout the County and Cities.

With adherence and compliance with applicable permit requirements for construction conditions, impacts during construction of the No Project Alternative would remain less than significant.

6.3.1.2 Operational Impacts

The No Project Alternative would not alter the existing drainage pattern of the site in ways that would result in substantial erosion, siltation, or flooding on or off site. Implementation of the No Project Alternative would not contribute runoff water that would exceed the capacity of existing or planned storm sewer systems or provide substantial additional sources of polluted runoff as the existing stormwater system would accommodate runoff flows and treat runoff. Adherence to existing regulatory requirements would serve to minimize erosion and siltation associated with the No Project Alternative. The No Project Alternative would not result in a significant change in land use and the potential for increased site runoff. The No Project Alternative would not substantially alter the existing drainage pattern, or the storm drain system. Therefore, implementation of the No Project Alternative is not anticipated to result in the alteration of the course of a natural waterway nor substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site.

The No Build/No Project Alternative would not be expected to result in an increase in runoff because the No Build/No Project Alternative site is already mostly impervious surfaces and discharge is to a lined or

underground storm drain system. The No Build/No Project Alternative area is already built out and, any increase in impervious surfaces resulting from the development of the No Build/No Project Alternative is anticipated to be minor in relation to existing conditions. The No Build/No Project Alternative would not substantially alter existing drainage patterns by increasing the amount of impervious surfaces routing on-site runoff through a storm drainage system and increase stormwater runoff rates and volumes. Stormwater and wastewater from the No Build/No Project Alternative site would continue to discharge into the existing stormwater drainage system. Any increase in impervious surfaces resulting from the development of the No Project Alternative is anticipated to be minor in relation to existing conditions. Therefore, the potential net change in pervious/impervious surfaces is anticipated to be minimal.

With compliance with existing federal, state, and local regulations, impacts during operation of the No Project Alternative would be less than significant.

6.3.2 Proposed Project

6.3.2.1 Construction Impacts

The majority of the construction of the proposed Project would take place within existing impervious surface areas. The nearest stream/river is located approximately 0.93 miles west of the proposed Project site separated by the I-15 Freeway. While construction activities often involve stockpiling, grading, excavation, dredging, paving, and other earth-disturbing activities resulting in the alteration of existing drainage patterns, the new construction resulting from implementation of the proposed Project would occur within a fully developed urban area with a completed and operational storm drain system. Implementation of the Construction General Permit requirements would include erosion and sediment controls during construction activities. The County and Cities General Plans and its municipal codes also include policies designed to minimize post-construction erosion impacts and reduce stormwater runoff. These policies ensure incorporation of stormwater detention facilities and design of drainage facilities to minimize adverse effects on water quality. The proposed Project site is located in an urbanized area, and construction activities for the proposed Project are not anticipated to result in the alteration of the course of a natural waterway nor substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site. With adherence to existing regulations, significant impacts associated with flooding from surface runoff during construction would be minimized.

The proposed Project would not create or contribute additional runoff that may exceed the capacity of existing off-site storm drainage system or on-site storm drainage systems. The proposed Project would not substantially alter existing drainage patterns by increasing the amount of impervious surfaces routing on-site runoff through a storm drainage system and increase stormwater runoff rates and volumes. Stormwater and wastewater from the proposed Project site would continue to discharge into the existing stormwater drainage system and no separated system would be constructed. Compliance with the County and Cities regulatory process for ensuring that appropriate BMPs are included in proposed Project design

and complying with the applicable federal CWA NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act would also help minimize pollutants in runoff. Adherences to existing federal, state, and local regulations would ensure that during construction activities, runoff water that could exceed the capacity of existing or planned stormwater drainage systems would be minimized.

Soil disturbance would temporarily occur from the proposed Project, due to earth-moving activities such as tunnel boring, excavation and trenching for foundations and utilities, soil compaction and moving, cut and fill activities, and grading. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport via stormwater runoff from the proposed Project area. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and respiration, growth, and reproduction of aquatic species. Runoff from construction sites would be typical of urban areas, and may include sediments and contaminants such as oils, fuels, paints, and solvents. Additionally, other pollutants such as nutrients, trace metals, and hydrocarbons can attach to sediment and be transported to downstream drainages and ultimately into collecting waterways, contributing to degradation of water quality.

