
Appendix J

Transportation Assessment Memo

MEMORANDUM

To: Double Butte Storage, LLC
From: Lisa Valdez, Senior Transportation Planner
Subject: Double Butte Storage Project Transportation Assessment
Date: February 2, 2024
cc: Cindi Hoover, Project Manager, Dudek

Dudek has prepared the following transportation assessment for the proposed Double Butte Storage Project (Project), a Battery Energy Storage System (BESS) within the City of Menifee, California. The following Memo describes the proposed Project and study area, summarizes the City's Traffic Study Guidelines, describes the proposed Project operations, and evaluates the potential traffic related impacts during Project construction.

1.0 Project Description

The Project is located on approximately 27 acres of vacant land in the City of Menifee. The site is located to the west of the intersection of Case Road and Palomar Road. The Project site is in a developing area of the City surrounded by the decommissioned Inland Empire Energy Center (IEEC), high voltage transmission lines, a Riverside County Flood Control channel, decommissioned railroad tracks, commercial properties, industrial properties, vacant land, and the Southern California Edison (SCE) Valley Substation (see Figure 1).

1.1 Project Components

The project site plan is presented as Figure 2. The Project is a 500-MW BESS that will interconnect to the nearby SCE Valley Substation via newly installed overhead generation-tie (gen-tie) lines. The Project expects to use lithium-ion, flow, or other battery technologies to store electrical energy from the grid for future discharge to the grid when customer demand is high and to provide grid reliability support.

The facilities are intended to operate year-round and would be available to receive or deliver energy 24 hours a day and 365 days a year. The Project will have a Supervisory Control and Data Acquisition (SCADA) system that allows for remote monitoring and the entire facility. The SCADA system will be able to monitor project output and availability and to run real-time and historical diagnostics on the equipment. The site would be unoccupied but would be visited periodically through the year for equipment inspections, monitoring and testing, and maintenance as needed.

1.2 Site Access, Circulation, and Parking

Primary access to the project is provided by two driveways off Palomar Road along the eastern frontage of the site. Secondary access is provided via a driveway along San Jacinto Road on the western site boundary. On-site parking

is provided (12 parking stalls) to accommodate remote operations and maintenance workers that will periodically visit the site.

1.3 Off-Site Improvements

The project includes the following frontage roads improvements to provide adequate site access for workers and emergency services:

San Jacinto Road

AES would construct the western half of San Jacinto Road as measured from the roadway centerline to the standards of a “Local Road.” According to the Circulation Element of the General Plan, a Local Road contains the following improvements within a 60’ right of way (ROW):

- Two, 12-foot undivided travel lanes with 10’ shoulder (serves as bike lanes)
- 15-foot pedestrian path
- Curb and gutter

Palomar Road

AES would construct the eastern half of Palomar Road as measured from the roadway centerline to the standards of a “Collector Road.” According to the Circulation Element of the General Plan, a Collector Road contains the following improvements within a 60’ ROW:

- Two, 10-foot undivided travel lanes with 8-foot shoulders
- 12-foot pedestrian paths
- Curb and gutter

2.0 Study Area

This section provides a summary of the existing street network, including the major roadways serving the site, the existing transit service, and bicycle and pedestrian facilities in the study area.

2.1 Road Network

Regional access to the site would be provided from Interstate 215 (I-215) to Ethanac Road and Matthews Road/Case Road. Primary access to the site would be from two proposed driveways on Palomar Road along the eastern frontage of the site. A secondary emergency access location would be on the western site boundary provided via a new driveway along San Jacinto Road. A description of the nearby roads serving the on and off-site facilities is provided below. The City’s truck routes are shown in Figure 3.

- **I-215** is a north-south freeway in the Inland Empire that extends from Murrieta to northern San Bernardino. In the Project vicinity, I-215 has three lanes in each direction. Northbound and southbound on- and off-ramps are provided at Ethanac Road, approximately 1.5 miles northwest of the Project Site. I-215 is a designated truck route on the National Network (STAA).

- **Ethanac Road** is an east-west roadway. Within the Project study area, Ethanac Road is designated as an expressway in the City's Circulation Element and a designated truck route. West of I-215, Ethanac Road has four lanes and east of I-215, Ethanac Road has two lanes.
- **Mathews Road/ Case Road** is an east-west two-lane local road between Antelope Road to the west and Menifee Road to the east. East of Menifee Road, Mathews Road/Case Road is a dirt road. The segment between Palomar Road and McLaughlin Road is a designated Collector in the City's Circulation Element.
- **Palomar Road** is a north-south two-lane designated Collector in the City's Circulation Element. Palomar Roads extends between Mapes Road to the north and West Heritage Lakes road to the south. Palomar Road is paved between Mapes Road and Mathews Road/Case Road. South of Mathews Road/Case Road, Paloma Road is generally a dirt road. Palomar Road runs along the eastern property boundary and access to the site is proposed at two new driveways on Palomar Road. The project is proposing to improve Palomar Road to the meet the City's standards for a Collector road.
- **San Jacinto Road** is a proposed north-south two-lane road along the western boundary of the project site. The project is proposing to improve San Jacinto Road to the meet the City's standards for a Local road.