Construction materials and waste handling, and the use of construction equipment, could also result in stormwater contamination and impact water quality. Spills or leaks from heavy equipment and machinery could result in oil and grease contamination. The removal of waste material during construction could also result in tracking of dust and debris and release of contaminants in existing structures. Staging areas or building sites can also be the source of pollution due to the use of paints, solvents, cleaning agents, and metals during construction. Pesticide use (including herbicides, fungicides, and rodenticides) associated with site preparation is another potential source of stormwater contamination. Larger pollutants, such as trash, debris, and organic matter could also be associated with construction activities. Water quality degradation could result in health hazards and aquatic ecosystem damage associated with bacteria, viruses, and vectors. Sediments and contaminants may be transported throughout site runoff to downstream drainages and ultimately into the collecting waterways, and potentially into the Pacific Ocean, thereby affecting surface water and offshore water quality. The Construction General Permit requirements, such as preparation of a SWPPP and identification of BMPs to reduce or eliminate sediment and other pollutants in stormwater and non-stormwater discharges, would need to be satisfied prior to beginning construction on any project located on a site greater than one acre. The proposed Project would also be subject to regional and local regulations adopted to ensure compliance with federal requirements for the control of urban pollutants to stormwater runoff which enters the network of storm drains throughout the County and Cities.

With adherence to existing federal, state, and local regulations, the proposed Project during construction would result in a less than significant impact.

6.3.2.2 Operational Impacts

The proposed Project site is in an urban, developed area. Existing stormwater runoff from the proposed Project site and surrounding area is removed by way of street flows and storm drains. The proposed Project would not discharge to a water body that would be susceptible to erosion and siltation caused by alteration of drainage properties. The nearest stream/river is located approximately 0.93 miles west of the proposed Project site separated by the I-15 freeway. Additionally, drainage patterns in the County and Cities would not be substantially altered in a manner that could cause or contribute to increased erosion or siltation.

The proposed Project would not result in a significant change in land use and the potential for increased site runoff. The proposed Project would not substantially alter the existing drainage pattern, or the storm drain system. Therefore, implementation of the proposed Project is not anticipated to result in the alteration of the course of a natural waterway nor substantially increase the rate or amount of surface runoff in a manner that would result in flooding on-site or off-site.

The proposed Project would not be expected to result in an increase in runoff because the proposed Project site is already mostly impervious surfaces and discharge is to a lined or underground storm drain system. The proposed Project would not substantially alter existing drainage patterns by increasing the amount of impervious surfaces routing on-site runoff through a storm drainage system and increase stormwater runoff rates and volumes. Stormwater and wastewater from the proposed Project site would continue to discharge into the existing stormwater drainage system and no separated system would be constructed.

The proposed Project could include use of hazardous materials on-site (e.g., trash, debris) to stormwater runoff. During the operational phase of the proposed Project, the major source of pollution in stormwater runoff would be contaminants that have accumulated on rooftops and other impervious surfaces, such as driveways and pedestrian walkways. Pollutants associated with the operational phase of the proposed Project include nutrients, metals, organics, pesticides, and gross pollutants (including trash, debris, and bacteria). Aerially deposited metals, nutrients, and other constituents would also be expected to remain the same because of the same amount of impervious surfaces compared to existing conditions.

Operation of proposed Project could result in the addition of contaminants into the stormwater runoff entering the Cities' drainage system. The major source of pollution to runoff and infiltrating groundwater would be contaminants that have accumulated on the land surface over which stormwater passes. Between rainstorms, material would be deposited on the streets, paved areas, rooftops, and other surfaces from debris dropped or scattered by individuals, wastes and dirt from construction and renovation or demolition, fecal droppings from animals, oil and various residues contributed by vehicular traffic, and fallout of airborne particles. The proposed Project area is already built out; any increase in impervious surfaces resulting from the development of the proposed Project is anticipated to be minor in

relation to existing conditions. Therefore, the potential net change in pervious/impervious surfaces is anticipated to be minimal.