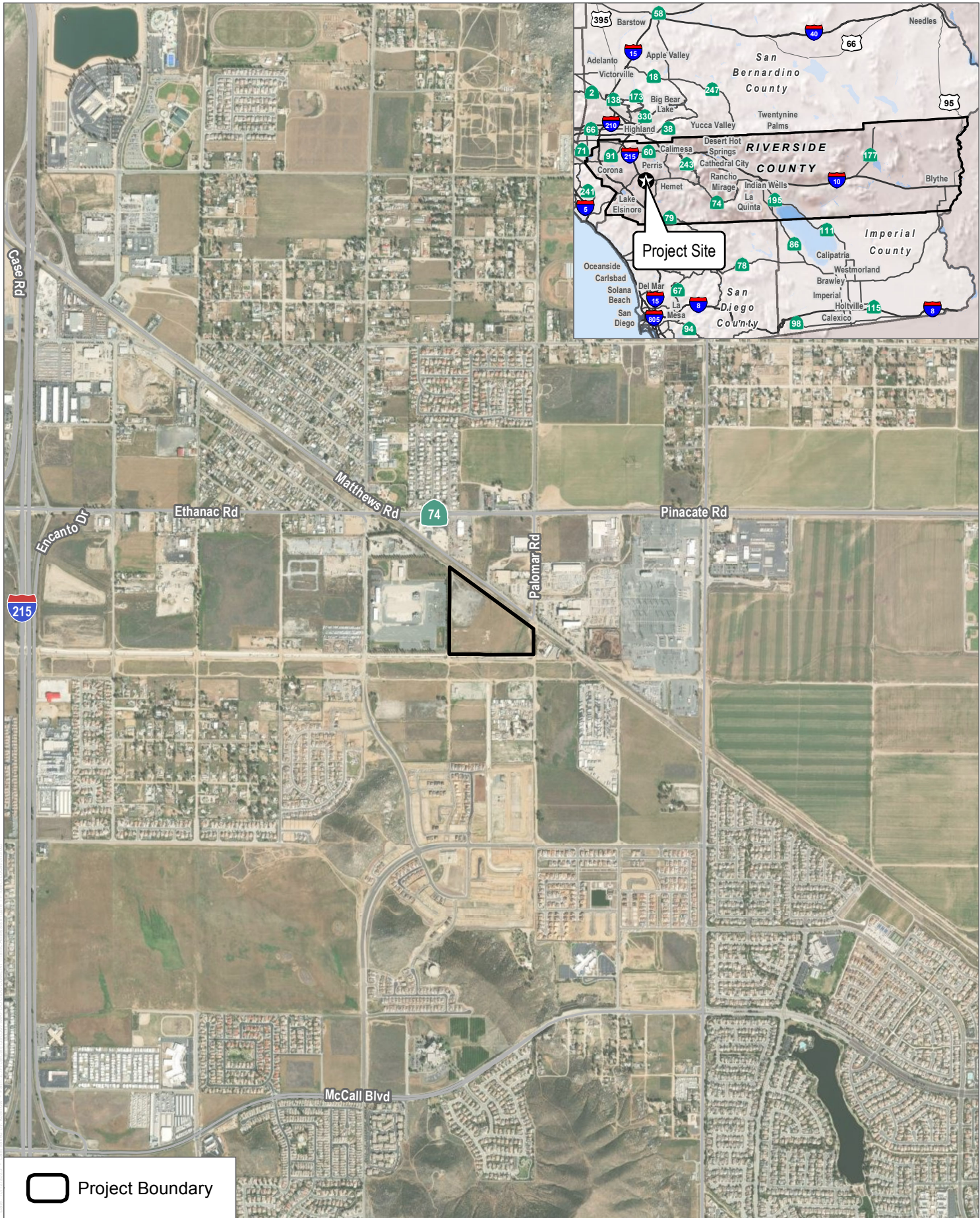
2.2 Transit System

The City of Menifee is served by bus services provided by the Riverside Transit Agency (RTA), which provides regional and local services throughout the City. RTA provides four fixed routes and Dial-a-Ride bus service within the City. These routes include Route 28, Route 40, Route 61, and Route 74. Route 28 shown in Figure 4, Existing Transit Facilities, is the closest bus route to the project site, with bus stops near the intersection of Palomar Road and Case Road, approximately 280 feet north of the project site, and near the intersection of Jackson Avenue and Ethanac Road approximately 0.5 miles north of the project site. Route 28 is an Amtrak Thruway Bus Route and services northeast Menifee and the Romoland Community along Highway 74. The route operates weekdays, between 4:25 a.m. and midnight and on Saturday and Sunday between 6:20 a.m. and midnight (RTA 2023).

2.3 Pedestrian and Bicycle Access

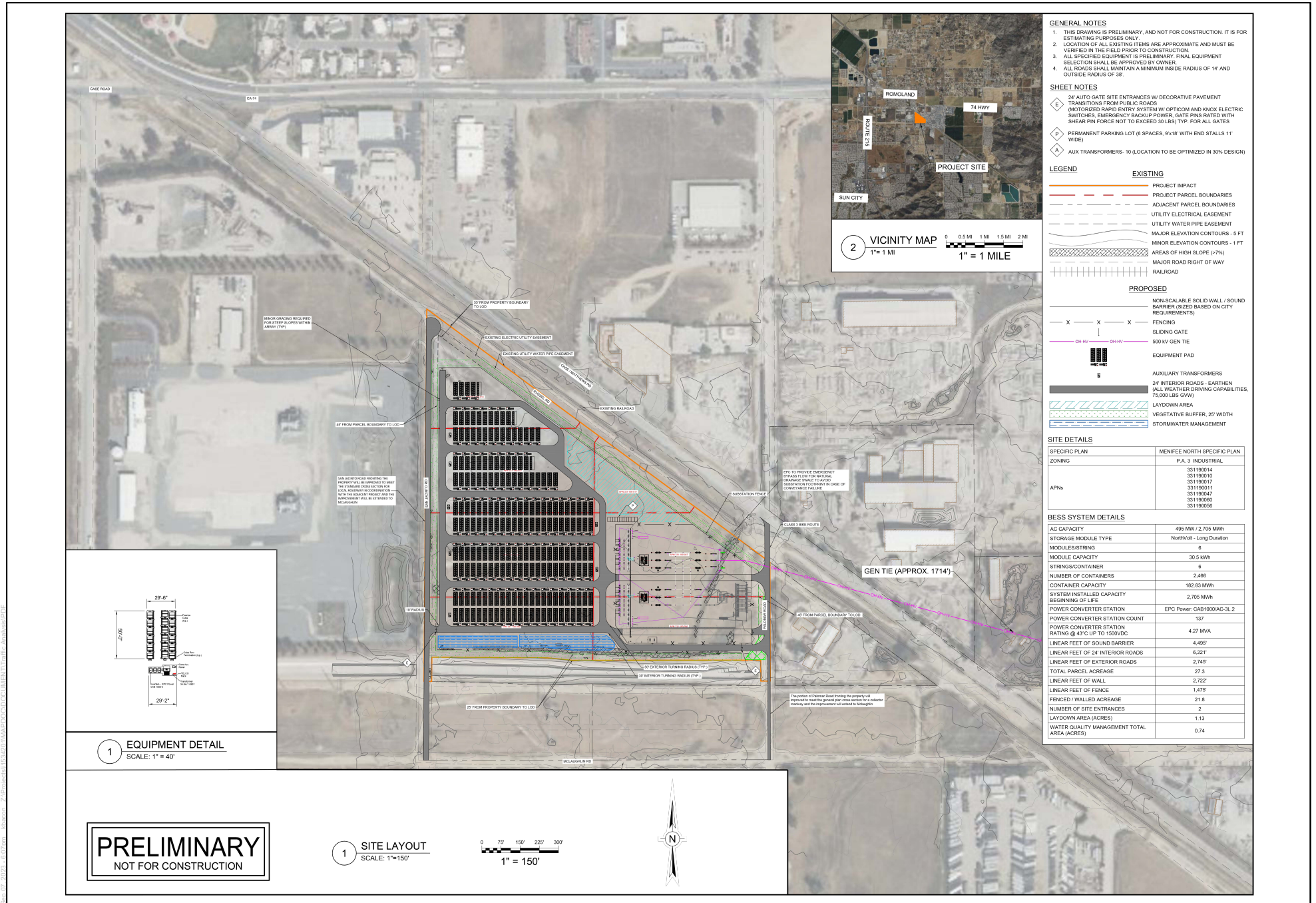
The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity of the site. New sidewalks and bike lanes have generally been constructed where new development has occurred. However, there are currently no bicycle facilities provided with the immediate vicinity of the project site.