With compliance with existing federal, state, and local regulations, the proposed Project during operation would result in a less than significant impact.

6.4 IN FLOOD HAZARD, TSUNAMI, OR SEICHE ZONES, RISK RELEASE OF POLLUTANT DUE TO PROJECT INUNDATION?

6.4.1 No Project Alternative

6.4.1.1 Construction Impacts

The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and transit facilities. If the No Project Alternative includes portions of a FEMA-designated 100-year floodplain, the No Project Alternative would be required to comply to all federal, state, and local regulations would ensure that any potential impacts resulting from a FEMA-designated 100-year flood hazard area. A portion of the No Project Alternative site is located within the San Antonio Dam failure inundation zone. The USACE regularly inspects and maintains the San Antonio Dam and Reservoir, as required by the *National Dam Inspection Act* (Public Law 92-367), which is intended to eliminate or reduce any risks caused by dam failure. A USACE adopted Emergency Action Plan, County's All-Hazard Mitigation Plan, the City of Ontario's Hazard Mitigation Plan, and the City of Rancho Cucamonga's Hazard Mitigation Plan would provide adequate warning for evacuation in order to prevent risk of loss, injury or death involving flooding by dam failure. The No Project Alternative would be required to comply with existing County and Cities' policies for flood and dam failure preparation. With compliance with existing federal, state, and local regulations, the No Project Alternative during construction would result in a less than significant impact to FEMA-designated flood hazard zone and dam inundation zone.

The No Project Alternative is not located within a seiche, tsunami, or mudflow zone and during construction would result in no impact.

6.4.1.2 Operational Impacts

The No Project Alternative/Alternative would be required to comply with existing County and Cities' policies for flood and dam failure preparation. With compliance with existing federal, state, and local regulations, the No Project Alternative during operation would result in a less than significant impact to FEMA-designated flood hazard zone and dam inundation zone.

The No Project Alternative is not located within a seiche, tsunami, or mudflow zone and during operation would result in no impact.

6.4.2 Proposed Project

6.4.2.1 Construction Impacts

Flood Hazards

During proposed Project construction, there is the potential for construction sites to experience flooding from a storm event or catastrophic dam failure. In particular, bored tunnels, cut-and-cover tunnels, and open trenches could be affected if temporary flow diversions fail, and flood flows could fill the excavations. However, because emergency response systems are in place to warn of pending flood hazards, this analysis assumes construction workers would not be at risk because they would not be at the construction sites. Further, during flood events, it is unlikely construction would take place. There could be some risk of damage to partially completed features, and the risk would be commensurate with the disturbance area and type(s) of features; however, the likelihood of flood damage from the 100-year flood or from dam inundation would be limited because of the low probability of such occurrences.

Construction activities in floodplains have the potential to temporarily cause or contribute to localized increases in flood depths (water surface elevations), peak flow rates, and flow velocities, particularly during storm events, and expose people and structures to flood hazards. Loss of flood water storage capacity could directly affect local flood depths and indirectly affect up- and downgradient flooding. This risk can be reduced by limiting construction, to the extent possible, during the dry season. Stockpiles, temporary construction structures, temporary excavations that must be protected from flood flows, and temporary grading and fill activities could also reduce the amount of flood water storage capacity. These effects would be temporary and would not affect the entire construction area.

The proposed Project includes a small portion of a FEMA-designated 100-year floodplain at the ONT. With implementation of MM-HWQ-2 and adherence to federal, state, and local regulations, the proposed Project during construction would have a less than significant impact in regard to flooding associated with FEMA-designated 100-year flood hazard areas.

Dam

A portion of the proposed Project site is located within the San Antonio Dam failure inundation zone. The San Antonio Dam functions primarily as a flood control retention structure that holds water only when there is significant rain, and then only for short periods of time. The San Antonio Dam provides more than 100-year flood protection to the west end of the San Bernardino Valley in the San Bernardino County. The USACE is responsible for the operation and maintenance of the San Antonio Dam and regularly inspects and maintains all of their facilities, including the San Antonio Dam, as required by the *National Dam Inspection Act* (Public Law 92-367), which is intended to eliminate or reduce any risks caused by dam failure. The San Antonio Dam is inspected regularly every five years for dam safety.