The City of Menifee Active Transportation Plan includes a comprehensive list of recommended bicycle projects that would add 183.3 miles of new bikeways in the City (Menifee 2020). Near the project site, a Class II (on-street painted bike lane) is proposed on Antelope Road between Rouse Road to the south and Mapes Road to the north. A Class II is also proposed on McLaughlin Road between I-215 to the west and Palomar Road to the east. A subregional off-road bike trail (Class I) is also proposed on Mathews Road between Antelope Road to the west and Palomar Road to the east. The City's existing and proposed bicycle facilities are presented as Figure 5.



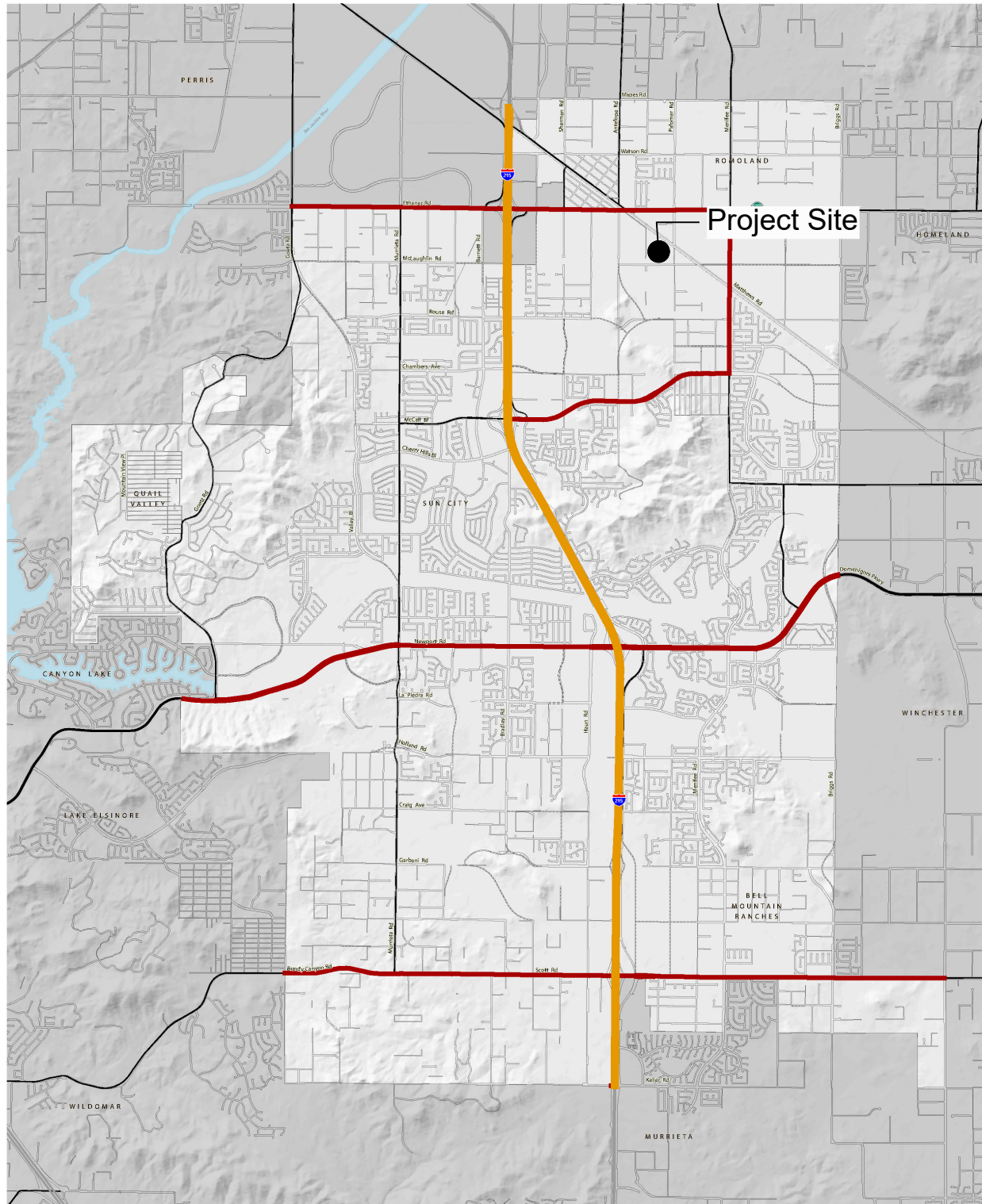
SOURCE: ESRI 2022; Open Street Maps 2019

FIGURE 1
Project Location
 Double Butte Project



SOURCE: AES 2023

EXHIBIT C-7 POTENTIAL TRUCK ROUTES



Source: Urban Crossroads, 2012

- Truck Route
- I-215 Freeway Corridor

The designated truck routes within the City have been selected because of their accessibility to the freeway and key industrial/commercial areas. The designation of truck routes does not prevent trucks from using other roads or streets to make deliveries to individual addresses, or for other reasons as defined in the State of California *Motor Vehicle Code*.



MENIFEE
GENERAL PLAN

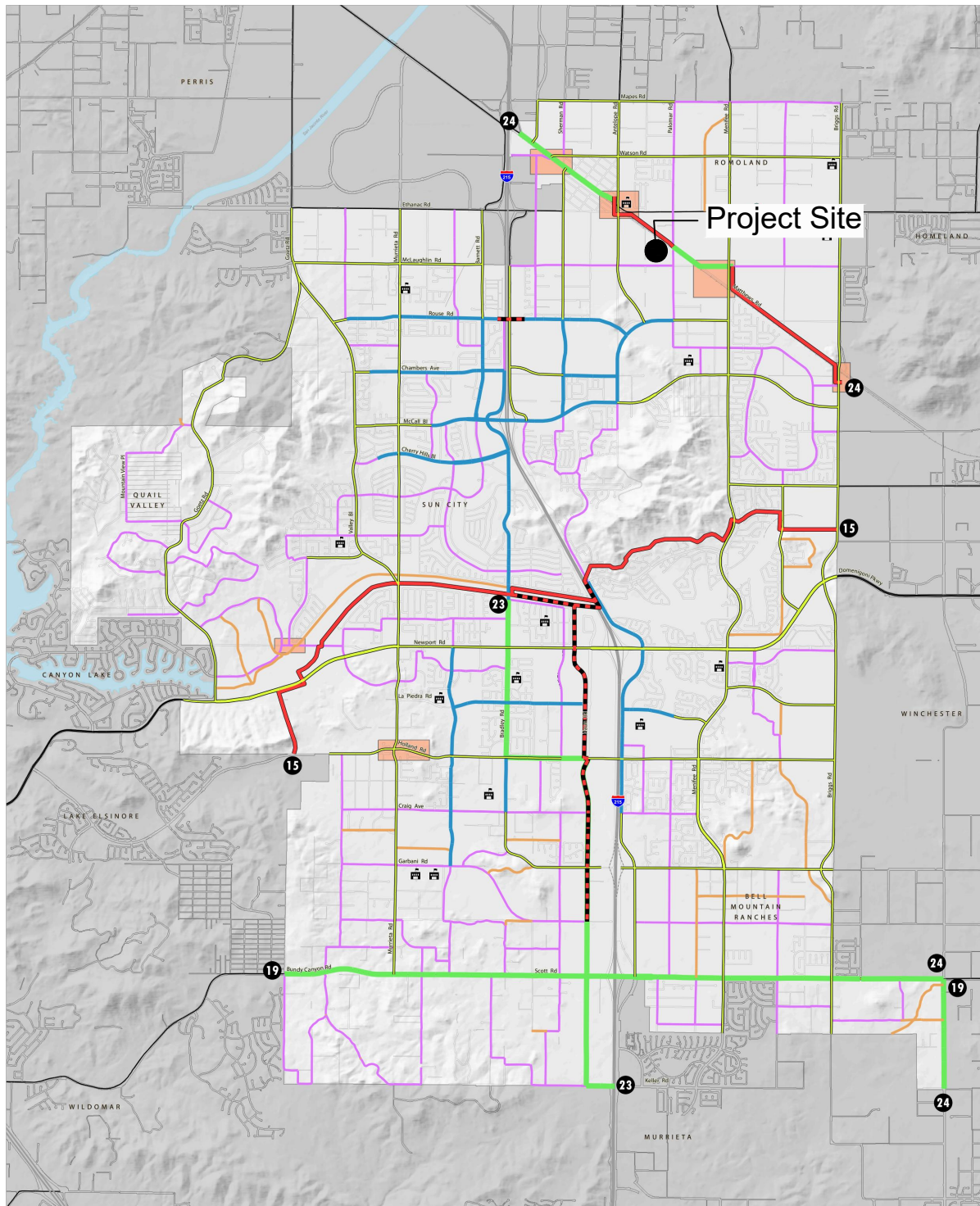


7/29/2013 0 0.5 1 Mile
Truck_Routes_072013

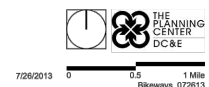
SOURCE: City of Menifee General Plan, 2013

PROPOSED BIKEWAY AND COMMUNITY PEDESTRIAN NETWORK

EXHIBIT C-4



Source: Urban Crossroads, 2012



SOURCE: City of Menifee General Plan, 2013

3.0 City of Menifee Traffic Impact Analysis Guidelines

A summary of the City's Traffic Study Guidelines relevant to the project is provided below.