The San Antonio Dam is located 0.58 miles northwest of the Cucamonga Alquist-Priolo Fault Zones. The USACE Los Angeles District Reservoir Regulatory Section considers the failure potential of the San Antonio Dam to be extremely remote given that the dam reservoir area is ordinarily dry. In addition, USACE works closely with local emergency managers to share what is known about the dam and support the development of local emergency and evacuation plans. USACE, with upstream and downstream emergency managers and members of the public, raises awareness of the dam and support actions to prepare and be ready to respond in the case of a dam-related emergency. An Emergency Action Plan was established by the USACE to protect residents and businesses of the affected area in case of dam failure. USACE regularly updates the Emergency Action Plan for the dam. The Emergency Action Plan for the San Antonio Dam was last revised and updated on May 28, 2020, which meets FEMA guidelines.

In the worst-case scenario, there are numerous rock quarries and two below-grade freeways between the dam and dam inundation zone. These features would intercept and hold some water from the dam, which would serve to attenuate the impact of a dam failure on downstream properties, potentially retarding the speed of flows, reducing the extent of the inundation area and the depth of flooding.

The USACE developed an Emergency Action Plan which outlines the actions to be taken in the event of a threatened or actual dam failure. These actions include the immediate notification of both state and regional emergency management agencies and the implementation of local hazard response plans. Although dam failure is considered remote, MM-HWQ-3 would require that evacuation procedures are established for the proposed Project area in the event of failure of the San Antonio Dam.

Since the likelihood of a dam failure is remote, several Emergency Action Plans are in place (from the USACE, San Bernardino County, and the Natural Hazard Mitigation Plans for the City of Rancho Cucamonga and City of Ontario), as required by the General Plans of each jurisdiction. In addition, MM-HWQ-3 would be implemented for the proposed Project. With implementation of MM-HWQ-3 and adherence to federal, state, and local regulations, the proposed Project during construction would have a less than significant impact in regard to flooding as a result of dam failure.

Seiche, Tsunami and/or Mudflow

Tsunamis are large sea waves generated by submarine earthquakes, or similar large-scale, short-duration phenomena, such as volcanic eruptions, that can cause considerable damage to low-lying coastal areas. Because the proposed Project site is located almost 35 miles inland of the Pacific Ocean, it would not be subject to tsunami inundation. The closest enclosed bodies of water that could result in earthquake-induced seiches are Lake Mathews located over 17 miles southeast of the proposed Project site, and Lake Arrowhead located over 22 miles northeast of the proposed Project site. Therefore, any potential seiche activity, if any occurs, would not be expected to reach the proposed Project site and there would be no risk to the proposed Project site from seiches.

Mudflow hazards typically occur where unstable hill slopes are located above gradient or where site soils are unstable and subject to liquefaction, and when substantial rainfall saturates soils causing failure. The proposed Project site is not located near steep unstable hill slopes susceptible to mudslides. In fact, the closest hillsides upgradient from the proposed Project site are approximately five miles to the north and are separated from the proposed Project site by urban development, including residential uses, streets, and storm drain systems, which makes it unlikely that the proposed Project site would experience any affects caused by mudslides if they occurred. Hillsides below-gradient from the proposed Project site would not contribute mudslides to the proposed Project site (mudslides would have to completely fill in the lower elevation areas before reaching the proposed Project site). Therefore, the proposed Project site is not expected to be subject to a mudflow risk.

In summary, there would be no impact to people or structures at the proposed Project site during construction that could result in a significant risk of release of pollutants due to project inundation by a seiche, tsunami, or mudflows.

6.4.2.2 Operational Impacts

Flood Hazard

The southern portion of the proposed Project site, at ONT, includes a small area of FEMA-designated 100-year floodplains. More specifically, the proposed Project includes a small strip of FEMA-designated 100-year floodplain where Turner Avenue would cross ONT. FEMA designated 100-year floodplain areas are shown in Figure 5-4.