3.1 Vehicle Miles Traveled

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743, with the purpose of streamlining the California Environmental Quality Act (CEQA) review process for several categories of development projects. A key element of SB 743 is the elimination of automobile delay and level of service (LOS) as the sole basis of determining CEQA impacts. The most recent CEQA guidelines, released in December 2018, recommend vehicle miles traveled (VMT) as the most appropriate measure of project transportation impacts. In accordance with SB 743, the City of Menifee adopted the City's Traffic Impact Analysis Guidelines for Vehicle Miles Traveled which identify VMT-related screening criteria, methodologies, and impact criteria to be used to evaluate a project's potential impact on VMT. Per the City's Traffic Impact Analysis Guidelines¹, projects generating 110 or less (permanent) net daily vehicle trips may be screened-out of VMT analysis and would be presumed to have a less than significant impact on VMT.

3.2 Level of Service Analysis

The City has also retained its vehicle LOS policies and thresholds to ensure that proposed developments are consistent with the City's General Plan. Based on the City's Level of Service Traffic Study Guidelines², a LOS analysis shall be required for a proposed project that will generate 50 or more peak hour trips.

4.0 Project Operations

As previously noted, daily operations, monitoring, and dispatching would occur remotely, so no occupied structures are proposed as part of the project. Operations and maintenance staff (8 to 12 workers) would visit the site every day, on Mondays through Fridays, to conduct routine inspection and maintenance of the facilities. The O&M staff would be housed at an off-site location centrally located to multiple AES facilities in the region. Approximately 6,240 vehicle trips per year (equivalent to 24 average daily trips, Mondays through Fridays) would be generated during ongoing operations assuming each employee represents a single occupancy vehicle trip to and from the site. As such, the site would generate a negligible increase in traffic during Project operations and would have no impact on the surrounding roadways, intersections, or pedestrian and bicycle facilities in the area. Per the City's TIA guidelines, projects generating 110 or less (permanent) daily vehicle trips may be screened-out of VMT analysis and would be presumed to have a less than significant impact. Therefore, the Project is screened from conducting a VMT analysis and impacts are presumed to be less than significant.

¹ City of Menifee. 2022. Traffic Impact Analysis Guidelines for Vehicle Miles Traveled (VMT). January.

² City of Menifee. 2020. City of Menifee Level of Service Traffic Study Guidelines. October.

5.0 Project Construction

Project construction is assumed to commence in April 2024 and last approximately 12 months. Project decommissioning is proposed to last approximately 6 months. Typical construction traffic would consist of construction workers and trucks transporting construction equipment and materials to and from the Project site (e.g., vendor and heavy haul trips). Heavy construction equipment would be operating at the site 5 days per week (22 days per month). The following section describes the anticipated project trip generation during construction.

5.1 Trip Generation

The Project construction schedule, phases, and daily construction related traffic by phase is presented in Table 1. Project construction would include several simultaneous phases: substation construction and battery/container installation, substation installation; and gen-tie foundation, stringing and pulling. The timing and length of each phase over the 12-month construction period was evaluated to identify which phases could occur concurrently to determine peak worker and truck traffic, since traffic during these overlapping phases would be additive. Overlap of Phases 3 through 5 and 7 through 8 is estimated to generate the peak worker and truck traffic during the 12-month construction period (i.e., 150 workforce trips, 82 vendor trips, and 3 haul trips).

Table 1. Project Construction Schedule and Average Daily Project Trips

Phase	Start Date	End Date	Duration (Days)	Average Daily Trips			Total Daily Trips by Phase
				Worker Trips	Vendor Trips	Haul Trips	
1. Site Preparation	4/1/24	5/31/24	45	40	0	0	40
2. Grading	6/1/24	8/2/24	45	40	0	8	48
3. Collector Substation Installation	8/23/24	4/25/25	176	40	20	0	60
4. Battery/Container Installation	8/23/24	4/25/25	176	40	20	0	60
5. SCE Valley Substation Interconnection Facility Upgrades	4/1/24	4/3/25	264	40	20	0	60
6. Gen-tie stringing and pulling	4/1/25	4/30/25	22	8	2	0	10
7. Gen-tie foundation and tower erection	11/5/24	4/7/25	110	10	2	0	12
8. Paving	10/1/24	11/18/24	35	20	20	3	43
9. Decommissioning	2055		132	40	2	20	62
Overlapping Peak Trips				150	82	3	235

Notes: Overlapping phases highlighted; Assumes 5 working days per week, 22 working days per month

For the purposes of this analysis, it assumed that the construction work would be completed between 6:00 a.m. and 7:00 p.m., Monday through Friday. Work shifts would generally begin prior to the AM peak period (generally between 7:00 a.m.– 9:00 a.m.) and end after the PM peak period (generally between 4:00 p.m.– 6:00 p.m.). Therefore, 20 percent of workforce-related trips are assumed to enter in the morning peak hour, and 20 percent are assumed to exit in the afternoon peak hour. Truck traffic to and from the site was evenly distributed assuming the 13-hour workday. The Project trips are presented in Table 2.

To address the effect caused by large over-sized trucks onto the roadway network, a factor called the passenger car equivalent (PCE) was developed and represents the number of passenger cars displaced by each truck in the traffic stream under mixed flow conditions. PCE factors generally range from 1.5 to 3.0 based on the number of axles in the truck. A PCE factor of 2.0 has been utilized to convert vendor truck trips, and a PCE factor of 3.0 has been used to convert haul truck trips into equivalent car trips. Table 2 presents the Project trip generation with PCEs for the peak construction period (Phases 3–5, 7-8).

Table 2. Peak Construction Project Trip Generation Summary

Vehicle Type	Daily Trips	AM Peak Hour ¹			PM Peak Hour ¹		
		In	Out	Total	In	Out	Total
Trip Generation							
Workforce Trips ²	150	30	0	30	0	30	30
Vendor Trucks ³	82	1	1	2	1	1	2
Heavy Haul Trucks ³	3	1	1	2	1	1	2
Total	235	32	2	34	2	32	34
Trip Generation w/PCE ¹							
Workers (1.0 PCE) ²	150	30	0	30	0	30	30
Vendor Trucks (2.0 PCE) ³	164	2	2	4	2	2	4
Vendor Trucks (3.0 PCE) ³	9	3	3	6	3	3	6
Total (w/PCE)	323	35	5	40	5	35	40

Notes: PCE = Passenger Car Equivalent

¹ Construction hours assumed to range from 6:00 am - 7:00 pm, with the majority of workers expected to arrive prior to the morning peak hours (7:00 -9:00 am) and depart after the afternoon peak hours (4:00- 6:00 pm). Assumes 20% of workforce trips enter in the morning peak hour, and 20% assumed to depart in the afternoon peak hour.

² All workers assumed to drive to the site individually; no carpooling reductions taken for the purposes of this analysis.

³ Vendor and haul trucks assumed to be spread out evenly across the 13-hour workday. As a conservative analysis, assumes one vendor truck and one heavy haul truck each arrive and depart during the morning and afternoon peak hours.

Based on the table, the peak construction phases would temporarily generate 235 total daily trips, 34 AM peak hour trips, and 34 PM peak hour trips. With the application of PCE factors to truck trips, the Project would generate 323 total PCE daily trips, and 40 PCE trips during the AM peak hour and 40 PCE trips during the PM peak hour.

5.2 Vehicle Miles Traveled

Neither the City's guidelines nor the updated CEQA Guidelines establish a significance threshold for construction or maintenance projects. However, CEQA Guidelines Section 15064.3(b) is further divided into four subdivisions: (1) land use projects, (2) transportation projects, (3) qualitative analysis, and (4) methodology. The CEQA Guidelines are accompanied by an OPR Technical Advisory, which includes specifications for how to estimate and forecast VMT

for these subdivisions. The proposed project is not a land use or transportation project, and therefore the proposed project would be categorized under Section 15064.3(b)(3) qualitative analysis. The following paragraph from the Section 15064.3(b)(3) provides guidance regarding qualitative analysis:

If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

The project would involve construction that would generate temporary construction-related traffic for approximately 12 months and nominal operations and maintenance traffic; these would be categorized under Section 15064.3(b)(3), qualitative analysis. Section 15064.3(b)(3) recognizes that lead agencies may not be able to quantitatively estimate VMT for every project type. For many projects, a qualitative analysis of construction traffic may be appropriate.