The City of Ontario's General Plan Policy S-2.4 prohibits the development of new essential and critical facilities in the 100-year floodplain. The City of Ontario requires that all standards of elevation and flood proofing demonstrate that a facility can be safe and operational during a flood event, implemented to the satisfaction of the Building Department. In addition, the San Bernardino County's General Plan Policy HZ-1.2 requires all new development to be located outside of the environmental hazard areas including 100-year flood zone and dam inundation areas. The County also requires any new development partially or entirely in 100-year flood zones or 100-year flood awareness areas to provide detailed floodplain mapping for 100- and 200-year storm events as part of the development approval process.

The proposed Project is mostly located outside of a 100-year flood hazard area and does not place any surface structures that would impede or redirect flood flow. The subterranean tunnel component of the proposed Project bypasses a small portion of the 100-year floodplain area. Implementation of MM-HWQ-2 would ensure that prior to the implementation of the proposed Project, SBCTA will work with the City of Ontario Building Department and the San Bernardino County's Public Works Department to ensure that design, construction, and operation meet all safety standards.

With Implementation of MM-HWQ-2 and adherence to federal, state, and local regulations, the proposed Project during operation would have a less than significant impact in regard to flooding associated with FEMA-designated 100-year flood hazard areas.

Dam

The USACE regularly inspects and maintains the San Antonio Dam and Reservoir, as required by the *National Dam Inspection Act* (Public Law 92-367), which is intended to eliminate or reduce any risks caused by dam failure. A USACE adopted Emergency Action Plan, the County's All-Hazard Mitigation Plan, City of Ontario's Hazard Mitigation Plan, and the City of Rancho Cucamonga's Hazard Mitigation Plan would provide adequate warning for evacuation in order to prevent risk of loss, injury or death involving flooding by dam failure. MM-HWQ-3 would ensure that an Emergency Operation Plan for the proposed Project would be in place in preparation of the worst-case scenario of a dam failure. With the implementation of MM-HWQ-3 and adherence to the applicable existing County and Cities' policies for flood and dam failure preparation, the proposed Project during operation would have a less than significant impact in regard to flooding as a result of dam failure.

Seiche, Tsunami and Mudflow

The proposed Project site is not expected to be subject to a tsunami, seiche or a mudflow risk. There would be no impact to people or structures at the proposed Project site during operation that would result in a significant risk of loss, injury, or death involving inundation by a seiche, tsunami, or mudflows.

6.5 CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF A WATER QUALITY CONTROL PLAN OR SUSTAINABLE GROUNDWATER MANAGEMENT PLAN

6.5.1 No Project Alternative

6.5.1.1 Construction Impacts

The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and transit facilities. During construction, the No Project Alternative would not conflict with or obstruct implementation of a water quality control plan and sustainable groundwater management plan, and the No Project Alternative would result in no impact.

6.5.1.2 Operational Impacts

The No Project Alternative includes planned expansion, improvement projects and routine maintenance activities for the existing roadway system and transit facilities. During operation, the No Project Alternative would not conflict with or obstruct implementation of a water quality control plan and sustainable groundwater management plan, and the No Project Alternative would result in no impact.

6.5.2 Proposed Project

6.5.2.1 Construction Impacts

The proposed Project would be required to comply with the County and Cities regulatory process for ensuring that appropriate BMPs are included in proposed Project design and complying with the applicable federal CWA NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act. During construction, the proposed Project would not conflict with or obstruct implementation of a water quality control plan and sustainable groundwater management plan, and the proposed Project would result in no impact.

6.5.2.2 Operational Impacts

As previously stated, the proposed Project would comply with all regulatory processes for ensuring appropriate BMPs are included in the proposed Project design. The proposed Project would also comply with applicable federal CWA NPDES program and state NPDES requirements under the Porter Cologne Water Quality Act During operation, the proposed Project would not conflict with or obstruct implementation of a water quality control plan and sustainable groundwater management plan, and the proposed Project would result in no impact.

7 MITIGATION MEASURES AND IMPACTS AFTER MITIGATION

7.1 MITIGATION MEASURES FOR HYDROLOGY AND WATER QUALITY

7.1.1 No Project Alternative

The No Project Alternative does not require mitigation measures for hydrology and water quality impacts.