The VMT generated by the construction of the proposed project would be short-term and temporary and would not require a detailed analysis. The project construction related vehicle-trip generation (for workers and trucks) is summarized in Table 2. Per OPR, heavy vehicle traffic is not required to be included in the estimation of a project's VMT. As part of the project's air quality and greenhouse gas emissions analysis, the VMT for the overall project (using approximate trip lengths for worker commute, vendor, and haul trips) has been estimated using default values for the region from the California Emissions Estimator Model (CalEEMod) land use emissions computer model. However, construction related trips are temporary and would not generate permanent trips. Therefore, for the purposes of this analysis, the VMT from construction is not required to be quantified per SB 743 requirements. The project construction would be consistent with typical construction activities in terms of the temporary nature of activities, trip generation characteristics, and the types of vehicles and equipment required. There would be no special conditions for constructing the project. Further, measures to reduce the VMT generated by workers and trucks are limited, and there are no thresholds or significance criteria for temporary, construction related VMT.

While worker and vendor trips would generate VMT, once construction is completed, the construction-related traffic would cease and VMT would return to pre-construction conditions. Therefore, impacts related to construction VMT would be less than significant.

5.3 Level of Service Analysis

Based on the City's TIA Guidelines, the Project trip generation during the peak construction phase, as well as the Project's O&M phase, falls below the City's LOS thresholds of generating 50 or more peak hour trips through an intersection. Therefore, a level of service analysis of the temporary construction trips and permanent O&M trips was not conducted. Additionally, the Project construction trips would be temporary as they would not be generated once construction is completed. It is recommended however, that the Project implement a Traffic Control Plan, for roadway facilities that may be impacted during the construction phase, related to heavy trucks traveling in the area. The recommend Traffic Control Plan measures are described in Section 5.5 below.

5.4 Transit, Pedestrian and Bicycle Access

Transit Route 28 is the nearest bus route to the project site, with bus stops near the intersection of Palomar Road and Case Road, approximately 280 feet north of the project site, and near the intersection of Jackson Avenue and Ethanac Road approximately 0.5 miles north of the project site. The project site is located in a developing area of the City with limited pedestrian facilities in the immediate vicinity of the site. There are currently no bicycle facilities provided with the immediate vicinity of the project site. New sidewalks and bike lanes have generally been constructed where new development has occurred.

During Project construction, it is recommended that a Traffic Control Plan (see Section 5.5) be implemented to inform residents, emergency service providers, and transit providers to the project activities, construction traffic schedule, and measures taken to minimize impacts. The project is not anticipated to impact transit, pedestrian or bicycle access since project construction would not include any off-site improvements that would extend into the public right-of-way or alter the existing roadway network. No full or partial lane closures are anticipated during construction.

Once construction is complete, bicyclist and pedestrian safety would be maintained at existing levels in the area since the Project would result in a negligible increase in permanent Project related trips. The project would also construct pedestrian paths along the western half of San Jacinto Road and the eastern half of Palomar Road along the project frontages, thereby improving pedestrian access along the project site. The Project would not include any other-off-site improvements that would interfere with City's ability to construct any planned bicycle or pedestrian facilities in the future.

5.5 Recommended Traffic Control Measures

It is recommended that a Traffic Control Plan, in accordance, with the California Manual on Uniform Traffic Control Device (CAMUTCD), be implemented to minimize temporary construction-related traffic impacts. The Traffic Control Plan would be coordinated with the City of Menifee and any necessary encroachment and trip permits for any specialized haul trucks would be obtained prior to commencing work. Potential components of the Traffic Control Plan may include, but not be limited to:

- Truck travel restricted to City designated truck routes
- Signage to meet City of Menifee requirements for driver awareness of project construction traffic
- Limit time for heavy truck deliveries
- Use of flaggers and applicable traffic control signs at key locations
- Information packets for residences to bring awareness to the project activities and measures being taking to minimize impacts
- Informing emergency service providers of construction traffic schedule
- Informing transit providers of construction traffic schedule

6.0 Summary

The key findings of the transportation analysis in this memo are summarized below:

- The Project would generate a negligible increase in traffic during Project operations and would have no impact on the surrounding roadways, intersections, or pedestrian and bicycle facilities in the area. The Project is also screened from conducting a VMT analysis and impacts are presumed to be less than significant. The Project's O&M trips also fall below the City's TIA Guidelines for conducting a LOS analysis.
- The peak construction phases would temporarily generate 235 total daily trips, 34 AM peak hour trips, and 34 PM peak hour trips. With the application of PCE factors to truck trips, the Project would generate 323 total PCE daily trips, and 40 PCE trips during the AM peak hour and 40 PCE trips during the PM peak hour.
- The Project construction generated trips fall below the City's TIA Guidelines for conducting a LOS analysis. Additionally, the Project construction trips would be temporary as they would not be generated once construction is completed.
- Due to the temporary nature of the Project-related construction traffic, VMT impacts during construction are considered to be less than significant.
- it is recommended that a Traffic Control Plan be implemented to inform residents, emergency service providers, and transit providers to the project activities, construction traffic schedule, and measures taken to minimize impacts.