7.1.2 Proposed Project

The following mitigation measures would be implemented for the proposed Project.

Mitigation Measure-HWQ-1 to address temporary construction dewatering:

MM-HWQ-1 *If temporary construction dewatering on the proposed Project site is required, San Bernardino County Transportation Authority shall obtain a dewatering permit prior to the issuance of a grading permit. Ponded water in excavations shall be tested prior to discharge to the storm drain system. If installation of foundation piles has the potential to intercept groundwater and the water would be discharged to the excavation floor, groundwater testing to a minimum depth of 50 feet, or as otherwise determined by the City of Ontario or City of Rancho Cucamonga, shall be conducted to the satisfaction of the Water Resources Protection Program staff. If contaminated groundwater is determined to be present, treatment and discharge of the contaminated groundwater shall be conducted in compliance with applicable regulatory requirements including the Santa Ana Regional Water Quality Control Board standards.*

Mitigation Measure -HWQ-2 to address FEMA 100-year floodplain:

MM-HWQ-2 *San Bernardino County Transportation Authority shall submit the proposed Project design plans to the City of Ontario Building Department and San Bernardino County Building Department to obtain approval that the design, construction, and operation meets all safety standards for the portion of the proposed Project within the Federal Emergency Management Agency designated 100-year floodplain.*

Mitigation Measure -HWQ-3 to address dam inundation zone:

MM-HWQ-3 *San Bernardino County Transportation Authority shall prepare an Emergency Operations Plan. The Emergency Operations Plan shall include provisions for an evacuation action plan to respond to a notification of San Antonio Dam failure. The evacuation plan in the Emergency Operations Plan shall include action plans to evacuate construction personnel and project users during a San Antonio Dam failure.*

7.2 CEQA SIGNIFICANCE CONCLUSION

7.2.1 Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

7.2.1.1 No Project Alternative

Adherence to applicable regulatory requirements would ensure that the No Project Alternative would not violate water quality standards or a violation of WDRs and the No Project Alternative would result in a less than significant impact.

7.2.1.2 Proposed Project

With compliance with existing regulations and implementation of MM-HWQ-1, the proposed Project would have a less than significant impact.

7.2.2 Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impeded sustainable groundwater management of the basin.

7.2.2.1 No Project Alternative

The No Project Alternative would not substantially decrease groundwater supplies and would result in a less than significant impact.

7.2.2.2 Proposed Project

With implementation of MM-HWQ-1, the proposed Project would have a less than significant impact.

7.2.3 Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off- site; substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; 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; and/or impede or redirect flood flows.

7.2.3.1 No Project Alternative

With adherence and compliance to existing regulations, the No Project Alternative would result in a less than significant impact.

7.2.3.2 Proposed Project

With adherence and compliance to existing federal, state, and local regulations, the proposed Project would result in a less than significant impact.

7.2.4 In flood hazard, tsunami, or seiche zones, risk release of pollutant due to project inundation?

7.2.4.1 No Project Alternative

With compliance with existing federal, state, and local regulations, the proposed Project would result in a less than significant impact to FEMA-designated flood hazard zone and dam inundation zone. The No Project Alternative is not located within a seiche, tsunami, or mudflow zone and would result in no impact.

7.2.4.2 Proposed Project

With Implementation of MM-HWQ-2 and adherence to federal, state, and local regulations, the proposed Project would have a less than significant impact in regard to flooding associated with FEMA-designated 100-year flood hazard areas.

With the implementation MM-HWQ-3 and adherence to applicable existing County and Cities' policies for flood and dam failure preparation, the proposed Project would have a less than significant impact in regard to flooding as a result of dam failure.

No Mitigation measure would be required, and the proposed Project would have no impact to flooding by seiche, tsunami, or mudflows.

7.2.5 Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

7.2.5.1 No Project Alternative

The No Project Alternative would not conflict with or obstruct implementation of a water quality control plan and sustainable groundwater management plan, and the No Project Alternative would result in no impact.

7.2.5.2 Proposed Project

No mitigation measure would be required, and the proposed Project would have no impact.

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